

CAL FIRE Business and Workforce Development Grant Applications -- 2022 Q2

Disclaimer: This roster includes all eligible and ineligible project proposals.

Project Type	Applicant	Project Name	County	Requested Funds	Project Description
Workforce Development	Resource Conservation District of Tehama County	California Timberlands Prescribed Fire Academy	Butte Lassen Plumas Tehama	\$ 2,119,205	<p>This multi-year training program will increase California's prescribed fire and wildfire management capacity, teaching foresters and wildland managers skills needed to safely and effectively manage a prescribed burning program, while burning up to 5,000 acres. Participants will receive hands-on training in all aspects of prescribed fire including: Developing fire-related management objectives; Strategic/collaborative planning; Integrating prescribed fire into forest and land management projects; Basic fire ecology; Prescribed fire unit design and layout; Permitting and environmental compliance; Smoke management; UAVs for aerial ignition; Wildfire safety and firefighting techniques; Public engagement/outreach; GIS/mapping technologies, fire effects monitoring; Weather/meteorological resources for burn planning and smoke management; Best management practices for pile and broadcast burns; Mopup and patrol; Current liability laws and regulations.</p> <p>Crane Mills and Deer Creek Resources are primary partners for this project. Crane will host training burns ranging from single piles to hundreds of acres on their 68,000 acre ownership, in Tehama County. 1/3 of this area burned with high severity during the 2020 August Lightning Complex. Burns will be designed to meet multiple resource management objectives, including rehabilitation of severely-burned areas, underburning to benefit oak restoration in lower-elevation areas, cultural burns in riparian areas, and broadcast burns to increase wildfire resiliency in areas burned with low severity in 2020. DCR will manage all training operations.</p> <p>This project will provide training to at least 155 students, host courses required for certification under the new California Burn Boss Program, and provide all students with opportunities to gain fireline leadership experience.</p>
Business Development	Camptonville Community Partnership	Camptonville Forest Biomass Business Center	Yuba	\$ 1,989,318	<p>The Camptonville Forest Biomass Business Center (FBBC) is a 3.5 megawatt forest biomass to electricity power plant and industrial business campus project. The project integrates advanced emissions controls and a state-of-the-art low water use condenser to minimize impacts from bioenergy production. This grant request is seeking funding for a steam surface condenser and air cooled heat exchanger (ACHE) which ties into the water condenser. The equipment package will utilize air, instead of water, to cool the steam, in a closed loop system. Obtaining the equipment together will ensure the equipment works seamlessly and effectively. The closed loop system will reduce water consumption by 12 percent +/- by eliminating evaporation.</p>
Business Development	Northstar Community Services District	Northstar Community Services District Biomass Energy System	Placer	\$ 2,000,000	<p>Northstar Community Services District (NCSD) is seeking \$2,000,000 to partially fund a biomass boiler system and building shell for a woody biomass district energy system. NCSD provides public services to the community surrounding the Northstar California ski resort in Truckee, California. Truckee is one of the coldest communities in California and is in a very high wildfire risk area. In 2008, NCSD implemented a hazardous forest fuels management program, complementing its defensible space program and has since treated over 2,000 acres within the community. Historically, more than 850 BDT of residual woody biomass is extracted annually from these activities, with most of it being diverted to compost and landfill at significant cost. The project entails construction of a community-scale biomass energy system that will utilize local and regional hazardous forest biomass to generate heat for approximately fourteen large buildings, significantly reducing out of state methane gas demand. The project would serve to accelerate NCSD's fuels management and defensible space programs while improving their environmental footprint and reducing operating costs by creating a local use for otherwise non-merchantable material. The project has already served as a catalyst for development of similar biomass energy systems in the region helping to promote smarter landscape-level management approaches to reducing catastrophic wildfire. This project will also help facilitate the development of a sustainable regional biomass industry to achieve hazard reduction, improved ecosystem health, and lowered greenhouse gas emissions, which support the goals outlined by both the State of California and U.S. Forest Service.</p>
Business Development	Kodama Systems, Inc.	21st-Century Forest Thinning: Machine Semi-Autonomy	Tuolumne	\$ 796,301	<p>Kodama Systems proposes developing skidder semi-autonomy for forest thinning. Leveraging sensors and algorithms developed for the autonomous vehicles industry, Kodama Systems will demonstrate autonomous navigation of short-range tree skidding applications. The projected impact of Kodama's technology-powered forest thinning service is 25,000 acres per year by 2025, enabling California forests to store an additional 150,000 tons of CO₂e.</p>

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Business Development	Kodama Systems, Inc.	21st-Century Forest Thinning: Site Connectivity and Machine Teleoperation	Tuolumne	\$ 299,898	Kodama Systems proposes to deploy and fully demonstrate technologies that improve forest thinning productivity and expand access to labor. Leveraging technology originally developed for the construction and mining industries, Kodama will establish internet access at the landing, equip machines with sensors to measure uptime and productivity, and implement a skidder teleoperation proof-of-concept from the landing. The projected impact of Kodama's technology-powered forest thinning service is 25,000 acres per year by 2025, enabling California forests to store an additional 150,000 tons of CO2e.
Business Development	Ampine LLC	Ampine Wood Products Expansion: Part 1	Amador	\$ 1,475,000	Ampine LLC has produced particleboard since 1973 and serves as the last remaining plant in California. Ampine consumes 190 to 250 thousand tons of wood fiber annually from within 200 miles of its facility in Sutter Creek, Amador County. As California sawmills and wood product manufacturing plants have closed, Ampine's fiber supply has shrunk. In response, Ampine has purchased an estimated 15 to 22 thousand green tons of hazardous fuel logs each year since 2012 to supplement its wood supply. In order to better address current product demand and forest health needs, Ampine now plans to maximize production time, shifting from a 24-hour, 5-day per week operating schedule to a 24-hour, 7-day schedule. Increased production will require new log handling and grinder equipment to better control processing and utilization of 90 thousand more green tons of logs per year. The requested funds will be used to purchase and install the grinder, its foundation, and associated electrical, conveyance, sprinkler systems. The additional volume consumed will facilitate forest treatments on 5,300 acres annually of which 95 percent will be sourced from public land. Two new jobs will be created to operate and maintain the grinder, plus 15 jobs for the plant's added production shift.
Business Development	Ampine LLC	Ampine Wood Products Expansion: Part 2	Amador	\$ 2,000,000	Ampine LLC has produced particleboard since 1973 and serves as the last remaining plant in California. Ampine consumes 190 to 250 thousand tons of wood fiber annually from within 200 miles of its facility in Sutter Creek, Amador County. As California sawmills and wood product manufacturing plants have closed, Ampine's wood supply has shrunk. In response, Ampine has purchased an estimated 15 to 22 thousand green tons of hazardous fuel logs each year since 2012. In order to better address current product demand and forest health needs, Ampine now plans to maximize its production time, shifting from a 24-hour, 5-day per week operating schedule to a 24-hour, 7-day schedule. Increased production will necessitate new drying equipment to meet the greater thermal demand of an additional 90 thousand green tons per year to be consumed. Grant funds will be used to engineer, permit, purchase, and install a low temperature belt dryer and associated boiler system. The additional volume of chips to be dried and used for particleboard manufacturing will facilitate forest treatments on 5,300 acres annually of which 95 percent will be sourced from public land. Three new jobs will be created to operate and maintain the dryer, plus 15 jobs for the plant's added production shift.
Business Development	Auberry Sawmill, Inc.	Auberry Sawmill Project	Fresno	\$ 499,000	Auberry Sawmill Inc. proposes to procure, transport, refurbish, and install a used quad re-saw, combination edger with in-feed and out-feed, and trimmer with stacker which will increase manufacturing efficiencies and production yield of its 7.8 MMBF mill, which is currently under construction, to nearly 14 MMBF. Grant funds will also be used to purchase spare re-saw and saw parts to avoid manufacturing disruptions. The requested equipment will significantly expand the local wood product market capacity, making possible Creek Fire recovery and forest health activities that would otherwise not be feasible. The proposed project will increase the log to lumber recovery from 125% to 135% and improve production yield by 25 MBF of lumber per day which is nearly double that without the equipment, equating to forest health, hazard fuel reduction and fire recovery treatments on an additional 1,900 acres of forest lands per year, above the 2,400 acres per year originally planned. Operations and maintenance of the requested equipment will create two new direct jobs.

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Workforce Development	All Power Labs, Inc.	Automation Development of Community Bioenergy Systems	Shasta	\$ 498,000	All Power Labs' (APL) technology platforms convert waste biomass from forestry and agricultural producers into electrical and thermal energy and biochar. These systems are designed for distributed-scale deployment and consist of containerized biomass microgrid systems (CBM) integrated with biomass-to-heat/biochar (Chartainer) units. APL proposes a product development scope of work that reduces the complexity of the operations of maintenance tasks (O&M) of its CBM systems to enable a larger workforce as well as reduce labor costs. This will be accomplished through the design, build, test, and release of an improved CBM automation control system. The project will result in 75% reduction in O&M labor time and 50% reduction in operator decision-making and manual intervention events. This project will build upon the current control system version s2.01 to version s4.0 of the CBM and will consist of hardware and software elements. The automation idevelopment will focus on the following: User Interface (UI): capable of assisting the operator through basic tasks and troubleshooting; Diagnostics, Monitoring and Remote Operation: automated startup and shutdown, component failure detection, remote system notification, and data collection and reporting; Reliability and Manufacturing: minimized point-to-point wiring, simplified harness routings and connections, and sealed enclosures. Project goals and objectives include: Review and Summary of Automation Design Architecture Options; Creation of Automation Controls Test Plan; Design of the Automation Controls System; Build and Test of the Automation Controls Systems; Release and Installation on CBM Units. The project is expected to be completed in 24 months.
Research & Development - Business	Mason, Bruce & Girard, Inc.	California Fire Impacts Study, 2018-2021	Statewide	\$ 95,000	MB&G will estimate economic impacts to California's forest sector from major wildfires in California from 2018 through 2021. Specifically, the study will quantify the acres, volume, and value of timber burned in 2018 through 2021 fires and impacts of these losses on future timber harvest volume and industry processing and biomass needs and capacity. The study will also include a section quantifying carbon emissions. Carbon emissions estimates will be limited to direct fire emissions and will not include future emissions from fire induced mortality. This is a two-phase project. Phase 1 will include development of inventory data and analysis of the immediate fire damage from the 2018 through 2021 fires. Phase 2 will assess future impacts. In this project, MB&G will compile data from multiple sources to assess fire impacts. To ensure methods and data sources meet the needs of Project Sponsors, MB&G recommends that CAL FIRE convene a Technical Advisory Committee of experts in fire impacts and carbon, and to review the methods and results. This proposal assumes there will be a Technical Advisory Committee. A written report will be provided at the end of each phase.
Business Development	West Forest, LLC	CALIFORNIA ORIENTED STRAND BOARD MANUFACTURING-INITIAL PLANNING EFFORTS	Butte Humboldt San Francisco Shasta Siskiyou Tehama	\$ 480,000	West Forest, LLC seeks \$480,000 through the Business and Workforce Development program to seed the develop of an oriented strand board (OSB) mill in Northern California. We would use proceeds from this grant to validate the opportunity, identify a site and a manufacturing partner, outline the support needed, and prepare the development effort over the next 24 months.

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Workforce Development	Fresno Area Workforce Investment Corporation / Fresno Regional Workforce Development Board	Central Valley Forestry Corps - Reedley & Mother Lode	Amador Calaveras Fresno Mariposa Tuolumne	\$ 4,405,707	<p>The Central Valley Forestry Corps (CVFC), developed by the Fresno Regional Workforce Development Board (FRWDB), is a best-practice model to recruit, train, provide work experience, and link local residents to quality entry-level jobs in the forestry sector. FRWDB seeks to bolster and expand the CVFC under this CalFIRE Workforce Development Grant.</p> <p>With our partners at the Mother Lode Workforce Development Board (MLWDB), Reedley College, the Fresno Economic Opportunities Commission's Local Conservation Corps (Fresno EOC LCC), Columbia College, Sierra Resource Management, and Associated California Loggers (ACL), the CVFC will expand this best-practice model to provide valuable forestry training to 160 residents in Fresno County and the Mother Lode region, including but not limited to Amador, Calaveras, Mariposa, and Tuolumne counties.</p> <p>CVFC will train, equip, and empower the next generation of forestry and fuels management workers to help mitigate the growing concerns around wildland fire behavior and maintain the ongoing need for fuels management. This project's activities center on outreach to underserved and underrepresented populations, vocational classroom and hands-on training, work-based learning, paid work experience, needs-related stipends, educational support services, and wraparound services.</p>
Workforce Development	All Power Labs, Inc.	Community Bioenergy Workforce Development	Alameda	\$ 752,000	<p>All Power Labs (APL) develops and deploys technology platforms that convert waste biomass from forestry, agricultural producers, and urban waste yards into renewable energy and biochar. They are designed for distributed-scale deployment and consist of containerized biomass microgrid (CBM) systems. These innovative but complex systems rely on a highly-skilled workforce for its operations and maintenance which becomes a barrier for increased deployment. This workforce development project will focus on the creation of a standard program that includes elements of in-person, on-line, and practical training activities that will educate, qualify, and certify participants in operations and maintenance of the CBM systems. This program will support increasing workforce capacity in underserved communities through job placement via APL's project-development activities.</p> <p>Scaling up these educational goals with a more comprehensive workforce development program that partners with state agencies like the Forest Management Taskforce and Cal Fire and expands APL's relationships with local educational institutions will help these agencies reach their own goals. Workforce development is key to increasing APL's development of projects in communities where the solution may be most needed but the infrastructure is absent. Job placement through APL's business development and support framework will assure ongoing opportunities in the communities most in need of workforce development and wildfire mitigation. The project objectives include the following: Updating and Expansion of Documentation and Technical Information; Development of Web-based Educational and Training Curriculum; Development of Operator Training and Certification Process; Training of Operators; Placement of Operators on Projects.</p>

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Research & Development - Business	California State Polytechnic University, Humboldt and Schatz Energy Research Center	Creating markets for forest residues to meet California's climate and air quality goals	Humboldt	\$ 500,000	California faces crisis conditions on its forested landscapes. Weather conditions brought on by climate change have created increasingly severe wildfires in forests already overstocked with biomass. In light of this ongoing ecological, climate, economic, and public health emergency, the state has prioritized funding for forest management with the goal of thinning one million acres of forest per year. This aggressive management activity generates millions of tons per year of woody residues that are typically left or burned in the field, impacting air quality, creating wildfire hazard and leading to further ecosystem disruption. The California Biomass Residue Emissions Characterization (C-BREC) model offers a spatially-explicit Life Cycle Assessment framework to establish the climate and air pollution impacts of putting these residues to use rather than burning or leaving them on site. This project will support the application of C-BREC to three targeted policy-relevant use cases for woody biomass. 1) Calculation and assignment of carbon intensity scores for transportation fuels made from woody biomass under the Low Carbon Fuel Standard, facilitating the development of a forest biofuels industry 2) Adapt the C-BREC webtool for use as a project-level GHG accounting tool under the Bioenergy Market Adjusting Tariff (BioMAT) program managed by the CA Public Utilities Commission 3) Rigorously establish the climate benefit of biochar production in support of carbon offset protocol development. These developments will help build a robust market for woody residues in California, bringing needed revenue in support of increased management for forest health, wildfire risk reduction, and carbon sequestration.
Business Development	Del Logging, Inc.	Del Logging Biomass Equipment for Increased Productivity and Expansion	Lassen Modoc Shasta Siskiyou	\$ 1,334,509	Del Logging is requesting funds to add another biomass side to their current operation. Funds from the grant will be used to purchase a Bandit whole tree drum chipper and a Link-Belt log loader to incorporate with their existing equipment. The equipment will be utilized on hazardous fuels and forest health projects. The request is for approximately 16% of the total cost of \$8,490,929.13. Del Logging has been a reputable business in Northern California for nearly 60 years and the addition of this equipment is a key opportunity for Del Logging to expand. The additional equipment will increase the amount of biomass acres treated from 2,500 to 6,500, number of BDT removed from 29,000 to 89,000, number of people employed from 35 to 50, and assist with fuels reduction and fire prevention projects within the Shasta-Trinity, Lassen, and Modoc National Forests, and private timberlands in Shasta, Siskiyou, Lassen, and Modoc Counties. Del Logging has successfully completed contracts with the Pit Resource Conservation District and plans to continue work on CCI Forest Health and Fire Prevention Projects within the Pit River Watershed and surrounding areas. Del Logging also works with private landowners and will continue to provide fuel reduction services. The selected chipper is portable and will be mobilized to various locations. It has the capability to handle a 30" diameter tree and fill a 45-foot trailer in 12 minutes. This model is known for its reliability and greater fuel economy which makes it the chipper of choice for Del Logging.
Research & Development - Business	Yosemite Clean Energy LLC	Determining Sustainable Timber and Biomass Supplies from Federal and Private Lands to Supply Biomass Energy and Value-Added Forest Products Facilities in Butte County, California	Butte Plumas Sierra Yuba	\$ 400,000	Yosemite Clean Energy Paradise LLC (Yosemite) is requesting a Business and Workforce Development Grant in the amount of \$400,000 to assist in funding the Biomass feedstock analysis and long-term fiber supply plan and economic analysis (together the "Analysis") to support the potential for multiple woody biomass gasification plants. The Analysis will support the first plant built in Oroville that will process over 90,000 bone dry tons per year of wood waste biomass to produce 30 tons of renewable natural gas (RNG) per day and 13 tons of green hydrogen per day (the "Plant"). Butte County has recently put out an RFP for a second project on an approximate 240 acres at the Neil Road Landfill site, which is near Durham, and the Analysis would also support the winner of the Neil Road solicitation (the "Neil Road Project"), and together with the Plant, the "Projects". Butte County is in desperate need of wood waste utilization as over 700,000 acres have burned in the county since 2018, and fuels reductions projects are ramping up in response to the severe risk of wildfire.

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Workforce Development	The Watershed Research and Training Center	Equitable Workforce Development Project	multiple	\$ 1,251,159	The Watershed Research and Training Center (WRTC) will offer forestry and fire training to seven Local Conservation Corps (LCCs) across the state that will: 1. Advance individual LCC Corps Members' (CMs) career development in the forestry and fire workforce, and 2. Increase the likelihood that the CMs will remain in the sector long term, building diversity in the workforce. Through the already-piloted program, over 200 CMs will receive 12 days of fire and forest training. The training curriculum consists of National Wildfire Coordinating Group (NWCG) and FEMA-equivalent certificate courses, paired with two WRTC-developed trainings, Forest and Fire Workforce Development, and Navigating Barriers to Employment. With assistance from contracted specialists, WRTC will offer the trainings 10 times between the seven LCCs. The participating LCCs were selected based on their response to an RFP WRTC issued this spring. After the trainings, participants can apply to WRTC's mentorship program offering 10 additional training days focused on forest and fire field subsectors such as prescribed fire, community engagement, and restoration forestry. Mentees will also receive professional development coaching and job application assistance specific to forestry and fire job opportunities. The forest and fire resiliency workforce is currently challenging for underrepresented individuals to enter and have long-term job success; most CM's careers in fire and forestry end once they leave their LCC position. The WRTC's program offers training and mentorship to build pathways for CMs toward gainful employment in the sector, which will both increase California's forestry and fire workforce, and its diversity.
Workforce Development	Headlands Environmental	Forest Business Alliance: Capacity & Peer-learning for California Forest Health	Statewide	\$ 499,854	The proposed workforce development project, Forest Business Alliance: Capacity & Peer-learning for California Forest Health, is designed to advance Cal Fire's goal of supporting healthy, resilient forests and the people and ecosystems that depend on them. Although fragmented, one-off projects can provide benefits, long-term positive impacts are more likely to be achieved through strategic endeavors that build broad capacity and promote collaboration toward a shared purpose. The project will help to establish and maintain a steady stream of high-quality proposals to forest-sector grant programs and effective, multi-stakeholder projects, leading to the implementation of quality endeavors involving underserved communities, populations, and cultures to address forest health challenges. The proposed project includes three pillars that will build the capacity of 1) organizations through technical assistance, 2) individuals and organizations through training, and 3) regions through peer learning. This project will focus on professional training and skills development that meaningfully contributes to improving forest management across a large landscape. The project will catalyze both short and long-term capacity. In the short term, we will provide technical assistance to entities using a triage approach (identifying and then assisting those most in need first). The long-term strategy will create and sustain regional expertise and collaboration through trainings and peer-learning. The Forest Business Alliance project was designed and will be implemented by a team of experts in critical fields such as forestry, business development, and grant writing.
Business Development	Yosemite Clean Energy LLC	Forest Management with YNP, Leslie Heavy Hauling, and the Chicken Ranch Tribe to Provide Biofuels Feedstock to Yosemite Clean	Calaveras Mariposa Tuolumne	\$ 500,000	Yosemite Clean Energy Sierra LLC (YCE Sierra) is requesting a Business and Workforce Development Grant in the amount of \$500,000 to assist in funding the purchase of a disk chipper and haul boom loader to complete fuel hazard reduction and ecosystem restoration projects (the "Project") in Tuolumne, Mariposa, and Calaveras Counties and specifically within Yosemite National Park (YNP) for their restoration work. The Project will provide biomass feedstock to a biofuels plant (the "Plant") YCE Sierra is developing in Chinese Camp, CA. The equipment purchases will allow YCE Sierra and its partners, Leslie Heavy Hauling (LHH), the Chicken Ranch Rancheria Tribe of Me-Wuk Indians (Chicken Ranch), and Biostewards Inc. (Biostewards), to complete an estimated 2,000 acres of fire fuels reduction per year in and around YNP. The disk chipper specifically will allow the biomass to be processed in a manner that prepares it for use at the Plant, which will produce renewable natural gas (RNG) and green hydrogen.

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Business Development - Tree Nursery	Garland Co.	Garland Co. Nursery and Seed Bank	Shasta	\$ 15,000,000	Garland Co. will create a seed-bank conifer nursery facility in Shasta County, CA. The nursery will cultivate 3 million saplings in full operation. The seed-bank portion will be designed for full renewable off-grid energy. This facility will be accessible for future classes in land-stewardship, conifer development, and environmental efforts for universities and public education. We are seeking 15 million dollars to build a tree production facility for the propagation of native conifers and hardwoods, as well as for scientific research for the development of the forestry industry. This facility will have both a seed bank and a nursery for the private landowner market. This facility will also be incorporated to be a scientific research lab for: long term storage of hardwood seeds; innovations in wood products; a safe haven for both Cal-fire and the U.S. Forest Service for training and classes. The seedbank have the capacity to buy cones from private sells. A online education PSA will be constructed to inform and educate the public on sustainable pinecone collection.
Research & Development - Business	Conservation Investment Germinator	Germinator/CalForest WRX Facilitating Markets for Innovative Wood Products in the California North Coast Forests	Del Norte Humboldt Mendocin o Siskiyou Trinity	\$ 206,000	The CalForest WRX Alliance convenes private, nonprofit, academic, tribal, and government partners on the California North Coast. Its goal is to reduce fuel loading and improve forest health through a market driven approach by developing a complementary, innovative forest product business ecosystem utilizing low-value fiber to produce value-added products. The Alliance conducted an in-depth analysis of the local forest supply chain and identified several barriers to improving forest management in the area: High transaction costs for small landowners due to the limited availability of logging and log trucking capacity and the high cost of specialized equipment; High cost of transportation, harvesting, and collection of biomass; Low to negative value and lack of market development for sub-merchantable timber and biomass; High cost of market entry for forest product service providers and secondary manufacturers, and high risk of securing reliable and consistent opportunities to recognize full-production levels. The Alliance proposes a project to focus on three mid-term objectives to address these barriers: Improve coordination and identify opportunities for strategic investments that provide an equitable distribution of benefits in terms of business opportunities, jobs, workforce development, infrastructure investment and risk reduction; Increase workforce in sectors where there is scarcity and expand skills and knowledge needed to support emergent forest product industries to meet the challenges of today in new innovative ways; Lower transaction costs through technical assistance for existing small businesses and improve the economic value of feedstock by incubating new businesses that use sub-merchantable feedstock.
Business Development	Golden State Natural Resources	Golden State Natural Resources Forest Resiliency Business Development Project	Contra Costa Lassen San Joaquin Tuolumne	\$ 1,194,450	Golden State Natural Resources (GSR) is a forest resiliency company with a mission to enhance the environment, quality of life, and public safety in California's helping to create and restore fire resilient landscapes. GSR, a 501(c) 3 non-profit, submits this grant application to accelerate the implementation of forest health, public health and safety, and advance wood product innovation throughout rural California. Grant funds will be utilized to further the pre-development portion of the project, including refining the design of the facilities. In 2019, Golden State Finance Authority (GSFA), an affiliate entity of GSR, executed a 20-year Master Stewardship Agreement with the U.S. Forest Service for the purpose of achieving resilient forests throughout Region 5, which includes all of the eighteen national forests located in California. GSR's purpose is to reduce excess biomass in California's forested lands using science-based practices as part of an overarching strategy to begin mitigating catastrophic wildfire and enhance forest resiliency in California. The business activities will also spur economic opportunities in rural communities. Forest biomass and high-hazard ladder fuels from forest vegetation management projects and existing sawmill residuals will be processed into a pelletized fuel product at two new industrial pellet facilities in rural California and then exported to international markets. This renewable energy resource will be used to co-fire or replace coal-fired power plants. The resulting effects of utilizing this baseload fuel source results in the reduction of greenhouse gas (GHG) emissions and atmospheric carbon by decreasing fire intensity and leading to healthier forests.

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Research & Development - Business	UC Davis	Harnessing forest bioenergy to combat wildfires, generate negative emissions, and provide key ecosystem service benefits	Statewide	\$ 499,483	We will demonstrate and quantify the potential of the cutting-edge climate-mitigation technology Bioenergy with Carbon Capture and Storage (BECCS) to be used to optimize forest management for achieving key forestry, climate, energy, and ecosystem priorities in California. Using state-of-the-science ecosystem-service analysis and modeling that brings together several disparate data sources, we will show where forest management can be targeted to optimize biomass supply for the BECCS supply chain, while also delivering wildfire-protection and key environmental co-benefits, including enhancing water availability for downstream users, improving air quality, and enhancing recreation. As a result, BECCS technology can use forest biomass at bioenergy facilities to support the goals of California's Wildfire and Forest Resilience Action Plan and net neutrality by 2045, while delivering grid power, environmental and societal co-benefits, and jobs in the Central Valley and Sierra Nevada. While California's bioenergy sector is currently impeded by challenging economics, our feasibility analysis will present quantified, valued, and spatially located ecosystem services that strongly justify policymaker support to the sector. These results will offer a framework for a payment-for-ecosystem-service policy that incentivizes forest-biomass removal for bioenergy where the greatest positive externalities are delivered. Our research will therefore support all business activities that utilize forest biomass from the Sierra Nevada and provide a template to accelerate forest management towards the target of treating 1 million acres per year by 2025.
Workforce Development	Tribal EcoRestoration Alliance	Lake Intertribal Workforce Development Project	Lake	\$ 1,386,777	The Lake Intertribal Workforce Development Project (LIWDP) builds on the Tribal EcoRestoration Alliance's (TERA's) successful training and employment programs, and build capacity to scale up fuels management and land stewardship workforce development for tribal members in Lake County and surrounding communities. Founded in 2019 as an intertribal nonprofit project, TERA seeks to build capacity for tribal members to play a leadership role in stewarding their ancestral lands. Founding partners include Robinson Rancheria Pomo Indians of California, Scotts Valley Band of Pomo Indians, and the United States Forest Service. Since 2019 we have developed and piloted a 140 hour Native Stewards Fellowship (NSF) workforce development program that brings together traditional knowledge with vocational skills and fuels management to prepare tribal members for careers in land stewardship. The three year LIWDP builds off of the successful NSF and other TERA programs and includes several components. 1) Graduate two cohorts of the Native Stewards Fellowship (28 people total) and provide 12 graduates with 5 months of in-depth on-the-job training. 2) Train a Good Fire On-Call Crew with comprehensive prescribed and cultural fire training as part of the Lake County Cal-TREX 3) Develop a Soft Skills Curriculum & Job Placement component to support existing programming 4) Offer six standalone fuels management trainings to partnering tribes in the Lake and Mendocino County areas 5) Offer OJT and professional development to TERA's permanent six person intertribal hand crew 6) Conduct program evaluation and strategic planning to continue building capacity for tribal workforce development in fuels management.
Business Development	Lignum Support LLC	Lignum Stockton Feedstock Processing & Support Facility	Statewide	\$ 2,000,000	Yard and Process development followed by execution to support 350,000 tons of offtake annually of forest derived wood fiber for Mote, Inc. Location will provide a sustainable long term at scale market solution to allow forest health and restoration projects to be executed. Project supported by long term sustainable offtake agreements with credit worthy bankable partners. Facility efforts and execution will support and promote air quality improvement, carbon sequestration, renewable fuels feedstock preparation, long term forest health improvement, local direct job creation, major impact on new market developments to support stable future direct and indirect forest industry jobs.

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Business Development	Sierra Institute for Community and Environment	Mosaic Mass Timber Project	Plumas	\$ 2,000,000	The Mosaic Mass Timber (MMT) creates a community-scale cross laminated production facility at the Indian Valley Wood Utilization Campus to leverage local sawmill production and meet the immediate reconstruction needs for fire hardened housing of communities affected by the Dixie Fire. MMT operates at a community-scale, important not only for the reduced investment needed, but to facilitate repeat deployment to meet similar community-scale, housing, and landscape needs elsewhere in California. MMT is launched and refined in Indian Valley and in a second phase involves establishment of a similar facility at another campus to test model development. In this way, this project builds on the work of Sierra Institute advancing wood utilization campuses throughout the Sierra and north state sharing technology, know-how, and benefits to multiple rural communities, and serves as the basis for establishing similar plants. This project is linked to surrounding landscape treatment on Forest Service lands to assure long-term supply and justify investment. Launching MMT in Indian Valley pairs it with an existing sawmill and a community desperately in need of fire hardened homes following the Dixie Fire. To this end, this project involves completion of three mass timber homes in 2022 and ten in 2023 to display mass timber designs, fire safety, construction and cost efficiency, and carbon capture capability. Sierra Institute will advance initial work in Indian Valley working with a local independent logging operation, and in partnership with a team with decades of experience in mass timber design, business development, technology development and product commitment.
Business Development	MIRACLE FOREST PRODUCTS LLC	Revitalizing Forest Infrastructure in the Southern Sierra Nevada; Creating Sustainable Forest Products, Reducing Hazardous Fuels, Improving Forest Resiliency and Serving A Disadvantaged Forest Community	Madera	\$ 500,000	Miracle Forest Products has acquired an 18 acre mill site in the community of North Fork that was purchased in 2021 from the North Fork Development Council and the company has plans to develop a small log mill facility that will be able to handle up to 3-6 MMBF per year, which will be able to receive logs up to 26" diameter and will be sourced from the region's fuel treatments, salvage of pine bark beetle and wildfire killed timber. The plant will operate year around and will produce primarily cants for remanufacturing and the facility will not focus on producing a full suite of manufactured forest products at this mill site, for example kiln dried lumber, or structural products with stamped grades. The mill is projected to employ an estimated 6 FTE, 3 PT staff to operate the mill and an additional 6-8 seasonal logging and trucking jobs from the local community that would revitalize the old North Fork, California mill site, which lost a major sawmill in the 1990s.
Business Development	Scotts Valley Band of Pomo Indians	SVBPI Forest Biomass to Energy Project	Lake	\$ 1,083,870	The Scotts Valley Band of Pomo Indians (SVBPI), in collaboration with Omni BioEnergy, proposes to complete the design, construction, and commissioning of an advanced, cost effective, distributed scale bioenergy facility to initially transform 1,500 tons/yr of forest biomass into 100% renewable energy for grid export. While there are more than 300,000 bone dry tons/yr of forest biomass available in the Lake County region, the vast majority is left to decay on the forest floor or is burned without beneficial use. Lack of available forest bioenergy facilities represents a key barrier to increasing the use of this important resource. Moreover, development of a potential large scale in-region bioenergy facility is greatly hampered by a high-risk investment scenario that would require expensive and logistically uneconomic collection / transport of forest biomass from distant areas. To address these significant barriers, the project will deploy a distributed scale system to economically convert forest biomass to renewable electricity plus bio-char, utilizing locally-collected biomass and avoiding the logistics bottleneck that has plagued California's bioenergy industry for decades. Through near-term / rapid commercialization, the project will kickstart rapid development of distributed scale forest bioenergy production in the region and across the US West, supporting economically viable forest management, jobs development, and forest protection even in regions where forest bioenergy production has, to date, remained uneconomic. By 2035, SVBPI projects installation of 800 unit systems in the US West, capable of treating 5.6 million tons of biomass and protecting 1.6 million acres/yr from catastrophic forest fire.

Project Type	Applicant	Project Name	County	Requested Funds	Project Description
Business Development	Tubit Enterprises	Tubit Sawmill Project	Shasta	\$ 2,000,000	The Tubit Sawmill Project in Burney, Shasta County, will expand and diversify the wood products market capacity in northeastern California. This new industrial sawmill will allow Tubit Enterprises Inc. to increase its forestry operations, enhance industry partners' productivity, and support an increase in the pace and scale of wildfire recovery and forest health projects. Tubit is planning a 11.2 MMBF sawmill concurrently with the Burney Bright Bioenergy Project, a 5 MW bioenergy facility, which will supply renewable electricity and thermal energy to the specialty sawmill and four dry kilns. Grant funds will be applied toward procurement and installation of four dry kilns. The sawmill will manufacture, kiln-dry and finish specialty solid wood products using logs supplied by Tubit and logs and cut lumber supplied by Shasta Green Inc. sawmill, enabling the use of sugar pine and logs that exceed Shasta Green's diameter limits, and accommodating annual maintenance shutdowns. Tubit's proposed project will establish a forward-thinking model that can be replicated in other regions to help create new and expand existing wood markets. The Tubit sawmill will facilitate forest treatments on approximately 4,600 acres annually - of which 80% will be public land and 20% will be private land, and create at least six Tubit Enterprises jobs and 2.5 Shasta Green jobs.
Business Development	Carbon Based Solutions LLC	Tuolumne Biochar Manufacturing	Tuolumne	\$ 1,500,000	Carbon Based Solutions CBS is proposing to develop a Biomass Utilization Facility (BUF) on 13.5 acres in Tuolumne County Industrial Zone to enhance forest resilience in the region affected by the Rim Fire. CBS uses commercial kilns to produce high carbon content biochar. Additional kilns will assist in making enough biochar for the state. The California (WFRAP) identified Tuolumne Co. as a high priority Landscape where communities, people and associated infrastructure are at risk from wildfires. CBS is committed to putting forest waste and other woody biomass derived from forest management activities to use and create jobs in the local community while contributing to community development. The facility will accept feedstock in the form of logs from dead and dying trees and residual wood-like unmerchantable fiber and forest trimmings. The Sonora Industrial Zone is at the center of a geographic area containing a readily available biomass supply of all varieties of waste wood (chips, logs, shred, municipal waste wood, pallets, C&D, etc.) The Sonora Facility expects to have its choice of low-cost feedstock, thus allowing for expansion, additional technologies, and ongoing variable costs in the early years of operation. CBS will be creating up to 30 jobs starting at \$17.00 an hour plus benefits. These jobs are new positions with incentives for employee to receive bonuses on production and safety.
Business Development	Force Energy Corporation	Tuolumne BioEnergy	Tuolumne	\$ 1,000,000	Force Energy Corporation (FEC) intends to develop a woody biomass pellet manufacturing facility on a 3.27-acre leased property in an industrial business park in Sonora, CA. Wood pellets are densified wood products produced from wood chips derived from the thousands of piles of biomass accumulating in the Stanislaus National Forest and Tuolumne County region. Tuolumne BioEnergy Inc. (TBI), the pellet enterprise, will utilize approximately 44,000 bone dry tons (BDT) of biomass annually to produce 30,000 tons of premium wood pellets. The project will create 25 permanent jobs in the region. TBI is structured to include in-woods screening, chipping, and transporting the biomass to the manufacturing facility. This approach will better control the pellet plant's feedstock costs, quality, and delivery. GHG emissions from pile burning are eliminated. An onsite biomass CHP system will generate 400 kW of electricity for plant operations and over 1500 kW of thermal energy for feedstock drying. Incorporating the CHP system in the design cuts operating costs; it does not rely on the grid for power or uses fossil fuels for pellet production. The project is owned and developed by Force Energy Corporation. Force Energy will engineer and procure the project equipment with the site construction managed by the property owner Plum Construction of Sonora, CA.

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Workforce Development	Black Oak Mine Unified School District	Wildfire Resilient Workforce Development at Black Oak Mine Unified School District	El Dorado	\$ 3,282,750	<p>The Black Oak Mine Unified School District (BOMUSD) is a small but critical resource for the Greater Georgetown Divide Community Area in the heart of the Sierra Foothill Gold Country of California. With a mission to provide a safe learning environment that challenges all students to achieve academic excellence, develop their creative potential and acquire marketable career technical and personal skills. BOMUSD prides itself in serving a close-knit community by leveraging a vast network of people and partnerships to improve the lives of students and local families. The California Sierras experience high wildfire risk, severe need for adaptive fire mitigation strategies, and the dwindling workforce for forest management and forestry products.</p> <p>BOMUSD seeks CalFire funds to expand its current Career Technical Education (CTE) offerings that underscore the District's critical role in the longevity of wildfire-adaptive local job development, education, and neighborhood vitality. Based on the projected need for new strategies that propel wildfire resiliency and leverage the byproducts of mitigation efforts, we envision an opportunity to tap a new biomass gasifier generator and on-site sawmill beginning in the fall of the 23-24 school year for unique hands-on learning opportunities to utilize lumber from the mill for building purposes, while maximizing the use of forest restoration residuals, that will work in tandem with sustainable forest management practices. This CTE expansion will support workforce development for future generations of local leadership, boost community safety in mitigating wildfire and energy risks, and build a sustainable circular economy for the Greater Georgetown Divide community.</p>

Total Requested = \$53,548,282.00