

THE ROLE OF MATERIAL RECOVERY & MANAGEMENT ON CLIMATE ACTION PLANNING

CIRCULAR INDIANA CONFERENCE

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THE ROLE OF MATERIAL RECOVERY & MANAGEMENT ON CLIMATE ACTION PLANNING - ORGANICS

- Indiana Organics
- Indiana Organics Climate Impacts
- US EPA Wasted Food Scale
- How to Reduce Environmental Impacts
- Planning for Compost Infrastructure



INDIANA ORGANICS CLIMATE IMPACTS

- State of Indiana waste disposal
 - ~7 million tons landfill disposal
 - 2022 IDEM Recycling Activity Report
- State of Indiana Food Waste disposal
 - ~690,200 tons of food
- GHG Impacts
 - ~ 346,109 metric tons of Carbon Dioxide equivalent

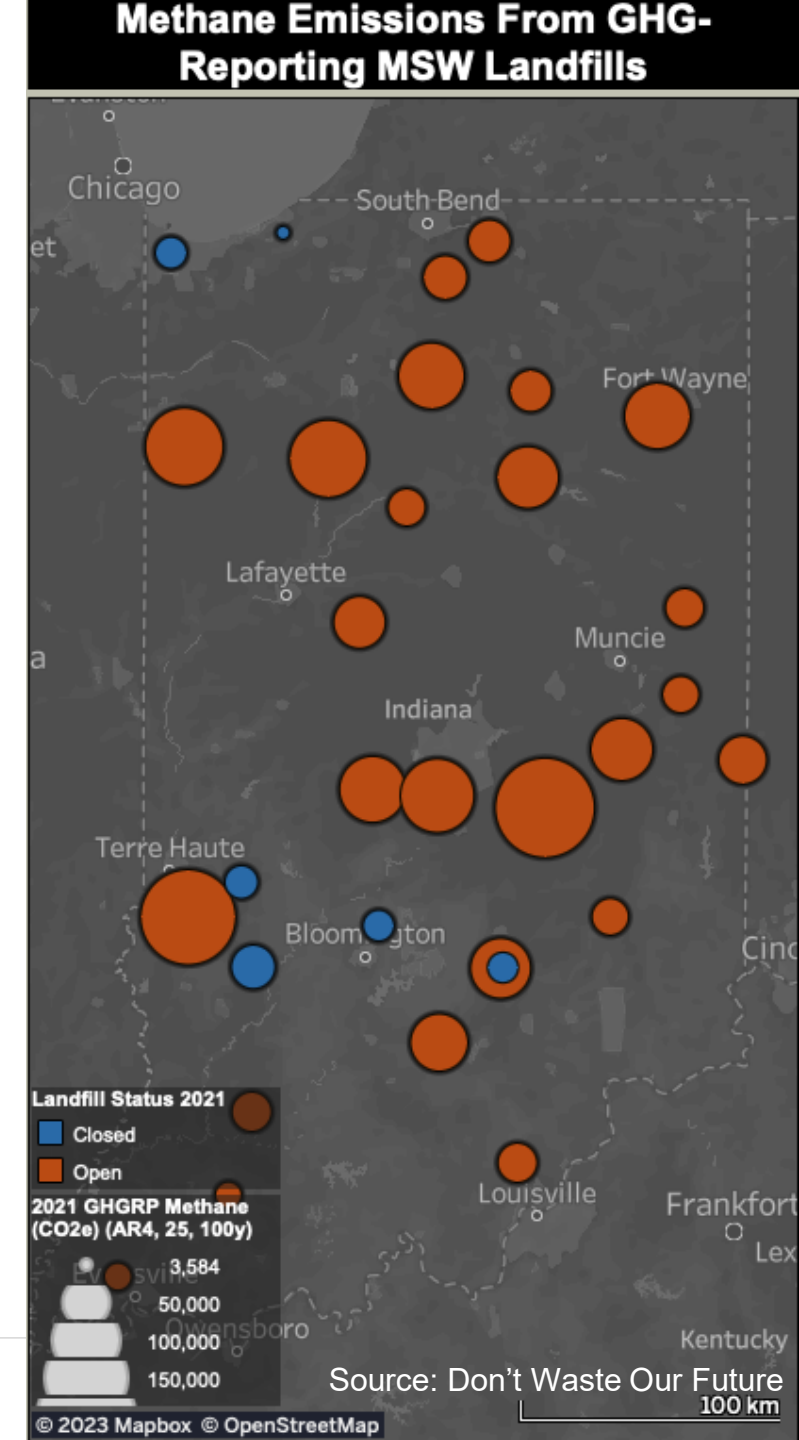


State of Indiana Landfill Methane Emissions

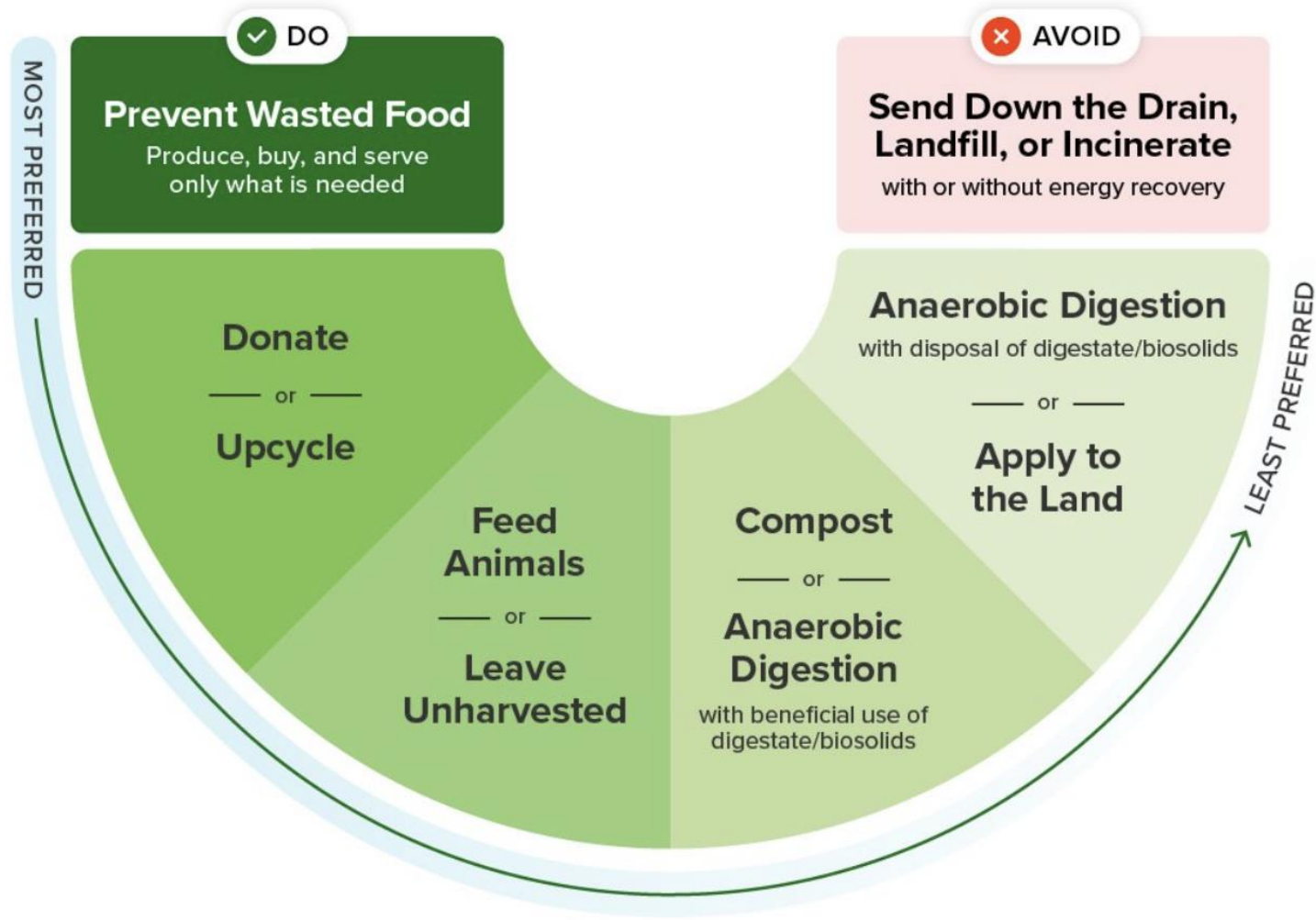
- Methane can hold 25x more heat than CO₂
- Municipal solid waste landfill gas is comprised roughly 50% methane and 50% CO₂
- Organics waste in a landfill – absence of oxygen produces methane and CO₂
- Organics composting - decomposing aerobically produce mainly CO₂
- Every molecule of methane prevented from emissions is a benefit

Global Warming Potential (GWP)	GWP for 20-yr	GWP for 100-yr	GWP for 500-yr
Carbon Dioxide	1	1	1
Methane	72	25	7.6

Source: Intergovernmental Panel on Climate Change



US EPA WASTED FOOD SCALE



Focus on Preventing Wasted Food and Food Rescue



Preventing Wasted Food



SHOP

SERVE

STORE

SHARE

SCOOP

SIGN UP

AN INITIATIVE OF



WASTED FOOD STOPS WITH US

Tips and tools to shop, serve, store and
share food to help stop food waste













Get Started



Save



Preventing Wasted Food

Fruits/Veggies	How to Store	
 Apples	Fridge. Separate from other produce.	 Ch
 Asparagus	Fridge. Remove bands and ties. Store upright in a glass of water with a plastic bag over the top.	 Cit
 Avocados	Ripen on counter, then store in fridge. Store loose.	 Co
 Bananas	Counter. Store away from other fruits and vegetables.	 Cu
 Basil	Counter. Remove bands and ties. Trim stems and store in water with plastic bag over the top.	 Eg
	Fridge. Store in a plastic bag or	 Ga

- Residential Behavior Change Campaign
 - Research-based
- Food Storage Guide
- Local chef demonstrations- live and recorded
- Food waste prevention week

Supporting Food Rescue

- Relationships
 - Food rescue organizations
 - Pantries/Foodbanks
 - Learn what they need
- Staff Support
 - Technical Assistance
 - Supplies/Materials
 - Connections
- Grants
- Programming
 - Partnering to offer cooking classes for clients
 - Partnering on food distribution events



Tons Diverted

- Hamilton County includes food rescue organizations in annual data collection.
- In 2023, 16,488 tons of food was diverted, 34% or 5,610 tons was rescued food.



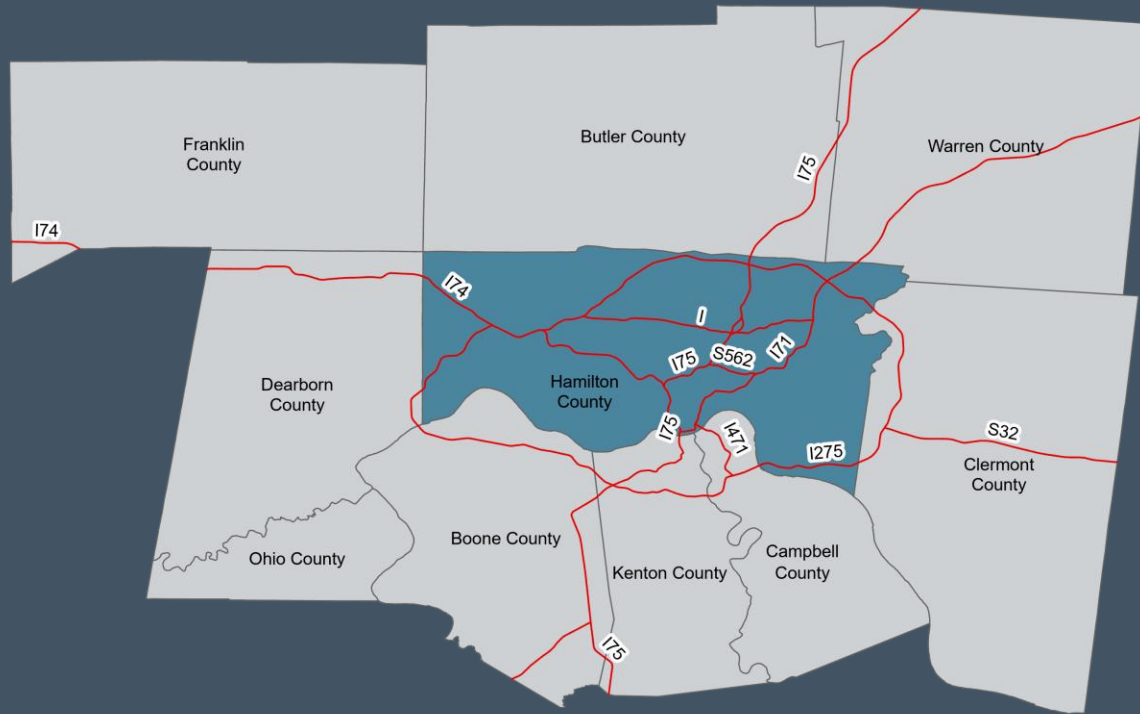
PLANNING FOR COMPOST INFRASTRUCTURE



- 2024-2038 Hamilton County Solid Waste Management Plan
- Identified food scrap processing as a need in Southwest Ohio
- Organics identified as our priority waste stream
- Partnered with GT Environmental to conduct an Organics Processing Feasibility Study
- Goal is improved processing capacity using public-private partnerships

CURRENT LANDSCAPE

HAMILTON COUNTY



Medium-Scale Facility

- Findlay Market
- Brausch Farms (Warren County)

Small-Scale Community Composters

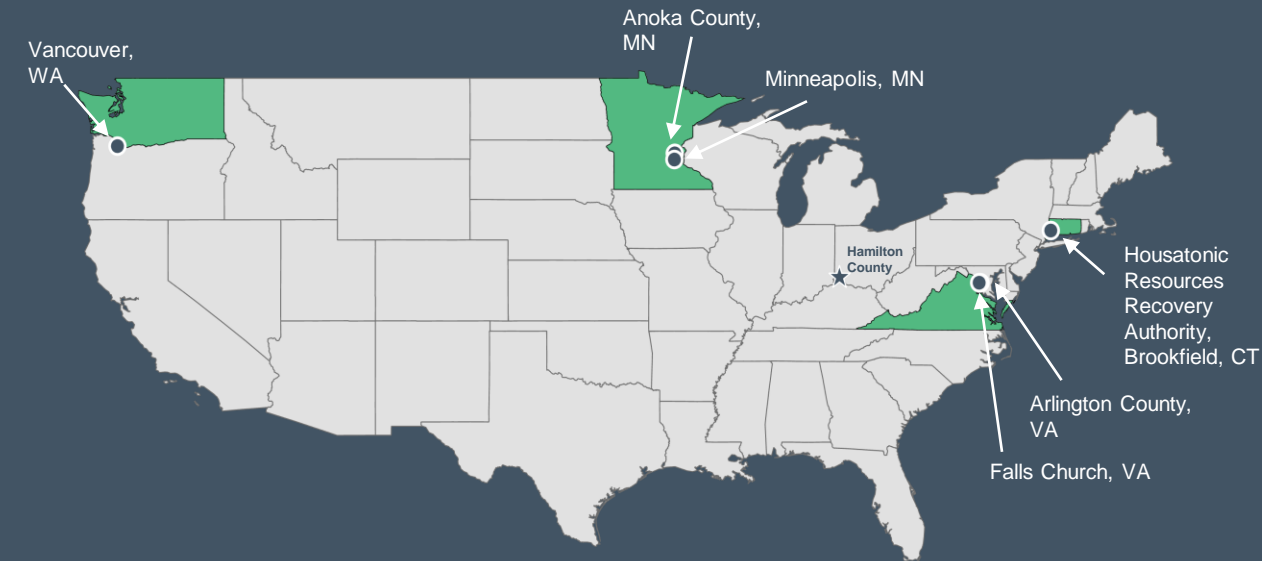
- Civic Garden Center
- Common Orchard Project
- Tikkun Farm
- Carriage House Farms
- The Heights Movement/Jackson Street Farm
- Valley View Foundation (Clermont County)

On the Horizon

Development of Two Anaerobic Digesters

- Divert: 100,000 tons/year expected capacity
- Synthica: 190,000 tons/year expected capacity

CASE STUDIES



Estimations	Structure	Diversion (lbs/HH)	Participating Households
Arlington County, VA	Universal Availability Non-Subscription	545	10 - 25%
Minneapolis, MN	Universal Availability Non-Subscription	185	53%
Falls Church, VA	Universal Availability Franchise / Subsidized Subscription	547	~ 20%
Vancouver, WA	Universal Availability Franchise / Subsidized Subscription	122	61%

PROJECTED TONNAGES – SCENARIO 2

SCENARIO 1: Universal Availability Non- Subscription + Commercial

	Average (2025 – 2041)
Residential	34,530
Commercial	24,371
ReSource Drop-off Yard Trimmings	3,498
Community Yard Trimmings	19,506

SCENARIO 2: Universal Availability Franchise / Subsidized Subscription + Commercial

	Average (2025 – 2041)
Residential	39,610
Commercial	24,371
ReSource Drop-off Yard Trimmings	3,498
Community Yard Trimmings	19,506

SCENARIO 3: Universal Availability Subscription + Commercial

	Average (2025 – 2041)
Residential	29,451
Commercial	24,371
ReSource Drop-off Yard Trimmings	3,498
Community Yard Trimmings	19,506

SSO PROCESSING ALTERNATIVES

Alternative A – One Large-Scale Centralized Facility

- Capacity: ~146,000 tons/year
- Pros: Potentially efficient for large volumes
- Cons: Vulnerable to infrastructure or operational issues

Alternative B – Two Large-Scale Centralized Facilities

- Capacity: ~65,000-75,000 tons/year each
- Pros: Reduces risk through multiple sites; suitable for urban areas
- Cons: Higher initial investment

Alternative C – Three Medium-Scale Decentralized Facilities

- Capacity: ~18,000 tons/year per facility
- Pros: Flexibility; integrates with small-scale composters; expandable
- Cons: Potentially higher operational complexity

Alternative D – Multiple Small-Scale Community Sites

- Capacity: 4-5 tons/year per site
- Pros: Exempt from Ohio EPA permitting; community-based
- Cons: Requires many sites; insufficient alone for regional needs

Alternatives	Incoming Feedstock Estimates (tons/year)	Number of Locations in Hamilton County
A – 1 large-scale facility	~146,000	1
B – 2 large-scale facilities	~65,000-75,000 per site	2
C – 3 medium-scale facilities	~18,000 per footprint	3
D – Multiple small-scale community sites	4-5 tons per site	Multiple



ALTERNATIVE C: MEDIUM-SCALE FACILITY

Alternative C – Medium-Scale Facilities (3)

A decentralized approach consisting of three facilities. Three medium-scale facilities would provide flexibility to exist in concert with small-scale composters and support existing infrastructure. Area requirements are smaller for medium-scale facilities and one or all could be designed to expand or increase capacity if needed.

Projected Quantities of Recyclable Materials

- Quantities capturable from households and businesses.
- Dependency on collection efficiency and participation rates.

Assumes the facility is open 5 days per week

	Residential SSO (tons per year)
Annual Tonnage Capacity	17,655
	Bunkered ASP (acres)
Processing Only	5.5
Including Other Infrastructure	6 - 8

SITING A FACILITY

- Exclusionary Criterion Analysis
- Recovery, Financial & Site Development Modeling
- Stakeholder Outreach and Engagement
- Public Private Partnerships



Key Takeaways



- Be a facilitator
- Local influence is impactful
- Compost 101
- Develop infrastructure



ASK US ANYTHING?



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HAMILTON COUNTY

R3SOURCE

REDUCE. REUSE. RECYCLE.

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