

Tahoe Basin Power Facility Frequently Asked Questions – FAQ'S

Reason for Building a Facility

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

There are numerous reasons to develop a small biomass fueled power plant facility in the Tahoe Basin. These reasons include:

- ***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 Basin 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 Basin'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

Placer County Tahoe Biomass facility Frequently Asked Questions

used to provide energy in the Tahoe Basin. 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 Basin** – This project would allow the local energy provider (NV Energy – formerly Sierra Pacific Power) to have access to a local source of reliable, consistent power. This would also assist NV Energy in stabilizing the electricity transmission grid in the Lake Tahoe Basin 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. The cogenerated heat could also be used to heat various buildings in the Kings Beach community.

Why are we proposing opening a facility in Lake Tahoe when others are closing in California?

Facility Issues

What is the size (footprint) of the proposed renewable biomass energy facility?

The facility, including power generation, biomass wood chip storage, delivery truck access and dumping, and ancillary equipment, will comprise less than two acres with the building only being an 80’ by 80’ footprint – 6400 square feet.

What will the public see when they look at the facility?

The facility will look much like a two story building with a covered canopy area directly adjacent to the power facility building (about the same size area as the facility that will cover the biomass fuel or chips. Some emission control equipment may be taller than the facility building and must meet TRPA height limitations. The TRPA Code allows such structures to be only 10 percent taller than the building, which would limit any structure to less than 50 feet tall which is lower than the trees surrounding the proposed facility. The building and ancillary equipment will be painted with a color scheme to blend in to the forested area around it.

What is the noise impact of the facility?

Placer County Tahoe Biomass facility Frequently Asked Questions

The proposed facility will be designed to comfortably meet the noise levels currently allowed for the Kings Beach industrial area – specifically, average levels of 55 dBA during daylight hours (sounds like a busy office) to 45 dBA at night (average home noise) at sensitive receptors, per Chapter 23 of the TRPA Code of Ordinances, and the Kings Beach Industrial Community Plan.

What are the planned facility operation hours?

The facility will operate round-the-clock -- 24 hr per day, 7 days per week, 365 days a year. Facility staffing is expected to be no more than 2 people at any one time. Biomass wood chip deliveries will be during business hours only and will not exceed 2 to 4 trucks per day. A front-end loader will be used for biomass wood chip movement.

How will the facility operate in the winter, along with wood chips deliveries?

The facility will be staffed at all times during normal operations. The facility will have an approximate seven day biomass wood chip storage capacity. This will allow for any snow storm build-up to be cleared allowing resupply during standard winters. A majority of the biomass wood chips will be stored at the County's Cabin Creek solid waste transfer and recycling facility just outside the Tahoe Basin on Highway 89. Highway 89 and Highway 267 will be used to move the biomass wood chips from Cabin Creek to the Kings Beach biomass power facility site (a distance of approximately 14 miles), to avoid going through basin if possible. Typically, there will be 2 to 4 truck trips per day between Cabin Creek and Kings Beach.

How long will this facility be providing renewable power to the Tahoe Basin?

The facility is anticipated to have a 40 year operating life, including routine maintenance and equipment replacements, and upgrades when appropriate to ensure the best available technology for air emission reductions and efficiency.

Will there be visible smoke from the facility?

No. The power facility will have a particulate matter emissions control system that will eliminate any smoke from the facility. Small amounts of condensed water vapor emitted at the cooling tower will be visible during colder temperatures can be misconstrued as smoke.

What about water use and disposal?

Depending on the technology chosen the facility would use no more water than that of a similar size standard commercial size building. The infrastructure for both water supply and discharge of wastewater are available at the site, and the North Tahoe Public Utility District has indicated there is ample water supply at the project site. Unlike older facilities, the modern type use very little water and much of that is recycled.

What about lighting on the facility?

Placer County Tahoe Biomass facility Frequently Asked Questions

Outside lighting will be the minimum necessary to ensure safe operations at nighttime and in an amount similar to the other existing commercial operations in the power generation area. The power facility itself is in an enclosed structure that reduces the outdoor lighting. The lighting will be within TRPA regulations. It is planned to create a building that works toward the “Dark Skies” goals endorsed by both Placer County and the TRPA.

What about the facility starting a forest fire -- from the facility or spontaneous combustion of on-site wood chips?

Every consideration has been made to eliminate the possibility of the facility sparking a forest fire. As the power facility will only maintain a maximum of seven days of biomass wood chips at any one time, there will be neither the necessary time nor depth needed for spontaneous combustion of the wood chip pile to occur. Furthermore, as stated above, the renewable energy facility would enable the surrounding Tahoe Basin forests to be significantly more resistant to catastrophic wildfire.

Will there be dust issues?

Fugitive dust (fugitive dust is particulate matter that becomes suspended in the air due to wind action and human activities) is not expected to be an issue during power generation operations. Limited biomass wood chips will be stored on site and will be covered by a canopy structure. The woody biomass wood chips will be delivered by enclosed, and/or covered, trailers. No grinding or chipping of forest biomass will occur at the power facility facility, as grinding can be a source of fugitive dust emissions. All of the wood processing into usable material will be done either in the field at approved locations, or at the Cabin Creek recycling facility.

Are you using state of the art technology?

Yes. A preliminary technology assessment was conducted to ensure that state of the art biomass utilization technology is being sought for this project. This not only included the conversion technology, but also emission control systems considered as Best Available Control Technology (BACT). Similar to cars and vehicle emissions, the newer technologies are cleaner, quieter and more efficient than in the past.

Why Kings Beach as the site?

Due to the constrained nature of the electricity transmission system in the northern portion of the Lake Tahoe Basin the private partner (NV Energy) in this project currently houses a 16 megawatt emergency electrical generation facility on their property in Kings Beach. The biomass power facility will be adjacent to the existing NV Energy facility in order to consolidate operations and be able to tie directly into the grid with minimal environmental effects. Additionally, as discussed in detail above and below, biomass power generation operations will significantly reduce the exposure of Kings Beach residents to air pollution. This is important because Kings Beach area residents historically have an abnormally high rate of respiratory incidents, likely resulting from the high level of air pollution coming from existing pile burning, prescribed burns, and wildfires. Additionally the proposed facility will be sited on a parcel

Placer County Tahoe Biomass facility Frequently Asked Questions

already part of the Kings Beach Industrial zoned area. No rezoning or Community Plan changes will be required.

Where is the Tahoe Basin biomass facility getting its wood chips?

The project will contract with several sources in and around the Tahoe Basin. A majority of the clean forest-sourced biomass wood chips will come from the United States Forest Service (USFS) (both new projects and existing biomass waste piles) and the County's Cabin Creek solid waste transfer and recycling facility. Other sources of forest-sourced biomass wood chips will come from local Fire Safe Council's, State and local fire agencies, California State Parks and the California Tahoe Conservancy when performing thinning or defensible space operations. Placer County currently works with each of these sources to remove the existing waste biomass and produce renewable energy.

The facility will utilize biomass waste products from the local region. The facility is being sized to utilize a 30 mile working circle of annual existing amounts, current on the ground piled materials, and the projects that have been/will be reviewed by the NEPA/CEQA process to ensure sustainable environmental compliance.

What about truck traffic and routes?

Truck traffic will be light as it is expected that a maximum of 4 standard chip vans per day (for a 2 MW facility) will deliver the processed biomass wood chips to the site. Potential future plans to transition to smaller trucks (to be sensitive to the public traffic and road conditions issues) could increase the number of trucks to about 10 per day. A majority of the time the trucks will come from the Cabin Creek storage facility via Highway 267, a distance of 14 miles, thus avoiding Highway 28 along the Lake Tahoe shoreline (and minimizing project truck traffic through Tahoe City and a longer route, exceeding 20 miles). Similar to the current situation, during the summer and fall months there may be some truck traffic (a few trucks a day) which will be coming from the in-basin defensible space or thinning projects which could be from all directions around Lake Tahoe, accessing the project site via Highway 28. The entire County's Cabin Creek solid waste transfer and recycling facility process will generate minimal traffic and will be staged to avoid heavy or peak traffic times.

Pollution/Greenhouse Gas (GHG) Issues

What solid waste products does the facility produce?

Biomass power facilities produce ash (about 3 to 5% of the wood chips input by weight, so 1 BDT of biomass consumed as wood chips will produce 30 to 50 pounds of ash). The resulting ash will be stored in silos or bins and transferred to trucks with no fugitive emissions. Since the biomass wood chips will be from forest thinning the resulting ash could be used as a soil amendment or in

Placer County Tahoe Biomass facility Frequently Asked Questions

masonry and cement products. Placer County is already in discussions with parties interested in using the ash.

If water is used to create steam for electricity production it will be recycled.

What air pollution issues does the biomass facility present?

The proposed biomass facility will utilize state of the art air pollution controls for minimizing discharges of air pollutants. The biomass facility significantly reduces air pollutant emissions -from 95 to 99 percent -- that would otherwise be produced by open burning of that same biomass. The biomass power facility is subject to stringent regulation by the U.S. Environmental Protection Agency, California Air Resources Board, local air quality management district and in the case of Lake Tahoe Basin, the TRPA as well.

Prior to permit issuance, the air district will require an extensive environmental assessment requiring that the biomass power facility is using “best available control” for air pollutants, and demonstrating that air pollutant emissions do not pose a risk to human health or the environment of the local community, and that emissions do not lead to deterioration in local air quality.

How is it renewable energy if it emits greenhouse gases?

A biomass power facility produces carbon dioxide (CO₂), a greenhouse gas (GHG), through the combustion of biomass. However, if the wood chips supply is obtained as a byproduct of reducing fire hazard, the facility emissions are offset by the emissions that would have occurred if the forest burned, or the biomass was pile burned or left to decay in the forest. Wildfires are significant sources of greenhouse gas emissions. For example, it has been estimated that the 2007 Angora fire in the Lake Tahoe Basin released 141,000 metric tons of CO₂ and other greenhouse gases into the atmosphere within a period of a few days. This is equivalent to the emissions from over 28,000 cars annually.

By utilizing wood chips derived from forest management that reduces the probability of wildfire and considering the natural growth patterns of biomass, a biomass power facility is considered “carbon neutral.” Specifically, biomass is a unique fuel in that it is naturally replenished by recently sequestering carbon dioxide from the atmosphere.

Additionally this renewable energy reduces fossil fuel demand, displacing GHG emissions from high GHG emitting fossil fuel fired electricity generating facilities.

How does this project help me lower my carbon footprint?

Electricity currently supplied to the Northern Lake Tahoe Basin by NV Energy (operating as Sierra Power Company in California) is over 80% derived from the combustion of fossil fuels, with nearly 45% of that coming from coal, the highest greenhouse gas emitter. Biomass wood chips, although releasing carbon during combustion, is considered “carbon neutral”, as the carbon from this biomass combustion is recently sequestered from the atmosphere, whereas burning fossil fuels releases carbon that is millions of years

old. Offsetting the carbon from fossil fuels released in producing electricity from biomass makes it potentially “beyond” carbon neutral.

Benefits to the Community

How is this going to improve air quality? How does the facility lower the amount of air and water pollution in the Tahoe Basin?

Wildfire events, planned and unplanned, in the Lake Tahoe Basin and surrounding areas significantly degrade the air quality of the Basin for days to weeks each year. During these wildfire events, acute respiratory illness is common in sensitive populations due to microscopic air-borne particulate matter released from the wildfire; and wildfires and open pile burning contribute very significant amounts of particulate matter directly to the surface of Lake Tahoe, which degrades water quality in the Lake. Alternatively, the biomass energy facility will support forest management activities that reduce wildfire risk and intensity. Biomass energy facility emissions will have extremely low levels of microscopic particulate matter due to the use of highly efficient control devices. .

Further, when wildfire events occur, such as the Angora Fire, there is significant soil degradation that occurs at the ground level. When winter rains enter the Basin, high levels of soil enter the watershed and potentially enter the lake. Wildfire risk reduction through creation of a local disposal site for biomass material reduces the impact that fires have on forested landscapes and their associated watershed.

Besides electricity and pollution reductions, what else could the facility do for public benefit?

Waste heat from electricity production can be harnessed to heat public and private buildings and to heat roads and sidewalks to melting ice and snow. This will lower fossil fuel usage and reduce the use of sand, plowing, and trucking of snow during the winter months. According to studies in Lake Tahoe, sand applied to the roads runs off in both large and fine particles into the lake, reducing lake clarity. Additionally sand, ground under vehicle tires, creates fine airborne particulate matter that also enters the lake and adds to the loss of clarity.

Why would I want to have the facility near my neighborhood?

Currently electricity that is consumed in the Lake Tahoe Basin is imported from outside the Basin and is produced in part by burning dirty fossil fuels (coal) that are not mined locally. Additionally, electricity deliveries can be unreliable during critical months of the year, leaving many businesses to rely on expensive and more polluting diesel generators. This proposed facility will use state of the art environmental controls to provide renewable energy that is produced by local biomass waste material from local forest health operations and will be operated by local community members. In addition, there is already an existing power facility at the Kings Beach site, and thus the cumulative effect of this facility would probably be minimal.

How many jobs will this project create?

Placer County Tahoe Biomass facility Frequently Asked Questions

Studies by the National Renewable Energy Laboratory indicate that approximately 5 jobs are created per megawatt of electricity generation. This includes personnel to run the power facility as well as the personnel it takes to conduct the forest thinning activities, processing into usable biomass wood chips, and to transport the biomass wood chips to the power generation facility. Placer County is proposing a 1 – 3 megawatt facility so that could mean from 5 to 15 jobs within the Tahoe basin.

Normally TRPA requires that projects must have environmental benefits above and beyond what is required as mitigation – does this facility meet these requirements?

Placer County firmly believes so, but ultimately TRPA will be the judge of this requirement. We have meeting with TRPA to evaluate the ramifications of the proposed facility and they are encouraging us to continue this path. We anticipate that the benefits of the facility will fit into this category and will ultimately be fully supported by the TRPA.

How will this facility assist in implementation of the Lake Tahoe Basin Community Wildfire Protection Plan (CWPP's) and Forest Service Lake Tahoe Basin Management Plan?

The project will contract with all local organizations to collect, grind and utilize their woody biomass waste for the proposed facility. This will also lower their costs as they will not have to either shred the biomass material for application to the forest floor (mastication) which can greatly add to GHG generation in the forest or truck it out of the area. Additionally biomass waste could be processed on certain sites.

Will this facility take all of the material generated from defensible space clean up, including pine needles?

Yes, a mix of all forest materials can be used by the facility including pine needles. Biomass utilized by the facility must generally be non-painted, and not covered in synthetic chemicals.

Will the Biomass Facility allow for the total elimination of burning in the basin?

No, the agencies that manage the Basin forests will still rely on burning for environmental reasons and there will still be piles of material that can not be accessed for removal to the biomass facility due to topographical conditions of the land, sensitive habitat, or proximity to accessible roads.

Do the local Fire Agencies believe this is a good project?

Yes. Currently, the project has a very broad based support from all of the local, state and federal fire agencies. The project dovetails with each of their mission statements' to lower the fire risk within the basin.

Do the local Air Pollution Control Agencies believe this is a good project?

Yes. The project site is within the jurisdiction of the Placer County Air Pollution Control District (PCAPCD) and TRPA.

Placer County Tahoe Biomass facility Frequently Asked Questions

PCAPCD encourages the development and deployment of state of the art renewable energy sources as alternatives to generating facilities that utilize fossil fuels as combustions sources, and recognizes the value of forest biomass conversion to energy use to preclude and/or reduce open burning emissions. A renewable co-generation facility design would be evaluated by district engineering and permitting staff for incorporation of Best Available Control Technology as well as would be required to meet all permitting thresholds for the Lake Tahoe Air Basin.

What do conservation-based stakeholders think of biomass facilities and this facility in particular?

Each of the many conservation-based stakeholders will hopefully provide information to assist in the development of this proposed facility. Currently we have been sending our technical information to many local groups to ensure that we have the most robust knowledge before making any decisions. Generally most stakeholder groups favor this type of biomass waste conversion. We will continue to request and utilize information and guidance from these valued sources.

What public process will be convened to ensure this project meets with all groups' interests?

For starters we will be providing multiple opportunities for informational interchanges throughout the Tahoe Basin to gather the public thoughts and answer questions and resolve concerns. Following these, there will be a formal Land Use process by both TRPA and Placer County to allow multiple public meetings to discuss the aspects prior to allowing the proposed facility to be built. There are also numerous permits required and each of those is a public process. Our intention is to provide the community with a facility that is a sustainable, clean, community supported solution to a multitude of complex existing problems.