CALIFORNIA BIOMASS

CLEANING THE AIR, REDUCING GHG

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Central Valley Summit on Alternatives to Opening Burning Agricultural Waste

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California Biomass Energy Alliance, LLC

BIOMASS A GREEN ENERGY SOURCE

About CBEA

- Created over 20 years ago with a charter to promote biomass energy as a means to reach the environmental and economic goals of California.
- The sole advocate of the solid fuel biomass power industry through California's energy crisis, the introduction and implementation of renewable standard and waste reduction mandates though to today's carbon constrained proceedings ruled by AB 32/SB32's greenhouse gas emissions reduction requirements.
- CBEA played a prominent role in each of these important public policy changes and educating policy makers on the myriad benefits of avoiding conventional fuel disposal and open-burning and the jobs it creates.

BIOMASS AN ENDANGERED CLEAN ENERGY SOURCE

- 33 operational biomass electric generating plants in California, distributed across 19 counties. 22 are currently operating.
- Combined generating capacity of over 532 MWs
- Biomass power is around 6%* of California's renewable electricity.
- Employs about 700 direct jobs at the facilities and 1,000 to 1,500 dedicated indirect jobs in the fuel supply infrastructure.

- Unlike other renewable technologies -- biomass plants pay to collect, process and transport its fuels – and are more labor intensive.
- Biomass receives no incentives or tax breaks

BIOMASS KEEPING IT HEALTHY

Biomass and the Tree Mortality Emergency

- Governor Issued Emergency Proclamation, October 30, 2015

- CPUC Direction
  - Utilize authority to extend contracts on existing forest bioenergy facilities receiving feedstock from high hazard zones.
  - Take expedited action for new forest bioenergy facilities.
  - Facilitation of expedited interconnection agreements for forest bioenergy facilities.

- CPUC Response
  Resolution E-4770
  - Part 1: Removes the restriction on bilateral contracting
    - No requirement
    - No mandatory minimum
  - Part 2: Obligates the 3 IOUs to hold targeted RAM solicitation for contracts for biomass generators that use forest fuels from high hazard zones for at least ***50 MWs***.
    - 40% in 2016, 50% in 2017, 60% in 2018 and 80% for each subsequent year

Biomass and the Tree Mortality Emergency

- Legislative Response

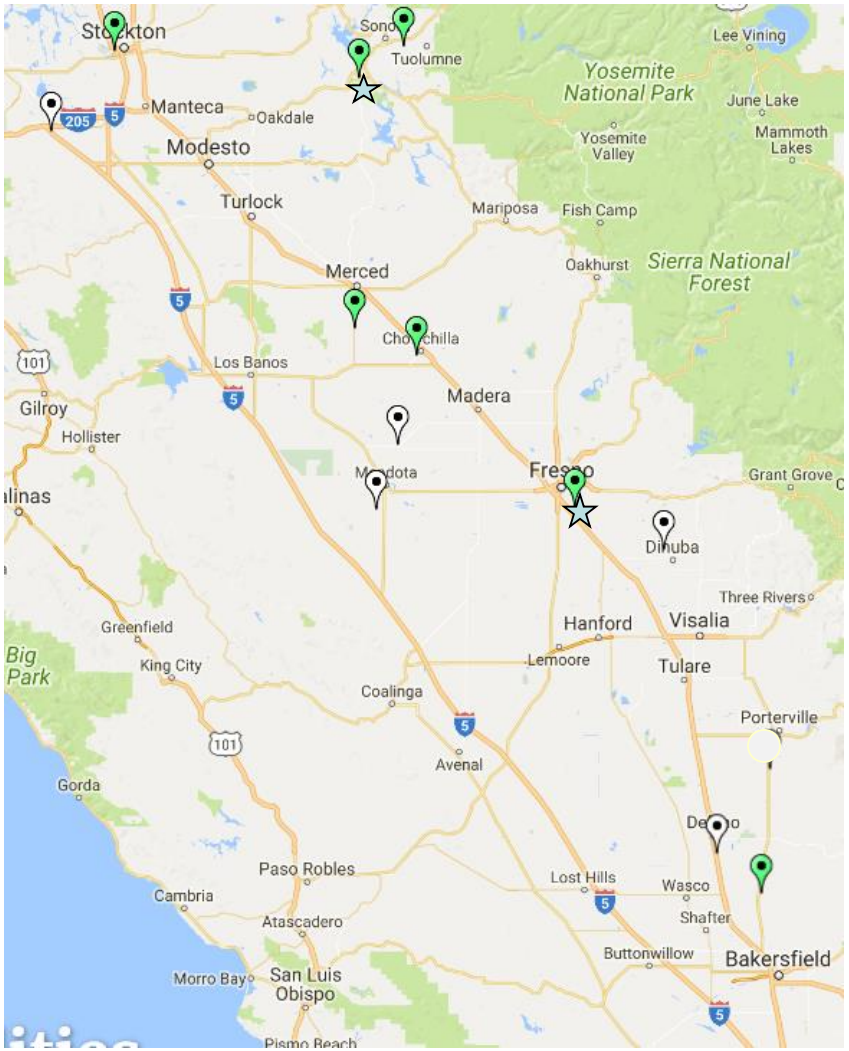
  SB 859 (Committee on Budget, 2016)

  - Additional ***125 MWs*** using similar prescribed amounts of dead and dying trees in high HHZs as feedstock (60%).
  - Includes both IOUs and POUs
  - Allows capacity procured in excess of the BioRAM I solicitation
  - Requires that the procurement costs to satisfy this requirement be recovered from all customers on a non-bypassable basis.
  - At least 80 percent of the feedstock of an eligible facility, on an annual basis, shall be a byproduct of sustainable forestry management
    - CalFire definition in consultation with CalForests

BIOMASS AN ENDANGERED CLEAN ENERGY SOURCE

Biomass and the Central Valley

- 12 operational facilities
  - 5 facilities idle (130 MWs)
  - 2 BioRAM facility (42 MWs)
- Loss of biomass power impacts the economic and environmental health of our communities
  - 130 MWs of idle facilities =
  - 750,000 bdt tons ag (75% capacity collectively) =
    - **4.5 million lbs NOx reduced**
    - **7.5 million lbs PM reduced**



BIOMASS A GREEN ENERGY SOURCE

Biomass and the Central Valley

- **Agricultural biomass** emissions reductions
  - Quantified by calculating the emissions of open burning of agricultural residuals, and comparing it to typical permit limits for biomass generators
  - Emissions factors for Open Burning are based on a publicly available scientific study and adjusted for variables such as moisture content and heat content in order to get comparisons on an equivalent basis
  - Emissions are translated into pounds of emissions per bone dry ton of biomass. A bone dry ton, or “BDT” is a widely used measurement in the biomass industry, and represents a ton of biomass fuel on a dry basis (excluding the weight of the moisture in the fuel).

Emission	PM10	NO_x	VOC/Hydrocarbon	CO
Open Burning (lbs./BDT)	9.6	8.1	7.1	71.7
Biomass Facility (lbs/BDT)	0.5	1.8	0.8	4.7
Avoided Emissions (lbs/BDT)	9.1	6.3	6.3	67.0

BIOMASS A GREEN ENERGY SOURCE

Biomass and the Central Valley

BIOMASS ESSENTIAL FOR CALIFORNIA

Biomass Benefits Emissions Reductions

- A clean, renewable alternative to fossil fuel plants
  - Biomass helps California meet renewable energy mandates (AB 1078 / SB 107 / SB 350)
- Over 8 million tons of used wood as fuel annually. Over 3 million tons of that is used urban wood diverted from landfills.
  - Biomass directly helps local governments meet landfill diversion mandates (AB 939 / SB 1383)
- Provides a net reduction of over 3.5 million tons of biogenic GHG emissions per year.
  - Biomass helps California meet mandated GHG reductions (AB 32 / SB32)
  - Diverting wood from high-emission conventional disposal like landfill disposal and agricultural field burning, actually reduces GHG emissions

The Future of California's Biomass Industry

- Expiring contracts
  - Half of California's biomass industry has contracts that will expire within the next 5 years
- Technology Neutral RPS Not Very Technology Neutral
  - CPUC RPS rules give wind and solar cost advantage
  - CPUC RPS rules lack acknowledgement of environmental and economic benefits
  - Results: California's largest utilities currently procured exclusively wind and solar.
- Distortion of ISO's analysis more flexible capacity is needed. Provides further bias against baseload resources such as biomass

California needs to support the existing biomass industry

- **CPUC**
  - Reforming Least Cost Best Fit – This is where the various special benefits associated with bioenergy should be receiving credit in the RPS procurement process.
  - Finalize integration cost adders and Effective Load Carrying Capacity Methodology (RPS and Long-Term Procurement Plan proceedings)
  - Implement SB 350
    - Identify a diverse and balanced portfolio of resources needed to ensure a reliable electricity supply that provides optimal integration of renewable energy in a cost-effective manner
    - Develop an Integrated Resources Plan that would permit procurement of resources that reduce GHGs including those that may not compete favorably in price against other resources due to technology or fuel source.

BIOMASS KEEPING IT HEALTHY

California needs to support the biomass industry

- **Governor/Legislature/Local Governments/Agencies**

  - *Renewable Portfolio Standard*

    - Support an increased RPS that provides direction to the utilities to procure a specified amount of baseload renewable resources such as biomass to ensure grid reliability, cost-effectiveness and GHG emissions reductions.

  - Cost sharing this valuable resource

    - Allocating Greenhouse Gas Reduction Funds for the State's cost-share for biomass power production.

    - As partners in state and regional environmental improvement goals, local governments and agencies should be providing funding for the level biomass facilities contribute to those compliance strategies

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