



2024/25 FY Priority Project Advisory Council Rankings

NOTE: The following rankings are listed in priority based on Advisory Council member feedback. All averages were rounded to the nearest hundredth.

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| 7.21 | <p><u>Biochar</u> - Expanding Biochar Market to the Construction Sector: Woody Biochar for Carbon Sequestration in Concrete Infrastructure - Woody biomass from sustainable forest management practices and timber harvesting operations can produce large volumes of biochar. California ranks second to Texas in cement use and construction, with a construction industry valued at \$524.6 billion. With the California legislature requiring the concrete industry to reduce 40% of its greenhouse gas emissions from 2019 levels by 2035 and then to net zero by 2045, carbon sequestration using biochar could help achieve these goals. This project aims to develop technical specifications and environmental and cost guidance so California's concrete sector can achieve carbon neutrality using woody biochar. \$200,000 estimate 24/25</p> |
| 9 | <p><u>Mass Timber</u> - Develop and initiate an “Affordable by Design Construction Accelerator” to explore and promote advanced wood building materials and construction technologies. Precedent: California Mass Timber Building Competition (2019) \$50,000 - \$75,000 estimate 24/25 for cost to administrate the program \$100,000 estimate 24/25 to be split equally among 5 chosen projects - Have a small pot of money with non-monetary benefits, similar to the Boston Accelerator, where a given jurisdiction was 100% on board with putting winning projects to the front of the line for permitting, review, etc. The winning teams get a small amount of money (i.e. \$20K) in addition to the jurisdiction benefits. \$150,000 - \$175,000 total cost estimate 24/25 NOTE: This project is only feasible if our grant program can be put in place timely enough that funds could be disseminated as grants prior to the beginning of the 25/26 fiscal year.</p> |
| 10.71 | <p><u>Cross Laminated Timber</u> – Assess the economic feasibility of sawmills using California forest material to produce thinner lumber specifically for mass timber use. Thinner CLT panels could be used in affordable modular housing (small buildings don’t need to carry the same load, so thinner panels can be used). \$200,000 estimate 24/25</p> |
| 10.93 | <p><u>Biochar</u> – California Market Analysis and Near-Term Priorities/Commercial Readiness Strategy, with a focus on development of key end-use markets. \$50,000 - \$75,000 estimate 24/25</p> |
| 11.07 | <p><u>Biochar</u> - Determine how much feedstock is available for biochar production under current and planned forest practices and what the geographic implications of that supply are. This would support Cal Trans’ exploration of biochar use along roadsides. \$50,000 estimate 24/25</p> |
| 11.14 | <p><u>Feedstock Contracts</u> – Develop and issue an investment-grade term sheet to guarantee long-term biomass supply to a pilot California bioenergy project, establishing a bankable supply chain and assessing benefits of such insurance on the project’s debt cost. \$72,000 estimate 24/25</p> |
| 11.64 | <p><u>Mass Timber</u> – Develop and Initiate a “Design Challenge” to explore affordable, efficient housing units working with manufacturers on marketability, cost, and constructability. \$50,000 - \$75,000 estimate 24/25 for cost to administrate the challenge \$100,000 estimate 24/25 to be split equally among 5 chosen projects \$150,000 - \$175,000 total cost estimate 24/25 NOTE: This project is only feasible if our grant program can be put in place timely enough that funds could be disseminated as grants prior to the beginning of the 25/26 fiscal year.</p> |

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| 11.71 | <u>Mass Timber</u> - Build a functioning demonstration facility for a rapidly replicable community-scale mass timber manufacturing business. Conduct research and development to produce mass timber panels optimized for use in “missing middle” mid-rise low to moderate income multifamily housing. Perform a techno-economic analysis, proofing out the economic feasibility. Prepare a draft preliminary low-skilled inclusive and accessible workforce training program and operations support materials. Optional deliveries included in this cost are a draft Franchise Disclosure Document and marketing materials. - \$150,000 estimate 24/25 |
| 11.86 | <u>Biomass</u> - Determine the short-lived climate pollutant benefits available to the state from its forest biomass strategy and how they can be better integrated into policy discussions. \$50,000 estimate 24/25 |
| 13.07 | <u>Biochar</u> - Convene a biochar performance group that would assess biochar permanence. The group would produce updated values for biochar permanence that the state of CA could support. This would be published through the Institute as a report and peer reviewed. Estimate 24/25 \$50,000 - \$81,000 range based on if lab analysis included |
| 13.64 | <u>Carbon Accounting and Storage</u> - Develop an app (similar to the US NE app) that tracks carbon stored in harvested wood products. The app would work with CA forest types and wood products processed in state. The goal would be to provide an estimate of the longevity of wood products that result from woody forest material being harvested and processed into different products. This could be used for projects that need to show carbon data for CEQA or grants. \$8,500 estimate for 24/25; \$150/year to host app and maintain it if we use a private service |
| 13.71 | <u>Biomass</u> - One-year academic study of the Pit River Tribe’s greenhouse project that is converting juniper biomass into soil. This study will offer scientific evidence as to the validity of the organic biological approach being used to convert organic waste streams, including woody biomass (juniper), into a soil amendment with a high humus content. This study will also assess claims that the resulting soil, once spread on the forest floor, will stimulate native microbes that use solar radiation to manufacture water molecules, thereby increasing soil moisture content, providing water to seedlings, and helping to mitigate fire risk on dry forest floors. \$25,000 estimate 24/25 |
| 14.29 | <u>Biomass Piles</u> – Quantifying Slash Burning through Satellite Imagery: No consistent record keeping is available to assess what fraction of slash material is currently being burned on site. This uncertainty has created a barrier for the productive use of logging residues, as they have not been able to access markets such as CA’s Low Carbon Fuel Standard or carbon offset protocols without clearer evidence. This project would use remote sensing via satellite imagery (to be proofed out for its viability prior to project commitment) to ascertain the ultimate disposition of woody residues from forest management in CA. \$75,000 - \$125,000 estimate 24/25 |
| 14.64 | <u>Mass Timber</u> - Research the optimal material from in-state, high-hazard forests (20in DBH or less) and burned timber to be used in “CA Grown Restoration Wood” mass timber panels to help inform and advance in-state production of mass timber. This project assumes “thin lumber” is an option. There are requirements about the width to thickness ratio for lumber used in CLT panels. Using thinner lumber helps pieces meet the ratio requirements, which means it would be easier to use 4” wide material, allowing for easier use of smaller diameter logs. \$50,000 - \$100,000 estimate 24/25 |
| 15.57 | <u>Biomass</u> - Nonmerchantable Wood and Structural Wood Products: Look at using nonmerchantable wood as a fill between structural layers of wood. \$150,000 estimate 24/25 |
| 15.71 | <u>Heavy Equipment</u> – Survey of forestry equipment in state and analysis of additional needs to meet pace and scale demands. Include operators and businesses that will manage the equipment. \$50,000 – \$100,000 estimate 24/25, cost based on if on-site visits are included |
| 16 | <u>Brownfields</u> – Identify processes to prioritize brownfield sites and identify state regulations that are barriers as well as possible solutions to the barriers. Includes, engagement/outreach with suburban and |

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| | urban environmental justice groups for brownfields located in those regions. \$300,000 estimate 24/25 |
| 17 | <u>Mass Timber</u> - Lifecycle Cost Analysis (LCCA) Comparison: (Phase 1) Using a 600 SF multifamily hybrid mass timber modular unit design currently being developed under a Wood Innovation Grant from the USFS, conduct a lifecycle cost analysis (LCCA) for that unit as well as a comparable 600 SF modular mass timber structure for a single-family home. \$65,000 estimate 24/25 (for Phase 1 work) Optional Add On (Phase 2): Design a similar, but smaller, 250 SF mass timber ADU modular unit. Conduct an LCCA on the unit and construct a prototype for showing and touring. The smaller square footage for this phase would facilitate showing the prototype. \$160,000 estimate 24/25 (for Phase 2 work) |
| 17.57 | <u>Biochar</u> - Does fuels transportation outweigh the climate benefits of biochar? \$25,000 - \$50,000 estimate 24/25 |
| 17.86 | <u>Biofuels</u> - Red Rock – Conduct an interim case study of lessons learned. \$40,000 - 50,000 estimate 24/25 |
| 18.36 | <u>Biomass Piles</u> – Continue/expand the ongoing burn-pile survey, to provide data on all business-as-usual fates of residue, which could improve GHG quantification methodology. \$100,000 estimate 24/25 for remote work \$300,000 estimate 24/25 for boots on the ground |
| 18.43 | <u>Housing</u> – Conduct overall building performance whole building lifecycle assessments for four 1,660 sqft single family homes in at least four of California’s climate zones: same layout, dried-in shell plus interior walls; one conventional light frame w/ traditional insulation, one conventional light frame w/ wood fiber insulation, one mass timber, and one wood wool cement. The baseline model would be a building excerpted from the CA Energy Code’s software approval manual. It would be a single-family home that approved software must be able to successfully model. \$8,000 - \$12,000 estimate 24/25 |
| 21.07 | <u>Brownfields</u> and Log Sprinkling – In consultation with knowledgeable industry representatives, extend and combine current work (e.g., Martin Twer reporting) and that of UC Davis EPM students in 23/24 to help the state better characterize potential log deck sprinkling sites and identify any that appear to be particularly ready for development and use. \$50,000 estimate 24/25 |
| 22.43 | <u>Biomass Piles</u> – Assess the volume and management of residential burning (under 10 acres) to help inform public perception and to understand how fire starts from these activities as well as the volume of human exposure to smoke from such activities. \$200,000 estimate 24/25 |