

Biogas Facility

San Antonio Water System

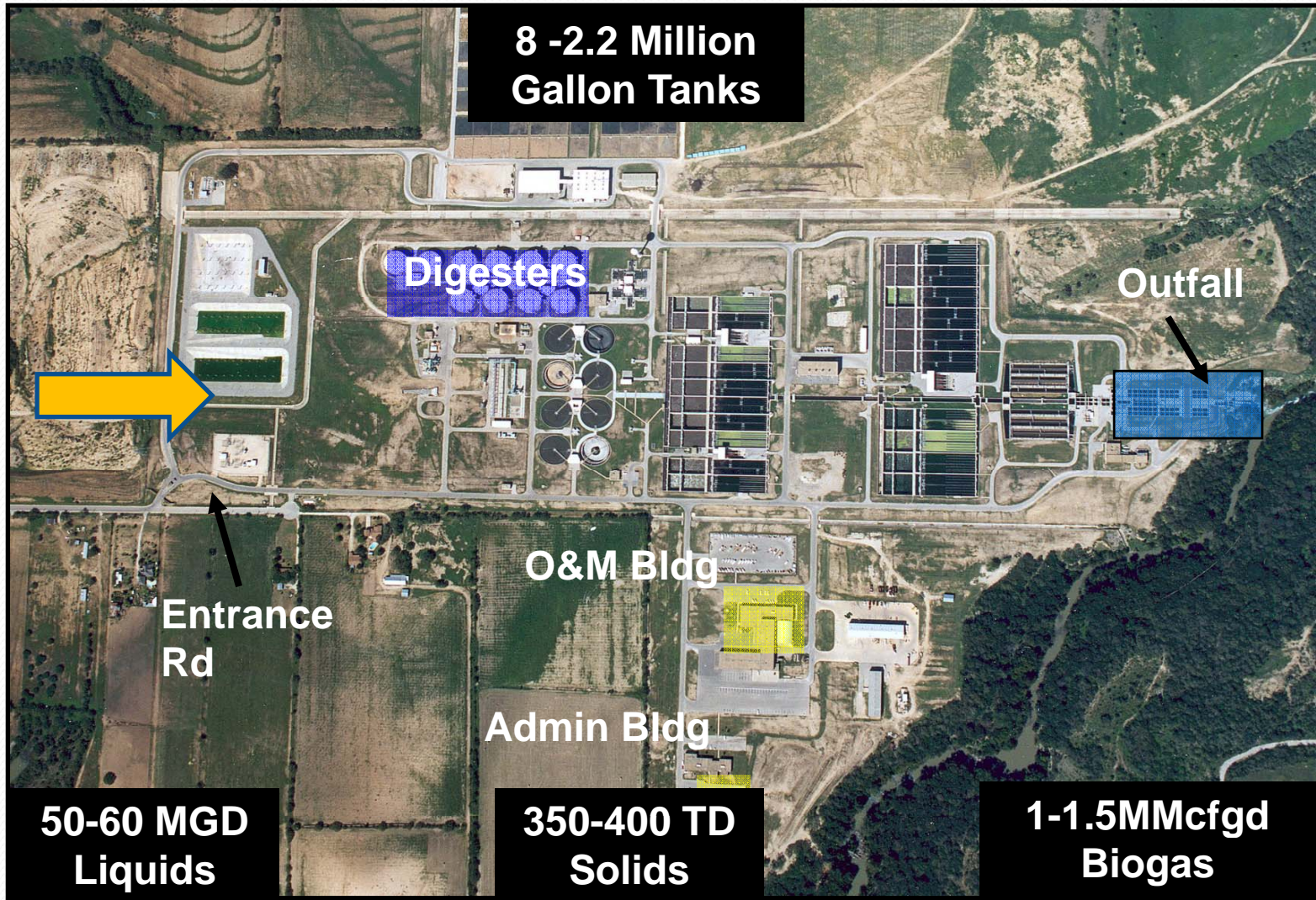
2010 Fuel Cell Seminar and Exposition

10/18/2010

Discuss

- **Dos Rios Water Recycling Center**
- **Biogas**
- **Options**

Dos Rios WRC



Biogas Generation: Dos Rios

- Historically, biogas has been flared and vented
 - Producing 1 to 1.5 MMcfd
 - High quality
 - 600-650 Btu
 - 65% CH₄
 - Price Spike in 2005, Rita and Katrina
 - 2007 decision made to monetize the biogas

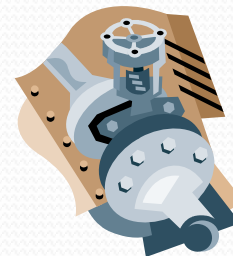


Options Available

- Let market forces dictate direction
- Generate Power
 - Consume on site
 - Net Meter
 - Wheel into grid
- Capture Biogas
 - Consume on site
 - Sell into commercial pipeline



Avoided Cost
\$0.014 kWh



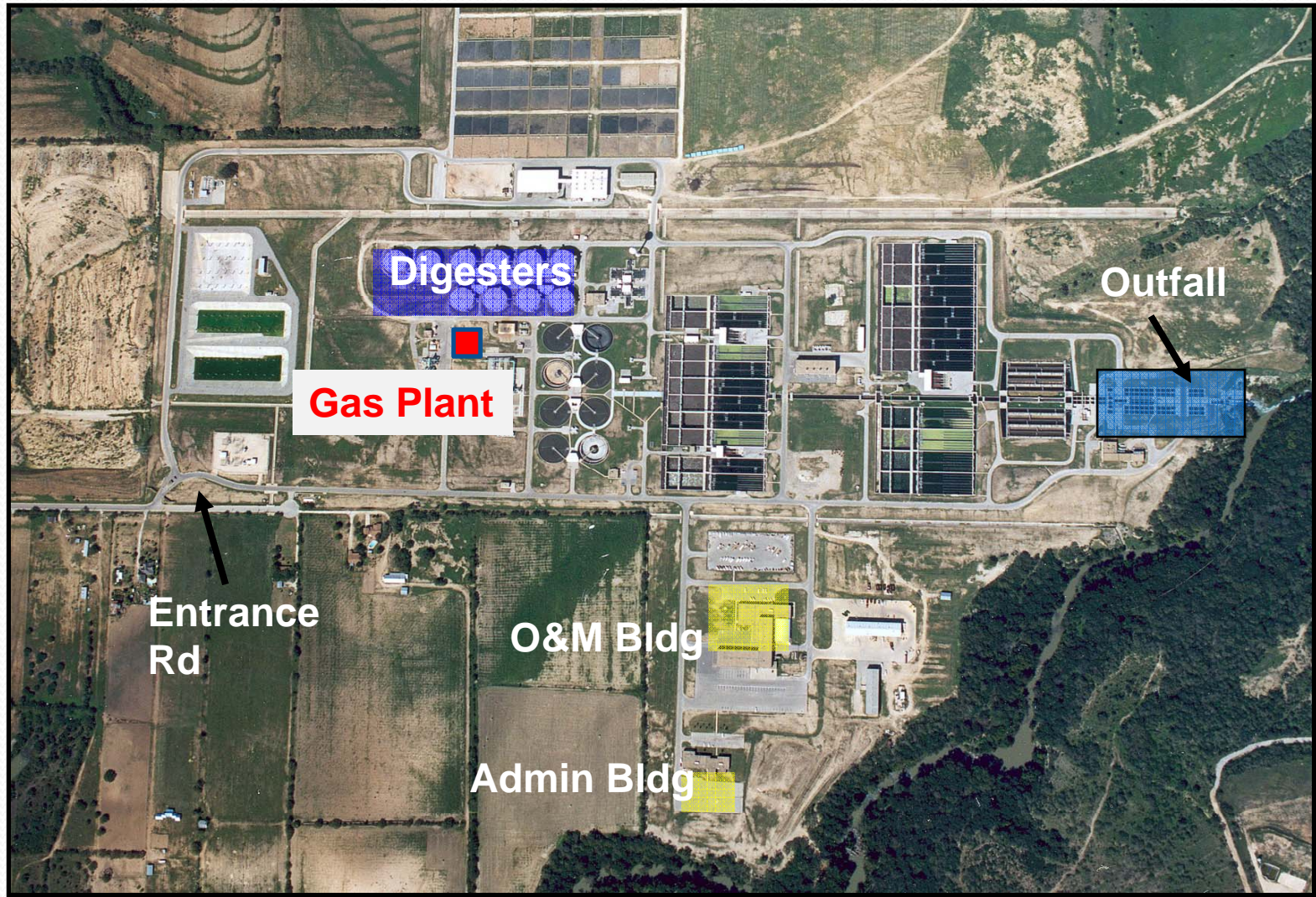
Project

- Renewable Energy Lease Project (RELP)
 - A digester gas capture and sale
 - “Across the Fence” lease
 - 3rd party would own and operate
 - 20 year agreement
 - SAWS would take a royalty
 - Partner

Ameresco



Dos Rios WRC



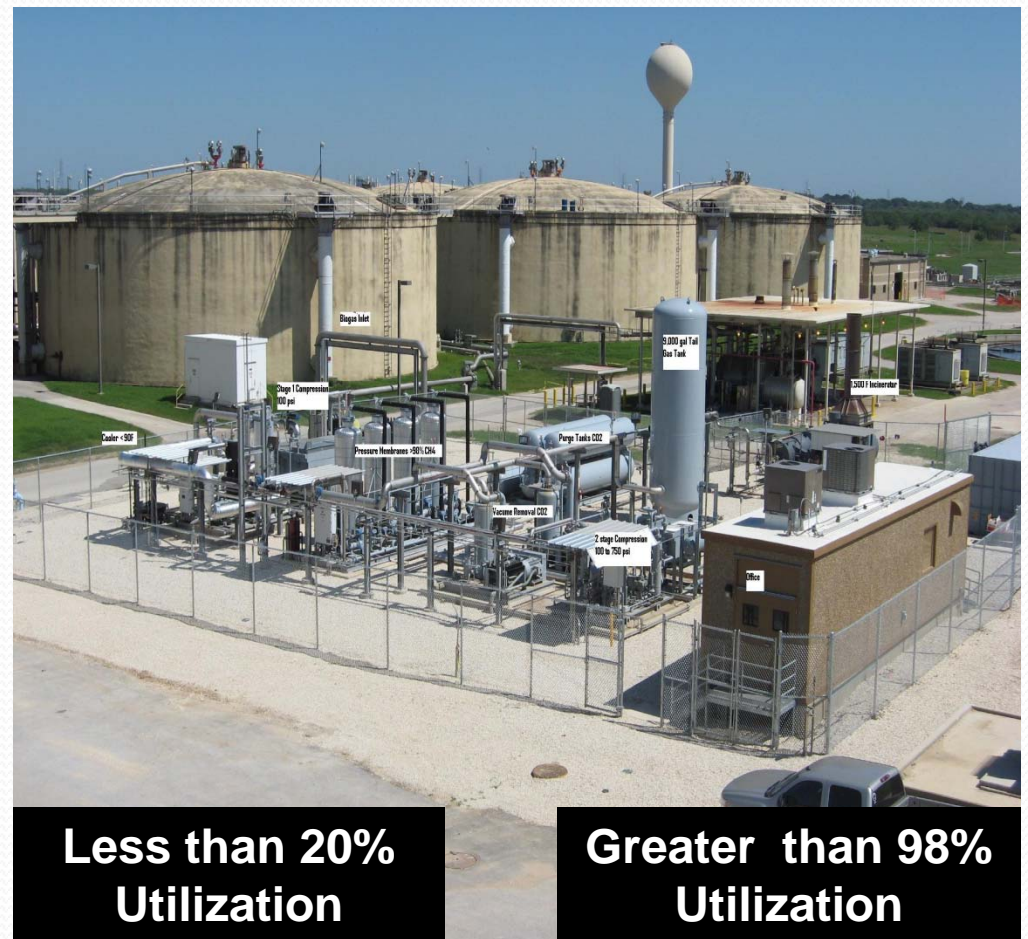
Pre-Oct. Status: Dos Rios

- Produces 1- 1.5 MMcfd process gas
- Consistent high quality gas
- Majority of gas is flared;
some used in process



Post-Oct. Status: Dos Rios

- Produces 1- 1.5 MMcfd process gas
- Consistent high quality gas
 - Majority of gas is processed and sold into commercial pipeline.
 - Investigating Calera technology for converting CO₂ into value added building products



**Less than 20%
Utilization**

**Greater than 98%
Utilization**

Advantages

- Consistent high quality gas
- Proximately to commercial pipeline
- Low pressure gathering line
- Threshold volume of biogas
- Economically viable
- Politically viable
- Non-depleting resource



Where Next?

- Globally
 - Top 60 cities in population
 - Est. 195 Bcfg/y
- In the US
 - Top 45 Cities in population
 - Est. 40 Bcfg/y
- In Canada
 - Top 10 cities in population
 - Est. 40 Bcfg/y





And so...

- Is Biogas Economically Viable...
 - Forecast Expected Royalty \$200,000 to \$250,000
- Globally:
 - Equal to ~ 10 Gas Fields
 - Does not Deplete
 - Gets Better with Age
 - Simple to Process
 - Uses Existing Infrastructure
 - Opens New Markets

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