



BIOMASS RECOMMENDATIONS

WHAT IS BIOMASS?

Biomass is the use of any organic material, including from forest thinning, agricultural crop, or urban wood waste to generate heating, cooling, electricity, or fuels.

In addition to serving as a local energy source, biomass is responsible for sustaining more than a thousand California jobs, many in rural communities where they are most needed. Biomass keeps our forests healthy, and puts organic byproducts like forest trimmings, sawmill residue, and agricultural residuals to good use.

There are 23 solid-fuel biomass electric generating facilities in California, distributed across 15 counties. The California biomass industry reuses approximately 7.3 million tons of the state's solid wastes and residues annually and produces around 555 megawatts (MW) of electricity. Once more than 15% of California's renewable electricity supply, biomass generators now account for about 6% of California's renewable energy portfolio.

WHAT ARE THE BENEFITS AND ADVANTAGES OF BIOMASS?

Generating renewable heating, cooling, and energy in local communities, smart biomass utilization can support the interrelated goals of forest health, forest carbon stabilization (by reducing the risk of high-severity wildfire), improved water and air quality, creating and maintaining jobs, as well as keeping forests healthy for enjoyment and recreation. Specific benefits of biomass energy include:

- **Providing base load renewable energy (24-7)** that can ramp up or down according to the needs of the grid.
- **Supporting necessary hazardous forest fuel reduction** and watershed protection.
- **Reducing waste material** otherwise destined for landfills.
- **Creating economic opportunity** and providing employment (4.9 jobs per MW).
- Slowing the release of greenhouse gases by mitigating the risk of large-scale, high-severity wildfires.
- **Reducing short-term and localized air pollution** by burning biomass using a more contained and cleaner combustion process. A case study by Placer County Air Pollution District showed that the life cycle for biomass, when compared to an open pile burn, reduced air emissions 98-99% for particulate matter, carbon monoxide, non-methane organic compounds, methane and black carbon.



The California Forest Watershed Alliance (CAFWA) is an urban-rural coalition representing water interests, local governments, the conservation community, agriculture, and the forestry sector, created to promote the restoration and improvement of California's forested watersheds. For more information, visit www.caforestsandwatersheds.org.

WHAT ARE THE HURDLES BIOMASS NEEDS TO OVERCOME?

- In the 1990s there were 63 biomass facilities, but today there are only 23. The lack of biomass facilities is one of the more significant near-term impediments to deploying biomass as a tool to improve the health of our headwater forests.
- Without improved assurances of biomass contracts, investments in new, additional or more cost-efficient biomass processing capabilities are unlikely.
- Transportation costs are a significant competitive disadvantage of biomass. Unlike wind or solar, biomass needs to be transported to a facility, and most facilities are far from the biomass material.
- The most recent biomass contracts have focused on forest waste, but for California to meet its environmental goals we need to have fuel flexibility so that agricultural waste and wood in landfills have a place for disposal.
- Reinvestment in biomass that reliably enhances (and not degrades) forest health must be the right size, sited in the right locations and use the right materials. Currently there are abundant supplies of non-merchantable wood available from federal lands but new or expanded biomass infrastructure should be scaled to long-term (e.g. >20 years) supply quantities. Wherever possible, energy facilities should be geographically-situated near forests that are at risk of high-severity wildfire and use forest material generally lacking in significant commercial value, including dead and small-diameter trees.

WHAT ARE THE SOLUTIONS?

- **Expand the definition of Tier I and Tier II** material to include the Fire and Resource Assessment Program (FRAP) map which shows increased fire threat so that material can be obtained as close as possible to a facility and reduce transportation costs.
- **Incentivize biomass over open pile burns** and reduce the cost of biomass (e.g. mobilization, transport).
- **Support the establishment and maintenance of biomass energy facilities** that contribute to reducing the risk of high-severity wildfire as part of the solution necessary to achieve California's greenhouse gas emissions reductions goals.
- **Reduce barriers** for smaller biomass facilities (BioMAT program).
- **Provide a transportation subsidy** from Greenhouse Gas Reduction Fund (GGRF) or other sources to offset the higher costs of biomass energy.

PREVIOUS BIOMASS LEGISLATION

- SB 1122 (Rubio, 2012) directed electrical corporations to collectively procure 250 MW of renewable energy from biomass technologies producing less than 3 MW (BioMAT program). SB 1122 requires the 250 MW of electricity generated include:
 - 110 MW generated from organic waste that would otherwise be landfilled, wastewater treatment, co-digestion and food processing
 - 90 MW from dairy and agricultural waste
 - 50 MW from forestry waste from high wildfire hazard zones. To date, not a single MW of energy has been produced under the forestry category.
- SB 859 (Budget, 2016) directed electrical corporations and publicly owned utilities serving more than 100,000 customers to collectively procure, through 5-year contracts, their proportionate share of 125 MW from biomass energy. At least 60% of feedstock from these contracts must be from wood harvested from high fire-hazard zones. The 125 MW is in addition to the 50 MW procurement requirement for electrical corporations as a result of Governor Brown's October 2015 Executive Order.
- SB 901 (Dodd, 2018) extended the SB 859 contracts and any other contracts expiring in the same time period by an additional 5 years, as long as they meet high hazard fuel requirements and the facility is not a federal severe or extreme nonattainment area for particulate matter or ozone. SB 901 expanded the Tier 1 and Tier 2 (high fire hazard) fuel requirements to include fuels removed from specific Timber Harvesting Plan exemptions. SB 901 also allowed the SB 859 contracts the flexibility to report their status of fuel requirements on a monthly basis, rather than yearly, so that a facility won't have to use default pricing for a whole year if they fall short of the requirement during only one month.

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