

CAPCOA Policy Statement on Biomass Power Plants

Biomass power plants provide a number of societal benefits including significant air quality benefits. Biomass power plants are a primary alternative to the open burning of agricultural and forest waste and the emissions associated with open pile burning including criteria air pollutants (fine particulate matter (PM), carbon monoxide (CO), volatile organic compounds (VOC), and nitrogen oxides (NOx)), greenhouse gases (carbon dioxide (CO₂) and short lived climate pollutants of methane and black carbon), and organic air toxics. Comprehensive life cycle assessments show reductions of greater than 99% for PM and black carbon, from 95-99% for CO and VOCs, 70% for NOx, and up to 30% for CO₂.^{1 2} In the near term, the lack of biomass plants will undo much of the progress that has been made in reducing open burning and the levels of harmful air pollutants in the air we breathe.

Significant quantities of agricultural wastes are generated throughout California's highly productive valleys and foothills. These include fruit and nut orchard prunings and removals and pits and shells. Biomass power is currently the only economic disposal option.

Reducing fuel loads in the forest is a primary method of mitigating wildfire size and severity. The open burning of forest wastes is contrary to maintaining regional air quality. The biomass power industry provides a multifaceted beneficial alternative for disposing of forest debris and is a desirable part of the solution to the current tree mortality epidemic. By removing forest debris and using it to generate biomass power we can reduce the occurrence of catastrophic wildfires and the attendant damage to public resources and property, protect critical upland watersheds that ensure water quality, quantity, and forest ecosystem wildlife habitat, along with having a positive impact on air quality and energy resources.

Biomass power plants also burn urban woody biomass waste materials that are placed in landfills. Closure of biomass power plants will likely result in detrimental impacts on the state's efforts to reduce methane emissions from landfills and would also shorten the life of landfills. Clearly, biomass plants can and do play a role in meeting the state's landfill diversion requirements and greenhouse gas reductions and yet current state policies do not adequately recognize the societal, environmental, and public health benefits that are provided by these facilities.

The California Air Pollution Control Officers Association supports the following principles to maintain a viable biomass power industry in the California:

Require the purchase of biomass power at a rate that recognizes the other societal benefits of biomass power plants: The biomass industry does not compete

¹ California Agriculture, *Forest biomass diversion in the Sierra Nevada: Energy, economics and emissions*, Volume 69, Number 3, July-September 2015, available at: http://calag.ucanr.edu/archive/?issue=69_3.

² Journal of the Air & Waste Management Association, *Emission Reductions from Woody Biomass Waste for Energy as an Alternative to Open Burning*, Volume 61, January 2011.

well under the current procurement policies of the state's IOUs. Historically, biomass facilities have required 12-13 cents per kilowatt hour to retain economic viability. As the state's favorable policies and biomass power purchase contracts have expired over the past several years, this price point has placed biomass facilities at a competitive disadvantage with other renewable fuels which can be procured at a much lower cost. Under the state's Renewable Portfolio Standard program, pricing information is confidential, yet anecdotal evidence is that, currently, the IOUs are purchasing power from solar and wind facilities at approximately 5-8 cents per kilowatt hour, which is significantly below the actual non-subsidized cost of from 9-20 cents per kilowatt hour.

In order to close the gap between what is being offered to other subsidized renewable power producers (solar and wind), the California Public Utilities Commission (CPUC) has the authority to recognize "societal benefits" that are generated by power producers. In discussions with CPUC staff they have indicated that they take a narrow view of societal benefits and recognize only benefits that accrue directly to ratepayers. They do not monetize benefits such as air quality improvements, wildfire mitigation, landfill diversion, and public health cost savings in their ratemaking activities. The legislature could clarify this and mandate that "societal benefits" of biomass power described above be recognized in the price that is paid for biomass energy.

Provide Cap and Trade revenues to maintain a viable biomass power industry:

Not only do biomass power plants reduce criteria pollutant emissions, but they also reduce greenhouse gas emissions by replacing power produced by fossil fuel fired plants. The state could provide revenues from the Cap and Trade program to recognize the greenhouse gas emission reductions associated with biomass power production. CARB should develop standardized methodologies to develop black carbon benefits of these projects, which can be done using information from PM emissions and other factors.

Modernize tipping fees and utilize funds for waste diversion including funding for biomass power: The current cap on the state's integrated waste management fee was established over two decades ago (1993). Since that time waste management facilities have been required to divert 75% of the material that used to end up in landfills. An increase in the state's portion of local waste management fees could help fund the development of landfill alternatives including biomass power plants and other uses for organic waste.

Investigate and develop alternatives to biomass: Current energy dynamics create a difficult environment for biomass power plants to remain viable. While every effort should be taken to save existing biomass power production, resources also need to be devoted to developing other long-term and sustainable alternatives for the disposal of agricultural and forest waste material. The state should provide resources to develop alternative uses for forest and agricultural waste materials. This must include the production of biochar, compost, and wood products, as well as assessments demonstrating the ability of current forest and agricultural practices to support existing biomass power production.

Encourage local use of biomass waste: Biomass plants realize the greatest emissions benefits when they are using waste generated in the local area. The long distance transport of biomass waste, even when not burned in a biomass plant, generates significant emissions by itself and transport of fuels from remote areas to areas with significant air quality concerns should be discouraged. This includes supporting the BioMat program at the CPUC with program constructs and potentially larger allocations of MW for the program, and larger allocations to the California Energy Commission's EPIC program to fund the development of novel technologies that can utilize this waste for energy.

Baseload Power value: It is well known that the huge increase in intermittent renewables has driven up the need for baseload power. As the CPUC's own analysis has shown, integration of intermittent renewables into the grid requires significant additional costs, including backup generation, costs to stabilize the grid and more. The costs of integrating solar and wind will only increase as increasing amounts will have to be curtailed. A recent study by Energy and Environmental Economics (E3) made clear that increasing the diversity of California's renewables portfolio will reduce curtailment and provide the lowest cost option to achieve a 50 percent RPS.³

The National Renewable Energy Labs (NREL) reached the same conclusion when it considered the feasibility of the United States moving to 80 percent renewables by mid-century. Like E3, NREL found that an 80 percent RPS is feasible, but only if we significantly increase the production of baseload and flexible generation renewables.⁴ Specific policies to increase baseload and flexible generation power include:

- A specific requirement or portfolio standard for baseload and flexible generation that ensures that these resources provide at least 3,500 additional megawatts of baseload and flexible generation. This could be similar to the energy storage portfolio standard to ensure that a variety of baseload and flexible generation technologies help to achieve the requirement. It will also help California prepare for the possible closure of the Diablo Canyon nuclear generating facility.
- Allocate a portion of EPIC funding to baseload and flexible generation power to better quantify the grid, economic and environmental benefits of baseload and flexible generation power.

³National Renewable Energy Labs, *Renewable Energy Futures*, available at: http://www.nrel.gov/analysis/re_futures/; Energy and Environmental Economics, *Investigating a Higher Renewables Portfolio Standard in California*, January 2014; Union of Concerned Scientists: *Achieving 50 Percent Renewable Electricity in California*, 2015. Available at: <http://www.ucsusa.org/sites/default/files/attach/2015/08/Achieving-50-Percent-Renewable-Electricity-In-California.pdf>.

⁴ NREL, footnote 3, above.