BIOGAS PROCUREMENT UPDATE

Presentation to the CPUC's Energy Division

Pacific Gas and Electric Company™

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OVERVIEW

- Pacific Gas and Electric Company and **Agri-Waste Energy Inc.** are finalizing negotiations on a **Biogas Purchase and Sale Agreement**
- The Agreement is a purchase of pipeline quality gas produced by the anaerobic conversion of dairy waste (BioMethane) from two dairy sites: Bomaz and Jon De, both located in Wisconsin
- Electricity generated with the fuel obtained through the Agreement is eligible to count towards the Utility's RPS mandate. The agreement has the potential to **deliver up to 0.03% of retail sales by 2012**
- The project will result in the reduction of up to 50,000 metric tons of greenhouse gas (GHG) emissions per year

CONTRACT TERMS

- Term: **15 years**
- Delivery Point: Topock, AZ (PG&E will transport the BioMethane into CA to produce power at the Utility's owned gas-fired power plants)
- Quantity: Up to 500 MMBtu/day (about **25 GWh/yr**)
- Price: $11.85/MMBtu with an annual fixed escalation of 1.25% **($12.82 levelized**)
- COD: **August 2011**
- Market valuation: - $44/MWh (per August 2010 forward curves)
- Diversification: With the Agri-Waste Agreement, the Utility's RPS portfolio would be further diversified to include BioMethane, which allows for **renewable generation on a dispatchable basis**
- Carbon offsets: Agri-Waste will provide PG&E with carbon offsets, if required, to render the generation as zero-net-emissions. In addition, PG&E will receive a right-of-first-refusal on the remaining carbon offsets.

PROJECT VIABILITY

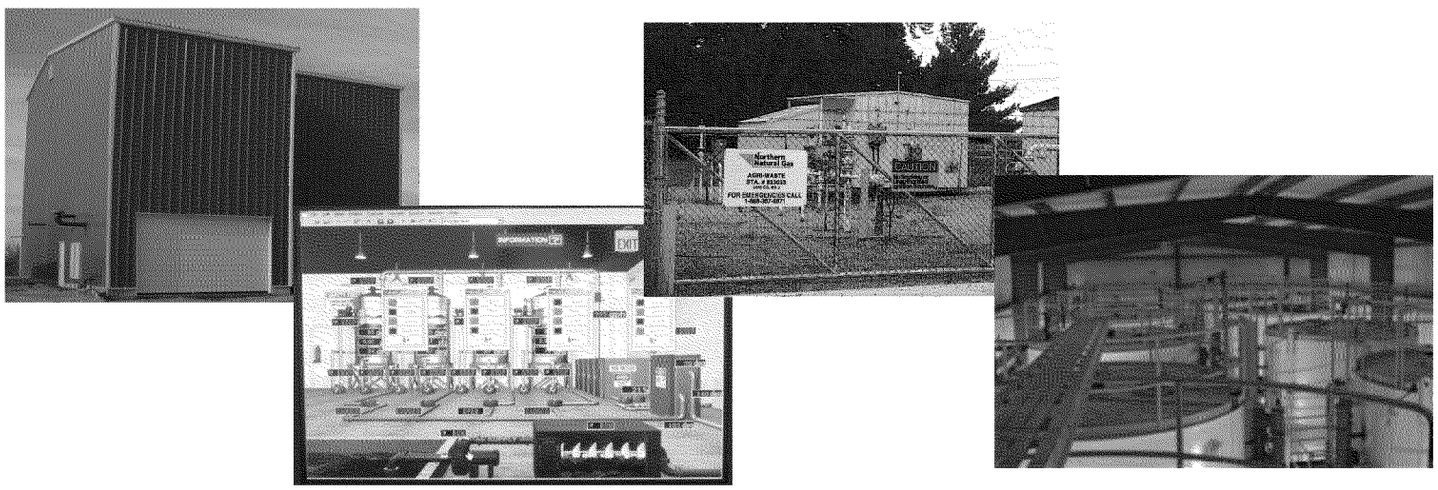
- The Agri-Waste **project appears highly viable**, based on technology, design, capitalization, permitting, and interconnection
- Permitting: The project is **fully permitted**
- Financing:
  - Project equity was contributed by a **consortium of companies** comprised of Agri-Waste (the developer), the two dairies, and the BioMethane production equipment manufactures
  - Agri-Waste secured a loan guarantee from the Wisconsin Department of Commerce with funds allocated by the U.S. Department of Energy under the **American Recovery and Reinvestment Act "ARRA"**)
  - In addition, Agri-Waste will be financed through tax-exempt bonds issued by the local county
- Interconnection: The project will use **existing on-site gas pipeline** and injection point

TECHNOLOGY AND DESIGN (1)

- Technology:
  - Agri-Waste uses **new, closed tank technology** (by Andigen), which significantly **reduces production intermittency** and allows for **scale flexibility**
  - The usage of a tank, compared to an open-loop system, provides a greater degree of efficiency of gas production, due to the **temperature-controlled environment**
  - The technology is U.S. developed, designed to meet U.S. standards, and supported by Utah State University research
- Design:
  - Above ground with a relative small footprint, as opposed to larger in-ground systems which require large land parcels
  - The multi-tank feature of the system allows the project to be maintained and scaled relatively easily and with minimal disruption to overall gas production

TECHNOLOGY AND DESIGN (2)

- Genex Farm Systems, the Andigen licensee, has a 30-year record of building and supporting forage, milking, and manure management system for livestock operations throughout several states in the Midwest
- There are currently four Andigen digester systems operating throughout the U.S. and Canada
- The successful deployment and operation of this technology will hopefully improve project viability and subsequently spur proposals for projects in CA



BIOENERGY SOLUTIONS, MICROGY

- The Utility's two existing BioMethane projects, BioEnergy Solutions (Vintage Dairy) and Microgy, have encountered significant difficulties
- While these two counterparties have asked for an amendment to improve their situation, PG&E has some viability concerns with their technology, financial stability, and ability to operate the project
- BioEnergy's Vintage Dairy no longer has cows to produce BioMethane
- Microgy is still performing from one site (Huckabay Ridge, TX), but the volumes are significantly less than those anticipated and Microgy has been declared bankrupt under Chapter 7. The Huckabay site was placed under a Receiver
- Our due diligence process for new project opportunities, including Agri-Waste, took into account what we've learned from these two counterparties