California Bioresources Alliance

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California Association of Sanitation Agencies

- Represent more than 90% of sewered pop of California

- Executive Director – Bobbi Larson
- Director of Government Affairs – Adam Link
- Manager of Legislative Affairs – Jessica Gauger
- Director of Renewable Resource Programs – Greg Kester

- Climate Change Manager – Sarah Deslauriers
- Federal Advocate – Eric Sapirstein
- State Advocate – Mike Dillon

2015 CA Biosolids Use

- 665,000 Dry Metric Tons (dmt) used or disposed
- 412,000 dmt (62%) Land Applied or Distributed
  - 280,000 dmt (42%) Class A Land Application or Distribution
  - 132,000 dmt (20%) Class B Land Application

2015 CA Biosolids Use

- 134,000 dmt (~20%) as ADC or Final Cover at Landfills
- 1,000 dmt (0.1%) deep well injection
- 82% Beneficial Use (Current CA basis)

2015 CA Biosolids Use

- 58,000 dmt (~9%) Landfill Disposal
- 20,000 dmt (3%) Surface Disposal (DLD)
- 20,000 dmt (3%) Incinerated

Both USEPA and the State Water Boards Regulate Biosolids

- Pathogen Control
  - Class A – Process **and** measurement
  - Class B – Process **or** Measurement + site restrictions + management practices
  - Class B + requirements = Class A safety
- Vector Attraction Reduction
  - Generally tied to pathogen process (e.g. Volatile Solids Reduction for AD)
- Pollutant Concentrations
  - Risk based High Quality or
  - Ceiling Concentrations
- Nutrient and site management
  - Agronomic nitrogen need of crop to be grown (taking all sources of N into account)

State Mandates/Goals

- 50% Renewable Energy by 2030
- 75% Recycling of Solid Waste
- Achieve 40% below 1990 levels of CO2 emissions
- 10% reduction in Carbon Intensity of transportation fuel
- Reduce Short Lived Climate Pollutants
- Healthy Soils Initiative

State Mandates and Policy

- Reduce Short Lived Climate Pollutants
  - 40% below 2013 methane emissions by 2030
  - 50% organics diversion below 2014 by 2020
  - (75% organics diversion below 2014 by 2025)
- Healthy Soils Initiative
  - Biosolids help achieve every goal of Action Plan
  - Carbon Sequestration, improved soil tilth, reduced need for irrigation, increased crop yield
  - Reduce the use of fossil fuel intense inorganic fertilizer

Opportunities Offered by the Wastewater Sector

- **Use of existing infrastructure** to accept at least 75% of food waste currently landfilled for anaerobic digestion

- **Increase biogas production** to generate renewable energy, low carbon transportation fuel, and pipeline grade RNG, in turn decreasing greenhouse gas emissions

- Build healthy soils, sequester carbon, and reduce fossil fuel based inorganic fertilizer use through **land application of biosolids**

- **Develop collaborative partnerships** with private sector

Co-digestion Accelerates Diversion of Organics from Landfills

Opportunity:

- ~150 wastewater plants already utilize anaerobic digestion and have excess capacity
  - Plants are often located in urban areas near waste generation –> shorter haul

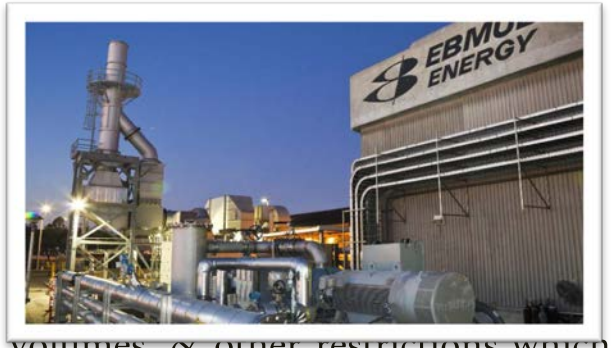
Challenges/Needs:

- Must build partnerships with solid waste sector to maximize effective diversion
- Cleanliness of organic waste stream must be assured (whether for co-digestion, digestion, or compost)
- Markets must be assured for both biogas and biosolids

Co-digestion Increases Biogas Production

Opportunity:

- A 30% volumetric increase in food waste can double the biogas produced



Challenges/Needs:

- Local air districts impose limitations on combustion emissions, biogas volumes, & other restrictions which limit use
- CPUC heating and siloxane standards and IOU cost and access issues limit interconnection
- US EPA's recent interpretation of RIN values under Renewable Fuel Standard decreases value as transportation fuel
- CARB revising pathways for LCFS credits
- Need market certainty to support capital investments that maximize biogas production

Market needs for digestion product - Biosolids

Opportunity:

- Land applied biosolids support every goal in the HSI Action Plan
  - Offsets inorganic fertilizer use/production
  - Increases soil carbon content and stability
  - Increases water holding capacity
  - Increases nutrient use efficiency
  - Increases crop yield
  - Sequesters carbon in the soil below

Market Needs for digestion product - Biosolids (cont.)

Challenges/Needs:

- Roughly 30% of biosolids produced are managed at landfills either as ADC or for disposal
  - Roughly 60% of biosolids are currently land applied as a soil amendment, but there are challenges due to local ordinances
- State must consider alternatives for biosolids management and ensure markets exist, and support them before any ban
  - Wastewater plants will always need some landfill capacity as an emergency option
  - Need long horizon to allow for planning

  Working to revise GlobalG.A.P. to open international market to products grown using biosolids

Recommendations to ensure legislative intent is achieved

- Collaboratively work with CalRecycle and the Private Sector to improve the cleanliness of diverted organic waste – **Work Together!**

- Ensure ability to utilize increase in biogas –
  Require investor and publicly owned utilities procure a set volume of biogas from anaerobic digesters and reduce volatility of credit values

- Remove barriers imposed at jurisdictional borders through restrictive ordinances on biosolids land application –
  Establish the General Order or 40 CFR part 503 as the statewide standard for biosolids land application and pre-empt local ordinances that are more restrictive

Biosolids Land Application in California - 2016

County Ordinance Requirements and Biosolids Bans

- Ban on All Land Application
- Ban on Class B
- Conditional Use Permit Required
- Class B Land Application Allowed
- No Regulations/Ordinances Enacted

This map is based on a search of online available Codes and may have missed County other requirements such as non-codified requirements or requirements of city or regional agencies. This map presents findings for individual county requirements and deals only with the unincorporated areas of the counties, all area in California are subject to California and Federal biosolids regulations.

Reclamation Opportunities with Biosolids

- Fire Ravaged Lands
- Brownfields
- Superfund and other mine sites
- Wetland construction and restoration (SF Bay, etc.)

Questions?