

ANAEROBIC DIGESTION AND WASTEWATER TREATMENT

REVISIONS TO 314 CMR 12.00
OPERATION & MAINTENANCE STANDARDS FOR
WASTEWATER TREATMENT PLANTS

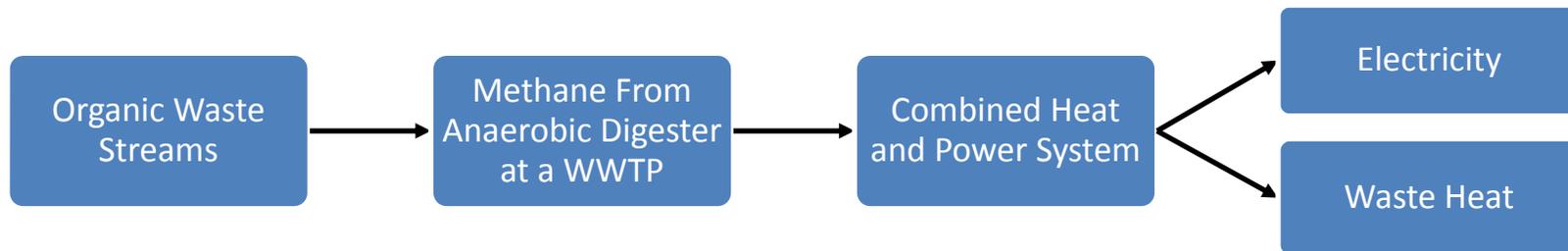
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Connecting wastewater treatment plants and Organics

Wastewater facilities

- Existing streams of unused organic wastes
- Used AD in Massachusetts for decades. Operate known and proven technology. Six facilities currently have active AD units in Mass.
- Economic and efficiency benefits with adding source separated organics (SSO)



Anaerobic Digestion at WWTPs

Benefits for wastewater treatment

- Reduced volume of residuals
- Stabilized end-product (sludge)
- Production of biogas for heat and energy



WWTPs in MA with AD

Facility Name	Flow (MGD)	Biogas Use	Age
MWRA Deer Island	360	Heat & Electricity (steam turbine)	~ 20 yrs
Pittsfield	13	Heat & Electricity (New CHP)	Built in 1963; recent rehab
Rockland	2.5	Heat. Flare any excess	~ 20 yrs
GLSD	30	Heat. Flare any excess	Tanks installed 2002
Clinton	2-4	Heat. Flare any excess	~ 20 yrs
Fairhaven	2.7	Heat & Electricity	New (2010-11)



Adding Organics to the Mix...



Revisions to 314 CMR 12.00

- Explicitly permit the addition of organic materials to anaerobic digesters located at a wastewater treatment facilities for multiple benefits:
 - Enhance energy production – reduce energy purchases
 - Increase efficiency – effective treatment and sludge management
 - Reduce operating expenses – potential revenue from accepting organics
 - Reduce organic materials directed to landfills
 - Potential for fertilizer production



City of Lincoln, Nebraska WWTP



Revisions to 314 CMR 12.00

- Explicitly allow POTWs to accept organics in AD units at a POTW
- Define, by reference, acceptable organic materials. Now includes animal products (with source specific approval)
- Add new recordkeeping and reporting requirements for additional organics
- Clarify existing requirement for MassDEP approval of O&M Manual
- Added presumptive approval process



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