

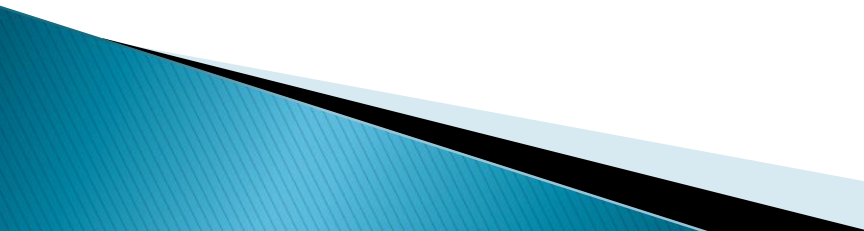
Turning Leafy Greens Into Green Energy

The Saratoga County and Albany County Joint
Biosolids Effort

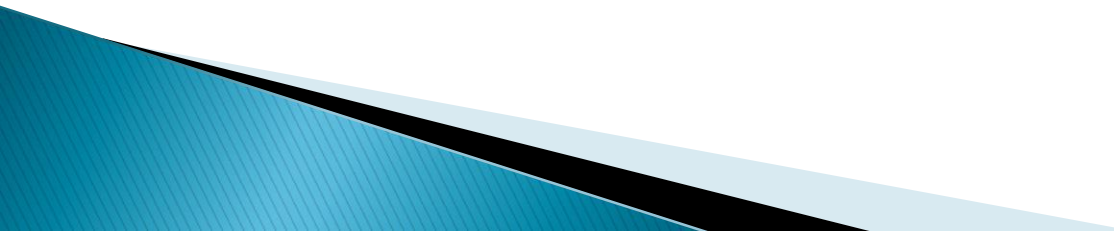
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Background

- ▶ **Saratoga and Albany Partnership**
 - What was the original problem statement?
 - Increased SSI emission regulations
 - Study/IMA

 - ▶ **Wastewater Utilities**
 - Albany/Saratoga WWTP's
 - Leverage existing infrastructure
 - Leverage existing talent
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Intermunicipal Agreement (IMA)

- ▶ Definition
 - ▶ What needs to be explicitly defined?
 - Cost Sharing – Based on Engineers Report
 - Payments – What are county audit/purchasing policies?
 - Termination
 - ▶ Project Funding – Shared? Separate Bonding?
 - ▶ Land Lease
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Study Phase

- ▶ Goals
- ▶ Technical Project Aspects
 - Steel vs. Concrete (useful life for bonding, payback)
 - Sizing, redundancy
 - What is the utilities fiduciary duty?
- ▶ Understanding Revenue Streams
 - Do you want to be a merchant facility?
 - Sludge/Grease/Septage
 - Producing Electricity/Natural Gas
 - Understand the market
 - Utility hurdles

Developing an ROI or Annualized Cost for the Project


▶ Expenses

- Compared different technologies/options vs. a “do nothing” approach.
- Weighed risk vs. cost

▶ Revenues

- Electrical costs, on site usage vs. possible net metering. Low electrical costs = Longer ROI
- Natural Gas Production – Understanding RIN’s
 - D3 vs D5 – Processing food waste/grease
 - Using RIN revenue for ROI

Food Waste Regulations

- ▶ Anaerobic Digestion – Laying Groundwork for SCSD and the ACWPD
 - ▶ NYSDEC has already planned for food waste diversion.
 - ▶ Amount of waste generated with an available “outlet.”
 - ▶ Mixed D3 / D5 RINs?
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Project Details

▶ SCSD

- Existing biosolids processes and cost
- Expected annualized cost of new project
- Dealing with residuals
 - Class A vs. Class B land application
 - Importance of scale
 - A: 37 dry ton/day @21% = 144 ton/day – 64,000 ton/year
 - B: 37 dry ton/day @85% = 43 ton/day – 15,900 ton/year
 - Different hauling costs/markets/emerging contaminants
 - \$5/ton price difference = \$240,000 cost difference/year
 - Minimizing risk
 - Market based pricing to process the food waste (“outlets”)

Project Costs

- ▶ Capital Costs currently projected at \$48.5M
 - These costs split 50/50 between counties
 - SCSD had study done for own digester – \$40M
- ▶ Annualized Costs
 - Approximately \$5M total – \$2.5M each county
 - This includes estimated O&M and revenue based on diverting electric load currently (Not RIN's)
 - No tipping fees included (conservative)

Current SCSD Operations

- ▶ Third party hauling contract (bid with extensions)
- ▶ Cancelled extension 30 days before
- ▶ Price increased – \$91 /ton to \$129/ton
 - \$750,000/year
- ▶ Control your own “cost destiny” through mindful design

How Food Waste Fits In

- ▶ As the end outlet, we would work with local municipalities who want to implement a food waste/reuse project.
- ▶ Provide available capacity, ability to reserve capacity, tipping fees for processing etc. (D3 vs. D5 RIN distinction)
- ▶ WWTP's are easy end outlets
 - Existing infrastructure
 - Existing operations/maintenance staff

Schedule/Next Steps

- ▶ Currently in design
 - ▶ Out to bid for construction 2021
 - ▶ Secure financing (and hopefully grant funding!)
 - ▶ Carefully look at all EFC grant programs (WIIA vs. IMG, hardship vs. market rate financing)
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