BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking
Regarding Microgrids Pursuant to
Senate Bill 1339.

Filed September 12, 2019
Rulemaking 19-09-009

BIOENERGY ASSOCIATION OF CALIFORNIA COMMENTS ON ADMINISTRATIVE
LAW JUDGE’S RULING REQUESTING COMMENTS ON TRACK 1 MICROGRID
AND RESILIENCY STRATEGIES STAFF PROPOSAL

DATED: January 30, 2020

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The Bioenergy Association of California (BAC) submits these comments on the Administrative Law Judge's Ruling Requesting Comments on Track 1 Microgrid and Resiliency Strategies Staff Proposal ("ALJ's Ruling" and "Staff Proposal"). BAC supports many of the options in the Staff Proposal, but urges the Commission to consider other technologies and fuels that can support microgrids, including bioenergy, which can provide flexible generation, baseload power, energy storage, and other grid services. SB 1339 is not limited to solar power and batteries, but the Staff Proposal appears to be largely or entirely focused on those two technologies. Expanding the options to include bioenergy would lead to much more resilient microgrids and provide significant additional benefits including reducing the most damaging climate pollutants, wildfire risks and impacts, landfills of organic waste, and pollution from burning of forest and agricultural waste.
I.  BIOENERGY ASSOCIATION OF CALIFORNIA

BAC represents more than 70 public agencies, local governments, private companies, and non-profits working to convert organic waste to energy. BAC’s public sector members include the California Association of Sanitation Agencies (the state’s wastewater sector), air quality and environmental agencies, waste management agencies, cities, counties, national research labs, environmental groups and community economic development groups. BAC’s private sector members include energy and technology providers, utilities, waste companies, investors, food processing and agricultural companies.

BAC members are developing distributed generation bioenergy projects to meet the requirements of SB 1122 (Rubio, 2012), which created the BioMAT small-scale bioenergy program, SB 1383 (Lara, 2016) establishing the state’s Short-Lived Climate Pollutant reduction requirements, the Governor’s Emergency Proclamation on Tree Mortality, the California Forest Carbon Plan, and several other laws and policies.

II.  GENERAL COMMENTS ON ALJ RULING AND STAFF PROPOSAL

A. Phase One Should Not Be Limited to NEM, Solar and Batteries

The Staff Proposal and ALJ’s Ruling both appear to be limited to solar power, Net Energy Metering (NEM), and battery storage. The Staff Proposal does not explain why the options for interconnection and storage appear to be limited to these technologies.

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1 Senate Bill 1122 (Rubio), Statutes of 2012, Chapter 612, adding Public Utilities Code 399.20(f)(2).
2 Senate Bill 1383 (Lara), Statutes of 2016, Chapter 395, adding Health and Safety Code section 39730.5 through 39730.8.
Limiting the proceeding in this way is not required by SB 1339, which includes no restrictions on eligible technologies, nor does it meet the over-arching goal of SB 1339 which is to quickly accelerate the development of microgrids and make them as reliable as possible. It also ignores the need to increase reliability and resilience in the communities most affected by wildfire and Public Safety Power Shutoffs, which are primarily forested and rural communities. These communities would benefit most from small-scale bioenergy generation, particularly from forest and agricultural waste as well as other vegetation removed for wildfire mitigation.

As the IOU’s implement Enhanced Vegetation Management programs (as directed by the CPUC) to diligently address hazard trees along distribution and transmission lines, significant volumes of trees and prunings are being produced. The BioMAT facilities can utilize this material and divert it from current practices of pile/burn or deposit in landfills.

The Staff Proposal also focuses on inverter-based technologies that only offer energy and not real power and voltage and power factor support to local microgrids. This is a serious problem with inverters because they are easily tripped by harmonics noise large loads turning on and off in a facility or microgrid in the community, and this has been a considerable problem for inverter based fuel cells and other systems at critical facilities like wastewater plants. Microgrids will be far more reliable and able to provide longer-duration support if they also incorporate synchronous rotating inertial generation, which biogas and biomass energy can provide.

Without this rotating inertial generation from synchronous generators, grid stability is difficult to maintain and micro grids on strictly inverter-based technologies like batteries solar and wind will be inherently unstable and vulnerable to upset.

**B. Bioenergy Increases Microgrid Resilience**

Phase 1 of this proceeding should include options to accelerate distributed-scale bioenergy to increase the reliability and capacity of microgrids. Bioenergy can be
generated in every community from local organic waste supplies, forest management residuals, wastewater treatment facilities, and/or landfill biogas. Using local organic waste, residuals, and biogas supplies would help to increase both the reliability of microgrids and their capacity to operate for extended periods of time. Numerous studies in recent years have pointed to the limited duration of batteries and the need for additional technologies to ensure grid reliability.\(^5\) Unlike solar or wind power, bioenergy can provide both flexible generation and baseload power. It can also be stored in the form of biogas and provide renewable and low-carbon fuel for backup generators, renewable hydrogen for fuel cells, and combined heat and power.

Both PG&E and Southern California Edison have stated publicly that they expect bioenergy and renewable gas to play an important role in grid reliability going forward. At the microgrid workshop at the CPUC in December, PG&E spokesman Fong Wan stated that PG&E sees bioenergy and biogas as a critical component of microgrids. SCE, in its white paper on getting to 100 percent renewable power, stated that “Services provided by natural gas today, such as supporting electric grid reliability, will still be needed in 2045. . . At least 40% of the remaining gas will need to be low-carbon fuels such as biomethane or hydrogen.”\(^6\) Both utilities have recently released Requests for Offers or Requests for Information about potential biogas supplies in California as a way to maintain reliability while decarbonizing the gas needed for reliable electricity generation.

Despite its supportive statements about biogas and bioenergy, PG&E’s microgrid proposal identifies 20 substations where they plan to site diesel generation. This would harm public health and air quality in surrounding communities. It would also increase black carbon emissions, which are 3,200 times more damaging to the climate than

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carbon dioxide. Installing new diesel generators is totally unnecessary when there are alternatives that can run on carbon negative biogas generated from local organic waste supplies. As part of this proceeding, the Commission should adopt a requirement that new backup generators must run on renewable and low carbon fuels such as biogas.

Phase 1 should consider existing programs like the BioMAT, required by SB 1122 (Rubio, 2012), that requires 250 MW of small-scale bioenergy facilities. Since a number of BioMAT projects are in development now and scheduled to come online this year, the Commission should consider whether the existing BioMAT tariff could be amended to facilitate use of these small-scale bioenergy projects in microgrids. The Staff Proposal’s interconnection proposals for Phase 1 all assume that microgrid projects will be eligible for the interconnection fast-track, however bioenergy projects rarely if ever are. As such, Phase 1 should also include consideration of interconnection rules for projects that are typically not eligible for the fast-track process, including BioMAT projects and other small-scale bioenergy projects, and prioritize more expedient interconnection when a project is part of a microgrid. The Staff Proposal also fails to consider options for using bioenergy to increase the reliability of microgrids, the duration that they can operate, or what to do when solar power may not be available for extended periods, such as periods of heavy wildfire smoke, which are all strengths of bioenergy systems.

C. Including Bioenergy in Microgrids Advances Important State Policies, as Required by SB 1339.

SB 1339 (Stern, 2018) requires the Commission to consider a number of issues, including “How microgrids can play a role in implementing policy goals.” Certainly, one of the most important policy goals to consider is the state’s climate policy, which relies heavily on the reduction of Short-Lived Climate Pollutants (SLCPs) to achieve the requirements of SB 32 (Pavley, 2017). California’s Climate Change Scoping Plan relies on SLCP reductions for more than one-third of all the climate emissions reductions
needed to meet the requirements of SB 32.\(^7\) Bioenergy is unique among distributed energy resources as it can reduce – and nearly eliminate - emissions of these most damaging climate pollutants. SLCP emissions, primarily methane and black carbon, are tens to thousands of times more damaging to the climate than the carbon dioxide emitted from fossil fuel burning.\(^8\) Reducing SLCP emissions is also one of only two ways to immediately begin to reverse climate change and its impacts, where fossil fuel reductions take decades or centuries to impact the climate.\(^9\) The largest sources of SLCP emissions are from organic waste – landfills, wastewater treatment facilities, wildfires and controlled burns of forest waste, and open burning of agricultural waste.\(^10\) Bioenergy reduces SLCP emissions from these sources by converting organic waste that would otherwise be landfilled or burned and using it instead to generate energy.

In addition to the climate benefits of bioenergy, it also provides enormous air quality benefits. Converting forest and agricultural waste to energy can cut particulate matter (PM 2.5) by 99 percent compared to a controlled burn of that waste.\(^11\) Bioenergy also cuts emissions of smog-forming pollutants, volatile organic compounds, and other air pollutants.\(^12\) When using forest waste that has been removed for wildfire mitigation, bioenergy also helps to cut air pollution from wildfires and from prescribed fire.

Bioenergy is also important to help the state meet its landfill waste reduction requirements. SB 1383, the state’s Short-Lived Climate Pollutant law, requires that

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\(^7\) *California’s 2017 Climate Change Scoping Plan*, adopted by the California Air Resources Board in November 2017, at 28, Figure 7.

\(^8\) *Short-Lived Climate Pollution Reduction Strategy*, adopted by the California Air Resources Board in March 2017. Available at: https://www.arb.ca.gov/cc/shortlived/meetings/03142017/final_slcp_report.pdf

\(^9\) Id.

\(^10\) Id.


\(^12\) Id.
California divert 75 percent of organic landfill waste away from landfills by 2025.\textsuperscript{13} CalRecycle’s regulations to implement SB 1383 require that diverted organic waste be converted to bioenergy and/or compost. The vast majority of California’s landfill waste is cellulosic and not suitable for compost production, which leaves bioenergy generation as the only viable alternative to landfilling. Bioenergy is critical, therefore, to meet the state’s waste diversion requirements.

For all these reasons – increased resilience and other benefits – Phase 1 should be expanded to include options to accelerate the use of bioenergy in microgrids.

### III. COMMENTS ON STAFF PROPOSAL OPTIONS

BAC’s comments on some of the options in the Staff Proposal are below. BAC will provide comments on the utilities’ proposals in our Reply Comments.

#### 3.1 Prioritizing Interconnection Applications to Deliver Resiliency Services at Key Sites and Locations.

BAC agrees with the Staff Proposal that the time needed to interconnect distributed generation resources is too long and a significant barrier to increasing distributed generation and microgrids.\textsuperscript{14} BAC also agrees with the Staff Proposal that projects that can provide the greatest resiliency benefits – including bioenergy projects – face the greatest interconnection delays.\textsuperscript{15} Some BioMAT projects have faced interconnection delays of a year or more, which has nearly killed some projects and made the cost of financing other projects much more expensive. These delays, and the resulting increase in costs, are an enormous barrier to distributed generation bioenergy projects.

\textsuperscript{13} Health and Safety Code section 39730.6(a)(2).

\textsuperscript{14} Staff Proposal section 3.1, page 7.

\textsuperscript{15} Staff Proposal section 3.1.1, page 7.
• The staff proposal does not address how to improve the interconnection process for projects with multiple DERs that may combine electric and thermal generation resources. For example, it is extremely difficult to combine biomass or fuel cells with batteries under one interconnection application. Most microgrid projects that can provide resiliency for multiple days will combine electric and thermal DERs and optimize those resources to ensure reliability while maximizing efficiency.

• The staff proposal references the RES-BCT and NEM-MT tariffs but does not propose any modifications. BAC encourages the Commission also consider modifying these tariffs to improve the interconnection process and better accommodate projects that leverage multiple technologies. Modification of one or both tariffs provides a pathway to segment and prioritize the interconnection of critical facilities and local government customers without compromising the general NEM interconnection queue. BAC provides some suggestions on tariff modification in the sections below.

BAC strongly supports the goal of the Staff Proposal to reduce interconnection timelines and uncertainty, but many of the specifics in the Staff Proposal fail to address the challenges facing new bioenergy projects.

Interconnection Proposal 1:

BAC supports Interconnection Proposal 1, Options 2 and 3, but urges the Commission to include all types of distributed energy resources, not just NEM, solar, and storage. BAC supports Options 2 and 3, rather than Option 1, because they ensure that project developers’ input will be taken into account and they also allow for outside experts to provide interconnection diagrams, help develop standards, and review interconnection studies. Option 1 leaves too much discretion to the utilities with no real opportunities for outside experts to provide drawings, shape standards, or review interconnection studies.

Given the urgency of reducing SLCP emissions and the critical reliability services that bioenergy can provide, BAC urges the Commission to consider rate-basing
interconnection for distributed scale bioenergy projects required by SB 1122. Rate-basing interconnection would remove the challenges with interconnection deposits and financing, and would also provide an incentive to utilities to accelerate the interconnection process. Rate-basing interconnection for distributed bioenergy projects would do far more to accelerate their development than cost recovery, which provides less certainty for project developers, still leaves projects financially exposed to the costs of interconnection delays, and provides less incentive to utilities to accelerate interconnection timelines for these projects.

BAC also urges the Commission to adopt enforceable timelines for interconnection of non-fast track projects since, as the Staff Proposal recognizes, those projects may provide the greatest grid reliability benefits. Establishing a clearer interconnection process, along with transparent and clearly defensible costs that are disclosed early in the process will go a long way towards expediting the interconnection process for larger, more complex projects, as bioenergy often entails. The Commission should look to review all interconnection costs that are currently assessed on customers and identify opportunities to reduce those costs. Special Facilities Agreements, for example, are subject to a welter of additional taxes and fees due to them being considered outside the normal scope of utility business. Microgrids serving critical facilities could be exempt from these charges as they are serving the interest of the public. This would be a good first step to modifying these charges for the general market, as microgrids need to become a normal grid modernization effort and should therefore no longer be considered a “special facility”.

Finally, BAC urges the Commission to adopt a process for non-fast track projects to contract with third party experts to review and approve interconnection studies and to physically interconnect projects. Even if utilities are authorized or required to add staff and capacity to their interconnection teams, this does not by itself guarantee that the

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16 Staff Proposal section 3.1.1, page 7.
utilities will prioritize bioenergy or other non-fast track projects that can provide unique grid and microgrid reliability benefits.

**Interconnection Proposal 2:**

BAC supports the goal of expedited utility sign-off on installed projects and supports all three of the recommended options in Staff Proposal 2. BAC also urges the Commission to include additional options to achieve the goal of expedited sign-off of installed projects. In particular, BAC urges the Commission to adopt an enforceable timeline for utility sign-off with an option of having approved third-party contractors provide site review and site inspections when utilities cannot meet the required timeline. Additionally, the Commission could direct the IOUs to procure more human and IT resources towards interconnection, but assessing penalties for not meeting interconnection milestones would provide the financial motivation for utility leadership to prioritize the interconnection of DERs and microgrids when making decisions about allocating staff and resources to various utility functions.

**Interconnection Proposal 3:**

BAC strongly supports the goal of accelerating interconnections for key locations, customers, and/or facilities. BAC urges the Commission to include three additional project types where interconnection should be expedited: 1) Projects that provide flexible generation or baseload power, which provide much greater reliability services than intermittent renewables, 2) projects that reduce Short-Lived Climate Pollutant emissions, and 3) projects that protect public safety and/or infrastructure. As the Commission has noted, small-scale bioenergy projects provide important public safety, climate change, and environmental benefits. Forest biomass projects protect public safety by reducing wildfire risks and impacts. Other bioenergy projects protect public health and the environment by reducing SLCP emissions, air pollution, and landfilling of organic waste. As the Commission has found:

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“The BioMAT program helps to achieve important public policy objectives . . . complementary and related statewide polices have been enacted that reinforce the importance of small bioenergy facilities in achieving statewide climate, waste diversion, and public safety goals.”

BAC opposes Option 1 because it gives the utilities too much discretion to determine the priorities for queue jumping. The Commission should set the guidelines for which projects and circumstances warrant accelerated interconnection and how to do so.

BAC supports both Options 2 and 3. Utilities definitely need additional staff dedicated to interconnection of distributed resources. Authorization of additional staff and resources should be tied to expediting the highest priority projects based on guidelines adopted by the Commission. Developing a second, “priority” queue for the highest priority projects should help reduce uncertainty and ensure that the utilities do in fact prioritize the interconnection of those projects.

### 3.2 Modernize Tariffs to Maximize Resiliency Benefits

BAC supports the goal of modernizing tariffs, but the Staff Proposal seems to focus entirely on battery storage and NEM. There are other tariffs that should be modernized to maximize resiliency benefits. In particular, BAC urges the Commission to review the BioMAT tariff and identify changes that would encourage new, small-scale bioenergy projects to maximize resiliency services. The current BioMAT tariff does not encourage projects to provide flexible generation or energy storage (in the form of biogas). The tariff also does not encourage projects to locate where they will provide the greatest benefits for microgrids or the electricity grid generally. Many bioenergy projects, such as those at wastewater treatment facilities or dairies, have no flexibility about location. Other sectors, though, such as bioenergy from diverted landfill waste, agricultural or forest waste, do have some flexibility about location and should be encouraged to locate and operate to maximize microgrid and other grid benefits.

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18 Decision 18-05-032, issued June 1, 2018 in R.15-02-020, at page 17.
BAC urges the Commission in Phase 1 and subsequent phases of this proceeding to consider bioenergy tariff changes, in addition to changes to battery storage and NEM tariffs. Given the multiple benefits that bioenergy can provide – for storage, flexible generation, and baseload power – the Commission should review the BioMAT tariff and other tariffs to focus new bioenergy projects where they will provide the greatest grid benefits.

3.3 Share Information with Local Government Agencies

BAC supports the goal of working more closely with local agencies, which operate many of the state’s emergency and essential services. This goal should be expanded, however, to go beyond information sharing. The CPUC and IOU’s should coordinate much more closely with local governments and public agencies, not just to react to PSPS’s and other grid challenges, but also to power microgrids and proactively reduce risks. The staff proposal covers issues with access to data for local governments but could be further expanded to address issues that developers and third parties face with access, quality, and usability of data. In particular, the Integration Capacity Analysis maps could be improved considerably.

BAC urges the Commission to require IOU’s to work with local governments to develop a plan for converting organic waste to energy and storage for microgrids. Local governments are responsible for implementing the organic landfill waste diversion requirement of SB 1383. The most beneficial way for them to meet the requirements of SB 1383 is to convert diverted organic waste to energy. Since SB 1383 requires 75 percent of organic landfill waste to be diverted by 2025, this is a great opportunity for the Commission and utilities to coordinate directly with local governments to maximize the grid benefits – and use in microgrids, especially – of bioenergy generated from that diverted organic waste.

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BAC also urges the Commission and utilities to include wastewater treatment facilities in the list of Critical Facilities. The definition of “Critical Facilities” in the Staff Proposal appendix does not include wastewater treatment facilities, even though sewage treatment is essential for public health and safety. Most of California’s wastewater treatment facilities can also be part of the microgrid solution as they generate biogas from the wastewater treatment process. Many have additional capacity to convert food waste and fats/oil/grease to biogas. Since every community has a wastewater treatment facility, the facilities should be considered both Critical Facilities, but also resources to provide biogas for energy storage and flexible generation. In fact, the digesters at wastewater treatment plants already provide biogas storage.

BAC urges the Commission and utilities to work closely with local governments and wastewater treatment facilities to coordinate strategies and resources to increase microgrid resilience while meeting the diverted organic waste and methane reduction requirements of SB 1383.

- BAC also supports Local Government Proposal 3 to dedicate IOU teams to local government projects. These teams should be charged with information sharing, facilitating local project development that supports microgrids and helps meet other important policies such as SLCP reduction or wildfire reduction.
- Educating local governments on utility infrastructure would be valuable to customers, however this should not infringe on the developers role of project development. Developers are responsible for providing specific technical and advisory services to customers about the feasibility of projects at their cost and there could be unintended consequences by allowing the IOUs to assume that role.

20 Staff Proposal section 3.3.5, Proposal 3, page 27.
BAC supports Local Government Proposal 5 to create a separate portal for local governments, but this proposal should be clarified to include access by emergency and essential services (Critical Facilities).\textsuperscript{21}

Finally, BAC supports the requirement for PG&E to conduct “listen and share” sessions with local governments, but those sessions should also include agencies that provide emergency and essential services, Critical Facilities, etc.

**IOU Proposals**

BAC will provide more detailed comments on the utility proposals in our Reply Comments, but we would like to raise two initial concerns in Opening Comments:

First, the IOU proposals focus almost exclusively utility-owned microgrids, not customer or community-owned microgrids. SB 1339 directs the CPUC to “facilitate the commercialization of microgrids”, which means to develop a market for microgrids. Successful market development entails creating and nurturing a diversity of market participants, technical solutions, and encouraging transactions between participants. This necessarily means that entities other than the IOUs should be empowered to build microgrids. Focusing exclusively on IOU microgrids goes against the clear legislative intent outlined in the statute to commercialize microgrids. Creating and modernizing tariffs for microgrids with multiple resources, including bioenergy as discussed above, will achieve the desired outcome of the statute. PG&E’s CMEP proposal could be prioritized and expanded upon as it touches on the creation of a tariff for microgrids that would facilitate commercialization.

Second, we urge the utilities to take a more community-centric approach to microgrid deployment that will enable microgrids to be developed more widely and expeditiously across the state while also allowing local communities to build systems that best suit

\textsuperscript{21} Staff Proposal section 3.3.5, Proposal 5, page 28.
their individual needs. For example, a rural community in a high fire threat district may want to utilize forest biomass as the generation component of a microgrid to support its forest management, fuel reduction and wildfire mitigation efforts. Many of these communities are at the “end of the line” and would greatly benefit from onsite generation to minimize the impacts of PSPS outages which disproportionately affects these communities, while an agricultural community in the Central Valley may want to leverage its agricultural resources to remove waste from farms and generate electricity onsite. The CMEP proposal allows for flexibility in procuring microgrids with all types of resources that can achieve multiple goals for both the communities themselves as well as the State.

Local governments and public agencies serving their communities are in the best position to decide what projects will best suit their resiliency needs and sustainability goals. The utilities picking and choosing sites, energy resources, and rate basing the cost of building microgrids does not promote equity, nor does it facilitate the development of a market for microgrids. By creating a tariff that communities can respond to, and modifying existing tariffs as explained above, the state can more equitably socialize the cost of building microgrids while enabling customized solutions that prioritize local needs. Resiliency is inherently local. The Commission should approach the development of microgrids and resiliency strategies with a focus on communities and diversifying the state’s portfolio of clean energy resources.

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Respectfully submitted,

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VERIFICATION

I am a representative of the non-profit organization herein, and am authorized to make this verification on its behalf. The statements in the foregoing document are true of my own knowledge, except as to matters which are therein stated on information or belief, and, as to those matters, I believe them to be true.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed this 30th day of January, 2020, in Kensington, California.

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