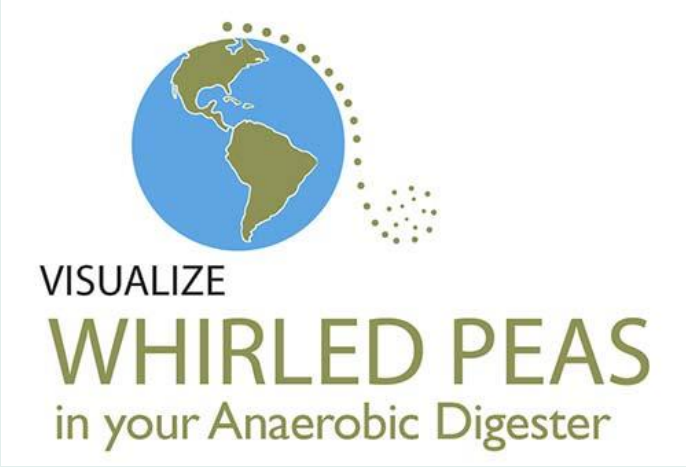
Connecticut Department of Energy and Environmental Protection

Connecticut Department of
ENERGY & ENVIRONMENTAL PROTECTION

Pathway to AD in Connecticut



NEWMOA Solid Waste Workshop / Connecticut Department of Energy and Environmental Protection, Hartford CT

May 11, 2017

Presenter: Gabrielle Frigon - CT DEEP Solid Waste Permitting Supervising Environmental Analyst

Pathway to AD in CT

Comprehensive Materials Management Strategy

(Adopted June 2016 and is the CT's solid waste management strategy)

- Strategy for achieving 60% diversion from disposal by 2024
- A key component to the CMMS is the development of alternatives to waste-to-energy technologies

  i.e. waste conversion technologies
- Food wastes or Organics are a significant component of MSW

Pathway to AD in CT

- Agency proposed legislation to create a new category of sold waste facility (2017 H.B. 7065)
  - Waste Conversion Facility
  - A facility that generates products, fuels, chemicals
  - Not a Resources Recovery Facility
  - Would not trigger a Determination of Need since it is not a specified facility type

Pathway to AD in CT

Current Statutory Definitions CGS Sec. 22a-207

- Municipal Solid Waste – means trash generated at residential, commercial, institutional or industrial sources (with specific exclusions)
- SSOM – means organic material such as food scraps, food processing residue and soiled or unrecyclable paper that have been source separated

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- Composting facility – means a location or equipment where organic materials originating from another process or location, that have been source separated from non-organic materials, are recovered (processed) using accelerated biological decomposition
- Resources Recovery Facility (RRF)– means a facility using processes to reclaim energy from MSW

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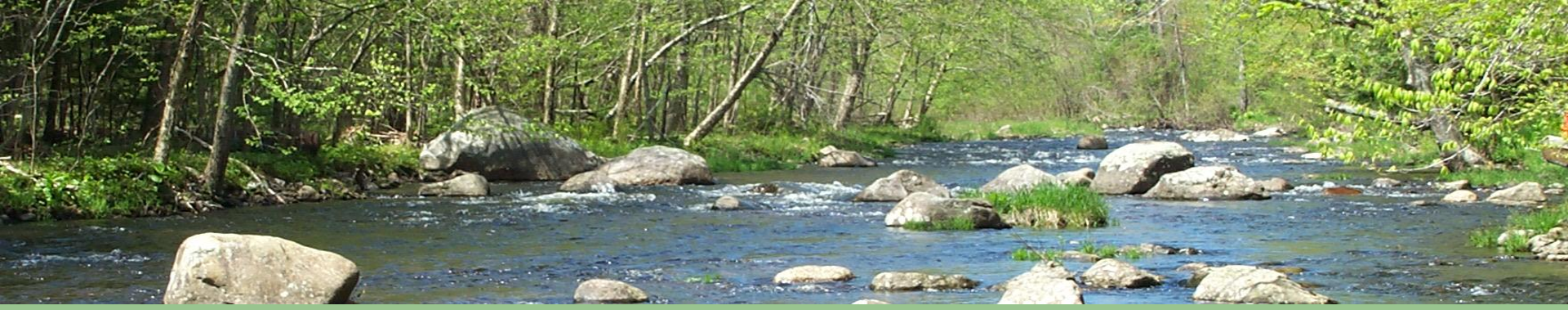
- Determination of Need (CGS Sec. 22a-208d) is a formal process that is initiated with the submission of a SW permit application for certain facility types, including RRFs
- Requires the Commissioner to determine that the capacity of the proposed facility, when combined with existing in-state capacity (of all other RRFs), will not result in substantial excess capacity to manage the solid waste generated in the state – potentially arduous process

Pathway to AD in CT

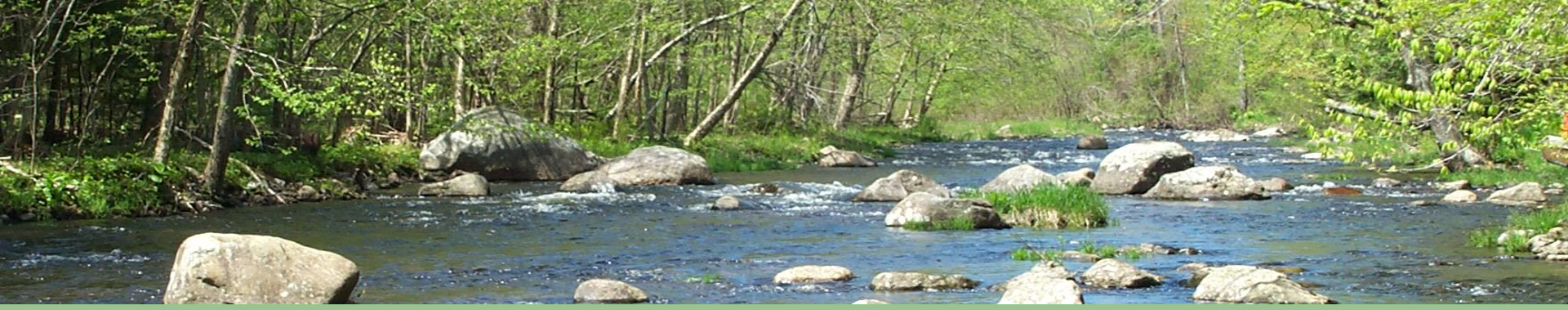
- RRFs combust MSW to generate heat which generates steam, which drives turbines, which generate electricity and during that process generate ash which is then disposed
- AD facilities use an anaerobic biological process to convert the SSOM into a digestate with both liquid and solid fractions that will then be either used as liquid fertilizer or cured to become a soil amendment or compost
  - By-product of AD is Biogas

Pathway to AD in CT

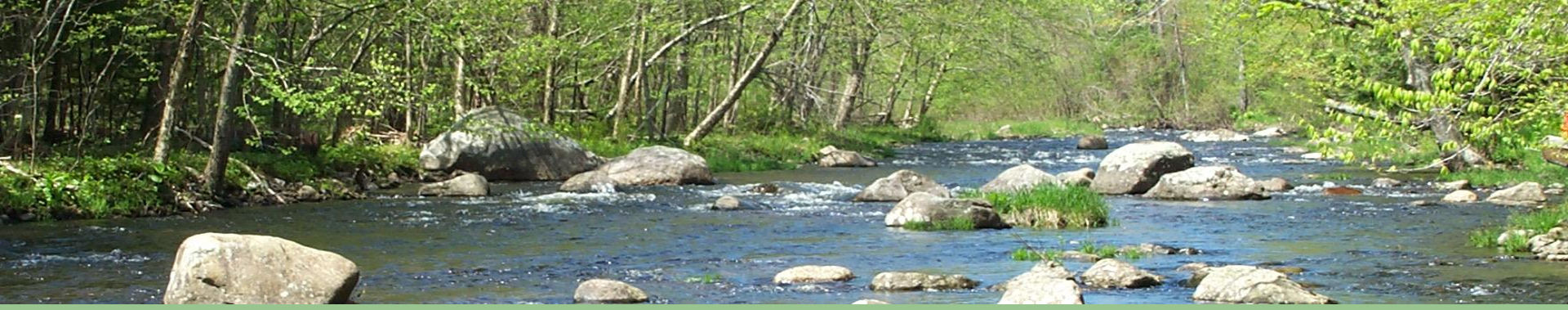
- Biogas is either bottled and transported off-site for other uses or is used on-site to generate electricity so that the facility may self-power & provide the balance to the electrical grid or a micro-grid for structures or uses in the vicinity
- The process of anaerobic digestion, with the appropriate use of the digestate, allows us in CT to consider these facilities Composting Facilities and not RRFs
- Disposal of digestate means AD = RRF = Det. of Need



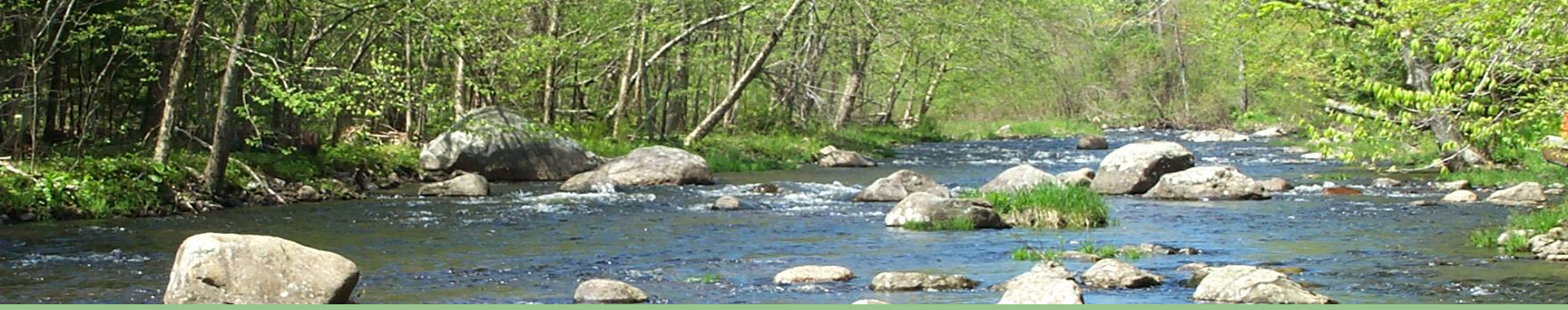
- CT's facilities:
  - Bridgeport Bioenergy (aka Anaergia) issued August 10, 2015
  - B & R Corporation (dba Quantum Biopower) issued April 20, 2016, Mod. Dec. 15, 2016
  - Turning Earth of Central CT, LLC issued February 21, 2017



- Bridgeport Bioenergy Facility, LLC – Bridgeport CT
  - "Wet" technology
  - 900 TPD two separate lines
  - Food Waste, FOG (fats/oils/grease)
  - Biosolids (sewage sludge) kept separate from food waste
  - Digestates will be managed separately



- B & R Corporation – Southington, CT
  - "Wet" technology
  - 336 TPD
  - De-packaging and AD
  - Food Waste, FOG (fats/oils/grease)
  - Began limited operations December 2016
  - 60% capacity and making power by May 2017



- Turning Earth of Central CT, LLC Waste - Southington, CT
  - "Dry" technology
  - 265 TPD Food Waste and Land Clearing/Yard Waste
  - Clean Wood, Leaves & Grass Clippings
  - Anaerobic Digester Modules with Aerobic Curing

Questions?

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