

AMENDED IN ASSEMBLY JUNE 1, 2007

AMENDED IN ASSEMBLY MAY 1, 2007

AMENDED IN ASSEMBLY APRIL 17, 2007

CALIFORNIA LEGISLATURE—2007—08 REGULAR SESSION

**ASSEMBLY BILL**

**No. 1613**

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**Introduced by Assembly Member Blakeslee  
(Coauthors: Assembly Members Adams, Emmerson, Parra, and  
Torrico)**

February 23, 2007

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An act to add Chapter 8 (commencing with Section 2840) to Part 2 of Division 1 of the Public Utilities Code, relating to energy.

LEGISLATIVE COUNSEL'S DIGEST

AB 1613, as amended, Blakeslee. Energy: Waste Heat and Carbon Emissions Reduction Act.

(1) Under existing law, the Public Utilities Commission (PUC) has regulatory authority over public utilities, including electrical corporations, as defined. Existing law authorizes the PUC to fix the rates and charges for every public utility, and requires that those rates and charges be just and reasonable. The existing Public Utilities Act requires the PUC to review and adopt a procurement plan for each electrical corporation in accordance with specified elements, incentive mechanisms, and objectives. The act additionally requires the PUC, in consultation with the Independent System Operator, to establish resource adequacy requirements for all load-serving entities, as defined, in accordance with specified objectives.

The existing Warren-Alquist State Energy Resources Conservation and Development Act establishes the State Energy Resources

Conservation and Development Commission (Energy Commission) and requires it to undertake a continuing assessment of trends in the consumption of electricity and other forms of energy and to analyze the social, economic, and environmental consequences of those trends and to collect from electric utilities, gas utilities, and fuel producers and wholesalers and other sources, forecasts of future supplies and consumption of all forms of energy. The PUC and the Energy Commission have jointly adopted an Energy Action Plan II that includes a loading order that describes the priority sequence for actions to address the state's increasing electricity needs, and that identifies energy efficiency and demand response measures as the state's preferred means of meeting growing electricity needs.

This bill would enact the Waste Heat and Carbon Emissions Reduction Act. The bill would provide that it is the policy of the state that the conversion of waste heat to electricity or other useful energy applications be the preferred generation measure immediately following renewables for purposes of the loading order. The bill would state the intent of the Legislature to obtain an unspecified number of megawatts of new electrical generation by the year 2015 by achieving improved efficiencies utilizing waste heat through combined heat and power systems, to dramatically advance the efficiency of the state's use of natural gas by capturing unused waste heat, to reduce wasteful consumption of energy through improved residential, commercial, institutional, industrial, and manufacturer utilization of waste heat whenever it is cost effective, technologically feasible, and environmentally beneficial, particularly when this reduces emissions of carbon dioxide and other carbon-based greenhouse gases, to support and facilitate both customer-owned and utility-owned combined heat and power systems, and to not shift the costs for the implementation and administration of the act to the other customers of an electrical corporation or other load-serving entity, as defined.

This bill would require a load-serving entity to purchase excess electricity, as defined, delivered by a combined heat and power system, as defined, that complies with certain sizing, energy efficiency, and air pollution control requirements, and for a load-serving entity that is an electrical corporation, under the terms, conditions, and prices established by the PUC in a standardized electricity purchase agreement. The bill would require that the existence of the electricity purchase agreement between a combined heat and power generator and the load-serving entity does not result in either an increase or decrease in charges to

other ratepayers and customers as compared to other options for additional generation. The bill would require that the terms and rates determined by the PUC result in a statewide reduction in emissions of greenhouse gases from combined heat and power systems compared to the greenhouse gases that would otherwise have been emitted from the separate generation of electricity and thermal energy from combined-cycle natural gas powerplants and conventional thermal energy plants. The bill would additionally require that the rates be time-of-use rates that encourage energy conservation and net generation of electricity during periods of peak system demand, prohibits the adoption or maintenance of standby rates or charges for combined heat and power systems unless based upon assumptions that are supported by factual data, and requires that the rates provide additional incentives to encourage energy conservation and net generation of electricity in those areas of the transmission grid that are experiencing transmission constraints or congestion. The bill would require the PUC to establish for each electrical corporation, a pay-as-you-save program, meeting certain goals, for eligible customers, as defined, to finance all of the upfront costs for the purchase and installation of combined heat and power systems. The bill would require the PUC, in approving an electrical corporation's procurement plan, to require the plan to incorporate combined heat and power solutions to the maximum degree that is cost effective compared to other competing forms of wholesale generation, technologically feasible, and environmentally beneficial, particularly as it pertains to reducing emissions of carbon dioxide and other greenhouse gases.

This bill would require the Energy Commission, by ~~February 1, 2008~~ *January 1, 2010*, to adopt regulations for various applications of combined heat and power systems that reduce waste energy, that ensure that a system is sized to offset part or all of the customer's own electrical and thermal requirements, meets minimum efficiency standards, is cost effective, technologically feasible, and environmentally beneficial. The bill would authorize the Energy Commission to adopt temporary guidelines for combined heat and power systems prior to ~~February 1, 2008~~ *January 1, 2010*. The bill would require a combined heat and power generator to adequately maintain and service the combined heat and power system so that during operation, the system continues to meet or exceed the standards established by the Energy Commission. The bill would require that combined heat and power systems meet certain air pollution control requirements.

(2) The existing California Global Warming Solutions Act of 2006, requires the State Air Resources Board (state board) to adopt regulations to require the reporting and verification of statewide greenhouse gas emissions and to monitor and enforce compliance with the reporting and verification program, as specified, and requires the state board to adopt a statewide greenhouse gas emissions limit equivalent to the statewide greenhouse gas emissions levels in 1990 to be achieved by 2020. The act requires the state board to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective greenhouse gas emission reductions and authorizes the state board to adopt market-based compliance mechanisms, as defined, meeting specified requirements.

This bill would state the intent of the Legislature to establish for each electrical corporation, a variable rate program that is applicable to eligible customers with a combined heat and power system and who utilize a plug-in hybrid vehicle, that will encourage charging plug-in hybrid vehicles during nonpeak periods of electricity usage, and that results in an overall reduction of greenhouse gases and other air pollutants emitted from both electricity generation and mobile sources.

~~(3) Existing law permits a private energy producer, as defined, to generate electricity not generated from conventional sources, as defined, solely for his or its own use or the use of its tenants, or generating electricity to or for any electrical corporation, state agency, city, county, district, or an association thereof, but not the public, without becoming a public utility subject to the general jurisdiction of the PUC. Existing law requires a private energy producer to provide and to pay the total cost of the interconnection as well as any costs associated with providing a transmission capacity sufficient to handle that portion of the energy generated by the private energy producer that is over and above the capacity otherwise required by the public utility to service its utility customers and meet other authorized commitments. Existing law requires the PUC to establish equitable charges to be paid by an electrical corporation for the purchase or sale of electricity or electrical generating capacity from a private energy producer employing other than a conventional power source for the generation of electricity and to approve and establish standby charges and charges for transmission service.~~

This bill would require the PUC, in consultation with the Energy Commission, to streamline and simplify interconnection rules and tariffs to reduce impediments to the installation and use of combined heat and

~~power systems by small users with systems with a peak generating capacity of one megawatt or less.~~

~~(4)~~

(3) Executive Order S-20-04 (Green Building Order) ordered certain state entities, and requested certain other state entities, to undertake measures to reduce state building electricity usage consistent with a Green Building Action Plan, and encouraged commercial building owners, cities, counties, and schools to undertake measures to reduce electricity usage. The Green Building Order ordered that state agencies, departments, and other entities under the direct executive authority of the Governor cooperate in taking measures to reduce grid-based energy purchases for state-owned buildings by 20% by 2015, through cost-effective efficiency measures and distributed generation technologies.

~~This bill would declare that it is the policy of the state to reduce grid-based energy purchases for state-owned buildings by 20% by December 31, 2015, through cost effective, technologically feasible, and environmentally beneficial efficiency measures and distributed generation technologies. The bill would require state-owned buildings in operation that have been occupied prior to January 1, 2008, to upgrade have their existing systems upgraded to utilize combined heat and power systems to assist in achieving the goal of reducing grid-based energy purchases for state-owned buildings by 20% by December 31, 2015. The bill would require all state-owned buildings that commence operation are first occupied after December 31, 2007, to incorporate combined heat and power systems to maximize energy efficiency whenever doing so is cost effective, technologically feasible, and environmentally beneficial. The bill would require the Department of General Services, in consultation with the Energy Commission and the State Air Resources Board, to develop a means for valuing reductions in emissions of greenhouse gases consistent with the California Global Warming Solutions Act of 2006, to be utilized in determining whether employing combined heat and power systems in any particular retrofit or new building application is cost effective, technologically feasible, and environmentally beneficial.~~

~~(5)~~

(4) This bill would require the Energy Commission to report to the Governor and the Legislature by December 31, 2011, on the reduction in emissions of greenhouse gases resulting from the increase of new

electrical generation that utilizes excess waste heat through combined heat and power systems.

~~(6)~~

(5) Existing law makes any public utility, as defined, and any corporation other than a public utility, that violates or that fails to comply with any part of any order, decision, rule, direction, demand, or requirement of the commission guilty of a crime.

Because certain provisions of the bill would require commission action to implement and violation or failure to comply with any part of any order, decision, rule, direction, demand, or requirement of the commission would be a crime, the bill would impose a state-mandated local program by creating a new crime.

~~(7)~~

(6) 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 a specified reason.

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. Chapter 8 (commencing with Section 2840) is  
2 added to Part 2 of Division 1 of the Public Utilities Code, to read:

3

4 CHAPTER 8. ENERGY EFFICIENCY SYSTEMS

5

6 Article 1. Waste Heat and Carbon Emissions Reduction Act

7

8 2840. This article shall be known and may be cited as the Waste  
9 Heat and Carbon Emissions Reduction Act.

10 2840.2. For purposes of this article, the following terms have  
11 the following meanings:

12 (a) “Combined heat and power system” means a system for the  
13 generation of electricity that utilizes heat both for the generation  
14 of electricity and for an energy application other than the generation  
15 of electricity, that is cost effective, technologically feasible,  
16 environmentally beneficial, and meets the sizing and efficiency  
17 standards established by the Energy Commission pursuant to, and

1 the air pollution control requirements of subdivision (d) of, Section  
2 2843.

3 (b) “Eligible customer” includes residential customers,  
4 master-meter customers serving users who are tenants of a  
5 mobilehome park, apartment building, or similar residential  
6 complex, and small commercial customers. The commission may  
7 order that additional categories of customers are eligible consistent  
8 with the intent of the Legislature as stated in this article.

9 (c) “Energy Commission” means the State Energy Resources  
10 Conservation and Development Commission.

11 (d) “Excess electricity” means the net electricity exported to  
12 the electrical grid, generated by a combined heat and power system  
13 that conforms to regulations regarding appropriate sizing for  
14 particular applications and energy efficiency adopted by the Energy  
15 Commission pursuant to Section 2843.

16 (e) “Greenhouse gas” or “greenhouse gases” includes all of the  
17 following gases: carbon dioxide, methane, nitrous oxide,  
18 hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

19 (f) “Load-serving entity” has the same meaning as defined in  
20 Section 380.

21 2840.4. The Legislature finds and declares all of the following:

22 (a) Combined heat and power systems produce both electricity  
23 and thermal energy from a single fuel input, thus achieving much  
24 greater efficiency than the usual separate systems for producing  
25 these forms of energy, and reducing consumption of fuel.

26 (b) Combined heat and power systems recover heat that would  
27 otherwise be wasted in separate energy applications, and use this  
28 heat to avoid consumption of fuel that would otherwise be required  
29 to produce heat.

30 (c) Combined heat and power systems recycle the valuable  
31 waste heat produced in electricity generation and use it for heating,  
32 cooling, and other useful applications.

33 (d) Gigawatthours of potential useful electricity and millions  
34 of british thermal units of thermal energy could be derived from  
35 unused waste heat that is currently being vented into the  
36 atmosphere.

37 2840.6. (a) It is the intent of the Legislature to obtain \_\_\_\_\_  
38 megawatts of new electrical generation by the year 2015, while  
39 decreasing emissions of carbon dioxide and other greenhouse

1 gases, by achieving improved efficiencies utilizing excess waste  
2 heat through combined heat and power systems.

3 (b) It is the intent of the Legislature that state policies  
4 dramatically advance the efficiency of the state’s use of natural  
5 gas by capturing unused waste heat, and in so doing, help offset  
6 the growing crisis in electricity supply and transmission congestion  
7 in the state.

8 (c) It is the intent of the Legislature to reduce wasteful  
9 consumption of energy through improved residential, commercial,  
10 institutional, industrial, and manufacturer utilization of waste heat  
11 whenever it is cost effective, technologically feasible, and  
12 environmentally beneficial, particularly when this reduces  
13 emissions of carbon dioxide and other carbon-based greenhouse  
14 gases.

15 (d) It is the intent of the Legislature to support and facilitate  
16 both customer-owned and utility-owned combined heat and power  
17 systems.

18 (e) It is the intent of the Legislature to not shift costs for the  
19 implementation and administration of this chapter to other  
20 customers of an electrical corporation or other load-serving entity.

21 2841. A load-serving entity shall purchase excess electricity  
22 delivered from a combined heat and power system that complies  
23 with the regulations, or interim guidelines, adopted by the Energy  
24 Commission pursuant to Section 2843, and for a load-serving entity  
25 that is an electrical corporation, under the terms, conditions, and  
26 prices established by the commission in a standardized electricity  
27 purchase agreement. The existence of the electricity purchase  
28 agreement between a combined heat and power generator and the  
29 load-serving entity shall not result in either an increase or decrease  
30 in charges to other ratepayers or customers, as compared to other  
31 options for additional generation.

32 2842. (a) In determining those terms and rates that are just  
33 and reasonable pursuant to Section 2841, the commission shall do  
34 all of the following:

35 (1) Establish terms and rates that result in a statewide reduction  
36 in emissions of greenhouse gases from combined heat and power  
37 systems compared to the greenhouse gases that would otherwise  
38 have been emitted from the separate generation of electricity and  
39 thermal energy from combined-cycle natural gas powerplants and  
40 conventional thermal energy plants.

1 (2) Establish time-of-use rates that encourage energy  
2 conservation and net generation of electricity during periods of  
3 peak system demand.

4 (3) Not adopt or maintain standby rates or charges for combined  
5 heat and power systems unless based upon assumptions that are  
6 supported by factual data, including any assumption that forced  
7 outages or other reductions in electricity generation by all  
8 combined heat and power systems will occur simultaneously, or  
9 during periods of peak electrical system demand, or both.

10 (4) Ensure that the time-of-use rates provide additional  
11 incentives to encourage energy conservation and net generation  
12 of electricity in those areas of the transmission grid that are  
13 experiencing transmission constraints or congestion and the  
14 attendant costs.

15 ~~(b) The commission, in consultation with the Energy~~  
16 ~~Commission, shall streamline and simplify interconnection rules~~  
17 ~~and tariffs to reduce impediments to the installation and use of~~  
18 ~~combined heat and power systems by small users with systems~~  
19 ~~with a peak generating capacity of one megawatt or less.~~

20 (e)

21 (b) The commission shall, for each electrical corporation,  
22 establish a pay-as-you-save program for combined heat and power  
23 system that does all of the following:

24 (1) Enables eligible customers to finance all of the upfront costs  
25 for the purchase and installation of a combined heat and power  
26 system by repaying those costs over time at the difference between  
27 what the customer would have paid for electricity and the actual  
28 savings derived by the customer.

29 (2) Limits eligible systems to those that are cost effective,  
30 technologically feasible, and environmentally beneficial and that  
31 meet the energy efficiency and air pollution control requirements  
32 of Section 2843.

33 (3) Ensures that the reasonable costs of the electrical corporation  
34 are recovered.

35 (4) Ensures that all costs of the pay-as-you-save program or  
36 financing mechanisms are solely borne by the combined heat and  
37 power generators that use the program or financing mechanisms,  
38 and are not shifted to the other customers or classes of customers  
39 of the electrical corporations.

40 (d)

1 (c) The commission may modify or adjust the requirements of  
 2 this article for any load-serving entity with less than 100,000  
 3 service connections, as individual circumstances merit.

4 2842.2. The Public Utilities Commission, in approving a  
 5 procurement plan for an electrical corporation pursuant to Section  
 6 454.5, shall require that the electrical corporation’s procurement  
 7 plan incorporate combined heat and power solutions to the  
 8 maximum degree that is cost effective compared to other competing  
 9 forms of wholesale generation, technologically feasible, and  
 10 environmentally beneficial, particularly as it pertains to reducing  
 11 emissions of carbon dioxide and other greenhouse gases.

12 2842.4. The Public Utilities Commission shall ensure that an  
 13 electrical corporation utilizes long-term planning for upgrades to  
 14 its transmission and distribution systems and that any upgrades  
 15 are consistent with promoting combined heat and power systems  
 16 that are cost effective, technologically feasible, and  
 17 environmentally beneficial, particularly as those combined heat  
 18 and power systems reduce emissions of greenhouse gases.

19 2843. (a) The Energy Commission shall, by ~~February 1, 2008,~~  
 20 *January 1, 2010*, adopt regulations for various applications of  
 21 combined heat and power systems that reduce waste energy, that  
 22 ensure that a system is sized to offset part or all of the combined  
 23 heat and power generator’s own electrical and thermal  
 24 requirements, meets minimum efficiency standards, is cost  
 25 effective, technologically feasible, and environmentally beneficial.  
 26 It is the intent of the Legislature that combined heat and power  
 27 systems be functionally matched to the customer’s location and  
 28 that the regulations do not permit de facto wholesale generators  
 29 with guaranteed purchasers for their electricity.

30 (b) Prior to ~~February 1, 2008,~~ *January 1, 2010*, the Energy  
 31 Commission may adopt temporary guidelines for combined heat  
 32 and power systems that comply with the parameters set forth in  
 33 subdivision (a).

34 (c) The combined heat and power generator shall adequately  
 35 maintain and service the combined heat and power system so that  
 36 during operation, the system continues to meet or exceed the  
 37 efficiency standards established by the Energy Commission  
 38 pursuant to subdivisions (a) and (b).

39 (d) (1) A combined heat and power system that is exempt from  
 40 an air pollution control district or air quality management district’s

1 permitting requirements, shall produce emissions during operation  
2 that meet or are less than the most recent emissions standards  
3 required under the distributed generation certification program  
4 adopted by the State Air Resources Board pursuant to Section  
5 41514.9 of the Health and Safety Code and any regulations adopted  
6 by the board to implement that section.

7 (2) A combined heat and power system that is subject to  
8 permitting requirements by an air pollution control district or air  
9 quality management district, shall produce emissions during  
10 operation that meet or are less than the emissions requirements  
11 adopted by the district.

12 ~~2844. (a) It is the policy of the state to reduce grid-based~~  
13 ~~energy purchases for state buildings by 20 percent by December~~  
14 ~~31, 2015, through cost effective, technologically feasible, and~~  
15 ~~environmentally beneficial efficiency measures and distributed~~  
16 ~~generation technologies.~~

17 ~~(b) State buildings in operation prior to January 1, 2008, shall~~  
18 ~~upgrade existing systems to utilize combined heat and power~~  
19 ~~systems to assist in achieving the goal of reducing grid-based~~  
20 ~~energy purchases for state buildings by 20 percent by December~~  
21 ~~31, 2015, whenever doing so is cost effective, technologically~~  
22 ~~feasible, and environmentally beneficial.~~

23 *2844. (a) A state building that has been occupied prior to*  
24 *January 1, 2008, shall have its existing systems upgraded to utilize*  
25 *combined heat and power systems to assist in achieving the goal*  
26 *of reducing grid-based energy purchases for state buildings*  
27 *whenever doing so is cost effective, technologically feasible, and*  
28 *environmentally beneficial.*

29 (e)

30 ~~(b) State buildings that commence operation after December~~  
31 ~~31, 2007, shall incorporate combined heat and power systems~~  
32 ~~have been first occupied after December 31, 2007, shall have their~~  
33 ~~combined heat and power systems incorporated to maximize~~  
34 ~~energy efficiency whenever doing so is cost effective,~~  
35 ~~technologically feasible, and environmentally beneficial.~~

36 (d)

37 (c) The Department of General Services, in consultation with  
38 the Energy Commission and the State Air Resources Board, shall  
39 develop a means for valuing reductions in emissions of greenhouse  
40 gases that is consistent with Section 38530 of the Health and Safety

1 Code, to be utilized in determining whether employing combined  
2 heat and power systems in any particular retrofit or new building  
3 application is cost effective, technologically feasible, and  
4 environmentally beneficial.

5 2845. The Energy Commission shall report to the Governor  
6 and the Legislature by December 31, 2011, on the reduction in  
7 emissions of greenhouse gases resulting from the increase of new  
8 electrical generation that utilizes excess waste heat through  
9 combined heat and power systems. The Energy Commission shall  
10 value reductions in emissions of greenhouse gases using  
11 methodology developed pursuant to subdivision (d) of Section  
12 2844.

13 SEC. 2. It is the intent of the Legislature to establish for each  
14 electrical corporation, a variable rate program that is applicable to  
15 eligible customers with a combined heat and power system and  
16 who utilize a plug-in hybrid electric vehicle, that will encourage  
17 charging of plug-in hybrid electric vehicles during nonpeak periods  
18 of electricity usage, and that results in an overall reduction of  
19 greenhouse gases and other air pollutants emitted from both  
20 electricity generation and mobile sources.

21 SEC. 3. No reimbursement is required by this act pursuant to  
22 Section 6 of Article XIII B of the California Constitution because  
23 the only costs that may be incurred by a local agency or school  
24 district will be incurred because this act creates a new crime or  
25 infraction, eliminates a crime or infraction, or changes the penalty  
26 for a crime or infraction, within the meaning of Section 17556 of  
27 the Government Code, or changes the definition of a crime within  
28 the meaning of Section 6 of Article XIII B of the California  
29 Constitution.