

# SOFAR/EDC Biomass Utilization– Potential Projects [Updated 4.10.2023]

## Purpose:

Advance biomass utilization projects within El Dorado County to decrease woody fuel loads and catastrophic wildfires, improve watershed health, utilize a renewable energy resource, promote clean energy and improved air quality, and stimulate job growth.

## Black Oak Mine Unified School District (BOMUSD)

The BOMUSD is pursuing the incorporation of small-scale biomass plants at **two district locations**, Golden Sierra HS and Georgetown Elementary, into the district's energy resiliency plan. An initial demonstration project will be located at Golden Sierra. Project(s) will not initially include power export; however, there is long-term potential for the BOMUSD to produce more energy than needed, interconnect to PG&E, enter into a Power Purchase Agreement (PPA) with Pioneer Energy, establish/utilize existing microgrids in Greenwood and Georgetown, and export power to the grid thereby increasing the energy resiliency of these communities.

BOMUSD's energy use analysis by Wisewood Energy indicates **65 kW plants** would initially be appropriate to offset onsite energy usage. The BOMUSD is also planning to include a **small sawmill** at Golden Sierra HS to incorporate into the student CTE (Career Technical Education) program.

The BOMUSD has applied for grant funding through CAL FIRE and EDC has submitted an appropriations request to Congressman Kiley's office. Additional funding opportunities are also being pursued.

## Business Plan / Strategic Plan for Biomass Utilization

Goal is to develop a countywide biomass business plan / strategic plan to demonstrate readiness, detail feedstock availability, identify appropriate approximate locations for biomass projects, and support grant requirements.

The strategic plan was initially placed on hold in 2022 to await results of the Cal FRAME\* project; however, the Cal FRAME project, Phase I, is not expected to be completed until the end of 2023. The SOFAR Biomass Working Group has identified the EDC Biomass Utilization Strategic Plan as a priority goal for 2023. Therefore, the EDC CAO, Office of Wildfire Preparedness and Resilience (OWPR) will be advancing the Biomass Strategic Plan in 2023.

## El Dorado Disposal (EDD)

**Potential small-scale project site.** EDD expressed interest in exploring a bioenergy project at the Material Recovery Facility (MRF); however, EDD is consumed with the MRF rebuild and the SB 1383 organic waste collection rollout. Check-ins with EDD occurring quarterly.

## Eldorado Northern Mill

**Small mill on 12 acres producing pallets and agricultural wood products (poles).**

Potential grant funding opportunities have been identified that can assist with business plan development, property improvements to accommodate increased volume (Caldor logs) and sawmill improvements. There is the potential to incorporate a small-scale biomass plant that would offset electricity usage and provide heat for a kiln. CAL FIRE Business and Workforce Development grant is a potential funding source.

The current owner of El Dorado Northern is in the process of selling the business. Currently waiting for sale of site to be completed.

## Medium to Large-Scale Biomass Facility & Wood Products Campus

The Sierra Pacific Industries (SPI) former mill site in Camino has been identified as a good candidate for this project. SPI has expressed a willingness to potentially lease or sell a portion of the site that is of adequate size for a bioenergy facility (2-5 MW) and wood products campus. EDC hired a consultant to perform a fatal flaw analysis of the site. The consultant's completed analysis indicated that air emissions/permitting may be a concern depending upon the type of bioenergy facility and best available control technology (BACT) utilized.

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The analysis also indicated that electrical transmission improvements will be required if power is to be exported from the facility.

There are currently bioenergy technologies and BACT that will meet local air permit requirements.

## Mobile Biomass to Energy Technology

Gold Seal Industries (GSI) has partnered with Markit, working with Blue Forest, Great Basin Institute and USFS to launch a mobile pilot project within the Caldor burn area. Fully self-contained mobile unit(s) will produce biofuel, biochar, and medical grade water. **Pilot project anticipated to begin in Q2, 2024.** Once the pilot is complete, the plan is for deployment of multiple units throughout the Caldor burn area, including at or near Sierra-at-Tahoe.

## Sierra-at-Tahoe Ski Resort

Sierra-at-Tahoe (SAT) identified as a good **candidate for a combined heat and power small-scale biomass plant.** An initial meeting with SAT was held in June 2022. Due to Caldor Fire recovery efforts and repair of SAT infrastructure in prep for 2022/2023 ski season, further discussions with SAT were put on hold until after the close of the 2022/2023 ski season.

## SMUD

Biomass utilization is included in SMUD's 2030 Zero Carbon Plan. Discussions are ongoing between SMUD, SOFAR and EDC staff regarding how SOFAR/EDC can assist SMUD with achieving its 2030 zero carbon goal as it relates to developing/incorporating a biomass to energy project(s).

SMUD has partnered with Mote Hydrogen to build a biomass to clean hydrogen facility in the greater Sacramento region. The project also includes carbon sequestration. Feedstock will come from the Sierra NV, including within EDC, as well as other SMUD service areas within the Sacramento region.

**SMUD/Mote received \$500k in grant funding from the CA Dept. of Conservation** to fund the pre-development/planning phase of the project, including site selection analysis.

SMUD/Mote identified several parameters for site selection, including parcel size of at least 80 acres, proximity to a natural gas distribution line and a rail line.

## South Tahoe Refuse (STR)

STR is working with Wisewood Energy on a **small-scale 125 kW demonstration project** at the Material Recovery Facility located within the City of South Lake Tahoe. The project is anticipated to offset STR's onsite usage of electricity by 100% and natural gas by 90%. Power export to the grid is not being proposed.

The current TRPA Code of Ordinances includes a suspension on accepting permit applications for biofuel facilities. On November 16, 2022, STR and Wisewood Energy presented a conceptual small-scale (125 kW) combined heat and power (CHP) biomass project to the TRPA Forest Health and Wildfire Committee (FH&WC), which was favorably received but no action was taken. The FH&WC directed staff to bring the item back in February 2023 for committee action. STR subsequently returned to the FH&WC on February 22, 2023, seeking approval to submit an application to TRPA for the proposed biomass project. The FH&WC approved and forwarded its recommendation to the Governing Board to direct the Executive Director to accept a permit application from STR. The Governing Board approved the item later the same day. One member of the Board commented that STR's proposed biomass facility is a "test project." STR/Wisewood anticipates submitting a permit for the project to the TRPA Executive Director in Q3 or Q4, 2023.

Note: For the purpose of this project summary, Small-Scale = 1 MW or less; Medium-Scale = > 1 MW and < or = 5 MW; Large-Scale = > 5 MW

\* Governor's Office, Planning & Research (OPR) California Forest Residual Aggregation Market Enhancement (Cal FRAME) program, Placer Co Water Agency is leading a pilot project in the Tahoe Central Sierra designed to explore the facilitation of regional biomass aggregation and centralized feedstock contracting. EDWA is engaged.