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SENATE BILL

No. 1

Introduced by Senators Murray and Campbell

(Principal coauthor: Assembly Member Levine)

(Coauthors: Senators Alquist, Chesbro, Ducheny, and Kehoe)

(Coauthors: Assembly Members Bermudez, Chan, Cohn, Huff, Koretz, Laird, Leno, Lieber, Maze, Nation, Pavley, Saldana, and Wolk)

December 6, 2004

An act to amend Section 25744 of, to add Sections 25405.5 and 25405.6 to, and to add Chapter 8.8 (commencing with Section 25780) to Division 15 of, the Public Resources Code, and to amend Section 379.6 of, and to add Sections 379.8 and 387.5 to, the Public Utilities Code, relating to solar energy.

LEGISLATIVE COUNSEL'S DIGEST

- SB 1, as amended, Murray. Energy: renewable energy resources: Million Solar Roofs Initiative.
- (1) Existing law requires the State Energy Resources Conservation and Development Commission (Energy Commission) to expand and accelerate development of alternative sources of energy, including solar resources. Existing law requires the Energy Commission, until

-2-

January 1, 2006, and to the extent that funds are appropriated for that purpose in the annual Budget Act, to implement a grant program to accomplish specified goals, including making solar energy systems cost competitive with alternate forms of energy.

Under existing law, the Public Utilities Commission (PUC) has regulatory authority over public utilities, including electrical corporations. The existing Public Utilities Act requires the PUC to require Pacific Gas and Electric Company, San Diego Gas and Electric, and Southern California Edison to identify a separate electrical rate component to fund programs that enhance system reliability and provide in-state benefits. This rate component is a nonbypassable element of local distribution and collected on the basis of usage. The funds are collected to support cost-effective energy efficiency and conservation activities, public interest research and development not adequately provided by competitive and regulated markets, and renewable energy resources. Existing law requires that 17.5% of the money collected under the renewable energy public goods charge be used for a multiyear, consumer-based program to foster the development of emerging renewable technologies in distributed generation applications. Existing law requires that the funds be expended in accordance with a specified report of the Energy Commission to the Legislature, subject to certain requirements.

Existing law requires the PUC, on or before March 7, 2001, and in consultation with the Independent System Operator, to take certain actions, including, in consultation with the Energy Commission, adopting energy conservation demand-side management and other initiatives in order to reduce demand for electricity and reduce load during peak demand periods, including differential incentives for renewable or superclean distributed generation resources. Pursuant to this requirement, the PUC has developed a self-generation incentive program to encourage customers of electrical corporations to install distributed generation that operates on renewable fuel or contributes to system reliability. Existing law requires the PUC, in consultation with the Energy Commission, to administer, until January 1, 2008, a self-generation incentive program for distributed generation resources in the same form that exists on January 1, 2004, subject to certain air emissions and efficiency standards.

This bill would establish the Million Solar Roofs Initiative, administered by the Energy Commission, with the goals of placing 1,000,000 solar energy systems, as defined *or designated by the*

-3- SB 1

Energy Commission, on new and existing residential and commercial customer sites, or its generation capacity equivalent of 3,000 megawatts, establishing a self-sufficient solar industry in 10 years, and placing solar energy systems on 50% of new home developments in 13 years. The bill would establish the Million Solar Roofs Initiative Trust Fund and would provide that, upon appropriation by the Legislature, moneys deposited into the fund may be expended by the Energy Commission for purposes of carrying out the Million Solar Roofs Initiative. The bill would provide that up to 2% of the money in the fund may be expended for the state's costs of administration. The program would require the Energy Commission to award incentives, pursuant to a declining schedule to be adopted by the Energy Commission, and would authorize certain other incentive programs, to support the installation of eligible solar energy systems. The bill would require the Energy Commission to adopt by January 1, 2010, a performance-based incentive program, for at least 50% of the moneys expended, that is based on the actual electrical output of the solar energy system and that promotes the installation of solar energy systems that maximize electrical output to coincide with peak loads. The bill would require the Energy Commission to establish and revise eligibility criteria for solar energy systems and to establish conditions for incentives. The bill would require that electrical work to install the solar energy system be preformed under contract by a contractor meeting certain licensure requirements. The bill would require the Energy Commission to adopt guidelines governing the program at a publicly noticed meeting. The bill would provide that the Million Solar Roofs Initiative program supplants that portion of the program to foster the development of emerging renewable technologies that encourages installation of residential and commercial photovoltaic solar energy systems. The bill would require that, upon disbursement of funds from the Million Solar Roofs Initiative Trust Fund consistent with the Million Solar Roofs Initiative, the photovoltaic portion of the emerging renewable technologies program be discontinued and the remaining funds from that program be deposited into the Million Solar Roofs Initiative Trust Fund, and would prohibit the Energy Commission from establishing any other program in addition to the Million Solar Roofs Initiative program, to encourage the increased installation of residential and commercial photovoltaic solar energy systems. The bill would require the Energy Commission to conduct random audits of solar energy systems to evaluate their operational $SB 1 \qquad \qquad -4-$

performance. The bill would require the Energy Commission, on or before January 1, 2009, and every 3rd year thereafter, to submit an assessment of the success of the Million Solar Roofs Initiative program to the Legislature.

This bill would require that the PUC, on or before February 1, 2006, and in consultation with the Energy Commission, issue an order opening a proceeding, or expanding the scope of an existing proceeding, to finance a comprehensive solar energy program to adequately fund the Million Solar Roofs Initiative. The bill would require funding of the Million Solar Roofs Initiative to be an element of the program adopted by the PUC, with the charge imposed not to exceed an unspecified amount per kilowatthour for each customer class, with the total amount collected not to exceed a specified aggregate dollar limit within the service territories of participating electrical corporations. The bill would require that the reasonable cost of the program be included in the distribution revenue requirements of electrical corporations. The bill would require that the program adopted by the PUC be a cost-effective investment by ratepayers in peak electricity generation capacity that enables ratepayers to recoup the cost of their investment through lower rates as a result of avoiding purchases of electricity at peak rates generated by traditional generation resources. The bill would require the PUC to adopt the program no later than January 1, 2007. The bill would provide that the Million Solar Roofs Initiative program supplants that portion of the self-generation incentive program that encourages installation of residential and commercial photovoltaic solar energy systems and would require that, upon disbursement by the Energy Commission of funds from the Million Solar Roofs Initiative Trust Fund consistent with the Million Solar Roofs Initiative program, the photovoltaic portion of the self-generation incentive program be discontinued and the PUC order the remaining funds from that program be deposited into the Million Solar Roofs Initiative Trust Fund. The bill would prohibit the PUC from establishing any other program to encourage the increased installation of residential and commercial solar energy systems.

This bill would require all local publicly owned electric utilities, as defined, that sell electricity at retail, on or before January 1, 2007, to adopt, implement, and finance a solar roofs initiative program, funded by a surcharge, as prescribed, for the purpose of investing in, and encouraging the increased installation of, residential and commercial

5 SB 1

solar energy systems. The bill would require a local publicly owned electric utility to make certain program information available to its customers and to the Energy Commission on an annual basis beginning June 1, 2007. By imposing additional duties upon local publicly owned electric utilities, the bill would thereby impose a state-mandated local program.

(2) Existing law requires all electric service providers, as defined, to develop a standard contract or tariff providing for net energy metering, and to make this contract available to eligible customer generators, upon request. Existing law requires all electric service providers, upon request, to make available to eligible customer generators contracts for net energy metering on a first-come-first-served basis until the time that the total rated generating capacity used by eligible customer generators exceeds 0.5% of the electric service provider's aggregate customer peak demand.

This bill would, notwithstanding these requirements, require the PUC to order electric service providers to expand the availability of net energy metering so that it is offered on a first-come-first-served basis until the time that the total rated generating capacity used by all eligible customer-generators exceeds 5% of the electric service provider's aggregate-custom customer peak demand.

(3) Existing law requires the Energy Commission to expand and accelerate development of alternative sources of energy, including solar resources.

This bill would require that beginning January 1, 2010, a seller of production homes, as defined, offer the option of a solar energy system, as defined, to all customers negotiating to purchase a new production home constructed on land meeting certain criteria and to disclose certain information. The bill would require the Energy Commission to develop an offset program that allows a developer or seller of production homes to forego the offer requirement on one project, by installing solar energy systems generating specified amounts of electricity on other projects. The bill would require that not later than July 1, 2006, the Energy Commission initiate a public proceeding and make findings if and under what conditions solar energy systems are to be required on new residential and nonresidential buildings. The bill would prohibit the Energy Commission from requiring that a solar energy system be installed on a residential building unless the Energy Commission determines,

SB 1 -6-

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based upon consideration of all costs associated with the system, including the availability of certain financial incentives, that the system is cost effective when amortized over the economic life of the structure.

(4) Under existing law, a violation of the Public Utilities Act or an order or direction of the PUC is a crime.

Various provisions of this bill are within the act and require action by the PUC to implement the bill's requirements. Because a violation of those provisions or of PUC actions to implement those provisions would be a crime, this bill would impose a state-mandated local program by creating new crimes.

(5) The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for specified reasons.

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

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

- 1 SECTION 1. Section 25405.5 is added to the Public 2 Resources Code, to read:
- 3 25405.5. (a) As used in this section, the following terms have the following meanings:
 - (1) "kW" means kilowatts or 1,000 watts, as measured from the alternating current side of the solar energy system inverter consistent with Section 223 of Title 15 of the United States Code.
 - (2) "Production home" means a single family residence constructed as part of a development of at least 50 homes per project that is intended or offered for sale.
 - (3) "Solar energy system" means a photovoltaic solar collector or other photovoltaic solar energy device that has a primary purpose of providing for the collection and distribution of solar energy for the generation of electricity, and that produces at least 1 kW, but not more than 1 megawatt, alternating current rated peak electricity. The commission may designate a solar energy device that is not a photovoltaic solar collector or other
- 17 device that is not a photovoltaic solar collector or other 18 photovoltaic solar energy device to be a "solar energy system" if

—7— SB 1

the solar energy device has the primary purpose of providing for the collection and distribution of solar energy for the generation of electricity, and it meets or exceeds the eligibility criteria established pursuant to subdivision (c) of Section 25782.

- (b) A seller of production homes shall offer a solar energy system option to all customers that enter into negotiations to purchase a new production home constructed on land for which an application for a tentative subdivision map has been deemed complete on or after January 1, 2010, and disclose the following:
 - (1) The total installed cost of the solar energy system option.
- (2) The estimated cost savings associated with the solar energy system option, as determined by the commission pursuant to Chapter 8.8 (commencing with Section 25780) of Division 15.
- (c) The State Energy Resources Conservation and Development Commission shall develop an offset program that allows a developer or seller of production homes to forego the offer requirement of this section on one project, by installing solar energy systems generating specified amounts of electricity on other projects. The amount of electricity required to be generated from solar energy systems used as an offset pursuant to this subdivision, shall be equal to the amount of electricity generated by solar energy systems installed on a similarly sized project within that climate zone, assuming 20 percent of the prospective buyers would have installed solar energy systems.
- SEC. 2. Section 25405.6 is added to the Public Resources Code, to read:

25405.6. Not later than July 1, 2006, the commission shall initiate a public proceeding and make findings if, and under what conditions, solar energy systems shall be required on new residential and new nonresidential buildings, including the establishment of numerical targets. A solar energy system shall not be required for a residential building unless the commission determines, based upon consideration of all costs associated with the system, that the system is cost effective when amortized over the economic life of the structure. When determining the cost effectiveness of the solar energy system, the commission shall consider the availability of governmental rebates, tax deductions, net-metering, and other quantifiable factors, provided that the commission can determine the availability of these financial incentives if a solar energy system is made mandatory and not

-8-

elective. The commission shall periodically update the standards and adopt any revision that the commission determines is necessary, including revisions that reflect changes in the financial incentives originally considered by the commission when determining cost effectiveness of the solar energy system. For purposes of this section, "solar energy system" means a photovoltaic solar collector or other photovoltaic solar energy device that has a primary purpose of providing for the collection and distribution of solar energy for the generation of electricity.

- SEC. 3. Section 25744 of the Public Resources Code is amended to read:
- 25744. (a) Seventeen and one-half percent of the money collected pursuant to the renewable energy public goods charge shall be used for a multiyear, consumer-based program to foster the development of emerging renewable technologies in distributed generation applications.
- (b) Any funds used for emerging technologies pursuant to this section shall be expended, except as provided in subdivisions (c) and (d), in accordance with the report, subject to all of the following requirements:
- (1) Funding for emerging technologies shall be provided through a competitive, market-based process that shall be in place for a period of not less than five years, and shall be structured so as to allow eligible emerging technology manufacturers and suppliers to anticipate and plan for increased sale and installation volumes over the life of the program.
- (2) The program shall provide monetary rebates, buydowns, or equivalent incentives, subject to subparagraph (C), to purchasers, lessees, lessors, or sellers of eligible electricity generating systems. Incentives shall benefit the end-use consumer of renewable generation by directly and exclusively reducing the purchase or lease cost of the eligible system, or the cost of electricity produced by the eligible system. Incentives shall be issued on the basis of the rated electrical generating capacity of the system measured in watts, or the amount of electricity production of the system, measured in kilowatthours. Incentives shall be limited to a maximum percentage of the system price, as determined by the commission.
- (3) Eligible distributed emerging technologies are photovoltaic, solar thermal electric, fuel cell technologies that

-9- SB 1

1 utilize renewable fuels, and wind turbines of not more than 50 2 kilowatts rated electrical generating capacity per customer site, 3 and other distributed renewable emerging technologies that meet 4 the emerging technology eligibility criteria established by the 5 commission. Eligible electricity generating systems are intended primarily to offset part or all of the consumer's own electricity 7 demand, and shall not be owned by local publicly owned electric 8 utilities, nor be located at a customer site that is not receiving distribution service from an electrical corporation that is subject 10 to the renewable energy public goods charge and contributing 11 funds to support programs under this chapter. All eligible 12 electricity generating system components shall be new and 13 unused, shall not have been previously placed in service in any 14 other location or for any other application, and shall have a 15 warranty of not less than five years to protect against defects and 16 undue degradation of electrical generation output. Systems and 17 their fuel resources shall be located on the same premises of the 18 end-use consumer where the consumer's own electricity demand 19 is located, and all eligible electricity generating systems shall be 20 connected to the utility grid in California. The commission may 21 require eligible electricity generating systems to have meters in 22 place to monitor and measure a system's performance and 23 generation. Only systems that will be operated in compliance 24 with applicable law and the rules of the Public Utilities 25 Commission shall be eligible for funding. 26

(4) The commission may limit the distribution of funds available pursuant to the program based upon the receipt of funding or financial incentives from other federal or local government or public utility programs to promote solar energy.

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- (5) In awarding funding, the commission may provide preference to systems that provide tangible demonstrable benefits to communities with a plurality of minority or low-income populations.
- (6) In awarding funding, the commission shall develop and implement eligibility criteria and a system that provides preference to systems based upon system performance, taking into account factors, including, but not limited to, shading, insulation levels, and installation orientation.
- (7) The commission shall, on a quarterly basis, publish and make available to the public the balance of funds available for

SB 1 -10-

emerging renewable energy resources for rebates, buydowns, and other incentives for the purchase of these resources.

- (c) Notwithstanding Section 399.6 of the Public Utilities Code, the commission may expend, until December 31, 2008, up to sixty million dollars (\$60,000,000) of the funding allocated to the Renewable Resources Trust Fund for the program established in this section, subject to the repayment requirements of subdivision (f) of Section 25751.
- (d) Notwithstanding Section 399.6 of the Public Utilities Code and subdivision (b), the Million Solar Roofs Initiative program shall supplant that portion of the program to foster the development of emerging renewable technologies that encourage the installation of residential and commercial photovoltaic solar energy systems. Upon disbursement of funds from the Million Solar Roofs Initiative Trust Fund consistent with the Million Solar Roofs Initiative program established pursuant to Chapter 8.8 (commencing with Section 25780), the photovoltaic portion of the emerging renewable technologies program shall be discontinued and the remaining funds from that program shall be deposited into the Million Solar Roofs Initiative Trust Fund. The commission shall not establish any other program to encourage the increased installation of residential and commercial photovoltaic solar energy systems.
- SEC. 4. Chapter 8.8 (commencing with Section 25780) is added to Division 15 of the Public Resources Code, to read:

Chapter 8.8. Million Solar Roofs Initiative

25780. The Legislature finds and declares all of the following:

- (a) California has a pressing need to procure a steady supply of affordable and reliable peak electricity.
- (b) Solar generated electricity is uniquely suited to California's needs because it produces electricity when California needs it most, during the peak demand hours in summer afternoons when the sun is brightest and air conditioners are running at capacity.
- (c) Procuring solar electric generation capacity to meet peak electricity demand increases system reliability and decreases California's dependence on unstable fossil fuel supplies.

-11- SB 1

(d) Solar generated electricity diversifies California's energy portfolio. California currently relies on natural gas for the bulk of its electricity generation needs. Increasing energy demands place increasing pressure on limited natural gas supplies and threaten to raise costs.

- (e) More than 150,000 homes will be built annually in California in the coming years, challenging energy reliability and affordability.
- (f) Investing in residential and commercial solar electricity generation installations today will lower the cost of solar generated electricity for all Californians in the future. In 10 years, solar peak electric generation can be procured without the need for rebates.
- (g) Increasing California's solar electricity generation market will also bring additional manufacturing, installation, and sales jobs to the state at a higher rate than most conventional energy production sources.
- (h) Funding a Million Solar Roofs Initiative is a cost-effective investment by ratepayers in peak electricity generation capacity and ratepayers will recoup the cost of their investment through lower rates as a result of avoiding purchases of electricity at peak rates, with additional system reliability and pollution reduction benefits.
- (i) Solar energy systems provide substantial energy reliability and pollution reduction benefits. Solar energy systems also diversify our energy supply and thereby reduce our dependence on imported fossil fuels.
- 25781. As used in this chapter, the following terms have the following meanings:
- (a) "kW" means kilowatts or 1,000 watts, as measured from the alternating current side of the solar energy system inverter consistent with Section 223 of Title 15 of the United States Code.
- (b) "kWh" means kilowatthours, as measured by the number of kilowatts generated in an hour.
 - (c) "MW" means megawatts or 1,000,000 watts.
- (d) "Solar energy system" means a photovoltaic solar collector or other photovoltaic solar energy device that has a primary purpose of providing for the collection and distribution of solar electrical energy for the generation of electricity, and that produces at least 1 kW alternating current rated peak electricity.

SB 1 -12-

1 The commission may designate a solar energy device that is not 2 a photovoltaic solar collector or other photovoltaic solar energy 3 device to be a "solar energy system" if the solar energy device 4 has the primary purpose of providing for the collection and 5 distribution of solar energy for the generation of electricity, and 6 it meets or exceeds the eligibility criteria established pursuant to 7 subdivision (c) of Section 25782.

- (e) "Million Solar Roofs Initiative" means the program established by this chapter.
- 25782. (a) (1) The commission shall develop and implement a multiyear Million Solar Roofs Initiative to provide funding and support to foster the installation of solar energy systems on new and existing residential and commercial customer sites in California. The goals of this program are the placement of solar energy systems on 1,000,000 residential and commercial sites, or its generation capacity equivalent of 3,000 MW, the establishment of a self-sufficient solar industry in which solar energy systems are a viable mainstream option for both homes and businesses in 10 years, and the placement of solar energy systems on 50 percent of new homes in 13 years.
- (2) The Million Solar Roofs Initiative program shall supplant that portion of the program to foster the development of emerging renewable technologies funded pursuant to Section 25744, that encourages installation of residential and commercial photovoltaic solar energy systems. Upon disbursement of funds from the Million Solar Roofs Initiative Trust Fund consistent with the Million Solar Roofs Initiative program, the photovoltaic portion of the emerging renewable technologies program shall be discontinued and the remaining funds from that program shall be deposited into the Million Solar Roofs Initiative Trust Fund.
- (3) The commission shall not establish any other program in addition to the program established pursuant to this chapter, to encourage the increased installation of residential and commercial photovoltaic solar energy systems.
- (b) All funds used for the Million Solar Roofs Initiative shall be expended in accordance with the following:
- (1) The commission shall award monetary incentives for eligible solar energy systems not to exceed the existing level of incentive in effect on January 1, 2006. The incentive level shall decline each year thereafter at a rate of no less than 7 percent per

-13- SB 1

year and shall be zero as of December 31, 2016. The commission shall adopt and publish a schedule of declining incentive levels no less than 60 days in advance of the first decline in incentive levels. The commission may develop incentives based upon the output of electricity from the system, provided those incentives are consistent with the declining incentive levels of this paragraph.

- (2) By January 1, 2010, the commission shall adopt a performance-based incentive program in which at least 50 percent of the moneys expended pursuant to the Million Solar Roofs Initiative is expended to provide incentives that are based on the actual electrical output of the solar energy system and that promote the installation of solar energy systems that maximize electrical output to coincide with peak loads. In developing the performance-based incentive program, the commission may:
- (A) Apply performance-based incentives only to customer classes designated by the commission.
- (B) Design the performance-based incentives so that customers may receive a higher level of incentives than under incentives based on installed electrical capacity.
- (C) Develop financing options that help offset the installation costs of the solar energy system, provided that this financing is ultimately repaid in full by the consumer or through the application of the performance-based rebates.

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(3) On or before January 1, 2007, the commission shall adopt revisions to the eligibility criteria for solar energy systems, including design, installation, and electricity output standards or incentives.

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(4) Notwithstanding paragraph (1), the commission may increase the incentive level by not more than 50 percent above the maximum incentive level established pursuant to paragraph (1) for solar energy systems that are installed on "zero energy homes" or "zero energy commercial structures." Prior to an increase in the incentive level, the commission shall adopt definitions for "zero energy homes" and "zero energy commercial structures" through a public process, including at least one public hearing with not less than 30 days' notice.

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SB 1 -14-

(5) Notwithstanding paragraph (1), the commission may increase the incentive level by not more than 25 percent above the maximum incentive level established pursuant to paragraph (1) for solar energy systems that are installed on homes or commercial structures that exceed the commission's established building standards by a specified percentage as determined by the commission.

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(6) Awards shall be made for the installation of eligible solar energy systems on new or existing residential and commercial customer sites that are or will be receiving electrical distribution service from an electrical corporation that is contributing funds to support the Million Solar Roofs Initiative pursuant to Section 379.8 of the Public Utilities Code.

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- (7) Awards shall not be made for eligible solar energy systems installed on the premises of individuals or entities that are not contributing funds to support the Million Solar Roofs Initiative, except for the following:
- (A) Customers that participate in the California Alternate Rates for Energy or CARE program are eligible to receive awards.
- (B) An electrical corporation, where the commission determines the solar energy system is appropriately sized to load and is installed, operated, or part of a program to facilitate achieving the goals of the Million Solar Roofs Initiative. An electrical corporation that receives an award for participation in the Million Solar Roofs Initiative shall not recover the value of that award from ratepayers in rates.
- (c) The commission shall establish eligibility criteria for solar energy systems, including the following:
- (1) The solar energy system is intended primarily to offset part or all of the consumer's own electricity demand.
- (2) All components in the solar energy system are new and unused, and have not previously been placed in service in any other location or for any other application.
- (3) The solar energy system has a warranty of not less than 10 years to protect against defects and undue degradation of electrical generation output.

15 SB 1

(4) The solar energy system is located on the same premises of the end-use consumer where the consumer's own electricity demand is located.

- (5) The solar energy system is connected to the electrical corporation's electrical distribution system within the state.
- (6) The solar energy system has meters or other devices in place to monitor and measure the system's performance and the quantity of electricity generated by the system.
- (7) The electrical work to install the solar energy system is performed under contract by a California contractor with an active C-10 license, in accordance with rules and regulations adopted by the Contractors' State License Board.
- (8) The solar energy system is installed in conformance with the manufacturer's specifications and in compliance with all applicable electrical and building code standards.
- (d) The commission shall establish conditions on incentives that require-or encourage all of the following:
- (1) Appropriate siting and high quality installation of the solar energy system by developing installation guidelines that maximize the performance of the system and prevent qualified systems from being inefficiently or inappropriately installed. The conditions established by the commission shall not impact housing designs or densities presently authorized by a city, county, or city and county. The goal of this paragraph is to achieve efficient installation of solar energy systems to promote the greatest energy production per ratepayer dollar.
- (2) Optimal solar energy system performance during periods of peak electricity demand, including the use of advanced metering systems, onsite performance meters, dispatchable battery backup systems, and performance based incentives.
- (3) Appropriate energy efficiency improvements in the new or existing home or commercial structure where the solar energy system is installed.
- (4) Rate equipment, components, and systems to assure reasonable performance and to develop standards that provide for compliance with the minimum ratings.
- (e) The commission may limit the distribution of funds available to the program based upon the receipt of funding or financial incentives from other federal or local government or public utility programs to promote solar energy.

SB 1 -16-

(f) Notwithstanding subdivision (e), the commission shall provide proportional program support, not to exceed 10 percent of the overall funds for the Million Solar Roofs Initiative, for installation of solar energy systems on affordable housing projects undertaken pursuant to Section 50052.5, 50053, or 50199.14 of the Health and Safety Code. If deemed appropriate in consultation with the California Tax Credit Allocation Committee, the commission may establish a revolving loan or loan guarantee program for affordable housing projects consistent with the requirements of Chapter 5.3 (commencing with Section 25425).

- (g) Pursuant to this chapter, the commission may provide incentives in the form of a monetary incentive or its equivalent to purchasers, lessees, lessors, or sellers of an eligible solar energy system. The incentive shall benefit the end-use consumer by directly and exclusively reducing the purchase or lease cost of the eligible solar energy system, or the cost of electricity produced by the eligible solar energy system. Incentives shall be issued on the basis of the rated electrical capacity of the system measured in watts, or in the electricity production of the system, measured in kWh, as determined by the commission.
- 25783. In administering the Million Solar Roofs Initiative, the commission shall do all the following:
- (a) Examine and implement, to the extent appropriate, financing options that could lower solar energy system financing costs to residential and commercial customers. The commission shall examine wholesale and retail mortgage markets, and other issues that it deems appropriate.
- (b) Acquire, if the commission determines it necessary, appropriate technical and administrative services or expertise to support the Million Solar Roofs Initiative. The commission may award contracts to develop or administer all or a portion of the Million Solar Roofs Initiative.
- (c) Publish educational materials designed to demonstrate how builders may incorporate solar energy systems during construction as well as energy efficiency measures that best complement solar energy systems.
- (d) Develop and publish the estimated annual electrical generation and savings for solar energy systems. The estimates shall vary by climate zone, type of system, size, lifecycle costs,

—17— SB 1

electricity prices, and other factors the commission determines to be relevant to a consumer when making a purchasing decision.

- (e) Provide assistance to builders and contractors in support of the Million Solar Roofs Initiative. The assistance may include technical workshops, training, educational materials, and related research.
- (f) Publish, and make available to the public, at least once quarterly, the balance of funds available in the Million Solar Roofs Initiative Trust Fund, the cost of the program, the photovoltaic generating capacity installed, and the percentage of new and existing residential and commercial customer sites that are equipped with solar energy systems funded by the Million Solar Roofs Initiative. This information shall be including in the report to the Legislature made pursuant to subdivision (i).
- (g) The commission shall annually conduct random audits of solar energy systems to evaluate their operational performance.
- (h) The commission, in consultation with the Public Utilities Commission, shall evaluate the costs and benefits of having an increased number of operational solar energy systems as a part of the electrical system with respect to their impact upon the distribution, transmission, and supply of electricty, using the best available load profiling and distribution operations data from the Public Utilities Commission, local publicly owned electric utilities, and electrical corporations, and performance audits of installed solar energy systems.
- (i) On or before January 1, 2009, and every third year thereafter, the commission shall submit to the Legislature an assessment of the success of the Million Solar Roofs Initiative program. That assessment shall include the number of residential and commercial sites that have installed solar energy systems, the electrical generating capacity of the installed solar energy systems, the cost of the program, total electrical system benefits, including the effect on electrical service rates, environmental benefits, how the program affects the operation and reliability of the electrical grid, how the program has affected peak demand for electricity, the progress made toward reaching the goals of the program, whether the program is on schedule to meet the program goals, and recommendations for improving the program to meet its goals.

SB 1 -18-

25784. (a) The commission shall adopt guidelines governing the Million Solar Roofs Initiative authorized under this chapter, at a publicly noticed meeting offering all interested parties an opportunity to comment. Not less than 30 days' public notice shall be given of the meeting required by this section, before the commission initially adopts guidelines. Substantive changes to the guidelines shall not be adopted without at least 10 days' written notice to the public. Notwithstanding any other provision of law, any guidelines adopted pursuant to this chapter shall be exempt from the requirements of Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code.

- (b) Funds to further the purposes of this chapter may be committed for multiple years.
- 25785. (a) The Million Solar Roofs Initiative Trust Fund is hereby created in the State Treasury.
- (b) The money in the fund may be expended to implement and support the Million Solar Roofs Initiative pursuant to this chapter upon appropriation by the Legislature in the annual Budget Act. Up to 2 percent of the money in the fund may be expended for the costs of the state's administration of this chapter, upon appropriation by the Legislature.
- (c) Revenues collected by electrical corporations pursuant to Section 379.8 of the Public Utilities Code shall be transmitted to the commission at least quarterly for deposit in the Million Solar Roofs Initiative Trust Fund. The Treasurer shall immediately deposit money received pursuant to this section into the Million Solar Roofs Initiative Trust Fund for the current calendar year.
- (d) Upon appropriation by the Legislature and notification by the commission, the Controller shall pay all awards of the money in the fund for purposes enumerated in this chapter. The eligibility of an award shall be determined solely by the commission based on the procedures it adopts under this chapter. Based on the eligibility of an award, the commission shall also establish the need for a multiyear commitment to any particular award and so advise the Department of Finance. An eligible award submitted by the commission to the Controller shall be accompanied by a summary description of how payment of the award furthers the purposes enumerated in this chapter, and an accounting of future costs associated with any award or group of

-19- SB 1

awards known to the commission to represent a portion of a multiyear funding commitment.

- SEC. 5. Section 379.6 of the Public Utilities Code is amended to read:
- 379.6. (a) The commission, in consultation with the State Energy Resources Conservation and Development Commission, shall administer, until January 1, 2008, the self-generation incentive program for distributed generation resources originally established pursuant to Chapter 329 of the Statutes of 2000. Except as provided in subdivisions (b) and (c), the program shall be administered in the same form as it existed on January 1, 2004.
- (b) Eligibility for the self-generation incentive program's level 3 incentive category shall be subject to the following conditions:
- (1) Commencing January 1, 2005, all combustion-operated distributed generation projects using fossil fuel shall meet an oxides of nitrogen (NO_x) emissions rate standard of 0.14 pounds per megawatthour.
- (2) Commencing January 1, 2007, all combustion-operated distributed generation projects using fossil fuel shall meet a NO_x emissions rate standard of 0.07 pounds per megawatthour and a minimum efficiency of 60 percent. A minimum efficiency of 60 percent shall be measured as useful energy output divided by fuel input. The efficiency determination shall be based on 100 percent load.
- (3) Combined heat and power units that meet the 60 percent efficiency standard may take a credit to meet the applicable NO_x emissions standard of 0.14 pounds per megawatthour or 0.07 pounds per megawatthour. Credit shall be at the rate of one megawatthour for each 3.4 million British thermal units (Btus) of heat recovered.
- (4) Notwithstanding paragraphs (1) and (2), a project that does not meet the applicable NO_x emission standard is eligible if it meets both of the following requirements:
- (A) The project operates solely on waste gas. The commission shall require a customer that applies for an incentive pursuant to this paragraph to provide an affidavit or other form of proof, that specifies that the project shall be operated solely on waste gas. Incentives awarded pursuant to this paragraph shall be subject to refund and shall be refunded by the recipient to the extent the

SB 1 -20-

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project does not operate on waste gas. As used in this paragraph, "waste gas" means natural gas that is generated as a byproduct of petroleum production operations and is not eligible for delivery to the utility pipeline system.

- (B) The air quality management district or air pollution control district, in issuing a permit to operate the project, determines that operation of the project will produce an onsite net air emissions benefit, compared to permitted onsite emissions if the project does not operate. The commission shall require the customer to secure the permit prior to receiving incentives.
- (c) In administering the self-generation incentive program, the commission may adjust the amount of rebates, include other ultraclean and low-emission distributed generation technologies, as defined in Section 353.2, and evaluate other public policy interests, including, but not limited to, ratepayers, and energy efficiency and environmental interests. The Million Solar Roofs Initiative program shall supplant that portion of the self-generation incentive program that encourages installation of residential and commercial photovoltaic solar energy systems. Upon disbursement by the State Energy Resources Conservation and Development Commission of funds from the Million Solar Roofs Initiative Trust Fund consistent with the Million Solar Roofs Initiative program established pursuant to Chapter 8.8 (commencing with Section 25780) of Division 15 of the Public Resources Code, the photovoltaic portion of the self-generation incentive program shall be discontinued and the commission shall order the remaining funds from that program to be deposited into the Million Solar Roofs Initiative Trust Fund. The commission shall not establish any other program to encourage the increased installation of residential and commercial solar energy systems.
- SEC. 6. Section 379.8 is added to the Public Utilities Code, to read:
- 379.8. (a) As used in this section, the following terms have the following meanings:
- (1) "kW" means kilowatts or 1,000 watts, as measured from the alternating current side of the solar energy system inverter consistent with Section 223 of Title 15 of the United States Code.
- (2) "kWh" means kilowatthours, as measured by the number of kilowatts generated in an hour.

-21- SB 1

(3) "MW" means megawatts or 1,000,000 watts.

- (4) "Solar energy system" means a photovoltaic solar collector or other photovoltaic solar energy device that has a primary purpose of providing for the collection and distribution of solar electrical energy for the generation of electricity, and that produces at least 1 kW alternating current rated peak electricity. The State Energy Resources Conservation and Development Commission may designate a solar energy device that is not a photovoltaic solar collector or other photovoltaic solar energy device has the primary purpose of providing for the collection and distribution of solar energy for the generation of electricity, and it meets or exceeds the eligibility criteria established pursuant to subdivision (c) of Section 25782 of the Public Resources Code.
- (b) Notwithstanding any other law, on or before February 1, 2006, the commission, in consultation with the State Energy Resources Conservation and Development Commission, shall initiate a new proceeding or expand the scope of an existing proceeding to finance a comprehensive solar energy program pursuant to Chapter 8.8 (commencing with Section 25780) of Division 15 of the Public Resources Code, to adequately fund the Million Solar Roofs Initiative.
 - (c) The commission's proceeding shall do all of the following:
- (1) Order that funding for the photovoltaic portion of the self-generation incentive program for distributed generation be deposited into the Million Solar Roofs Initiative Trust Fund, at the same level as was collected in the 2004-05 fiscal year.
- (2) Determine the level of additional funding needed to adequately support the goal of placing solar energy systems on one million residential and commercial customer sites or its equivalent of 3,000 MW solar generating capacity in the state by December 31, 2018. Any additional funding shall not exceed \$ ___ per kilowatthour for any class of customers and shall not result in the collection of more than one billion eight hundred thousand dollars (\$1,800,000,000) from customers within the service territories of the participating electrical corporations.
- (3) In making the determination pursuant to paragraph (2), the commission shall consider the impact all existing solar incentive programs will have on achieving the goals of the program, including cash and noncash incentives, state and

-22

1 federal tax benefits, credits from net energy metering that exceed 2 the actual avoided costs of the replaced generation, and benefits 3 from waivers of other electrical corporation costs and charges. 4 For purposes of this paragraph, "other electrical corporation 5 costs and charges" include the nonbypassable rate component of 6 local distribution service imposed pursuant to Article 7 7 (commencing with Section 381) or Article 15 (commencing with 8 Section 399), standby charges, cost responsibility surcharges,

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and installation costs.

- (4) Encourage participation by a broad and diverse range of interests from all areas of the state, and interested state entities.
- (d) The commission shall include the reasonable cost of the program in the distribution revenue requirements of electrical corporations.
- (e) Notwithstanding any other provision of law, any charge imposed to fund the program adopted and implemented pursuant to this section shall be imposed upon all customers not participating in the California Alternate Rates for Energy or CARE program as provided in paragraph (2), including those residential customers subject to the rate cap required by Section 80110 of the Water Code for existing baseline quantities or usage up to 130 percent of existing baseline quantities of electricity.

The costs of the program adopted and implemented pursuant to this section may not be recovered from customers participating in the California Alternate Rates for Energy or CARE program established pursuant to Section 739.1, except to the extent that program costs are recovered out of the nonbypassable system benefits charge authorized pursuant to Section 399.8.

- (f) The commission shall adopt the program no later than January 1, 2007.
- (g) The program adopted by the commission pursuant to this section, shall do all of the following:
- (1) Be a cost-effective investment by ratepayers in peak electricity generation capacity that enables ratepayers to recoup the cost of their investment through lower rates as a result of avoiding purchases of electricity at peak rates generated by traditional powerplants and peaker generation units, with additional system reliability and pollution reduction benefits.

(2) Utilize the most cost-effective administrative mechanism to adequately accomplish the goals of the program.

- (3) Provide a predictable long-term funding mechanism sufficient to encourage adequate investment by the solar industry.
- (4) Make time-variant pricing available for all ratepayers with a solar energy system, upon adoption of time-variant pricing tariffs pursuant to Section 760. The commission shall structure any time-variant pricing so
- (4) Require time-variant pricing for all ratepayers with a solar energy system. The commission shall develop a time-variant tariff that creates the maximum incentive for ratepayers to install solar energy systems so that the system's peak electricity production coincides with California's peak electricity demands and that assures that ratepayers receive due value for their contribution to the purchase of solar energy systems and customers with solar energy systems continue to have an incentive to use electricity efficiently.
- (5) Require San Diego Gas and Electric Company, Southern California Edison Company, and Pacific Gas and Electric Company to each designate at least one employee to be accountable for solar energy system installations and operations.
- (6) Require San Diego Gas and Electric Company, Southern California Edison Company, and Pacific Gas and Electric Company to each monitor and report key solar program performance and progress data to the commission in a clearly identified place on the utility's Internet Web site.
- (7) Consider energy efficiency and demand side management options, in addition to solar energy system procurement, for new residential and commercial construction.
- (8) Notwithstanding Section 2827, require an electric service provider to expand the availability of net energy metering so that it is offered on a first-come-first-served basis until the time that the total rated generating capacity used by all eligible customer-generators exceeds 5 percent of the electric service provider's aggregate customer peak demand. However, the net metering cap shall not exceed 2 percent until the commission has established an appropriate net metering time-variant rate design that considers the costs to all net metering participants and ratepayers as a whole and that considers the recovery of the fixed costs of providing distribution service to customers. The

SB 1 -24-

commission shall monitor the level of net energy metering for each electrical corporation to ensure that the cap is increased in a timely manner as needed to further the objectives of this section.

- (h) The program adopted by the commission pursuant to this section shall also include elements for the purpose of funding a Million Solar Roofs Initiative by the State Energy Resources Conservation and Development Commission pursuant to Chapter 8.8 (commencing with Section 25780) of Division 15 of the Public Resources Code. These program elements shall exclude customers participating in the State Energy Resources Conservation and Development Commission's Million Solar Roofs Initiative from the rate cap for residential customers for existing baseline quantities or usage by those customers of up to 130 percent of existing baseline quantities, as required by Section 80110 of the Water Code.
- (i) Any rate structure for an electrical corporation in effect as of January 1, 2006, that provides for a separate per kW energy charge and a separate facilities charge for nonresidential customers with a maximum demand of more than 20 kW shall remain in effect for those nonresidential customers with a maximum demand of more than 20 kW who participate in the Million Solar Roofs Initiative pursuant to Chapter 8.8 (commencing with Section 25780) of Division 15 of the Public Resources Code.

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- (j) Upon disbursement by the State Energy Resources Conservation and Development Commission of funds from the Million Solar Roofs Trust Fund consistent with the Million Solar Roofs Initiative program established pursuant to Chapter 8.8 (commencing with Section 25780) of Division 15 of the Public Resources Code, the photovoltaic portion of the self-generation incentive program shall be discontinued and the commission shall order the remaining funds from that program to be deposited into the Million Solar Roofs Initiative Trust Fund. The commission shall not establish any other program to encourage the increased installation of residential and commercial photovoltaic solar energy systems.
- 38 SEC. 7. Section 387.5 is added to the Public Utilities Code, to read:

-25- SB 1

387.5. (a) The governing body of a local publicly owned electric utility, as defined in subdivision (d) of Section 9604, that sells electricity at retail, shall adopt, implement, and finance a solar roofs initiative program, funded by a surcharge in accordance with subdivision (b), for the purpose of investing in, and encouraging the increased installation of, residential and commercial solar energy systems. This program shall be consistent with the intent and goals of the Legislature to encourage the installation of 3,000 megawatts of photovoltaic solar energy in California in accordance with the Million Solar Roofs Initiative program (Chapter 8.8 (commencing with Section 25780) of Division 15 of the Public Resources Code).

- (b) On or before January 1, 2007, a local publicly owned electric utility shall establish a new surcharge sufficient to offer monetary incentives for the installation of solar energy systems of at least two dollars and forty cents (\$2.40) per installed watt of photovoltaic solar energy. The incentive level shall decline each year thereafter at a rate of no less than 7 percent per year.
- (c) A local publicly owned electric utility shall establish the program on or before January 1, 2007. Before establishing the program, the governing body of the local publicly owned utility shall give notice of, and hold, a public hearing to seek comment on the program from the community.
- (d) A local publicly owned electric utility shall, on an annual basis beginning June 1, 2007, make available to its customers and to the State Energy Resources Conservation and Development Commission, information relating to the utility's solar roofs initiative program established pursuant to this section, including, but not limited to, the number of photovoltaic solar watts installed, the total number of photovoltaic systems installed, the total number of applicants, the amount of incentives awarded, and the contribution toward the program goals.
- SEC. 8. No reimbursement is required by this act pursuant to Section 6 of Article XIIIB of the California Constitution because the only costs that may be incurred by a local agency or school district will be incurred because this act creates a new crime or infraction, eliminates a crime or infraction, or changes the penalty for a crime or infraction, within the meaning of Section 17556 of the Government Code, or changes the definition of a

-26

1 crime within the meaning of Section 6 of Article XIII B of the California Constitution.

SEC. 9. No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution for certain other costs that may be incurred by a local agency or school district because a local agency or school district has the authority to levy service charges, fees, or assessments sufficient to pay for the program or level of service mandated by this act, within the meaning of Section 17556 of the Government Code.