Qualco Energy
Bio-Gas Project

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Introduction

- Description of Project
- Current status of Project
- Future Expansion
- Funding
- Power Purchase Agreement
- Benefits of Digester Project
- Questions
Project Description

- Sewage Treatment for Cow Manure
  - Collect Cow Manure from Dairy
  - Collect Ag. Waste and Pre-Consumer food Waste
  - Pump into Anaerobic Digester
  - Capture Methane Gas
  - Burn Gas to Produce Electricity
  - Compost Bio-solids
  - Return Effluent & Compost to Farms
Biogas Project

- Started Operation December 2008
- Currently Operating with 1300 cows, other agricultural substrates and pre-consumer food wastes.
- Washington State Law exempts dairy digester operations from waste handling permits. Digesters must use at least 50% manure, may use other agricultural wastes and use up to 30% Pre-consumer food waste.
- Generator capacity is 450 KWh and has operated approx. 92% of the time since start-up.

Revenues
- Approx. $12,000/month electricity sales.
- Approx. $35,000/month tipping fees for food wastes.
- Carbon Credits – California Market estimate $45,000/year
Expansion Opportunities

- Concentrating nutrients from liquid effluent for farms to use instead of commercial fertilizers.
- Add additional digester capacity.
- Add additional generator capacity (750 – 800 KW)
- Clean gas to pipeline quality and compress for RCNG market (Transportation/Heating Fuel).
- Use digester gas for drying facility.
- Use waste heat for other uses on site (i.e. green houses/hot houses).
Funding

- Department of Energy Grant for Feasibility Study and Business Plan ($250K)
- Department of Agriculture Grant for Construction ($500K)
- Energy Bill through IRS - Clean Renewable Energy Bonds ($2.6M)
- Tulalip Tribal Funds ($350K)
- Volunteered Time by Qualco Board
- Land Donated by State of Washington (Former Corrections Honor Farm)
Power Purchase Agreement

- SnoPUD Small Renewables Program
  - Peak/Off-Peak Rates
  - Transmission & Distribution Line Loss Credit
  - Tradable Renewable Energy Credits
  - Deferral of System Upgrades Credit
  - Distributed Generation Credit
  - Generation Capacity Credit (Peak Hours October – March Only)
  - No Wheeling Fees from old PSE contract
Benefits of Project

- Improved Water Quality from Stormwater Run-Off
  - 92-98% Pathogen Reduction in Effluent for Irrigation
  - Converting Nutrients from organic to inorganic forms
- Reduced Waste going to Landfills and Wastewater Treatment Facilities
- Creation of Renewable Energy
- Recycling Nutrients for use on Neighboring Farms
- Reduced Methane Emissions
- Improved Economic Viability for Farms
Questions?

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