



CALIFORNIA'S BIOMASS INDUSTRY: A DRIVING FORCE IN TODAY'S GREEN ECONOMY

CALIFORNIA'S BIOMASS INDUSTRY IS AN ESSENTIAL PART OF CALIFORNIA'S FABRIC. Biomass provides baseload reliable renewable power, employs thousands of people, repurposes wood waste that would otherwise be discarded or open burned, promotes healthy forests, reduces fire hazards in rural and suburban communities, and helps California reach its climate goals.

ABOUT THE INDUSTRY

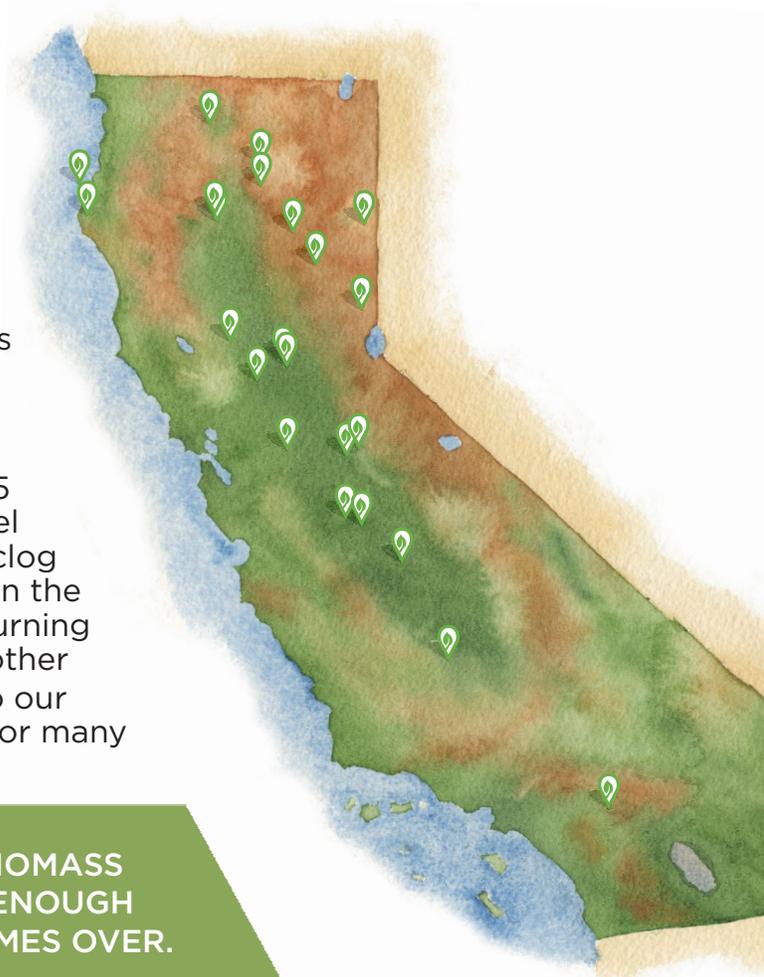
There are 23 biomass electric generating plants in California, spanning across 17 counties. The biomass plants combined produce more than 525 megawatts of baseload renewable energy. That is enough to power all of the homes in Sacramento County (more than 680,000 households) and is a critical resource to balance California's grid when blended with intermittent renewables to ensure a reliable source of electricity.

The industry also employs more than 2,000 people and serves as one of the larger employers in rural communities.

ENVIRONMENTAL BENEFITS

California's biomass facilities reuse more than 6.5 million tons of wood and agriculture waste as fuel annually that would otherwise be open burned, clog the landfills, or decay and serve as a fire hazard in the forest. Use of wood waste diverted from open burning significantly reduces the amount of PM 2.5 and other air pollutants that would have been released into our atmosphere. This diversion improves air quality for many disadvantaged regions of our state.

BIOMASS FACILITIES

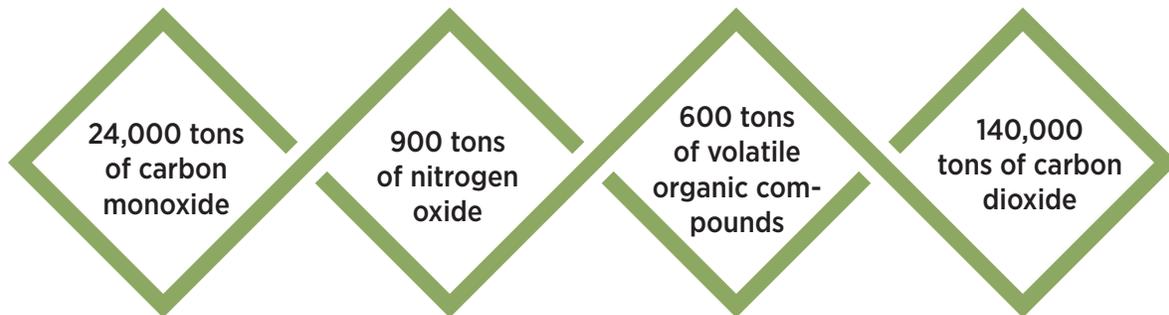


TO PUT INTO PERSPECTIVE, ANNUALLY THE BIOMASS POWER INDUSTRY HELPS THE STATE DIVERT ENOUGH WOOD WASTE TO FILL THE ROSE BOWL 25 TIMES OVER.

OVER 2 MILLION TONS OF WOOD WASTE IS URBAN WOOD WASTE DIVERTED FROM LANDFILLS THAT HELP LOCAL GOVERNMENTS MEET LANDFILL DIVERSION MANDATES. In the agricultural sector, biomass facilities take excess wood material such as orchard removals and prunings that would otherwise be open burned resulting in high levels of PM 2.5, black carbon and other air pollutants. In fact, there is a direct correlation to the

increase in open-burning in some regions with poor air quality, and the recent closure of biomass power plants. According to a University of California study, waste diversion from open burns to California biomass facilities have reduced emissions annually by 2,000 tons PM 2.5, 24,000 tons carbon monoxide, 900 tons of nitrogen oxide, 600 tons of volatile organic compounds, and 140,000 tons of carbon dioxide.

EMISSIONS REDUCED ANNUALLY FROM BIOMASS FACILITIES



HEALTHY FORESTS

Climate change intensifies extreme weather events. In 2017 and 2018, the combination of increased fuel-loading vegetation from the winter storms, millions of dead trees and extreme winds triggered the most destructive wildfires in the state’s history. As greenhouse gas (GHG) emissions continue to accumulate and climate disruption grows, such catastrophic events will become more frequent. California will need to build on its current climate policies to mitigate the effects of climate change, and biomass energy generation can play a crucial role.

As highlighted in the *California Forest Carbon Plan* biomass plants provide multiple benefits, including a reduction in GHG and criteria air pollutant emissions and creation of economic incentive to perform forest restoration work. With an estimated 10 billion board feet of dead and dying trees within the southern Sierra Nevadas, the equivalent of about 50 million bone dry tons of material that needs to be removed, existing bioenergy facilities are responding and are at capacity taking as much material as possible since there are few other available markets.

Bioenergy has been the only near-term option to manage the dead and dying trees and avoid open pile burning and accumulation in the forest. These drought-killed trees present an extreme fire and safety hazard that and, in many areas, are being mitigated by bringing this material to biomass facilities thereby avoiding significant black carbon emissions during wildfires.



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