Working Group Discussion

August 10, 2017
Introduction

Barriers, issues and key learning

*The environment has improved substantially*

- Grant programs
- Electricity - BioMAT
- Fuels - LCFS, RINs, SB 1383, AB 2313 programs
- Increased certainty carbon markets
- Education of the stakeholders
- Partnership between agencies/regulators and industry

*In the near term, incentive programs are vitally important.*
*Over time, they may become less important*
Electricity Projects

Many of the problems have been eliminated

- Permitting - straightforward (Air, Water, County)
- BioMAT will be used significantly
- Interconnection: uncertainty and range of costs
  - Uncertainty - "Cost Envelope" addresses
  - Range of costs - where a project falls in the queue
- Issue NOx
- Locked in electricity production - migration to fuel
  - Offer an ability to switch and adjust the PPA
Fuel Projects

Earlier stage but making significant progress. Significant area of CalBio focus

- Permitting
  - RWQCB same. Air District - advancing goals. Counties - very supportive (gas gathering lines)

- Financing - Two issues: program certainty and price volatility/floor
  - Program certainty - steps taken AB 398
  - Floor price mechanism - very important initially. Markets step in over time. May become more important out years.
Fuel Projects (page 2)

- Gaining experience is key
  - Gas upgrading facility
  - Pipeline injection - close partnership with utilities on pipeline injection
  - Experience in many states but not yet in California

- Clear, simple programs for fleet conversion
  - Dairy will be able to sell its LCFS credits
  - Critical program for reducing fleet NOX
    - Financial analysis, incentives, experience gained
Technology and Farm Practices

*Integration of digesters and farm practices*

- **View of the digester landscape**
  - Began 10 years ago - many technology options
  - Covered lagoons a fit for California

- **Covered lagoon benefits**
  - Integrate with flush practices, strong preference
  - Lower operating cost for digesters
  - Lower operating costs for the dairy, better distribution of nutrients
  - Research water and drip irrigation

- **Research nutrient removal and co-digestion (but secondary importance)**
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