



Submitted via: <https://ww2.arb.ca.gov/applications/public-comments>

June 23, 2022

Rajinder Sahota  
Deputy Executive Officer of Climate Change and Research  
California Air Resources Board  
1001 I Street  
Sacramento, CA 95814

**Re: California Biomass Energy Alliance Comments on Draft 2022 Scoping Plan Update**

Dear Ms. Sahota:

The California Biomass Energy Alliance ("CBEA") appreciates this opportunity to comment on the California Air Resources Board's (CARB) Draft 2022 Climate Change Scoping Plan. CBEA is a trade association representing California's utility scale biomass power producers that turn million of tons of wood waste annually into clean renewable energy. CBEA supports CARB's preferred Alternative 3 as it ensures energy reliability, cost containment, matters of equity and supports new technologies that are necessary to get to zero.

**California's Energy Needs and the Role of Biomass**

California is working hard to decarbonize its electricity sector. Biomass energy can play a key role in accomplishing this goal, in addition to reducing emissions from wildfires, open burning of agricultural and forestry wastes, and reducing landfill disposal of organic wastes. California policy makers have long recognized the value of the ancillary benefits of biomass, and tailored state policies to encourage the development and operation of biomass power plants. Indeed, several of the state's biomass facilities are currently operating under power contracts that were officially authorized by legislation and executive action to encourage the use of forest management residues as biomass fuel for purposes of wildfire risk reduction, as well as renewable energy production.

The California RPS program has been a great success in stimulating the deployment of renewable energy in the state, with the great majority of the growth under the program in the wind and solar sectors. Solar, in particular, has seen meteoric growth during the past decade, and now contributes a large enough percentage of the electricity supply mix in the state to skew the timing of the occurrence of the net peak on the state's grid, which exacerbates the size of the afternoon ramp in many seasons of the year. As efforts are being made to phase fossil fuels out of the state's electricity supply mix and solar continues its growth, we are left with the task of molding the clean power supply output profile to the demand profile on the grid. Much of the current attention is focused on developing the fledgling energy storage industry as a means for smoothing the curve, and there is no doubt that a great deal of storage will be deployed in California over the coming years.

Energy storage is not the only option that can help meet load on a grid powered by clean energy resources. Baseload renewables like biomass offer a means to reduce the scale of afternoon ramps and serve load throughout the duration of the evening peak. Unlike storage, baseload renewables add new renewable energy to the grid (storage merely decouples the timing between when other generators produce energy and when it is used). The RPS and IRP proceedings at the CPUC have consistently undervalued the reliability attributes of baseload renewables, which has skewed the deployment of renewables to favor only the lowest cost alternative, which is solar PV. This has occurred despite the fact that California statute clearly states a preference for a diverse renewables buildout.

It is important to understand that one MW of biomass generation capacity produces as much energy as 4 MW of solar, so there is not a one-to-one correspondence between the two resources. Biomass facilities are able to reliably produce during all hours of need and can be operated in a partial load following mode, dropping output during the midday when there is surplus solar available, and ramping back up to full output as solar output wanes. This mode of operation can be particularly desirable during the Spring when demand is moderate, and hydro is at its maximum.

The Summer 2020 power supply shortfalls on the California grid, combined with near-term scheduled shutdowns of the state's once-through cooling power plants and the retirement of the state's largest generator, Diablo Canyon, have thrust concerns about sufficiency of power supply and grid reliability to the forefront. This concern becomes even more compelling when considering the state's efforts to increase transportation electrification and building electrification as major pathways for reducing greenhouse-gas emissions.

California policymakers and regulators are grappling with whether to extend operations of existing natural gas generators, and/or encourage the pursuit of major upgrades and repowers at existing gas-fired facilities, and possibly even the development of new fossil-fuel generators. These measures would be pursued in the interest of electric grid reliability, but they would significantly hinder the state's efforts to decarbonize its fuel supply. Among the clean-energy options available for avoiding further development of the state's gas fleet, the lowest hanging fruit, has to be the retention of the existing baseload renewable generating fleet. And the next best option is to tap into the collection of idle but operable baseload renewable generators in the state. There are approximately 100 MW of idle but operable biomass facilities in California. It is considerably cheaper to recommission these facilities than to develop new ones. This resource – recommissioned biomass generators – is never included in the modeling studies of future supply carried out by the California Public Utilities Commission or the California Energy Commission. The time has come to include it.

### **Leveraging California's Existing Biomass Infrastructure to Support Future Goals**

California's existing biomass infrastructure is the least expensive and quickest path to achieving your goals by modernizing these resources. Some facilities will continue to be what they are today and continue serving the needs of the regions in which they are located. Some will be recruited to pursue gasification, carbon capture and hydrogen technology advancements.

The GTI Report *Low-Carbon Renewable Natural Gas (RNG) from Wood Wastes*<sup>1</sup> conducted an engineering design study that provides an understanding of the costs and issues surrounding the conversion of an existing biomass power plant into an RNG producing facility utilizing commercial technologies. In addition to the benefits of developing RNG from wood waste -- environmental benefits as well as reduced potential for forest fires and open burning of agricultural wastes -- there are cost benefits to integration of these technologies into an existing facility. It notes: "Using the existing energy infrastructure to produce and move low carbon energy can enable a lower cost pathway to reduced carbon dioxide (CO<sub>2</sub>) emissions in a shorter time." (p. 5). Specifically, the report lists the following systems could be reused upon conversion to an RNG production facility: (p. 27)

- Cooling tower and cooling water
- Demin water
- Instrument air
- Natural gas supply
- Fire water
- Biomass handling
- Electrical distribution
- Plant control system

The report goes even further by exploring the possibility to improve the emission profile of the technology further through sequestering carbon that originated from the atmosphere while producing RNG. With an additional compressor needed to pressurize the CO<sub>2</sub> in order to inject into a hypothetical GHG pipeline near the site, the CI score with carbon sequestration is -77.4. (p.60)

## Conclusion

We applaud and support CARB's efforts to aggressively address climate change, air quality, and environmental justice in a holistic manner through the Scoping Plan Update. Toward that end, we support Alternative 3. Thank you for your consideration of these comments. We look forward to continuing our strong collaboration with CARB and staff.

Sincerely yours,



Julee Malinowski Ball, Executive Director  
California Biomass Energy Alliance

---

<sup>1</sup> *California RNG Production from Woody Biomass*, Gas Technology Institute, February 2019.