

Date of Hearing: June 29, 2022

ASSEMBLY COMMITTEE ON UTILITIES AND ENERGY

Eduardo Garcia, Chair

SB 1109 (Caballero) – As Amended June 20, 2022

SENATE VOTE: 28-0

SUBJECT: California Renewables Portfolio Standard Program: bioenergy projects

SUMMARY: Extends requirements on electric investor-owned utilities (IOUs) and community choice aggregators (CCAs) to procure energy from biomass generating electric facilities by five years and requires extension of existing contracts by five years. Specifically, **this bill:**

- 1) Extends the IOUs' obligations to collectively procure their proportionate share of 125 MWs of cumulative rated generating capacity from bioenergy projects to December 31, 2023. Also extends the possible contract timelines for new IOU bioenergy procurement from five years to five to 15 years, inclusive.
- 2) Specifically excludes local publicly owned utilities (POUs) from the five-year bioenergy procurement extension and the five-to-15 year contract extensions if the POU already entered into bioenergy contracts and those contracts were now either with a facility that is bankrupt or insolvent, as of June 1, 2022, or if the project does not deliver energy to the utility.
- 3) Requires any incremental procurement of electricity products from bioenergy resources by a new contract or contract extension of 10 years or longer in duration to be from a resource that meets emission limits equivalent to, or more stringent than, the best available retrofit control technology determined at the time of procurement.
- 4) Requires IOUs or CCAs with a biomass contract that expires or expired on or before December 31, 2028, to seek to amend the contract to include, or seek approval for a new contract that includes, an expiration date five years later than the expiration of the date in the contract that was operative in 2022.

EXISTING LAW:

- 1) Requires electric IOUs to collectively procure at least 250 megawatts (MW) of generated resources from bioenergy projects, and the CPUC to allocate amongst the electric IOUs shares of the 250 MW from bioenergy derived from organic waste diversion, dairy and agricultural sources, and byproducts of forest management. Requires the CPUC to encourage IOUs to develop programs and services that facilitate development of bioenergy and biogas. This program is known as BioMAT. (Public Utilities Code § 399.20)

- 2) Requires retail sellers and POUs to increase purchases of renewable energy such that at least 60% of retail sales are procured from eligible renewable energy resources by December 31, 2030. This is known as the Renewables Portfolio Standard (RPS). Electricity generated from biomass is considered a renewable energy resource under this policy. (Public Utilities Code §§ 399.11-399.33)
- 3) Establishes within the RPS a requirement that electrical corporations, by December 1, 2016, collectively procure, through financial commitments of five years, their proportionate share of 125 MW of cumulative rated generating capacity from bioenergy projects commencing operation prior to June 1, 2013, that each produces its generation using specified minimum percentages of certain types of forest feedstock, including from Tier 1 and Tier 2 high hazard zones. This program is known as BioRAM. (Public Utilities Code § 399.20.3)
- 4) Establishes the policy that all of the state's retail electricity be supplied with a mix of RPS-eligible and zero-carbon resources by December 31, 2045, for a total of 100% clean energy. Requires the CPUC, in consultation with the California Energy Commission (CEC), California Air Resources Board, and all California balancing authorities, to issue a joint report to the Legislature by January 1, 2021, reviewing and evaluating the 100% clean energy policy. (Public Utilities Code § 454.53)
- 5) Requires an IOU, POU, or CCAs with a contract to procure electricity generated from biomass that is operative at any time in 2018, and expires or expired on or before December 31, 2023, to seek to amend the contract to include, or seek approval for a new contract that includes, an expiration date five years later than the expiration date in the contract that was operative in 2018, so long as the contract extension follows the feedstock requirement. This requirement would be limited to facilities sourcing fuel material in California and would not apply to facilities located in certain air basins. (Public Utilities Code § 8388)

FISCAL EFFECT: According to the Senate Committee on Appropriations, this bill will result in unknown, potentially significant costs to the state as an electrical utility ratepayer due to the mandated biomass procurement at above-market prices and higher than alternative renewable energy sources. The State of California is an electrical customer, purchasing roughly one percent of the state's electricity; as such, the state incurs costs when rates increase.

BACKGROUND:

Biomass – Biomass is renewable organic material that can include wood and wood processing wastes, yard and food waste, agricultural crops, animal manure, and human sewage (municipal solid waste). Biomass can be used as feedstock to generate heat and electricity out of what would otherwise be waste material. Biomass is converted to energy through four main processes: direct combustion, and thermochemical, chemical, and biological conversion. Direct combustion, or

simply burning the biomass, is the most common method for converting biomass to useful energy. Thermochemical conversion—such as pyrolysis and gasification—breaks down the biomass material with heat, usually with little to no oxygen so there is no burning. Chemical conversion breaks down the biomass material through chemical reactions; whereas biological conversion—including fermentation and bacterial decay—breaks down the biomass material through the use of enzymes, bacteria, or other microbes.

Biomass electricity – From about 1990 to 1993, California's biomass power generation was at its highest.¹ But by 1996, the energy production from biomass combustion decreased to about 590 MW.² Today, there are about 87 operating biomass facilities—both direct combustion and alternative processes—in operation with a capacity of 1,259 MW, accounting for about 3% of in-state generation.³ Electricity generated from biomass is considered a renewable energy resource for the purposes of meeting the state's RPS requirements. Unlike variable renewable energy resources (such as solar and wind), bioenergy technologies can provide reliable and renewable baseload generation, or firm power, meaning that electricity can be generated during scheduled times and at predetermined power levels. The number of power plants and generation capacity has largely remained unchanged since 2001, per the CEC *Energy Almanac* data.

A History of Biomass Procurement Mandates

2015 Executive Order – In 2015, then-Governor Brown issued an Emergency Proclamation⁴ to protect public safety and property from falling dead and dying trees and wildfire. The proclamation directed the California Department of Forestry and Fire (CalFire), the Natural Resources Agency, the Department of Transportation, and the CEC to identify the state's high hazard zones (HHZs) as a high priority for tree removal to prevent wildfire and falling trees. The proclamation also directed the CPUC to use its authority to extend contracts for bioenergy facilities receiving feedstock from HHZs.

BioRAM 1 Contracts – On March 17, 2016, the CPUC issued Resolution E-4770 requiring each large electric IOU to enter into contracts to purchase their share of at least 50 MW of collective generating capacity from biomass generation facilities that use HHZ material as feedstock. Specifically, the biomass facilities were required to use a minimum of 40% feedstock from the HHZ in 2016 and grow to 80% in 2018 and all subsequent years. The IOUs were required to provide five-year contracts to facilities, with the right to extend the five-year contract term for one year at a time, up to a cumulative total of ten years so long as HHZ fuel is available at the minimum fuel requirement (80%). The CPUC utilized a renewable auction mechanism (RAM) as a streamlined procurement process.

¹ CEC website, "Biomass Energy in California," <https://www.energy.ca.gov/data-reports/california-power-generation-and-power-sources/biomass/biomass-energy-california>; viewed on 04.22.2022.

² The expiration of governmental subsidies was a main driver for the reduction in biomass power generation during this time.

³ CEC website, "California Biomass and Waste-to-Energy Statistics and Data," https://ww2.energy.ca.gov/almanac/renewables_data/biomass/index cms.php, viewed on 04.22.2022

⁴ Governor Edmund G. Brown, E.O. B-52-18

SB 859 (Committee on Budget, Chapter 368, Statutes of 2016) – SB 859 included a new requirement for electric IOUs and POUs to procure their respective share of 125 MW from existing biomass facilities using prescribed amounts of dead and dying trees located in HHZs as feedstock, with the IOU assigned portion at 96 MW. Specifically, the legislation requires that at least 80% of the feedstock of an eligible biomass facility, on an annual basis, must be a byproduct of sustainable forestry management. SB 859 requires that at least 60% of the feedstock come from HHZs. SB 859 requires that the procurement costs would be recovered from all customers on a non-bypassable basis.

CPUC Resolution E-4805 – In October 2016, the CPUC issued Resolution E-4805 to implement the electric IOU procurement requirements of SB 859. Resolution E-4805 provided that the IOUs could meet their proportionate shares of the 125 MW goal using any combination of: (a) the BioRAM ordered by Resolution E-4770; (b) a subsequent RAM (BioRAM 2) authorized in the Resolution; and (c) bilateral procurement. However, in order to allow procurement under option (b), Resolution E-4805 required the IOUs to create an updated BioRAM 2 standard contract rider. Specifically, BioRAM2 contracts must contain the feedstock requirements established in SB 859, specify that the contract length is five years, requires that the contracted facility is an existing bioenergy project that commenced operation prior to June 1, 2013, and update administrative details such as dates, deadlines, and process requirements.

SB 901 (Dodd, Chapter 626, Statutes of 2018) – After a year of catastrophic fires affected the state, including the North Bay Fires, Thomas Fire, and the Carr Fire, the Legislature passed and the governor signed SB 901. This bill requires a number of actions to reduce and prevent the risk of wildfires and to address issues associated with electric IOU cost recovery of wildfire damages. SB 901 also included specific provisions related to biomass facilities, including provisions to loosen the requirements on the facilities, such as: revising the HHZ fuel definitions, require BioRAM contracts to include a monthly compliance option with updated reporting and payment. SB 901 also prohibits biomass facilities from participating in BioRAM if they operate in areas of the state with severe or extreme federal air quality designations, and revise default terms.

CPUC Resolution E-4977 – In its efforts to implement the changes noted in SB 901, the CPUC adopted resolution E-4977 in January 2019. The resolution notes, collectively, the BioRAM program requires the IOUs to procure 146 MW of qualifying biomass electricity and that 153 MW is currently under contract – 119 MW under BioRAM 1 contracts and 34 MW under BioRAM2.

COMMENTS:

- 1) *Author's Statement.* According to the author, “California has seen such significant devastation from wildfires in recent years that it has received global attention more than once. Part of the rapid spread of these fires has been due to the millions of tons of dry wood waste in forests that have yet to be cleared out. This material is marked as a high hazard, and California does have an existing mechanism in place to deal with this issue, in the form of biomass production. Renewable biomass energy facilities have the means

with which to safely remove excess forest wood waste and turn it into energy, thereby reducing the carbon output from dead and dying trees. California has made biomass investments in the past, and SB 1109 seeks to expand upon the existing system, specifically the BioRAM program, by expanding and extending its limitations. SB 1109 proposes to continue existing biomass facility contracts for another 5 years, and allow for new contracts to be signed for a period of 5-15 years. This modest proposal would provide for the additional beneficial reuse of thousands of tons of stranded organic waste annually and ensure the state gets the added benefit of biomass power for a longer term.”

- 2) *Need.* Wildfires have been growing in duration and ferocity over the past 20 years. Their growing risk is due to a number of factors, from accumulating forest fuels to a warming climate to expanding development in the wildland-urban interface. Better management of the fuels that contribute to this wildfire risk is one of the main strategies to help mitigate fires.

According to the Assembly Committee on Natural Resources, the State of California is responsible for fire and resource protection on nearly 13.3 million acres of private and state-owned forested lands. The state owns about 1.1 million acres of these lands, and 12.2 million acres of lands are under private ownership. In the past several years, forest management has significantly expanded on these lands. CalFire has increased its forest thinning and prescribed fire activities from about 30,000 acres in 2016 to more than 50,000 acres in 2020. Partners receiving state-funded grants treated more than 30,000 acres in 2020. Private landowners currently actively manage 250,000-300,000 acres through fuels reduction, mechanical thinning, and timber harvest projects. In addition, SB 901 (Dodd, Chapter 626, Statutes of 2018) requires California to double forest fuel removal. And in August 2020, California and the US Forest Service agreed to scale up vegetation treatment and maintenance to one million acres of federal, state, and private forest and wildlands annually by 2025.⁵

All of these efforts produce forest waste. Sometimes that waste is left in piles, contributing to wildfire risk; whereas at others times the waste is burned on site, contributing to air pollution. This bill extends existing legislatively-mandated biomass contracts of electric IOUs and CCAs that are expiring or set to expire. The author notes California currently has 13 idle or expiring contracted biomass powerplants that could consume approximately 2 million bone dry tons per year of forest wood waste, if made economically available. The need to better manage California’s forest waste is apparent. Having a robust biomass market spurring that forest management can help drive down the cost of forest waste removal activities. However, the biomass supply chain is underdeveloped in California. As noted above, government intervention has led the

⁵ Memorandum of Understanding, “Agreement for Shared Stewardship of California’s Forest and Rangelands between the State of California and the USDA, Forest Service Pacific Southwest Region,” August 12, 2020.

biomass energy sector to be the main end-use for California’s biomass waste, driving up many ratepayer bills.

- 3) *Ratepayer Impacts.* The main end-use of biomass today is as a fuel for California's existing biomass power plants. As outlined above, this is largely a result of direct legislative mandates to procure biomass electricity. Without these efforts, the viability of electricity generation from biomass is unclear. Biomass often experiences high operation and transportation costs, which often make electricity generated from biomass more expensive than other sources.

As shown in Figure 1,⁶ RPS contract prices saw a spike in 2016 due to the execution of the BioRAM contracts. To date, the total contracted capacity and average contract price of existing BioRAM contracts are 178 MW and 12.0 ¢/kWh, respectively. For comparison, the IOUs’ weighted average RPS procurement expenditures were approximately 8 ¢/kWh for geothermal, 10 ¢/kWh for small hydro, 11 ¢/kWh for solar PV, and 8 ¢/kWh for wind.⁷ CCAs are not required to offer BioRAM contracts.

Figure 1- Historical Trend of All Load-Serving Entities' RPS Contract Costs by Technology and Year of Execution



- 4) *Statewide Benefits.* In the most recent CPUC RPS report, the CPUC notes: “CPUC staff analysis found that there is no shortage of biomass in the forest, but there are barriers to accessing it. Barriers include insufficient supply chain capacity, long hauling distances and high transportation costs, and the need for existing facility retrofits. Overcoming these barriers would require further, possibly substantial, investment and subsidies.”⁸

⁶ Taken from pg. 14 of the CPUC’s 2021 Padilla Report, published May 2021.

⁷ Pg. 23, 2021 Padilla Report

⁸ Pg. 65; CPUC, 2021 *California Renewables Portfolio Standard Annual Report*, November 2021.

In this regard, an approach that utilizes General Fund revenues to help offset these costs may be a better option for supporting biomass operations to reduce feedstocks in HHZs. The 2022-2023 Budget seems to signal this approach, where \$10 million—over the next two budget years—is allocated for a Biomass Transportation Subsidy targeted at post-fire cleanup and new processing capacity. Transporting fuel and feedstocks to biomass electric generating facilities is one of the main cost drivers that contributes to biomass having much higher costs as compared to other generating resources. This bill seeks to extend by five years biomass contracts that are set to expire. Given the ever growing increases to electric rates and the cost of biomass electricity contracts, the committee may wish to consider future recognition of the statewide benefits of biomass electricity generation—for its waste management and wildfire mitigation impacts—with General Fund dollars rather than paid for via electric ratepayer bills.

- 5) *POU Exclusion.* While the current version of this bill only applies to bioenergy contract extensions of electric IOUs and CCAs, the previous versions of this bill also included the POUs. Under past bioenergy procurement mandates, the POUs executed contracts that were either strictly for capacity or were at facilities that are now insolvent. For the capacity-only contracts, the interconnection and wheeling charges to transmit the out of state resources to their utilities were not cost-effective; as a result, POU ratepayers under these contracts were strictly paying for the capacity on the system to satisfy BioRAM requirements without a direct benefit to serving their load. For the insolvent facilities, the POUs report that their contract price, while generous, was not sufficient to pay for the biomass material delivery costs. The facility, therefore, declared bankruptcy in February.⁹

As a result of these unsuccessful contracts, the POUs have argued any extension to them for any amount of time would be wasteful. They argue that the additional costs are unfair and burdensome to their customers at a time when they are experiencing cumulative effects of increasing electricity costs. As a result, the author has amended this bill to exclude POUs from the biomass contract extension requirements.

- 6) *Air Quality Concerns.* A coalition of environmental and environmental justice organizations oppose this bill due to the contract extensions enabling the longevity of biomass facilities that they consider highly polluting, emitting large amounts of particulate matter, nitrous oxides, and carbon dioxide. They also note that while the BioRAM program is fashioned as helping to solve the wildfire crisis, the fuel requirements that wood waste arise from HHZs is expansive enough to mean other, easier-to-access forest waste is utilized, leading to marginal wildfire risk reduction. This bill does contain a new requirement meant to address some of these emissions concerns by requiring new contracts or contract extensions of 10 years or longer be only from biomass facilities that meet emission limits equivalent to the best available retrofit control technology (BARCT). However, this inclusion is dubious, as the biomass contract

⁹ Loyalton Biomass facility; <http://scppa.org/page/loyalton-biomass>

extensions mandated under this bill are for 5 years, and therefore the BARCT requirements would not apply. *The committee may wish to consider amending this bill to require BARCT requirements apply to contract extensions of 5 years or longer, to capture the contract extensions mandated under this bill.*

7) *Related Legislation.*

AB 2587 (E. Garcia) among its provisions, expands the type of firm resources to be considered in an upcoming CEC assessment to include bioenergy and biomass. Status: *pending hearing* in the Senate Committee on Appropriations.

AB 2878 (Aguiar-Curry) establishes the Forest Waste Biomass Utilization Program to be administered by the Board of Forestry and Fire Protection Joint Institute for Wood Products Innovation to develop an implementation plan to meet the goals and recommendations of specified statewide forest management plans and to develop a workforce-training program to complement workforce needs associated with the implementation plan. Also requires specified reports by the state's energy-related agencies. Status: *set for hearing* in Senate Committee on Energy, Utilities, and Communications on June 27, 2022.

8) *Previous Legislation.*

AB 322 (Salas) required the CEC to consider allocating Electricity Program Investment Charge (EPIC) funding for eligible biomass conversion to energy projects. Status: Chapter 229, Statutes of 2021.

AB 3163 (Salas) expanded the definition of "biomethane," to include methane that is produced from the non-combustion thermal conversion of eligible biomass feedstock for purposes of the CPUC's consideration of adopting biomethane procurement targets. Status: Chapter 358, Statutes of 2020.

SB 515 (Caballero, 2019) would have expanded the fuels and feedstocks that are eligible to satisfy requirements related to specified contracts for mandated electricity generation from biomass facilities. The bill was further amended to require a report on available fuel feedstocks. Status: Died in the Assembly Committee on Appropriations.

SB 901 (Dodd) among its many provisions, required an extension by 5 years of the existing biomass procurement contracts authorized under an executive order from Governor J. Brown. Status: Chapter 626, Statutes of 2018.

SB 859 (Senate Budget and Fiscal Review) required retail sellers of electricity to purchase a total of 125 MW of power from biomass facilities that generate electricity from forest materials removed from specific high fire hazard zones, as designated by

CalFire in the Governor's Proclamation of a State of Emergency issued October 30, 2015.
Status: Chapter 368, Statutes of 2016.

SB 1122 (Rubio), established a statewide procurement of up to 250 MW of renewable energy from small biomass or biogas technologies that utilize low emission technologies, and requires 50 MW be from small-scale bioenergy from the byproducts of sustainable forestry. This established the BioMAT program. Status: Chapter 612, Statutes of 2012.

REGISTERED SUPPORT / OPPOSITION:

Support

Agra Marketing Group
Agricultural Energy Consumer Association
Agricultural Energy Consumers Association
Agromin
Allweather Wood
American Pistachio Growers
American Refuse
Associated California Loggers
Becerra Ag
Board of Supervisors County of Tuolumne
Burney Forest Products, a Joint Venture, a California General Partnership
Burrtec Waste Industries, INC.
Cal-waste
California Apple Commission
California Biomass Energy Alliance – *co-sponsor*
California Blueberry Association
California Blueberry Commission
California Compost Coalition
California Cotton Ginners and Growers Association
California Farm Bureau
California Farm Bureau Federation
California Forestry Association – *co-sponsor*
California Fresh Fruit Association
California Licensed Foresters Association
California Rice Commission
California Walnuts
Cedar Avenue Recycling & Transfer Station
Chavarin Trucking
Cleanfleets.net
Clear Creek Reload
Clover Flat
Collins Pine Company
County of Humboldt
County of Lassen
Eastern Regional Landfill INC
Far West Equipment Dealers Association

Forest Landowners of California
Fremont Recycling & Transfer Station
Graeagle Timber
Green Valley Recycling
Greenleaf Power
Grower-shipper Association of Central California
Headrick Logging
Holt Logging, INC
Humboldt Redwood Company LLC
Humboldt Sawmill Company
IHI Power Services Corp.
Independent Energy Producers Association
J&C Enterprises
J.T. Thorpe & Son, INC.
J.W. Bamford
John Wheeler Logging
K. Z. B. Ag
Kochergen Farms Composting, INC.
Lassen Fire Safe Council
Mahill Agg
Mendocino Redwood Company
Modoc Fire Safe Council
Mrwmd
Mt Diablo Resource Recovery
Napa Recycling & Waste Services
Nrws
Olive Growers Council of California
Peterson Timber, INC
Pioneer Community Energy
Placer County Air Pollution Control District
Pleasanton Garbage Service
Plumas County Fire Safe Council
Quackenbush Mountain Resource Recovery & Compost Facility
Recology
Refuel
Rio Bravo Rocklin
Robinson Enterprises
Rural County Representatives of California (RCRC)
Sierra Pacific Industries
Soiland Co., INC.
Sonoma Compost
Terra Novus Ag
Tracy Delta Solid Waste Management
Trillium USA Company, LLC D.b.a. Trillium Cng
Tubit Enterprises, INC.
Tuolumne County Board of Supervisors
Upper Valley Disposal Recycling
Utility Workers Union of America
Utility Workers Union of America, AFL-CIO

Vision Recycling
Wadham Energy LP
Waste Zero
Western Agricultural Processors Association
Western Plant Health Association
Z-best Composting
Zanker Recycling
Zerowaste Energy, LLC

Oppose

350 Silicon Valley
Association of Irrigated Residents
Center for Biological Diversity
Center for Food Safety; the
Central California Environmental Justice Network
Central Valley Air Quality Coalition
Earthjustice
Leadership Counsel for Justice & Accountability
Pacifica Climate Committee
Sierra Club

Removal of Opposition / Neutral

California Municipal Utilities Association
Sacramento Municipal Utility District (SMUD)
Southern California Public Power Authority (SCPPA)

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