Organic Material Recycling

Intro to AD, Biogas (and Composting)

Patrick Serfass, ABC Executive Director
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Who we are

The only US organization representing the entire biogas industry

All sectors represented

- Project developers/owners
- Equipment retailers and dealers
- Waste management companies
- Waste water companies
- Farms
- Utilities
- Municipalities
- Consultants and EPCs
- Financiers, accountants, lawyers and engineers
- Non-profits, universities and government agencies

Representing 200+ organizations
2 Ways to Recycle Organics

- **Biogas Systems**
  - (24-400,000 TPY, 50,000 TPY avg)

- **Compost Systems**
  - (30-300,000 TPY, 30,000 TPY avg)

- Both
Compost systems scale DOWN really well
Biogas systems scale up really well.
The US Biogas Market

Current
253 on Farm
1,269 Water
66 Food Scrap
645 at Landfills

Potential
8,300 on Farm
4,000 Wastewater
1,000 Food Scrap
440 at Landfills

2,200+ Operational Biogas Systems

14,000+ Potential New Biogas Systems
Compost system
How Biogas Systems Work

Microbes break down organic material over 2-4 weeks producing biogas and digestate.

Biogas can be used for:
- Electricity
- Renewable Natural Gas
- Vehicle Fuel
- Heat
- Soil Products
- Animal Bedding
- Other Products (e.g., building material)
- Crop Irrigation

Digested material may be returned for livestock, agricultural, and gardening uses.

Source: ABC, adapted from EPA AgSTAR

American Biogas Council
www.americanbiogascouncil.org
Biogas Products
Biogas products
Food waste
COMMERCIAL food scraps
CONSUMER food scraps
Digestate
Digestate
Digestate Products
Real projects
Blueline, South San Francisco (CA)

- 11,200 TPY food and yard waste
- Dry anaerobic digestion
- Makes 120,000 diesel gallon equivalents of renewable natural gas (RNG)
- Digestate: organic certified compost
- 35 million cuft/year of biogas
Forest County Potawatomi (WI)

- 132,000 gal/day food waste and wastewater from casino
- Biogas system located in parking lot of casino
- Biogas used for electricity and heat
- Digestate is land applied
UW-Oshkosh Urban Dry Digester

- 10,200 TPY food and yard waste from college campus
- Dry anaerobic digestion
- Makes electricity and heat
- Digestate: organic certified compost
- 27 million cuft/year of biogas (2.1 million kWh/yr)
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