



CALIFORNIA'S BIOMASS INDUSTRY: GREENING CALIFORNIA



California's biomass industry has been providing clean, green, renewable energy for more than 30 years. The 23 biomass electric generating facilities in California produce more than 525 megawatts of baseload renewable energy. That is enough power to supply all of the homes in Sacramento County (more than 680,000 homes).

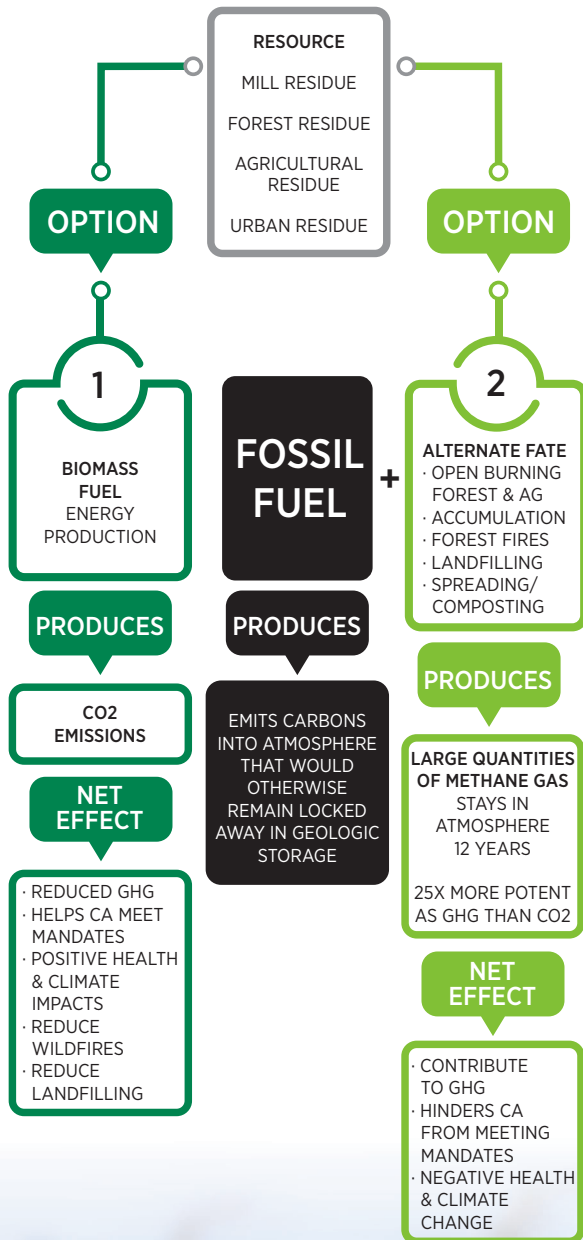
California's biomass power plants combust wood residues and byproducts to produce electricity — material whose disposal using conventional means creates adverse environmental impacts. Biomass fuel comes from three distinct sources:

- Agricultural byproducts like orchard removals and prunings, rice hulls, and fruit pits.
- Forest residues and byproducts like small trees and undergrowth cleared from forests for fire suppression (including from a federal program called "Healthy Forest"), watershed cleanup, and growth enhancement.
- Urban wood landfill diversion like construction wood scraps, discarded pallets, clean wood waste from factories, and residues from tree trimmers and land clearers.

Annually, more than 6.5 million tons of solid biomass fuels are diverted primarily from three kinds of disposal or disposition fates: open burning, landfill disposal, and accumulation as overgrowth material in the state's and federal forests. 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 state law landfill diversion mandates.
- 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. 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.
- Studies found that the largest California wildfires created more emissions than all of the vehicles in California. According to CalFire, One average size fire eliminates all the benefits of cap & trade. In 2013, California eliminated 4 million metric tons of carbon emissions. In the same year, the Rim Fire emitted 12 to 15 million metric tons of carbon emissions. By reducing the fuel in forested areas, California can more easily manage California's wildfire seasons.

BIOMASS' NET NEGATIVE GHG IMPACT



Biomass power uses organic waste as fuel that would otherwise emit carbon if not for its use in power generation. When a tree dies, it emits carbon. At this point, there are three choices: 1) leave the dead tree to continue emitting carbon, 2) burn the tree in the field so carbon and criteria pollutants are emitted in an uncontrolled manner, or 3) take it to a beneficial reuse project like biomass energy. If you leave the tree in the forest, it is fodder for the next wildfire. Burning it creates uncontrolled criteria pollutant emissions that are harmful to human health. If used as fuel in a biomass facility, roughly the same carbon emissions are released as would have been from the tree, but you are removing fuel from the forest to reduce the opportunity for catastrophic wildfires (and the resulting enormous loss of sequestered carbon) and reducing criteria pollutant emissions up to 98% by avoiding open burning.

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.

While some may argue that there are other alternatives to biomass for the wood waste, that is not true. The easiest alternative is to open burn the material. Everything after that is complicated, costly and other industries are not designed to handle the amount of wood waste produced in California.

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.