WELCOME.

NEDR # 11: ADvancements Around the Region

INSTRUCTIONS
NEBRA NE Digestion Roundtable

October 5, 2018
John Fischer, MassDEP
Operational Capacity – Food Waste

- Barstow Farm, Hadley
- Barway Farm, Deerfield
- CRMC Crapo Hill Landfill
- Jordan Farm, Rutland
- Pine Island Farm, Sheffield
- Rockwood Farm, Granville
- Stop & Shop Distribution Center

Total Operational Food Waste Capacity
- About 407,000 tons per year
Additional Capacity – Food Waste

- Permitted – 118,000 tons per year
  - Crescent Farm – Haverhill
  - Jordan Heifer Farm - Spencer
  - Luther Belden Farm – Hatfield
- Permitting process – 91,000 tons per year
  - Shy Brothers Farm, Westport
  - Whittier Farm, Sutton
- Part of on-site waste water system
  - Ken’s Foods
  - Garelick Farms, Lynn and Franklin
Anaerobic Digestion

- Wastewater Treatment Facilities:
  - Massachusetts Water Resources Authority (MWRA) Deer Island WWTP
  - Greater Lawrence Sanitary District (GLSD)
  - MWRA Clinton WWTP
  - Pittsfield WWTP
  - Fairhaven WWTP
  - Rockland WWTP
Anaerobic Digestion

- Projects in the Pipeline
  - Several projects have held pre-permit meetings with MassDEP
  - How many, if any, will move forward?
    - CRMC Crapo Hill LF Expansion
    - Quantum Biopower, Holyoke
    - Yarmouth
    - Others?
Organics Management Capacity

- Depackaging capacity - Operating:
  - WMI Boston CORe/Save That Stuff, Inc.
  - EL Harvey
  - Parallel Products (liquids only)
  - RecycleWorks Inc.
  - Troiano Trucking

- Not yet operating
  - Rockwood Farm
  - Vanguard
Clean Energy Results Program Contact

MassDEP:
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Commercial Food Waste Website:
https://www.mass.gov/guides/commercial-food-material-disposal-ban
Clean Energy Results Program Website:
http://www.mass.gov/eea/agencies/massdep/climate-energy/energy/
Quantum Biopower

The Supreme Group is a group of companies first founded in 1980; the group is privately held and operates over synergistic industries. Over the past 35 years, the Group has transformed traditional waste streams into beneficially reusable products.

Regional leader in land clearing and ROW construction for the power and pipeline industry

Operator of 3 Volume Reduction Facilities producing over 350,000 cubic yards of mulch, soil, and compost

Integrator of advanced waste & recycling to energy systems. Owners of the Southington, CT digestion facility.
Quantum Biopower – Southington, CT

**Decontamination/De-packaging**
Pulp & emulsify food waste/contamination removal (8-12% solid)

**Digestion/Biogas Creation**
2-stage digester, biogas collection sphere

**Biogas Conditioning & Combined Heat and Power**
Drying & H2S removal & energy creation

**Nutrient Recovery & Removal**
2-stage digester, biogas collection sphere
Quantum facility will generate 420,000 ft³/day of biogas equivalent to 5,080 tons/yr of CO₂ avoidance.

- 572,000 Gallons
- 1,073 Cars
What’s in store for CT?

1. Co-Digestion work product; co-authored by Quantum, Yale, NEBRA
   • Digestion of biosolids could make a significant contribution to CT’s Comprehensive Materials Management Strategy 2024 goal for diversion from organics, as well as other goals.
   • Federal regulations exist to support biosolids’ management that specifically regulate nutrient levels, heavy metals and pathogens.
   • All other states have sanctioned biosolids processing and end-use of biosolids products, including co-digestion with food and yard waste; CT can use a combination of federal and state-specific regulations for its biosolids regulatory framework and may consider examples from other states, particularly those located in the Northeast

2. Current Regulatory Environment

3. Capacity – decreasing statewide; MSW, Biosolids

4. Impact of Food Waste Diversion Mandate - 2020
Questions & Discussion
Rhode Island

- Report from CET
- Fall 2017
- 3 operating commercial scale food waste processing facilities: Earth Care Farm (compost) and My Blue Heaven Farm (animal feed)… & Blue Sphere…
- Landfill tip fees being increased as incentive
- See https://wastedfood.cetonline.org/states/rhode-island/ (shown at right)
Rhode Island: Blue Sphere

JOHNSTON, RHODE ISLAND

Energy Output Size: 3.2 MW
- Technology: Anaerobic Digester
- Current Status: Producing Electricity
- Energy Production Start: Q4 2016
- Feedstock: Organic Waste

Output Production
- Electricity
- Soil Amendment

nationalgrid
Rhode Island: Bucklin Point

Providence Journal, January 25, 2018

NEBRA, Fall 2017
https://www.nebiosolids.org/bucklin-point-green-energy/
Maine

- Exeter Agri-Energy…. See NEDR #9
  https://www.nebiosolids.org/ne-digestion-roundtable
- LAWPCA
- Village Green Ventures → Genesis
New Hampshire

WRRF digesters:
- Franklin
- Hanover
- Nashua

What else?
Vermont

WRRF digesters:
- Essex Junction
- So. Burlington
- Brattleboro
- Springfield
- Windsor
- St. Johnsbury
- Rutland
- Barre
- Montpelier
- St. Albans

Farm ones too – see NEDR #5
Thank you for joining NEDR #11.

Next NEDR:
Friday, January 4, 2019, Noon Eastern.

More at:
https://www.nebiosolids.org/ne-digestion-roundtable

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