Biomass logging, Stanislaus National Forest, 2019, photo by Chad Hanson

LOGGING FOR BIOMASS ENERGY IS INEFFECTIVE FOR PROTECTING COMMUNITIES DURING WILDFIRES

Biomass energy is often promoted as a tool to incentivize large-scale tree-cutting ("thinning") under the claim that this will protect communities and forests during wildfires. However, this approach is ineffective at protecting houses and communities, which is best achieved through a home-focused fire-safety strategy that helps communities safely coexist with inevitable wildfires. Although biomass energy is promoted as a means for disposing of debris piles from forest thinning projects, it is mostly lumber mill residues from commercial logging that end up being subsidized. Meanwhile, biomass extraction does significant ecological damage to forests.

Effectively protecting communities from wildfire requires preparing houses and the area immediately surrounding them—not large-scale forest thinning.

Research and experience show that the most effective way to prevent homes from igniting during wildfires is to make the homes themselves more fire safe. Home safety retrofits and vegetation pruning in the "home-ignition zone" within 60 to 100 feet of a house provide the most direct and effective way to prevent wildfire from going from the forest to the home.[1] In communities in fire-prone areas, California should invest in helping communities implement proven home fire-safety measures: retrofitting homes and other structures with fire-resistant roofing, rain gutter guards, ember-proof vent screens, and pruning vegetation in the defensible space immediately surrounding them. To avoid putting communities in harm's way, California should also stop allowing new developments in highly fire-prone wildlands.

In contrast to the "from the home outward" approach, biomass proponents promote large-scale forest-cutting—"thinning" or "fuels reduction"—as a way to alter wildfire behavior and reduce community fire risk. Yet the best-available science indicates that thinning forests far from communities is not a good way to protect people and property from wildfire. The probability that thinned forest areas will overlap with a wildfire is very small.[2] Thinning is ineffective in altering fire behavior under the hot, windy, extreme fire weather conditions that have caused largest losses of homes and lives in recent years.[3] And thinning more than 100 feet from homes is largely irrelevant to home fire safety. A properly prepared home—with home fire-safety retrofits and defensible space pruning—will generally not ignite even if high-intensity fire occurs nearby. By the same token, an improperly prepared house can burn from contact with wind-blown embers from distant fires.[4] Furthermore, the majority of California communities most vulnerable to wildfire are not in forests but in chaparral and grasslands, making forest thinning irrelevant for their safety. All in all, the ineffective forest-cutting approach of biomass proponents takes resources away from proven home-focused fire-safety strategies that protect our communities.

Bioenergy facilities primarily consume commercial lumber mill refuse, not forest thinning residues.

Biomass energy is often promoted as a means to incentivize the removal of residual forest material cut during thinning projects, but the reality is that biomass facilities select to get their material mainly from other sources, even when receiving state subsidies intended to promote thinning. Commercial lumber mill refuse is more reliable, easier to obtain, and cheaper to transport than material taken from the forest. Only about a third of the forest-sourced biomass being consumed in biomass plants is forest thinning residues, while the majority—more than two-thirds, on average—is residues from commercial lumber mills.[5] For the seven biomass plants that utilize the BioRAM program subsidy, in 2017, only 30% of their feedstock came from forest thinning residues.[6]

Dead trees do not increase wildfire and should not be sent to bioenergy facilities.

In response to California's widespread tree mortality during drought, Governor Brown in 2015 issued an Emergency Declaration calling for the removal of dead trees along with incentives to bioenergy facilities to burn them.[7] The justification was that dead trees were feared to increase wildlife risk. However, numerous scientific studies show that dead trees do not increase wildfire—including no increase in fire severity, rate of spread, or extent.[8] Meanwhile, dead trees—standing or fallen—provide numerous ecological benefits such as wildlife habitat, soil stabilization, water quality, and carbon storage.[9] These ecological benefits are lost when dead trees are removed and incinerated in biomass power plants.

Biomass extraction harms forests.

Cutting forests for biomass energy is often promoted as helping protect forests from "catastrophic" wildfire, but this misrepresents the important role of wildfire—including high-intensity fire—in California's forest ecosystems. Fire of all intensities, called "mixed-severity" fire, is a natural and necessary part of California's forests.[10] Forests are adapted to mixed-severity fire and need fire to rejuvenate. In fact, patches of high-severity fire create some of the most diverse wildlife habitat of any forest type.[11] And numerous studies show that there is currently less fire of all severities now than there was prior to modern fire suppression,[12] depriving forests of the ecological benefits produced by intense fires, such as habitat creation and nutrient cycling. California's focus on logging and fire suppression degrades wildlife habitat, results in a net loss of carbon storage, and takes resources away from proven fire-safety solutions focused on homes and communities.

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[5] CalRecycle, SB 498 Reporting, 2018 Biomass Conversion (2018), file:///C:/Users/swolf/Downloads/SB498DataRpt2018.pdf. (According to CalRecycle (2018), the 25 biopower facilities operating in 2018 incinerated approximately 4.1 million bone-dry tons (BDT) of biomass annually. On average, forest residues accounted for 15% of this total, mill residues for about 35%, and the remainder derived from agricultural and urban waste streams.)

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