



OVERVIEW: CASA is continuing its leadership in the area of sustainability by taking on research in a new area. In partnership with multiple entities (including the Sierra Nevada Conservancy and the Governor's Tree Mortality Task Force) CASA will apply for a U.S. Forest Service Wood Innovations grant to test the applicability of tree mortality biochar as a gas phase wastewater filtration medium. As many of our members know, California's forests are experiencing an unprecedented tree mortality crisis with over 100 million trees killed by drought-related insect infestations in the last 6 years. The dead trees pose hazards to infrastructure and communities, and increase the threat of destructive mega-fires. But removing those trees is cost-prohibitive unless the biomass can be turned into useful products. CASA's application, if successful, will fund applied research and demonstrations to test whether biochar produced from forest biomass can act as an effective substitute for imported GAC in gas phase odor control systems.

The wastewater community plays a significant role in addressing climate change by improving energy efficiency, co-digestion of organics, producing renewable power, and recycling biosolids. This new area of research focuses on the sector's ability to substitute an imported filtration substance to one locally produced from dead trees and other forest waste. Such a change would be a significant step in meeting the state's climate goals; development of value-added products that can utilize forest waste is central to sustaining the health of the state's forests. Biochar production is one of these value-added products and the development of a new market for biochar in wastewater odor control would give the industry a significant boost in attracting investors and entrepreneurs.

CASA's proposal will test biochar produced as a byproduct from forest biomass gasification for renewable energy production. The California Energy Commission (CEC) has prioritized the funding of forest bioenergy gasification systems in its grant programs, and the first of these projects is currently being constructed in the small town of North Fork, near Yosemite National Park. The \$5 million CEC grant includes research by UC Merced professor Dr. Gerardo Diaz on optimizing gasification to produce both syngas (used for power generation) and biochar, which is the other gasification co-product. If approved, the Wood Innovation grant will expand this research to optimize the odor control qualities of the biochar through both the gasification operations and other 'activating' mechanisms. Following a laboratory research phase, the resultant biochar will be tested in operating wastewater systems to determine effectiveness.

CASA Director of Renewable Resources Greg Kester will act as the project manager. In this role, he will convene a technical advisory committee (TAC), oversee the research efforts, and provide outreach and education. Partners expected to participate include UC Merced, University of Colorado - Boulder, the Sierra Nevada Conservancy, and the Yosemite-Sequoia Resource Conservation and Development Council.

ACTION REQUESTED: Your assistance is needed. Here are some opportunities to become involved:

- Volunteer to serve on the technical advisory committee;
- Offer your wastewater facility as a comparison site;
- If you are with an engineering firm, volunteer to serve in a leadership role in assisting with research design and testing;
- Submit a letter of support for the project. A support letter template will be available by January 6th— let us know if you would like this sent to you. Letters must be submitted to CASA by January 20th.

We are proud that our state and our members have stepped up to provide leadership in protecting the quality of our environment. CASA will continue to find new ways to support these efforts.

FOR MORE INFORMATION: Contact me at gkester@casaweb.org