

Burning Trees on Big Island? Is this Clean Energy?

Hu Honua Bioenergy, LLC is proposing to burn 5 acres of Eucalyptus trees per day to provide “renewable biomass” electricity to the Big Island. They would do this at the old sugar mill in Pepekeo that was used as a coal power plant for many years. Winds would blow their air pollution toward the rest of the island.

Many are opposed to this polluting scheme, including various environmental organizations, community and political associations, and government agencies.

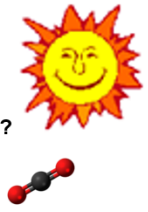
The state’s Consumer Advocate argued in 2021 that approving HELCO’s purchase of Hu Honua’s power “does not seem reasonable or in the public interest at this time” and “without additional justification, there are [greenhouse gas] emissions, environmental, health, and customer impact concerns that do not support a favorable ruling by the Commission.” The Public Utility Commission agreed and denied permission for the purchase.

Cooking our Climate

About 70% of Big Island’s electricity comes from burning oil. Burning trees is even worse for the climate, since wood burning releases 70% more carbon dioxide (CO₂) as oil burning does to make the same amount of energy.

Biomass incineration promoters claim that their CO₂ emissions should not be counted because biomass is “carbon neutral.” In other words, trees regrow, so the excessive carbon emissions from burning them will eventually be zero. This has been scientifically debunked for over a decade. There are a few problems with this thinking. First, climate models already account for tree growth, so to ignore emissions when they’re burned is double-counting. Second, carbon in trees and soils is not the same as carbon in the air. Only carbon in the air heats the climate. Finally, it takes too much time for newly planted trees to suck up the extra carbon released by burning them... around 40-70 years to take up enough carbon that it’s equal to burning coal, and centuries to reach “carbon neutrality.” This is *if* trees are replanted and not cut down in that time (or burned up in wildfires on a warming planet). The big landowners that would provide trees for Hu Honua to burn have not committed to replant trees, and promises by Hu Honua to replant trees elsewhere cannot be trusted.

Ray of sunshine encounters a CO₂ molecule in the atmosphere...



Ray of sunshine: Did you come from a tree?

CO₂ molecule: Why yes, I did!

Ray of sunshine: OK, I won't heat you up, then. Have a nice day!

(This is NOT how it works. There is no “magic tree carbon.”)

WHY? 1) Double Counting
2) Carbon in trees/plants/soils isn't same as in air
3) Don't have time

Tree Burning = Air Pollution

Hu Honua’s air permit allows them to release worrisome levels of highly toxic mercury and dioxins, as well as particulate matter, nitrogen oxides, acid gases, and many other pollutants. These contribute to asthma attacks, cancers, heart attacks, stroke, COPD, birth defects, learning disabilities, and much more.

There is no such thing as air pollution controls that capture everything. The strictest air pollution controls are not being required, but even if they were, it would be unaffordable, and would not reduce pollution to zero. It would shift some of the pollutants from the air to the ash, making the ash more toxic.



(Hu Honua, Pepekeo, HI)

Logging and Trucking Impacts

Massive plantations of Eucalyptus, planted on the island around 1950, were intended to be used for paper and could still be used for better purposes than burning. Feeding them to Hu Honua would burn them up in about seven years. It would involve extensive logging operations and heavy logging truck traffic on our roads, and on bridges that were not designed for the weight.



What Comes Next?

After burning up the trees in seven years, what will feed Hu Honua next, when the major landowners (Parker Ranch, Kamehameha Schools, and the state) are not committed to replanting? Will wood have to be imported, or will Hu Honua turn to the more profitable burning of waste streams like trash, tires, and construction/demolition waste? They get paid when accepting waste instead of having to pay to get trees.

Water use

To cool itself, Hu Honua would extract 21 million gallons of water per day from the Hakalau Aquifer. Each day, about 45 gallons of descaling agents like hydrochloric acid would be added to the water, and this heated water would be reinjected into the aquifer 90 feet from the shoreline. The Department of Water Supply has expressed concern that this could contaminate nearby drinking water wells. There are also concerns that this heated water could harm sensitive ecological concerns.

Toxic Ash

The large amounts of ash left over from burning trees would have to go somewhere. Surprisingly, wood ash is not as clean and harmless as you might think. Even “clean” wood, straight from a forest, is contaminated with pollutants that trees absorb from the environment and can become significant sources of toxic pollution when burned.

Lead, cadmium, mercury, copper, and zinc have been found to be taken up by Eucalyptus trees. Lead and cadmium are highly toxic and large portions (23% of lead and 60% of cadmium) can escape pollution controls and get into the air when burned. Copper and zinc are catalysts for dioxin formation and will boost the toxicity of the air emissions and ash. Dioxins are the most toxic chemicals known to science. Researchers have found that toxic metal concentrations in normal wood ash are “disturbingly high” when tested and would be classified as hazardous waste in Europe if the same test used for coal ash were applied. Wood ash has been turned away from normal landfills in Germany.

When the small (12-megawatt) Bio Energy plant in Hopkinton, New Hampshire was burning clean wood chips, from 1983 to 2002, it annually emitted about 600 pounds of lead and 8 pounds of mercury, “apparently naturally occurring in trees or absorbed through the soil,” according to the NH Department of Environmental Services. Hu Honua would be twice the size.

Jobs

To provide (or avoid) the same amount of energy as biomass burning, more jobs are created by using solar, energy efficiency, small hydroelectric, or geothermal. In terms of best uses of trees, there are more jobs created using them for lumber or wood products than by burning them. If it comes to the point of burning waste at Hu Honua, they also lose, as incineration creates the fewest jobs of any waste management option, with recycling and composting providing 5-10 times as many jobs, and reuse providing many more than that.

Cost

Hu Honua’s power would be rather expensive – about 3-4 times as much as solar with energy storage. As climate understanding keeps evolving, we can expect biomass subsidies to be removed, making it a risky venture.

Get involved!

**Join Kokua Na Aina
(help the land)**

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