

# Biomass: Essential for California

There are 23 solid-fuel biomass electric generating facilities in California, distributed across 17 counties. The California biomass industry reuses approximately 7.3 million tons of the state's solid wastes and residues annually, and produces around 532 MW of electricity. Biomass generators produce reliable, baseload renewable power that can be scheduled to supply power when it is needed most. Once more than 15 percent of California's renewable electricity supply, solid-fuel biomass generators now provide only about 6 percent of California's renewables.

## *Biomass: Essential for California*

California's biomass power plants combust wood residues and byproducts to produce electricity — material whose disposal using conventional means creates adverse environmental impacts. Biomass fuel comes from three distinct sources:

- ✓ Agricultural byproducts like orchard removals and prunings, rice hulls, fruit pits, etc.
- ✓ Forest residues and byproducts like saw mill residues, commercial harvesting operations, and small trees and undergrowth cleared from forests for fire suppression, watershed cleanup, and growth enhancement
- ✓ urban wood like construction wood scraps, discarded pallets, clean wood waste from factories, and residues from tree trimmers and land clearers

Solid biomass fuels are materials that are diverted primarily from three kinds of disposal or disposition fates: open burning, landfill disposal, and accumulation as overgrowth material in the state's forests. The original impetus for starting the California biomass industry in the late 1970s was an effort to improve air quality in the state by ending the disposal of sawmill residues by combustion in smoky teepee burners. In the pre-1970s world, the majority of the fuel currently used by the state's biomass industry was disposed of by open burning. In today's world, if the biomass industry suddenly ceased operations, the majority of the fuel would probably have to be disposed of by landfill burial. In addition to providing reliable, schedulable renewable electricity, biomass power generation provides the following reuse benefits to Californians for these lowest market value wood materials:

- ✓ **Biomass helps local governments meet landfill reduction mandates by diverting over 4.3**



**million tons of value wood residue annually for fuel. (/waste-reduction/)**

- ✓ **Biomass helps local air districts comply with federal air-quality standards by reducing emissions of Criteria Pollutants by preventing open burning of 1.5 million tons of agricultural and forestry residues each year. Biomass plants cut criteria pollutant emissions by up to 98% compared with open burning. (/air-quality/)**

- ✓ **Biomass promotes healthier forests by reducing the cost of performing fuels reduction and other forestry-cleanup operations. More than 40,000 acres of forest land were treated in California in 2013 as a result of the market for biomass fuels. (/forest-health/)**

- ✓ **Biomass helps California meet mandated GHG reductions by diverting wood into fuel that provides a net reduction of over 3.2 million tons of biogenic GHG emissions per year. An additional 2.2 million tons of avoided GHG emissions per year results from the biomass industry's displacement of fossil-fueled generation by the electric utilities. (/air-quality/)**

In addition to these unique disposal benefits, solid-fuel biomass power generation provides benefits to the electricity grid that result from the fact that it is a reliable, schedulable, baseload generation option.

- ✓ **Biomass power generators are capable of delivering electricity with capacity factors exceeding 90%, and availabilities in excess of 95%. (/renewable-energy/)**

California's biomass power industry is creating living wage jobs and growing the green economy. Unlike other renewable technologies, biomass generators have to pay to collect, process and transport its fuels, with the result that they are more labor intensive.

- ✓ **Biomass industry employs about 750 direct jobs at the facilities, and 1,200 to 1,500 dedicated indirect jobs in the fuel supply infrastructure. Most of these jobs are in rural areas of the State. (/jobs/)**

The existing biomass power industry provides California with significant economic and environmental benefits that are essential for California. Biomass is an industry that needs to be preserved and enhanced if the State is ever going to realize its renewable energy, greenhouse-gas emissions reduction, air quality, and landfill-disposal reduction goals.



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