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**CBEA Comments on Clean Energy Alternatives for Reliability  
Docket 01ESR01**

*Additional submitted attachment is included below.*



November 10, 2022  
Submitted Via CEC [efiling portal](#)

California Energy Commission  
Docket Unit, MS-4  
Docket No. 21-ESR-01  
715 P Street  
Sacramento, CA 95814

**Re: CBEA Comments on Clean Energy Alternatives for Reliability  
CEC Docket 21-ESR-01**

The California Biomass Energy Alliance (CBEA) appreciates the opportunity to comment on the Clean Energy Alternatives for Reliability efforts of the California Energy Commission as presented at the October 28th workshop. CBEA is commenting specifically on adding biomass energy to the list of technologies that should be included in the reliability assessment, a description of biomass attributes and barriers to development. We generally agree with the distinction between supply and demand options.

**Are there resource options that should be added to or removed from the preliminary list?**

Biomass should be added to the list of resources as noted on Page 53 of the workshop presentation, Biomass is an eligible renewable resource that provides flexible baseload power that can run 24/7 or ramp up and down as needed. Biomass should be part of the supply side assessment as a utility scale resource and can also be listed as a distributed energy resource (DER) technology when built at community scale.

The attributes of biomass outlined below will be focused on utility scale, wood waste to electricity generation. You will get information on the various community scale bioenergy technologies from the Bioenergy Association of California. There are 23 operating biomass plants in California generating around 530 MWs. CBEA is greatly concerned that the state is counting on these and other existing renewable resources to remain on-line to meet our renewable, greenhouse gas emissions and grid reliability goals. Like Diablo Canyon, there are many renewable resources with expiring contracts in the next few years. There is no guarantee that those MWs will get re-contracted. The state's monumental efforts to increase supply is short-sighted if it is not also looking at keeping what we already have online. We should be looking at these expiring contracts with just as much concern as we did for Diablo Canyon. Therefore, we urge the agencies to add to the analysis of Clean Energy Alternatives for Reliability an assessment of the volume and timing of expiring renewable contracts and make recommendations on what the state should do to ensure they remain online for the long-term.

### Should any attributes be weighted more than others?

Readiness should be the highest priority. Just as all renewables have different attributes, their timeline for building and transmission development needs also vary. Highest attention should be paid to what can be done quickly to meet the state's grid reliability needs. Biomass power plants are typically built on a smaller footprint and there are plenty of locations to build with existing transmission in or around regions with excess biomass. The average size biomass plant is around 25 MWs so permitting is at the local level and the air permit will get the most scrutiny from the local air district. Since biomass power is mostly developed in attainment air districts and in rural areas, biomass facilities are viewed as a solution to a regional biomass management problem. Permitting is not an obstacle.

Cleanliness – *Medium- to high-level of cleanliness*. The Placer County Air Pollution Control District conducted a study which showed that compared with the traditional open pile burning method of disposal for the forest harvest slash, utilization of the slash for fuel reduced criteria pollutant emissions by up to 98%. See Appendix A for more details on biomass and air quality.

Dispatchability – *High-level of dispatchability*. Biomass renewable power generators meet the definition of “flexible capacity” by virtue of the fact that they can sustain or increase output during the hours of the ramping period of “flexible need.” Biomass facilities have an advantage as a renewable resource that operates on conventional technology. Load profiles can be adjusted to maximize renewable energy output while maintaining grid stability and compliance with all permits. During the spring, excess energy conditions are occurring on an increasing basis, causing midday curtailment for generators. Biomass facilities can be dispatched to match the conditions of the grid, including lowering load during times of excess energy, and ramping up to and maintaining full load during peak conditions. During periods of the year when curtailment conditions are not occurring, biomass can be operated continuously at full output, maximizing renewable energy generation and helping California utilities meet their Renewable Portfolio Standards and [SB 859 \(Committee on Budget\)](#) [Chapter 368, Statutes of 2016] requirements.

Biomass facilities can often be turned down to 40 – 60 percent of rated output without significant loss of performance or environmental compliance issues. This can be done on a real-time basis to match wind and solar conditions, though biomass facilities generally schedule into the day-ahead market. The biomass facilities can then be ramped back up to full output over a one-to-three-hour period, which can be scheduled to coincide with the hours of the ramping period of “flexible need,” and maintained at full output until the next time that curtailment conditions are anticipated on the grid.

For illustration purposes, attached is a snapshot of a biomass facility's ability to ramp up and down each day over a one-month period. Also included are PG&E's operational parameters, which show the requirements the plant must meet in order to operate for PG&E, including the ability to ramp and timing for ramping.

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Policy Alignment – *High correlation for biomass to align with California policy.* Solid biomass fuels are materials that are diverted primarily from three kinds of disposal or disposition fates: open burning, landfill disposal, and accumulation as overgrowth material in the state’s forests. In addition to providing reliable, schedulable renewable electricity, biomass power generation provides the following reuse benefits to Californians for these lowest market value wood materials:

- [Biomass helps local governments meet landfill reduction mandates by diverting over 4.3 million tons of low value wood residue annually for fuel.](#)
- [Biomass helps local air districts comply with federal air-quality standards by reducing emissions of Criteria Pollutants by preventing open burning of 1.5 million tons of agricultural and forestry residues each year. Biomass plants cut criteria pollutant emissions by up to 98% compared with open burning.](#)
- [Biomass promotes healthier forests by reducing the cost of performing fuels reduction and other forestry-cleanup operations. More than 40,000 acres of forest land were treated in California in 2013 as a result of the market for biomass fuels.](#)
- [Biomass helps California meet mandated GHG reductions by diverting wood into fuel that provides a net reduction of over 3.2 million tons of biogenic GHG emissions per year. An additional 2.2 million tons of avoided GHG emissions per year results from the biomass industry’s displacement of fossil-fueled generation by the electric utilities.](#)

California’s biomass power industry is creating living wage jobs and growing the green economy. Unlike other renewable technologies, biomass generators have to pay to collect, process and transport its fuels, with the result that they are more labor intensive. [Biomass industry employs about 750 direct jobs at the facilities, and 1,200 to 1,500 dedicated indirect jobs in the fuel supply infrastructure. Most of these jobs are in rural areas of the State.](#)

Equity – *Medium- to low-impact on equity issues.* Most of these idle and under-contracted facilities are not in or near an environmental justice (EJ) community. Most are located in rural communities, in close proximity to the fuel such as agriculture and forested areas. For those that are in the Central Valley, in or around an EJ community, emissions mitigation measures are available such as working with the local air district on what added pollution control equipment could be installed, mandating certain percentages of fuel a facility may take or even converting a percentage of fuel supply trucks to lower emission. Although compared with the traditional open pile burning method of disposal for agriculture and forest harvest slash, utilization of these materials for fuel reduces criteria pollutant emissions by up to 98%, there are additional emissions reductions mitigation measures available if needed.

### **What barriers are tech/approach specific?**

The biggest barrier to the development of bioenergy resources in California is power contracts with a load serving entity (LSE). As noted above under “Customer Acceptance,” bioenergy is

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more expensive when a superficial comparison of renewable resources is made. Because of this cost barrier, California has lost 12 biomass plants over the last ten years. The loss is not inconsequential especially when we also look at how much biomass material was stranded. For example, the San Joaquin Valley APCD has drawn a direct correlation to the increase in agricultural burning to the loss of biomass power plants in the Central Valley. Each facility that went off-line did so because its power contract expired, and it could not compete with cheaper but lower performing renewables in the market. We welcome the opportunity to discuss this barrier more when the time is right.

Thank you again for the opportunity to comment and we look forward to continuing the conversation on the role of biomass energy in California's clean energy needs.

Sincerely yours,



Julee Malinowski Ball, Executive Director  
California Biomass Energy Alliance