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# NYSASWM Training Seminar

## Organic Waste Management

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### *A Regulatory Overview*

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# Organic Waste Management – “A Lot To Digest...”

(from - Waste360.com)

## In NYS a comprehensive regulatory framework exists:

- Solid Waste
- Air
- Water

## Maximizing renewable energy from waste resources can:

- Increase diversity in energy supplies
- Enhance local economy – green jobs

## Decisions to be made:

- Composting vs Anaerobic Digestion (wet vs dry processes)
- Renewable Electrical Power vs Renewable Pipeline Quality Gas or CNG

## How are we incentivizing organics diversion:

- Eased permitting requirements for AD and Thermal Gasification at LFs
- State assistance grants to municipalities for organics recycling
- Getting the word out on proper organic management – success stories



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# 6 NYCRR Part 360

## Solid Waste Management Facilities

- 360-5 Composting Facilities
- [www.dec.ny.gov/regs/4411.html](http://www.dec.ny.gov/regs/4411.html)



# Wastes Currently Composted

- Animal Mortalities/Slaughter Waste
- Manure/Crop Residues
- Food Scraps
- Mixed Solid Waste
- *Biosolids*
- Combinations of Waste Types



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## *Beyond Waste:*

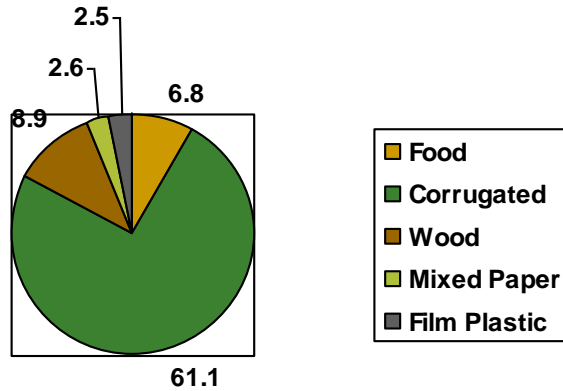
# Increase Organics Recycling

- Maximize food redistribution
- Promote and demonstrate organics recycling in state agencies
- Build the composting and organics recycling infrastructure
- Require planning units to evaluate organics recycling

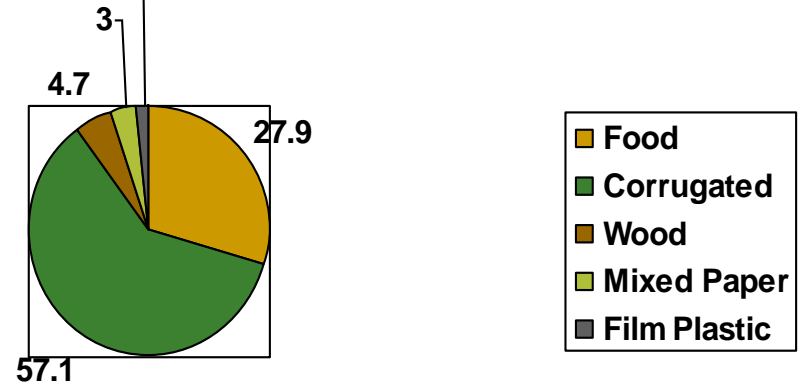


# Commercial Waste

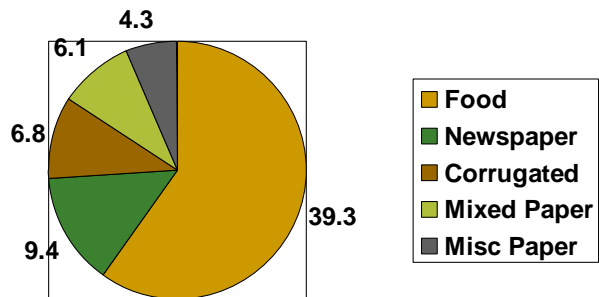
Big Box Retail



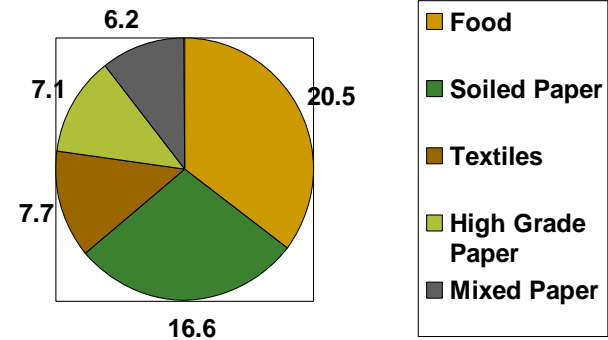
Grocery Store



Hotel



Office Building



Newspaper	4.0%	Film Plastic	5.9%
Corrugated	7.2%	Other plastics	4.5%
Other Paper - R	13.7%	Glass containers	1.8%
Other Paper - C	8.9%	Other glass	0.6%
Al Cans	0.2%	Food Waste	18.5%
Other Al	0.6%	Yard Waste	1.7%
Other non-ferrous	0.2%	Textiles	6.1%
Bimetal Cans	1.2%	Diapers	1.7%
Other ferrous	2.6%	Wood	5.9%
PET #1	0.9%	C&D	5.9%
HDPE #2	0.7%	Miscellaneous	6.0%
#3 - #7	0.8%		

# CT Legislation

- Certain food residuals generators that generate > 104 tons/yr must source separate and deliver to a composting facility within 20 miles of the generator
- Two composting facilities that can serve the needs of the generators must exist in the State





# VT Legislation

- Food waste hierarchy:
  - Reduction
  - Human consumption
  - Agricultural use
  - Composting, land application, digestion
  - Energy recovery
  
- Generators must source-separate and manage in accordance with hierarchy



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# VT Timeline for Generators

- 2014: > 104 tons/year
- 2015: > 52 tons/year
- 2016: > 26 tons/year
- 2017: > 18 tons/year
- 2020: any amount



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# MA Draft Regulations

- Landfill Ban extended to include commercial food waste
- Effective date 2014?



# Composting Facilities in New York State

Yard Waste : 34 permitted and 300+ exempt or registered

Biosolids : 24 permitted

MSW : 1 permitted

Food Scraps : 2 permitted + 10 registered

On-site : ??



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# College On-site Diversion of Food Scraps

- Bard College
- Cornell University
- Herkimer Community College
- Lehman College CUNY
- Lemoyne College
- St. Johns University
- Shenendehowa School District
- SUNY Buffalo
- SUNY-ESF
- SUNY New Paltz
- Syracuse University
- Union College
- Vassar College



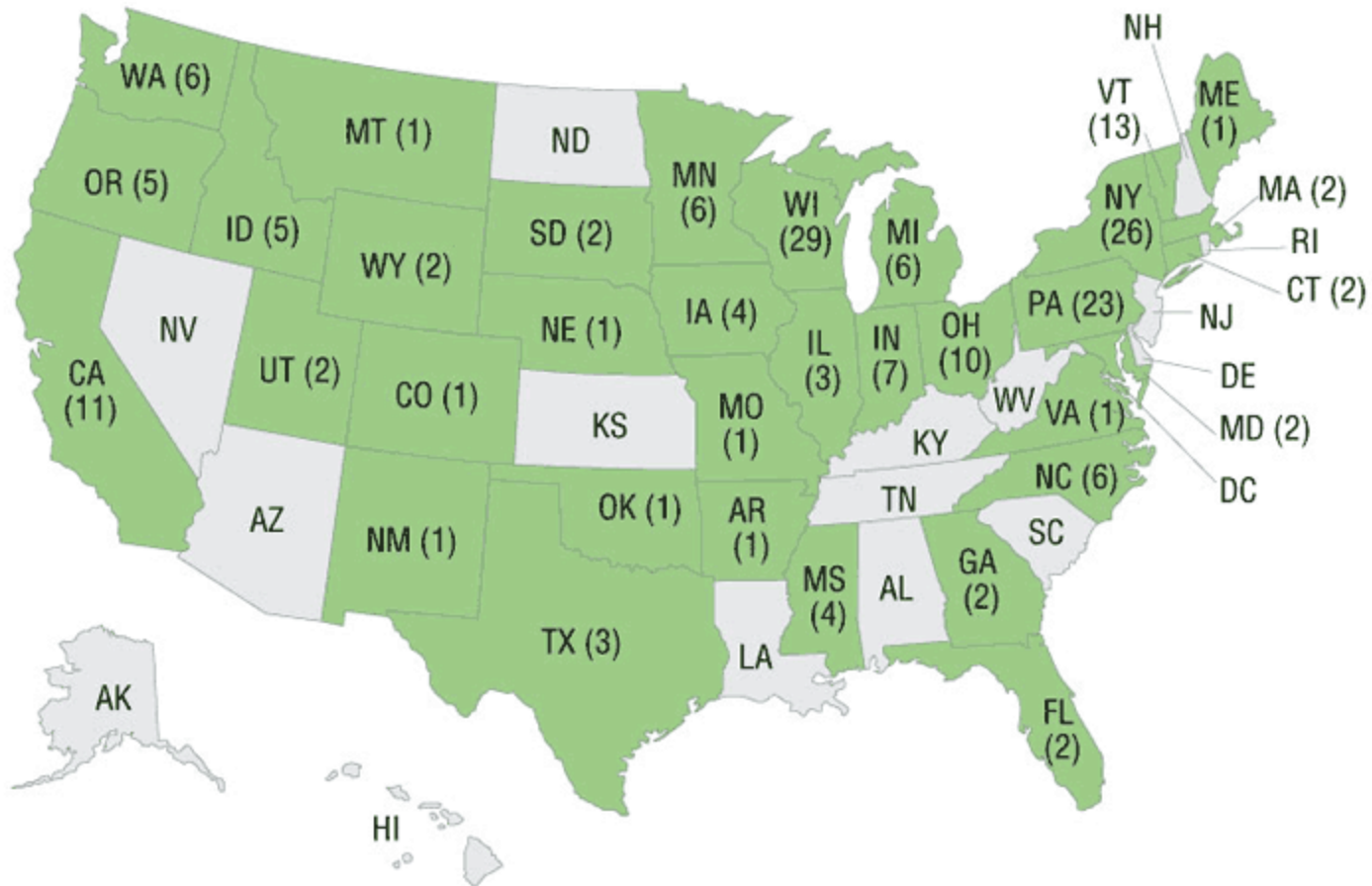
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# Recent Food Waste Compost Facility Expansions

- OCRRA
- Cayuga Compost



# Manure Digesters In the United States



# 360-5 Composting and Other Class A Facilities

- Applicability
- Definitions
- Exemptions and Registration
- General Permit Application Requirements
- Facilities for Biosolids, Mixed Solid Waste, Septage, Other Sludges
- Facilities for Source-Separated Organic Waste
- Yard Waste Composting Facilities
- Out-of-State Products
- Research Projects





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# 361-3 Composting and Other Organics Processing Facilities

- Applicability and definitions
- Anaerobic Digestion facilities
- Exempt facilities
- Registered facilities
- Permitted facilities – yard trimmings, SSO, biosolids/MSW
- Products generated out-of-state



# Anaerobic Digestion Facilities

- **Exempt and Registration criteria to deal with digestion of:**
  - Manure
  - Food processing waste
  - Food waste
  - FOG
  - Other industrial waste streams



# Exempt Facilities

- On-Site Composting (not for sludges)
- Manure Composting
- Yard Waste Composting: < 3000 cubic yards/year
- On-Farm Composting of Farm Wastes
- A combination of exempt facilities
- **Small scale SSO composting <1000 lbs/wk**



# Registered Facilities

- Yard Waste Composting: 3000 – 10,000 cubic yards per year
- Source separated organic waste composting: <1000 cubic yards per year
- **Source separated organic waste composting:**
- **< 5000 cubic yards per year**
- Food processing waste composting
- Annual Report Required



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# Food Scraps Registration

## Conditions:

- Material can not be on-site for more than 36 months
- The operation follows acceptable methods of composting that minimize odor generation and produce a mature product
- The facility is at least 200 feet from water bodies and residence/business (may be increased to 500 feet in densely populated areas) **Revised to allow reduced buffer in urban areas if other mitigating measures are used**



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# Permitted Facilities

- Everything that is not exempt or registered
- > 10,000 cubic yards of yard waste per year
- > 1000 cubic yards of SSOW per year
- Any amount of biosolids, septage, MSW



# ADs in New York State

- 19 located on farms, 5+ under development – many take outside organics (food processing waste, etc.)
- One regional in operation (Cayuga County)
- Two regional in permitting in Buffalo area (private – Quasar)
- Johnstown-Gloversville POTW + FAGE
- Chobani – engineering stage
- City of Albany POTW pilot – biosolids + food waste
- 100+ at POTWs – feasibility of taking outside organics?



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# How to regulate ADs?

- In New York State, there are two primary regulations that may apply:
  1. Division of Water – CAFO (Concentrated Animal Feeding Operations)
  2. Division of Materials Management – Part 360 Solid Waste Management Facilities
- Rulemaking currently underway to clarify AD regulation and minimize overlap between CAFO and 360



# What do we need to regulate?

- Excluding Air Issues or other potentials (wetlands,etc):
- At the AD site itself:
  - Groundwater protection (waste storage prior to digestion, the digester itself, digester product(s))
  - Odor
  - Maturity /Stability of the product(s)
  - Pathogens (maybe)
  - Legitimacy of the waste addition (wastes will digest, not driven solely by tipping fees)



# Digester Product(s)

- Potential Uses : land application, animal bedding, composting, blended to make topsoil, others?
- Issues to address in regulation:
  - Pathogens (maybe)
  - Heavy metals or other pollutants (maybe)
  - Maturity
  - Nutrient loading
  - Separated solids + liquid vs. a mixture
  - Storage issues



# AD Regulation in New York State

- Exempt from Part 360:
  1. AD facilities that accept only: animal manure and bedding, crop residues and similar farm wastes. If a CAFO, must still comply with CAFO standards.
    - Use of the digestate for land application, bedding, topsoil, composting also exempt (may be subject to CAFO)
  2. AD facilities located on a CAFO with a CNMP for: manure, food processing waste, fats, oil, grease, other organics (no sanitary waste), if non-manure waste does not exceed 50 percent of yearly input
    - Use of the digestate for land application, bedding, topsoil, composting also exempt (may be subject to CAFO)



# Registered Under Part 360:

- **An AD that accept less than 50 TPD of any organic waste EXCEPT sanitary waste (septage, biosolids), provided:**
  - ❑ All waste received is size reduced if needed
  - ❑ All waste must be source separated (< 1% by volume non-organics)
  - ❑ For low solids AD – liquid level in the digester is maintained so discharge into gas system does not occur
  - ❑ Must achieve a minimum of 38% volatile solids reduction
  - ❑ Use of the digestate: land application or composting requires registration unless a CAFO, bedding is exempt, use at topsoil is exempt provided odors do not occur during storage or use



# Permitted Under Part 360:

- **Any AD accepting sanitary waste (unless located at a POTW)**
  - analyses of incoming and outgoing waste
  - pathogen and vector attraction reduction
  - all storage processing must occur in a vessel or on a liner
  - basic criteria (volatile solids reduction, etc)
  - Digestate Use: land application and composting require a permit unless Class A, bedding and topsoil prohibited unless Class A



# Permitted Under Part 360:

- **An AD that accepts more than 50 TPD, that accepts no sanitary waste, that is not otherwise exempt**
- AD must meet basic criteria (volatile solids reduction, no groundwater impacts, etc.)
- Digestate Use: Land application and composting require registration, bedding is exempt, topsoil use is exempt provided odor is not a problem during storage or use



# Questions?

