

The 2013 Forum on Anaerobic Digester Production of Energy: New Opportunities for Projects in Michigan

FORUM OVERVIEW: THE ROLE OF ANAEROBIC DIGESTER-TO-POWER GENERATION IN CONSUMERS ENERGY COMPANY'S RENEWABLE ENERGY STRATEGY

Michigan State University
Consumers Energy Company Project
Phase 1

2013 Forum Overview

- ⦿ The role of AD-P in Consumers Energy Co. in meeting renewable energy portfolio standards.
- ⦿ MSU biomass-sourced research programs – screening project feasibility and cost.
- ⦿ State renewable energy policies, regulations, incentives.
- ⦿ New opportunities and approaches for PPAs, interconnect costing.
- ⦿ Project planning, financing, and development – successes and lessons learned.

2012 Baseline Study:

- ⦿ MSU was asked by Consumers Energy to conduct a study of anaerobic digester-to-power (AD-P) projects in Michigan to determine, in part, opportunities for and impediments to such projects.
 - *Why has Michigan been slow to adopt AD-P as a renewable energy resource?*
 - *What are the uncertainties/gaps in information, perceptions, and expectations in the AD-P business?*
 - *Can AD-P play an increasing role in meeting 2015 (and future) RPS mandates?*
 - *How economically competitive are digesters with other renewables?*
 - *What can Consumers Energy do to stimulate AD-P projects within its service territory?*

Survey Instrument

- ① The decision process used to adopt anaerobic digesters at their farm, company, or community.
- ② The quality and comprehensiveness of information used in the decision process.
- ③ Contract negotiations, project costs and economics, and return on investment.
- ④ What has worked successfully in anaerobic digester projects throughout the process of design, funding and approvals, obtaining PPAs, construction, and operation.
- ⑤ What difficulties may have been encountered during each step of the decision process?

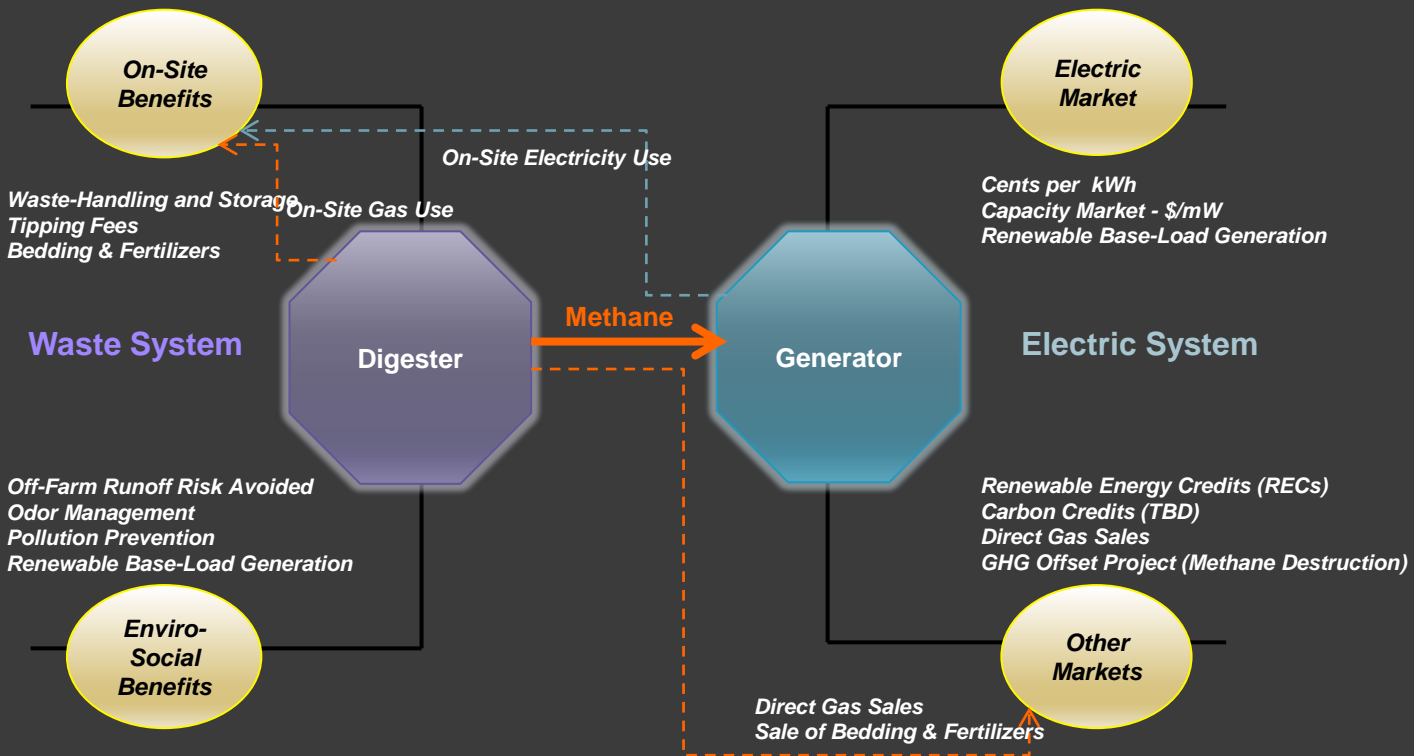
Recommendations for Consumers
Energy Company and It's AD-P-Sourced
Renewable Energy Programs:

Increase Proportion of AD-to-Power Generation in the Renewable Energy Portfolio

- ⦿ Increase role of AD-P projects as an **important component within its overall renewable energy portfolio**.
- ⦿ Consider AD-P resources as a **contribution to its base load capacity**, in contrast with wind or solar energy generation.

Create a PPA Template for AD-P Projects

- ◎ Promote more informed cost and RoI calculations.
- ◎ Monetize:
 - Avoided costs and risks of implementing AD-P systems.
 - Social and environmental services provided.
 - Added-value revenue generation (e.g., tipping fees, compost, fertilizer, waste heat, etc.).



Monetizing the Benefits and Costs of Anaerobic Digestion-to-Power Generation

Build an AD-Power Project Information System

- ① Develop a **renewable energy multi-attribute database** to identify and map economically viable waste streams from agricultural, food-based, and municipal/industrial wastewater treatment facilities throughout the state.
- ② Merge this database with **location and condition of power grid** in the vicinity of potential AD-P resources.
- ③ **Sponsor a conference** to share information and explore unified specifications for siting, designing, building, and operating AD-P facilities.

Consider and Support Project Partnerships

- ⦿ Investigate opportunities for promoting and partnering with AD-P projects around the state:
 - power purchase under EARP program, or
 - joint-venture, or
 - biogas purchase only, or
 - operate power generator side.
- ⦿ Develop unified technical specifications for sourcing and operating on-site generators.
- ⦿ Investigate options for reducing interconnection costs.

Support State and Local Policies/Incentives to Increase the Role of AD-P Systems Statewide

- ⦿ Continue support of Governor Snyder's rural development initiative.
- ⦿ Help promote the use of AD-P systems to reduce environmental contamination, provide jobs, and reduce Michigan's reliance on imported energy.
- ⦿ Work with state agencies and local governments to promote financial incentives, property and business tax credits, REC credit ratios, etc., as appropriate.
- ⦿ Increase livestock head numbers for farms with AD-P systems.
- ⦿ Support to state AD-P developer/operator certification program.

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