



Overview of the *Contractor's Report to the CIWMB Board: Conversion Technologies Status Update Summary*

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Background

- California communities and waste jurisdictions express continued interest in alternatives to landfill disposal of MSW
- The purpose of this survey is to update conversion technology project and vendor information



Background

- Survey based on past experience with technology surveys, with emphasis on understanding current status of the facility and the technology
- Survey asked questions about system status, scale, feedstock (focusing on MSW), mass/energy balance
- Survey abbreviated to improve response rate



Goals of the Survey

- Determine which conversion technology companies are operating facilities
- To be used in coordination with reports already developed by jurisdictions will be useful to cities and counties considering conversion technologies



Results of the Survey

- Survey sent to 83 technology companies (through web access and response)
 - 10 initial responses
 - Follow-up yielded 13 more responses
 - **Total 23 responses or 28 percent**
 - Out of date information available for 25 of the companies
- Primary respondents were small, start-up companies
- None of the responding companies are currently processing MSW in CA, no commercialized gasification or anaerobic digestion systems in the United States



Results of the Survey

- Type of Response:
 - Thermochemical – 21
 - Biochemical – 10
 - Physiochemical (Biodiesel) – 1
- Note: some of the survey respondents listed multiple technologies and pathways and have one or more technologies in development***
- Two companies in the County/Task Force process responded to the survey
 - Arrow Ecology
 - Entech Renewable Energy Solutions



Results of the Survey

- Development Status

- Laboratory – 6
- Permitting/Construction – 3
- Small Pilot – 2
- Large Pilot – 4
- Commercial Scale Demonstration – 4
- Commercialized – 5

Note: some respondents had one or more technology/facility type in development



Results of the Survey

○ Inputs

- Post-MRF residue
- Food waste
- Green waste
- Commercial organics
- Biosolids
- Separated paper/wood waste
- Waste tires
- Electricity/natural gas/coal/pet-coke

○ Outputs

- Electricity
- Heat or steam
- Ethanol
- Some responses indicated outputs depend on input



Results of the Survey

- All respondents indicate they want to expand operations
- Various responses to air emissions questions
- Various responses to permitting process in California



Staff Comments

- Purpose of this study and future use
- Discussion on air emissions/discharge data
- Discussion on whether or not outputs were being marketed
- Identification of the barriers to CTs
 - Market incentives
 - Level playing field
 - Additional research