

**ASSEMBLY BILL**

**No. 2228**

**Introduced by Assembly Member Negrete McLeod**

February 20, 2002

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An act to amend Section 2827 of the Public Utilities Code, relating to public utilities.

LEGISLATIVE COUNSEL'S DIGEST

AB 2228, as introduced, Negrete McLeod. Public utilities: net energy metering.

Under existing law, electric service providers, as defined, are required to provide eligible customer-generators with net energy metering, as defined. Until January 1, 2003, an “eligible customer-generator” means a residential, small commercial, commercial, industrial, or agricultural customer of an electric service provider, who uses a solar or a wind turbine electrical generating facility, or a hybrid system of both, with a capacity of not more than one megawatt that is located on the customer’s owned, leased, or rented premises, is interconnected and operates in parallel with the electric grid, and is intended primarily to offset part or all of the customer’s own electrical requirements. After January 1, 2003, an “eligible customer-generator” means a residential or small commercial customer of an electric service provider, who uses a solar or a wind turbine electrical generating facility, or a hybrid system of both, with a capacity of not more than 10 kilowatts that is located on the customer’s premises, is interconnected and operates in parallel with the electric grid, and is intended primarily to offset part or all of the customer’s own electrical requirements.

This bill would expand the definition of an “eligible customer-generator” to include an otherwise eligible customer who uses a solar, wind turbine, or biogas electrical generating facility, or a hybrid system.

Vote: majority. Appropriation: no. Fiscal committee: yes. State-mandated local program: no.

*The people of the State of California do enact as follows:*

1 SECTION 1. Section 2827 of the Public Utilities Code, as  
2 amended by Section 11 of Chapter 8 of the 2001–02 First  
3 Extraordinary Session, is amended to read:

4 2827. (a) The Legislature finds and declares that a program  
5 to provide net energy metering for eligible customer-generators is  
6 one way to encourage substantial private investment in renewable  
7 energy resources, stimulate in-state economic growth, reduce  
8 demand for electricity during peak consumption periods, help  
9 stabilize California’s energy supply infrastructure, enhance the  
10 continued diversification of California’s energy resource mix, and  
11 reduce interconnection and administrative costs for electricity  
12 suppliers.

13 (b) As used in this section, the following definitions apply:

14 (1) “Electric service provider” means an electrical  
15 corporation, as defined in Section 218, a local publicly owned  
16 electric utility, as defined in Section 9604, or an electrical  
17 cooperative, as defined in Section 2776, or any other entity that  
18 offers electrical service.

19 (2) “Eligible customer-generator” means a residential, small  
20 commercial customer as defined in subdivision (h) of Section 331,  
21 commercial, industrial, or agricultural customer of an electric  
22 service provider, who uses a solar, *biogas*, or a wind turbine  
23 electrical generating facility, or a hybrid system ~~of both~~, with a  
24 capacity of not more than one megawatt that is located on the  
25 customer’s owned, leased, or rented premises, is interconnected  
26 and operates in parallel with the electric grid, and is intended  
27 primarily to offset part or all of the customer’s own electrical  
28 requirements.

29 (3) “Net energy metering” means measuring the difference  
30 between the electricity supplied through the electric grid and the  
31 electricity generated by an eligible customer-generator and fed



1 back to the electric grid over a 12-month period as described in  
2 subdivision (e). Net energy metering shall be accomplished using  
3 a single meter capable of registering the flow of electricity in two  
4 directions. An additional meter or meters to monitor the flow of  
5 electricity in each direction may be installed with the consent of  
6 the customer-generator, at the expense of the electric service  
7 provider, and the additional metering shall be used only to provide  
8 the information necessary to accurately bill or credit the  
9 customer-generator pursuant to subdivision (e), or to collect solar  
10 or wind electric generating system performance information for  
11 research purposes. If the existing electrical meter of an eligible  
12 customer-generator is not capable of measuring the flow of  
13 electricity in two directions, the customer-generator shall be  
14 responsible for all expenses involved in purchasing and installing  
15 a meter that is able to measure electricity flow in two directions.  
16 If an additional meter or meters are installed, the net energy  
17 metering calculation shall yield a result identical to that of a single  
18 meter. An eligible customer-generator who already owns an  
19 existing solar, *biogas*, or wind turbine electrical generating  
20 facility, or a hybrid system of both, is eligible to receive net energy  
21 metering service in accordance with this section.

22 (c) (1) Every electric service provider shall develop a standard  
23 contract or tariff providing for net energy metering, and shall make  
24 this contract available to eligible customer-generators, upon  
25 request.

26 (2) If a customer participates in direct transactions pursuant to  
27 paragraph (1) of subdivision (b) of Section 365 with an electric  
28 supplier that does not provide distribution service for the direct  
29 transactions, the service provider that provides distribution service  
30 for an eligible customer-generator is not obligated to provide net  
31 energy metering to the customer.

32 (3) If a customer participates in direct transactions pursuant to  
33 paragraph (1) of subdivision (b) of Section 365 with an electric  
34 supplier, and the customer is an eligible customer-generator, the  
35 service provider that provides distribution service for the direct  
36 transactions may recover from the customer's electric service  
37 provider the incremental costs of metering and billing service  
38 related to net energy metering in an amount set by the commission.

39 (d) Each net energy metering contract or tariff shall be  
40 identical, with respect to rate structure, all retail rate components,



1 and any monthly charges, to the contract or tariff to which the same  
2 customer would be assigned if such customer was not an eligible  
3 customer-generator, except that eligible customer-generators shall  
4 not be assessed standby charges on the electrical generating  
5 capacity or the kilowatthour production of an eligible solar or wind  
6 electrical generating facility. The charges for all retail rate  
7 components for eligible customer-generators shall be based  
8 exclusively on the customer-generator's net kilowatthour  
9 consumption over a 12-month period, without regard to the  
10 customer-generator's choice of electric service provider. Any new  
11 or additional demand charge, standby charge, customer charge,  
12 minimum monthly charge, interconnection charge, or other charge  
13 that would increase an eligible customer-generator's costs beyond  
14 those of other customers in the rate class to which the eligible  
15 customer-generator would otherwise be assigned are contrary to  
16 the intent of this legislation, and shall not form a part of net energy  
17 metering contracts or tariffs.

18 (e) For eligible residential and small commercial  
19 customer-generators, the net energy metering calculation shall be  
20 made by measuring the difference between the electricity supplied  
21 to the eligible customer-generator and the electricity generated by  
22 the eligible customer-generator and fed back to the electric grid  
23 over a 12-month period. The following rules shall apply to the  
24 annualized net metering calculation:

25 (1) The eligible residential or small commercial  
26 customer-generator shall, at the end of each 12-month period  
27 following the date of final interconnection of the eligible  
28 customer-generator's system with an electric service provider, and  
29 at each anniversary date thereafter, be billed for electricity used  
30 during that period. The electric service provider shall determine if  
31 the eligible residential or small commercial customer-generator  
32 was a net consumer or a net producer of electricity during that  
33 period.

34 (2) At the end of each 12-month period, where the electricity  
35 supplied during the period by the electric service provider exceeds  
36 the electricity generated by the eligible residential or small  
37 commercial customer-generator during that same period, the  
38 eligible residential or small commercial customer-generator is a  
39 net electricity consumer and the electric service provider shall be  
40 owed compensation for the eligible customer-generator's net



1 kilowatthour consumption over that same period. The  
2 compensation owed for the eligible residential or small  
3 commercial customer-generator's consumption shall be  
4 calculated as follows:

5 (A) For all eligible customer-generators taking service under  
6 tariffs employing "baseline" and "over baseline" rates, any net  
7 monthly consumption of electricity shall be calculated according  
8 to the terms of the contract or tariff to which the same customer  
9 would be assigned to or be eligible for if the customer was not an  
10 eligible customer-generator. If those same customer-generators  
11 are net generators over a billing period, the net kilowatthours  
12 generated shall be valued at the same price per kilowatthour as the  
13 electric service provider would charge for the baseline quantity of  
14 electricity during that billing period, and if the number of  
15 kilowatthours generated exceeds the baseline quantity, the excess  
16 shall be valued at the same price per kilowatthour as the electric  
17 service provider would charge for electricity over the baseline  
18 quantity during that billing period.

19 (B) For all eligible customer-generators taking service under  
20 tariffs employing "time of use" rates, any net monthly  
21 consumption of electricity shall be calculated according to the  
22 terms of the contract or tariff to which the same customer would  
23 be assigned to or be eligible for if the customer was not an eligible  
24 customer-generator. When those same customer-generators are  
25 net generators during any discrete time of use period, the net  
26 kilowatthours produced shall be valued at the same price per  
27 kilowatthour as the electric service provider would charge for  
28 retail kilowatthour sales during that same time of use period. If the  
29 eligible customer-generator's time of use electrical meter is unable  
30 to measure the flow of electricity in two directions, paragraph (3)  
31 of subdivision (b) shall apply.

32 (C) For all residential and small commercial  
33 customer-generators and for each monthly period, the net balance  
34 of moneys owed to the electric service provider for net  
35 consumption of electricity or credits owed to the  
36 customer-generator for net generation of electricity shall be  
37 carried forward until the end of each 12-month period. For all  
38 commercial, industrial, and agricultural customer-generators the  
39 net balance of moneys owed shall be paid in accordance with the  
40 electric service provider's normal billing cycle, except that if the

1 commercial, industrial, or agricultural customer-generator is a net  
2 electricity producer over a normal billing cycle, any excess  
3 kilowatthours generated during the billing cycle shall be carried  
4 over to the following billing period, valued according to the  
5 procedures set forth in this section, and appear as a credit on the  
6 customer-generator's account, until the end of the annual period  
7 when paragraph (3) of subdivision (e) shall apply.

8 (3) At the end of each 12-month period, where the electricity  
9 generated by the eligible customer-generator during the 12-month  
10 period exceeds the electricity supplied by the electric service  
11 provider during that same period, the eligible customer-generator  
12 is a net electricity producer and the electric service provider shall  
13 retain any excess kilowatthours generated during the prior  
14 12-month period. The eligible customer-generator shall not be  
15 owed any compensation for those excess kilowatthours unless the  
16 electric service provider enters into a purchase agreement with the  
17 eligible customer-generator for those excess kilowatthours.

18 (4) The electric service provider shall provide every eligible  
19 residential or small commercial customer-generator with net  
20 electricity consumption information with each regular bill. That  
21 information shall include the current monetary balance owed the  
22 electric service provider for net electricity consumed since the last  
23 12-month period ended. Notwithstanding subdivision (e), an  
24 electric service provider shall permit that customer to pay monthly  
25 for net energy consumed.

26 (5) If an eligible residential or small commercial  
27 customer-generator terminates the customer relationship with the  
28 electric service provider, the electric service provider shall  
29 reconcile the eligible customer-generator's consumption and  
30 production of electricity during any part of a 12-month period  
31 following the last reconciliation, according to the requirements set  
32 forth in this subdivision, except that those requirements shall apply  
33 only to the months since the most recent 12-month bill.

34 (6) If an electric service provider providing net metering to a  
35 residential or small commercial customer-generator ceases  
36 providing that electrical service to that customer during any  
37 12-month period, and the customer-generator enters into a new net  
38 metering contract or tariff with a new electric service provider, the  
39 12-month period, with respect to that new electric service  
40 provider, shall commence on the date on which the new electric



1 service provider first supplies electric service to the  
2 customer-generator.

3 (f) A solar or wind turbine electrical generating system, or a  
4 hybrid system of both, used by an eligible customer-generator  
5 shall meet all applicable safety and performance standards  
6 established by the National Electrical Code, the Institute of  
7 Electrical and Electronics Engineers, and accredited testing  
8 laboratories such as Underwriters Laboratories and, where  
9 applicable, rules of the Public Utilities Commission regarding  
10 safety and reliability. A customer-generator whose solar or wind  
11 turbine electrical generating system, or a hybrid system of both,  
12 meets those standards and rules shall not be required to install  
13 additional controls, perform or pay for additional tests, or purchase  
14 additional liability insurance.

15 (g) This section shall remain in effect only until January 1,  
16 2003, and as of that date is repealed, unless a later enacted statute,  
17 that is enacted before January 1, 2003, deletes or extends that date.

18 SEC. 2. Section 2827 of the Public Utilities Code, as added by  
19 Section 12 of Chapter 8 of the 2001–02 First Extraordinary  
20 Session, is amended to read:

21 2827. (a) The Legislature finds and declares that a program  
22 to provide net energy metering for eligible customer-generators is  
23 one way to encourage private investment in renewable energy  
24 resources, stimulate in-state economic growth, enhance the  
25 continued diversification of California’s energy resource mix, and  
26 reduce interconnection and administrative costs for electricity  
27 suppliers.

28 (b) As used in this section, the following definitions apply:

29 (1) “Electric service provider” means an electric corporation,  
30 as defined in Section 218, a local publicly owned electric utility,  
31 as defined in Section 9604, or an electrical cooperative, as defined  
32 in Section 2776. “Electric service provider” also means an entity  
33 that offers electrical service to residential and small commercial  
34 customers, as defined in Section 394, if that entity offers net  
35 energy metering. Any entity that offers net energy metering to  
36 residential and small commercial customers shall comply with this  
37 section.

38 (2) “Eligible customer-generator” means a residential  
39 customer, or a small commercial customer as defined in  
40 subdivision (h) of Section 331, of an electric service provider, who



1 uses a solar, *biogas*, or a wind turbine electrical generating facility,  
2 or a hybrid system ~~of both~~, with a capacity of not more than 10  
3 kilowatts that is located on the customer's premises, is  
4 interconnected and operates in parallel with the electric grid, and  
5 is intended primarily to offset part or all of the customer's own  
6 electrical requirements.

7 (3) "Net energy metering" means measuring the difference  
8 between the electricity supplied through the electric grid and the  
9 electricity generated by an eligible customer-generator and fed  
10 back to the electric grid over a 12-month period as described in  
11 subdivision (e). Net energy metering shall be accomplished using  
12 a single meter capable of registering the flow of electricity in two  
13 directions. An additional meter or meters to monitor the flow of  
14 electricity in each direction may be installed with the consent of  
15 the customer-generator, at the expense of the electric service  
16 provider, and the additional metering shall be used only to provide  
17 the information necessary to accurately bill or credit the  
18 customer-generator pursuant to subdivision (e), or to collect solar  
19 or wind electric generating system performance information for  
20 research purposes. If the existing electrical meter of an eligible  
21 customer-generator is not capable of measuring the flow of  
22 electricity in two directions, the customer-generator shall be  
23 responsible for all expenses involved in purchasing and installing  
24 a meter that is able to measure electricity flow in two directions.  
25 If an additional meter or meters are installed, the net energy  
26 metering calculation shall yield a result identical to that of a single  
27 meter. An eligible customer-generator who already owns an  
28 existing solar or wind turbine electrical generating facility, or a  
29 hybrid system of both, is eligible to receive net energy metering  
30 service in accordance with this section.

31 (4) "Ratemaking authority" means, for an electrical  
32 corporation as defined in Section 218, or an electrical cooperative  
33 as defined in Section 2776, the commission, and for a local  
34 publicly owned electric utility as defined in Section 9604, the local  
35 elected body responsible for regulating the rates of the utility.

36 (c) (1) Every electric service provider shall develop a standard  
37 contract or tariff providing for net energy metering, and shall make  
38 this contract available to eligible customer-generators, upon  
39 request, on a first-come-first-served basis until the time that the  
40 total rated generating capacity used by eligible



1 customer-generators equals one-tenth of 1 percent of the electric  
2 service provider's aggregate customer peak demand.

3 (2) On an annual basis, beginning in 1999, every electric  
4 service provider shall make available to the ratemaking authority  
5 information on the total rated generating capacity used by eligible  
6 customer-generators that are customers of that provider in the  
7 provider's service area. For those electric service providers who  
8 are operating pursuant to Section 394, they shall make available  
9 to the ratemaking authority the information required by this  
10 paragraph for each eligible customer-generator that is their  
11 customer for each service area of an electric corporation, local  
12 publicly owned electric utility, or electrical cooperative, in which  
13 the customer has net energy metering. The ratemaking authority  
14 shall develop a process for making the information required by this  
15 paragraph available to energy service providers, and for using that  
16 information to determine when, pursuant to paragraph (3), a  
17 service provider is not obligated to provide net energy metering to  
18 additional customer-generators in its service area.

19 (3) Notwithstanding paragraph (1), an electric service provider  
20 is not obligated to provide net energy metering to additional  
21 customer-generators in its service area when the combined total  
22 peak demand of all customer-generators served by all the electric  
23 service providers in that service area furnishing net energy  
24 metering to eligible customer-generators equals one-tenth of 1  
25 percent of the aggregate customer peak demand of those electric  
26 service providers.

27 (4) If a customer participates in direct transactions pursuant to  
28 paragraph (1) of subdivision (b) of Section 365 with an electric  
29 supplier that does not offer net energy metering and is therefore not  
30 an electric service provider, the customer is not an eligible  
31 customer-generator and the electric corporation, as defined in  
32 Section 218, that provides distribution service for the direct  
33 transactions, is not obligated to provide net energy metering to the  
34 customer.

35 (5) If a customer participates in direct transactions pursuant to  
36 paragraph (1) of subdivision (b) of Section 365 with an electric  
37 supplier that offers net energy metering and is therefore an electric  
38 service provider, and the customer is an eligible  
39 customer-generator, the electric corporation, as defined in Section  
40 218, that provides distribution service for the direct transactions

1 may recover from the customer's electric service provider the  
2 incremental costs of metering and billing service related to net  
3 energy metering in an amount set by the commission.

4 (d) Each net energy metering contract or tariff shall be  
5 identical, with respect to rate structure, all retail rate components,  
6 and any monthly charges, to the contract or tariff to which the same  
7 customer would be assigned if such customer was not an eligible  
8 customer-generator. The charges for all retail rate components for  
9 eligible customer-generators shall be based exclusively on the  
10 customer-generator's net kilowatthour consumption over a  
11 12-month period, without regard to the customer-generator's  
12 choice of electric service provider that offers net energy metering  
13 and is subject to this section pursuant to paragraph (1) of  
14 subdivision (b), in accordance with subdivision (e). Any new or  
15 additional demand charge, standby charge, customer charge,  
16 minimum monthly charge, interconnection charge, or other charge  
17 that would increase an eligible customer-generator's costs beyond  
18 those of other customers in the rate class to which the eligible  
19 customer-generator would otherwise be assigned are contrary to  
20 the intent of this legislation, and shall not form a part of net energy  
21 metering contracts or tariffs.

22 (e) The net energy metering calculation shall be made by  
23 measuring the difference between the electricity supplied to the  
24 eligible customer-generator and the electricity generated by the  
25 eligible customer-generator and fed back to the electric grid over  
26 a 12-month period. The following rules shall apply to the  
27 annualized net metering calculation:

28 (1) The eligible customer-generator shall, at the end of each  
29 12-month period following the date of final interconnection of the  
30 eligible customer-generator's system with an electric service  
31 provider, and at each anniversary date thereafter, be billed for  
32 electricity used during that period. The electric service provider  
33 shall determine if the eligible customer-generator was a net  
34 consumer or a net producer of electricity during that period.

35 (2) At the end of each 12-month period, where the electricity  
36 supplied during the period by the electric service provider exceeds  
37 the electricity generated by the eligible customer-generator during  
38 that same period, the eligible customer-generator is a net  
39 electricity consumer and the electric service provider shall be  
40 owed compensation for the eligible customer-generator's net



1 kilowatthour consumption over that same period. The  
2 compensation owed for the eligible customer-generator's net  
3 12-month kilowatthour consumption shall be calculated as  
4 follows:

5 (A) For eligible customer-generators taking service under  
6 tariffs employing "baseline" and "over baseline" rates, any net  
7 monthly consumption of electricity shall be calculated according  
8 to the terms of the contract or tariff to which the same customer  
9 would be assigned to or be eligible for if the customer was not an  
10 eligible customer-generator. If those same customer-generators  
11 are net generators over a billing period, the net kilowatthours  
12 generated shall be valued at the same price per kilowatthour as the  
13 electric service provider would charge for the baseline quantity of  
14 electricity during that billing period, and if the number of  
15 kilowatthours generated exceeds the baseline quantity, the excess  
16 shall be valued at the same price per kilowatthour as the electric  
17 service provider would charge for electricity over the baseline  
18 quantity during that billing period.

19 (B) For eligible customer-generators taking service under  
20 tariffs employing "time of use" rates, any net monthly  
21 consumption of electricity shall be calculated according to the  
22 terms of the contract or tariff to which the same customer would  
23 be assigned to or be eligible for if the customer was not an eligible  
24 customer-generator. When those same customer-generators are  
25 net generators during any discrete time of use period, the net  
26 kilowatthours produced shall be valued at the same price per  
27 kilowatthour as the electric service provider would charge for  
28 retail kilowatthour sales during that same time of use period. If the  
29 eligible customer-generator's time of use electrical meter is unable  
30 to measure the flow of electricity in two directions, paragraph (3)  
31 of subdivision (b) shall apply.

32 (C) For all customer-generators and for each monthly period,  
33 the net balance of moneys owed to the electric service provider for  
34 net consumption of electricity or credits owed to the  
35 customer-generator for net generation of electricity shall be  
36 carried forward until the end of each 12-month period.

37 (3) At the end of each 12-month period, where the electricity  
38 generated by the eligible customer-generator during the 12-month  
39 period exceeds the electricity supplied by the electric service  
40 provider during that same period, the eligible customer-generator

1 is a net electricity producer and the electric service provider shall  
2 retain any excess kilowatthours generated during the prior  
3 12-month period. The eligible customer-generator shall not be  
4 owed any compensation for those excess kilowatthours unless the  
5 electric service provider enters into a purchase agreement with the  
6 eligible customer-generator for those excess kilowatthours.

7 (4) The electric service provider shall provide every eligible  
8 customer-generator with net electricity consumption information  
9 with each regular bill. That information shall include the current  
10 monetary balance owed the electric service provider for net  
11 electricity consumed since the last 12-month period ended.  
12 Notwithstanding subdivision (e), an electric service provider shall  
13 permit that customer to pay monthly for net energy consumed.

14 (5) If an eligible customer-generator terminates the customer  
15 relationship with the electric service provider, the electric service  
16 provider shall reconcile the eligible customer-generator's  
17 consumption and production of electricity during any part of a  
18 12-month period following the last reconciliation, according to the  
19 requirements set forth in this subdivision, except that those  
20 requirements shall apply only to the months since the most recent  
21 12-month bill.

22 (6) If an electric service provider providing net metering to a  
23 customer-generator ceases providing that electrical service to that  
24 customer during any 12-month period, and the customer-generator  
25 enters into a new net metering contract or tariff with a new electric  
26 service provider, the 12-month period, with respect to that new  
27 electric service provider, shall commence on the date on which the  
28 new electric service provider first supplies electric service to the  
29 customer-generator.

30 (f) A solar or wind turbine electrical generating system, or a  
31 hybrid system of both, used by an eligible customer-generator  
32 shall meet all applicable safety and performance standards  
33 established by the National Electrical Code, the Institute of  
34 Electrical and Electronics Engineers, and accredited testing  
35 laboratories such as Underwriters Laboratories and, where  
36 applicable, rules of the Public Utilities Commission regarding  
37 safety and reliability. A customer-generator whose solar or wind  
38 turbine electrical generating system, or a hybrid system of both,  
39 meets those standards and rules shall not be required to install



- 1 additional controls, perform or pay for additional tests, or purchase
- 2 additional liability insurance.
- 3 (g) This section shall become operative on January 1, 2003.

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