

FREQUENTLY ASKED QUESTIONS ABOUT LOCATING A BIOMASS FACILITY IN THE LAKE TAHOE REGION

This Frequently Asked Questions (FAQ) sheet is an effort to provide information, context, and to communicate a willingness to discuss the options before this important community decision is reached by Placer County.

Reason for Building a Facility

Why does it make sense to build a renewable biomass energy facility in the Lake Tahoe Region?

- ***Reduction in air and water pollution*** – The reduction of open burning of woody biomass piles, reduction in the decomposition of chipped material and slash piles left unburned in the forest, as well as shortening of diesel truck transport distance will all result in significant reduction of air and water pollutants. The current practice of open burning and in-forest decay of woody biomass piles results in uncontrolled and significant emissions of air pollutants which can severely degrade the local and regional air quality and deposit particulate matter into the lake. For example, over the past two years, release of hundreds of tons of air and water pollutants have been avoided within the Tahoe Region due to the efforts of Placer County's biomass removal programs.
- ***Healthier forests for watershed and wildlife habitat*** – Removal of hazardous forest fuels reduces the potential for catastrophic wildfire and promotes healthy forests that improve watershed amenities and wildlife habitats. Properly done, thinning of overgrown brush and shrubs has been shown to allow greater infiltration of snow melt and rain into the soil without any increase in erosion or runoff.
- ***Reduced fire danger*** – The renewable energy facility would require coordination of all the various defensible space/forest thinning efforts with a focus on the removal/thinning. This would enable the Tahoe Region's forests to become significantly more resistant to catastrophic wildfire.
- ***Removal of forest waste*** – Coordination of removal/thinning activities would provide assurance that woody biomass waste is processed and utilized locally. This will eliminate or greatly reduce diesel truck transport (of biomass resources) to distant power facilities, and the open-burning in piles or chipping within the forest and left to rot, as currently practiced, of valuable biomass resources.

- **Local renewable energy of electricity & heat** – This proposed renewable biomass energy facility would demonstrate the ability for local communities to build a system that uses local renewable resources to produce energy for local consumption. The renewable electricity and heat produced will reduce dependence on fossil fuel currently used to provide energy in the Tahoe Region. Distributed renewable energy production is both cheaper and more efficient in the long term.
- **Greater sequestration of carbon** – Thinning the forest and creating a healthier forest environment will allow the forest to store (or “sequester”) more carbon per acre and will contribute to California’s climate change mitigation goals as mandated by state law under AB32.
- **Stabilization of emergency power in the Tahoe Region** – This project would allow the local energy provider (Calpeco – Liberty Energy) to have access to a local source of reliable, consistent power. This would also assist Calpeco in stabilizing the electricity transmission grid in the Lake Tahoe Region and providing a local source of power, particularly during the winter months when electricity from outside the basin is often disrupted. Such disruptions not only affect Tahoe residents and their use of electricity for light and heating, but can also disrupt other essential services such as water supply and sewage disposal.
- **Public safety and resources** – As a cogeneration project, the proposed facility can also supply heat (via hot water) that has the potential to be used to melt snow and ice on sidewalks, rooftops, parking lots and roadways.

Why can't we just keep moving the biomass to Loyalton or other sites?

There is an abundance of woody biomass waste being generated from various forest management and fire hazard reduction work in the Lake Tahoe Basin and surrounding forest areas. For most of these projects it is currently not economically feasible to transport this biomass waste to existing bio-energy facilities (as evidenced by the significant amount of biomass material that is disposed of onsite by open burning or chipping). The remaining economically viable biomass material (primarily due to a subsidized biomass waste tipping (drop off) fee charged by the transfer facility) is processed at the Eastern Regional Landfill (ERL) transfer facility and hauled to the bio-energy facility at Loyalton. Because the Loyalton facility is now closed, most biomass material that is not treated onsite is being hauled to sites further away (if economically feasible).

It is anticipated that future diesel fuel price increases (biomass transport distance is a major component of the biomass fuel price), and increases in the cost to perform the biomass removal projects, will further restrict the ability to economically utilize Tahoe

Basin biomass at Loyalton. As noted, Loyalton is currently shut down (something that has occurred numerous times in the past few years) because its operations are not economical at current biomass delivery rates and energy contract prices (i.e. the payment by the utility company to Loyalton for the electricity the facility generates to the electricity transmission grid), and because the Loyalton facility represents an older, less efficient technology nearing the end of its life expectancy. While it may continue to operate, the Loyalton facility is unlikely to be a reliable and viable location to utilize Tahoe Region biomass waste material in the long-term.

The Placer County proposed biomass facility would be strategically located near the forest biomass generation sites, which would allow lower cost to transport to the facility. The proposed facility would have an expected service life of 40 years, or longer, as upgrades of technology are installed. The needs of the Tahoe Region would be better served by the proposal to build a small facility in the Tahoe Region.

Where is the biomass used at the facility going to come from? Is the area full of waste material?

A recent study concluded that a 2MW facility (which will require approximately 40 - 50 bone dry tons of forest-sourced biomass wood waste per day) will acquire 90 to 100 percent of the biomass material from locally-based forest hazardous fuel reduction and defensible space clearing projects that are within the region. This material is (and would be) open-pile burned or chipped and left onsite. The other ~10% would be material from similar management projects that will have already arrived at the ERL.

All material utilized in the proposed biomass energy facility would be 100% forest-sourced woody biomass waste – comprised of chipped tree limbs, branches, and brush – from thinning and defensible space clearing projects. The fuel will be carefully sourced to ensure that it does not contain any contaminants, such as paper, plastics, or other non-wood waste. Additionally, there will be no odor associated with the operation other than the scent of conifers (forest trees).

Federal and local government funds have been spent on this project? How were they used and how will funding be sustained?

Placer County has carefully spent the federal money (facilitated by Senator Feinstein via the Department Of Energy grant) for initial planning and assessing the environmental and economic effects of building and operating a biomass facility. Placer County is nearing the end of the technology study phase and it is projected that the facility should meet all economic and permitting requirements. Results from the ongoing environmental impact assessment activities will be publicly available in 2012. That information will guide development of a final proposal that will optimize both environmental and economic benefits. At that point, a proposal will be brought forward to the Placer County Planning Commission.

Pilot projects were completed in the Lake Tahoe Basin to assess current biomass harvest, handling, processing, and hauling approaches and suggest ways to make them more efficient. A business plan is being developed with our private partner (Calpeco) to ensure that the operations are paid for by creating and selling energy (electricity). The costs of the biomass collection, processing, and trucking are all being factored into the life cycle cost for this facility over the expected 40-year service life. Multiple agencies and organizations are currently paying for thinning and fire hazard reduction and the related cost of dealing with any excess biomass that is produced - whether from onsite treatments or handling, processing, and hauling the biomass material to a facility. Now, agencies and organizations can work together to share costs of handling, processing and hauling biomass to and energy facility. A portion of the total cost will be offset by replacing existing operation costs like open-pile burning and chipping. This will allow the Eastern Placer County Biomass project to be economically viable given the local utility's existing electricity source, which is currently heavily dependent on coal-fired facilities.

Why is an EIR/ EA being performed?

Placer County determined that it was necessary to gather all of the environmental information possible to ensure this was the right type of facility to resolve some of the Tahoe Region issues with regard to wildfire protection, healthy forests, and long-term economics. An Environmental Impact Report (EIR) under the California Environmental Quality Act (CEQA), and an Environmental Assessment (EA) under the Federal National Environmental Policy Act (NEPA) are being prepared to ensure all environmental impacts are thoroughly considered. The essential content of each of the analyses is similar and overlapping so consideration of all environmental effects will be assured. Environmental analyses are being prepared by an experienced team led by Ascent Environmental Inc. on behalf of Placer County and the Department of Energy (DOE). Additionally, we have asked the Federal Environmental Protection Agency to review the reports and comment.

What are the expected environmental benefits of this facility?

Many environmental benefits will be provided immediately upon operation of the facility, and several more could be provided through additional projects utilizing excess heat.

These include:

- Having an economically feasible means of utilizing biomass from forest fire hazard reduction operations can increase viability of existing projects and may allow additional projects to be implemented. Such projects could significantly reduce the threat of catastrophic wildfire in the Tahoe Region and the effects of wildfires on important resources in general.

- A reduction in the amount of current and future open-pile burning of biomass wastes and a permanent, environmentally sound method for the removal and disposal of pine needles from urban areas. This will lower the amount of air pollutants, including particulate matter and nitrogen oxides, by over 90% on average for the Tahoe Region. This will provide benefit to Tahoe Basin air quality and lake clarity (via the reduction of air borne particulate matter from the uncontrolled nature of open-pile burning).
- A reduction in the amount of diseased, dead, and overgrown biomass that is present throughout much of the Tahoe Basin and vicinity. This will result in a healthy and resilient ecosystem that will benefit forest resources like water quality, wildlife habitat and recreation.

There are only a few burn days a year, why should we expect a reduction in burning with the addition of this facility?

In fact, there are 200+ days per year when open burning is permitted in the California portion of the Tahoe Basin, which is managed by both the Placer County Air Pollution Control District (APCD) and the El Dorado County Air Quality Management District. More days are typically available in the State of Nevada portion of the Basin. Commonly, over half of these days are utilized (through Air District-issued permits) for open burning by public and private land managers, including the US Forest Service, state and local fire agencies, and land conservancies. Many additional days are utilized by private residential land owners. Burning tends to be concentrated in the fall (September through November) and spring (April through June) time periods, however burning is also used during the winter and summer months as well.

With the proposed forest thinning in the U.S. Forest Service Lake Tahoe Basin Management Unit's 10-year plan for forest management projects, the amount of projected open-pile burning will significantly increase unless there is another alternative for disposal of the excess biomass wood waste that will be generated. The proposed biomass facility is projected to utilize up to 18,000 bone dry tons of biomass per year, the majority of which would otherwise be open-pile burned. This will be part of the basis of tradeoff (or offset) considered in the analysis of the air pollutant emission reductions that will be covered in detail in the EIR/ EA.

What are the expected emissions from the proposed facility? Does the reduction in open-pile burning really lower the overall pollution levels in the region?

The proposed facility will emit air pollutants including particulate matter (PM), carbon monoxide (CO), nitrogen oxides (NOx), and volatile organics (VOCs). The emissions will be restricted by stringent emission limits approved by the Placer County APCD. The facility will be required to use the Best Available Control Technology (BACT), and

demonstrate that air pollutant emissions do not pose a risk to human health, the environment, or the local community, and that emissions do not lead to deterioration in local air quality. Projected emissions levels for the facility are provided in the following table (assuming a facility size of 2 MW), and compared with emissions levels from the alternative biomass disposal fate, assuming half of the waste material is open-pile burned, and half is transported and utilized for energy production in Loyalton.

	Nitrogen Oxides (Tons Per Year)	Particulate Matter (Tons Per Year)	Carbon Monoxide (Tons Per Year)	Volatile Organic Compounds (Tons Per Year)
Biomass Facility (2 MW)	2.6	1.2	13.4	2.6
Open-pile Burning	41.1	101.58	844.2	67.5

The utilization of biomass in a state of the art, emissions-controlled energy recovery facility produces significant reductions in air emissions compared with open-pile burning -- a nearly 90 percent reduction for NOx, and 95 to 98 percent reductions for PM, CO, and VOCs. The proposed biomass facility will significantly lower the impact that open-pile burning (the existing method for excess biomass waste disposal) has on the Tahoe Basin air shed and lake deposition.

The proposed facility will meet or exceed stringent regulations governing release of any emissions such as HCl, ammonia, SOx, or trace organics or metals. This is because forest-sourced woody biomass contains very low levels of chlorine, sulfur, and trace metals, and also because the proposed facility would utilize state-of-the-art efficient technology and emission controls. Emissions of air toxics will be significantly lower (from 90 to 99 percent) for the proposed facility in comparison with the open-pile burning alternative. The proposed facility will also provide a notable reduction in greenhouse gas (GHG) emissions through the elimination of significant levels of methane emissions (a significantly more potent GHG than carbon dioxide) that are generated during open-pile burning, and through the creation of renewable energy that displaces the need for fossil fuel combustion to produce equivalent energy.

On June 7, 2011, Placer County and its partners; Placer County Air Pollution Control District, U.S. Forest Service, and Sierra Pacific Industries, accepted a 2010 Clean Air Excellence Award from the U.S. Environmental Protection Agency (EPA). This project was chosen for its impact, innovation, and replication ability.

The award was based upon the past four years of biomass projects where the County team collected, processed, and transported 15,000 bone dry tons of forest woody waste, which has fueled the generation of 15,000 megawatt hours of renewable electricity at an existing biomass power plant. All of the material was originally destined to be burned in the open. The projects have been able to achieve emission reductions of 90 tons of fine particulate matter, 23 tons of nitrogen oxides, 70 tons of volatile organics, 900 tons of carbon monoxide and over 6,000 tons of greenhouse gases.

Does the facility represent a health hazard to the surrounding community?

A recent independent report looked at potential cancer risks from exposure to any carcinogens that may be released, chronic non-cancer health risks, and acute non-cancer health risks for a proposed facility at two potential site locations; Cabin Creek and Kings Beach. The results of this report clearly show that operation of the proposed power plant would present insignificant public health risks at either possible location. The Kings Beach site has been removed from consideration as a possible location by Placer County and the Tahoe Regional Planning Agency.

What will the noise and traffic levels become at this proposed facility?

The facility is proposed on land that is designated Forestry in the Placer County General Plan. This land use designation has no operational noise threshold. However, Placer County will attempt to limit operational noise to 65 dBA at the property line to be consistent with other industrial noise levels in the region. The EIR/EA being prepared will evaluate the noise generation potential of the project to confirm.

The amount of traffic will depend on the amount of material that needs to be brought to the facility daily. That number of trucks can vary depending on 1) the technology used (one technology is more efficient and would use less material), 2) The size of the trucks used, and 3) where the material would be coming from. As noted earlier, a 2 MW facility would require approximately 40 to 50 bone dry tons of biomass per day. This equates to 80 to 100 wet tons of biomass and that can be provided by 3 to 4 chip van loads per day.

Before making any of these facility decisions, the final logistics analysis must be completed, along with the completion of the EIR/ EA process. Placer County wants to use the most factual and best environmental information for final facility decisions.

Won't the construction of a biomass energy facility encourage the overcutting of our forests to provide biomass?

Biomass for the proposed facility will be limited to biomass from projects and work that is already being completed (thinning, hazard reduction, green waste). This is biomass that is being created and treated, usually by open burning or chipping. No new projects will be created specifically to produce biomass. To ensure long-term sustainability of a biomass energy facility, a biomass supply assessment was completed before any decisions were made about the appropriate size of such a facility.