Managing Organics with Large-Scale AD Technology: The San Jose Experience

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Delivering world class utility services and programs to improve our health, environment, and economy.
About San Jose

- ~50 miles south of San Francisco
- 180 square miles
- 10th largest City in U.S., 3rd largest in CA
- Population > 1 Million
- Diverse demographic profile
- Generates ~1.8 Million Tons Waste/Year
Commercial Solid Waste Sector

- 8,000+ businesses
- ~225,000 tons solid waste per year
- Excludes multi-family dwellings and construction and demolition waste
- ~79% of disposal stream was recyclable

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Commercial Program 1995 - 2012

- Non-Exclusive competitive market with 20-25 Haulers
- Inconsistent customer rates and services
- 22% overall diversion
- Negative environmental impacts
- City fees based on volume of solid waste collected

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Commercial Program 2012 - 2027

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Commercial Program 2012 - 2027

- ZBEST Compost Facility (Gilroy, CA)
- ZWED AD Facility (San José)
- Newby Island Landfill
- Green Energy

* = Food Waste/Organics
= Recycling commodities
= Residue

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Zero Waste Energy Development Co

- Integrated AD and Composting operation
- Max. permitted throughput – 500 tons/day
- ~1.6 MW power
- ~12,000 tons/year compost
- ~17 employees

Site Potential
- 270,000 tons/year
- 5.1MW power
- 40,000 tons/year compost
Performance (2012 - 2017)

- ~62,000 tons per year processed
- ~24,000 tons per year residue
- ~60% diversion rate
- 16,100+ tons compost produced
- 38,500 MWh energy produced
Key Program Challenges

- Feedstock contamination—glass, fiber, other non-organic material
  - Designed for up to 30% fiber
  - 30% other contamination
- Problems with facility design and site operations lead to permit compliance issues
- Difficulty allocating facility residue between sources
Mitigation Strategies Adopted

- Facility Improvements/ New Equipment
- Load checking, load rejection, joint load audits.
- Field inspection and enforcement program
- Ongoing customer outreach
- Operational Changes
- Biannual audits of non-San Jose material
- Audit of residual streams
What’s in the future? – Challenges

- Growing commercial sector
- Increased need for service
- Contamination
- Focus on decreasing contamination
- SB 1383
- Increased demand for organics processing
- China’s National Sword – fiber impacts
What’s in the future? – Opportunities

- Continue to optimize our program
  - Improve customer outreach
  - Provide incentives
  - Reduce per-capita waste generation
  - Increase direct haul – reduce processing costs
  - Develop AD infrastructure – Phase II and III

- SB 1383
  - Generator responsibility
  - Mandate for enforcement/penalties
  - Requirements for edible food recovery
Thank You!

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