BEFORE THE PUBLIC UTILITIES COMMISSION
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Order Instituting Rulemaking to Continue Implementation and Administration, and Consider Further Development, of California Renewables Portfolio Standard Program.	Rulemaking R.18-07-003

INFORMAL REPLY COMMENTS OF THE GREEN POWER INSTITUTE ON THE BIOMAT PROGRAM REVIEW AND STAFF PROPOSAL

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Pursuant to the October 30, 2018, November 19, 2018, and December 19, 2018, emails of Staff Member James McGarry, in Proceeding R-18-07-003, the **Order Instituting Rulemaking to Continue Implementation and Administration, and Consider Further Development, of California Renewables Portfolio Standard Program**, the Green Power Institute, the renewable energy program of the Pacific Institute for Studies in Development, Environment, and Security (GPI), provides these Informal Reply Comments of the Green Power Institute on the BioMAT Program Review and Staff Proposal.

Our reply comments address a single issue, the greenhouse-gas implications of BioMAT projects, and whether individual projects should be required to conduct some level of analysis to demonstrate that they are greenhouse-gas neutral or better. Achieving pollution and greenhouse-gas reductions were original goals of the BioMAT legislation and program. In our opening comments the GPI argued that requiring individual projects to make an individual showing of greenhouse-gas performance is redundant, as the fuel specifications for each BioMAT project category already ensure that the projects will produce net greenhouse-gas savings. Most of the commenting parties agreed with us.

Some of the parties, including the joint IOUs, argue that BioMAT projects should be required to make individual showings of greenhouse-gas reductions in order to be eligible for the BioMAT program. One of the opening comments, from the environmental parties (Center for Biological Diversity, Sierra Club, Partnership for Policy Integrity), argues that BioMAT projects are net producers of greenhouse gases, and should not be given the kind of favorable treatment that is conferred by BioMAT. We address these arguments in the sections below.

The Need for Individual Project Showings of Greenhouse Gas Reductions

The comments of the joint IOUs and the Public Advocates Office recommend using the CARB models described on pages 12-13 of the *BioMAT Program Review and Staff Proposal* as screening tools for eligibility for BioMAT projects. In both cases their reasoning is essentially that the use of these models is consistent with other areas of state climate policy. Neither filing describes actually testing the models and finding them suitable for the application proposed for the BioMAT Program. The parties that did actually test the CARB models, including the GPI, universally found them lacking from a technical perspective.

The comments from Humboldt State University propose using, for category 3 projects, a model that they are currently developing under a research contract with the CEC. They state that a beta version of the model will soon be made available to the public. While we are hopeful regarding the usefulness and accuracy of the model they are developing, in terms of the BioMAT program it would be irresponsible to link the program today to a model that not only has not yet been vetted, as far as we understand it is still in the stage of intensive development. The BioMAT program needs to be able to move forward forthwith, and cannot wait for a model that will not be fully functional, vetted and available for use by the public until an undetermined time in the future.

The Humboldt comments argue that for category 3 projects a distinction should be made between projects that catalyze forest management activities, and projects that do not:

> From a life-cycle accounting perspective, it is important to classify BioMAT projects into two types: those that catalyze new forest management activity that would otherwise not have occurred, and those that do not catalyze new forest management activity (Humboldt Comments, pg. 3).

This may be a useful distinction from an academic perspective, but it would be impossible to apply to real-world biomass generators. Biomass generators buy fuel from an ever changing set of sources, each with its own set of underlying circumstances. Even if each source could be designated as catalyzing forest management activities or not catalyzing

such activities, the overwhelming probability is that a given project would use some of each, and the mix might well change over time in a pattern that would be impossible to anticipate at the point of project development.

In fact, it is neither necessary nor reasonable to classify BioMAT projects as catalyzing or not catalyzing new forest management activities. If catalyzing new forest management activities is interpreted to mean that the BioMAT plant is the sole or major motivation for the conduct of a forest management operation, then no biomass fuels used for power production in California could be classified as catalyzing the forest management operation. Biomass power production at BioMAT facilities is far too expensive using waste and residue forms of biomass. The idea that a BioMAT facility could be the sole or major motivation behind the conduct of a forest management operation is not tenable.

The use of residues derived from sustainable forest management operations as fuel can offset some of the costs of the management operation, thus making it more likely to occur, but the motivation for conducting the operation is virtually always something other than the production of energy, for example to decrease the risks of wildfires, and/or to upgrade the condition of the property (where upgrade is in the mind of the land owner/manager). Even with energy production from the residues, forest-management operations are never profit-making activities.

Category 3 of the BioMAT program requires the use of fuels derived from sustainable forestry operations. Sustainable forestry operations in California require that the residues produced either be removed from the site (biomass fuel), or piled and burned. Either way the biogenic carbon in the residues is emitted to the atmosphere, and controlled burning in a BioMAT facility produces virtually no carbon in the form of CH_4 or HCs, while pile burning produces sufficient amounts of these high-intensity greenhouse-gas emissions to elevate the greenhouse-gas intensity of the total emissions. In other words the use of fuels that are qualified for the BioMAT program guarantees that the generators achieve state air pollution and greenhouse-gas reduction goals. There is no additional need for applicant

projects to make individual showings of greenhouse-gas reductions to be deemed eligible for the program.

The environmental parties argue that the language adopted in the RPS program implementing the definition of green attributes into RPS contracts, and carried through to BioMAT contracts, virtually requires that BioMAT project applicants make an individual showing of greenhouse-gas emissions reductions. Their reasoning is based on the provision in the contracts that sellers "shall provide Buyer with sufficient Green Attributes to ensure that there are zero net emissions associated with the production of electricity from the Project (environmental parties, pg. 13)." What they fail to mention is that a demonstration of net greenhouse-gas reductions is only required in cases where the project intends to claim credits for the net emissions reductions, that is, the amount of reductions beyond those needed to offset the project's stack emissions. It is understood that the projects will be carbon-neutral or better, so unless a project intends to claim credit for the better-than-carbon-neutral performance (net reduction), there is no need for quantification. In fact, no biomass or biogas project that we are aware of in California has yet attempted to claim such credits, although there is nothing in the rules and regulations that prevent them from attempting to do so.

The Overall Greenhouse-Gas Implications of Biomass Projects

Biomass and biogas energy generators currently are treated identically to all other eligible renewable energy sources in the California RPS program with respect to greenhouse-gas emissions. That treatment is mirrored in the state's cap-and-trade program, and in other greenhouse-gas programs across the country, and around the world. This treatment is based on the common understanding that the use of waste and residue forms of biomass fuels actually decreases the emissions of biogenic greenhouse-gas emissions compared with the alternative fate of the material, which is usually open burning or landfill burial. All of the fuel used by the California bioenergy industry is in the forms of waste and residue forms of biomass. Considering the high cost of bioenergy production based on the

use of waste and residue forms of biomass, there is virtually no prospect that bioenergy production in California will turn to purposefully raised and/or harvested forms of fuel.

The environmental parties (CBD, Sierra Club, PPI) argue that in fact bioenergy production does not produce net reductions in biogenic greenhouse-gas emissions, and thus does not fulfill the underlying goals of the BioMAT program. The environmental parties point out correctly that the emissions of CO_2 at the smokestack of a bioenergy generator are greater, on a per-unit-energy-produced basis, than the emissions at coal facilities. This is a consequence of the chemical structures of the fuels, exacerbated by the fact that solid biomass fuels tend to have much higher moisture content than coal. The environmental parties are also correct that bioenergy production tends to be expensive, especially at the small scale required for participation in the BioMAT program.

However, the conclusion of the environmental parties that bioenergy production causes greater climate damage than coal production completely ignores two fundamental truths. First, there is an intrinsic difference between adding new carbon to the global carbon-circulation system (fossil carbon), and using carbon that is already a part of the global carbon-circulation system (biogenic carbon). Second, they ignore the alternative fate of the biogenic carbon in the biomass fuel in the counterfactual case (absence of bioenergy production).

In the case of BioMAT category 3 projects, the fuel is required to be derived from the residuals of sustainable forest management. The alternative fate to energy production for this kind of fuel is either combustion in piles for residues from forestry management operations that are otherwise conducted, or the material is left in the forest as standing biomass because the forestry management operation is too expensive to carry out. The environmental parties concentrate on biomass whose alternative fate is in the latter category – left in the forest as overgrowth or dead biomass.

The environmental parties correctly point out that in the absence of disturbance (fire, disease, pestilence) the amount of sequestered carbon on a given plot will always be

greater without thinning than with thinning. They are also correct that it is impossible to predict whether a given plot will incur a disturbance in the timeframe during which a treatment operation will be effective. Where they are wrong is in their conclusion that the proper treatment of these circumstances is to simply ignore the possibility of the occurrence of a disturbance. Doing so, in effect, charges the treatment operation with the initial greenhouse-gas cost of the operation (the removal of material during the forest treatment operation), but denies the operation credit for the objective for which it was carried out in the first place, which is to reduce the risk of much more extensive carbon losses due to wildfires or other vectors.

In fact, for modeling purposes the possibility of a disturbance can be handled probabilistically using well established techniques, as was done in the research reports cited in our opening comments. In the California context, which includes extensive stands of dead and overgrown forests against the backdrop of an increasingly dry climate, the probability of disturbances are high and getting higher. Under these circumstances it takes less than a decade before the amount of sequestered biomass on a landscape is greater, on a statistical basis, as a result of the treatment vs. being left in the untreated state.

Conclusion

The one proposal in the Staff Proposal that we particularly oppose is the proposal to impose a requirement on BioMAT projects to individually demonstrate that they are carbon neutral or better. The tools that are available on the CARB website are quite limited in their capabilities, and they make some highly questionable assumptions that bring their usefulness into question. There is ample evidence in the literature to demonstrate that projects that qualify for BioMAT will provide substantial reductions in biogenic greenhouse-gas emissions, and the imposition of any additional regulatory hurdles in this area would be duplicative, costly, and unnecessary.

We recommend that the Commission adopt our recommendations herein.

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Respectfully Submitted,

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