STATE OF CALIFORNIA

Public Utilities Commission
San Francisco

M e m o r a n d u m

Date: April 27, 2009

To: The Commission
(Meeting of May 7, 2009)

From: Pamela Loomis, Director
Office of Governmental Affairs (OGA) — Sacramento

Subject: **SB 412 (Kehoe) Kehoe. Electricity: self-generation incentive program.**
As introduced February 26, 2009

LEGISLATIVE SUBCOMMITTEE RECOMMENDATION: SUPPORT

SUMMARY OF BILL:

SB 412 amends the existing Self-Generation Incentive Program (SGIP), a program established to reduce peak load and incentivize new and emerging technologies (Public Utilities Code 379.6), to give the CPUC authority to determine eligible technologies for SGIP based on greenhouse gas (GHG) emissions pursuant to AB 32 (Pavley, 2006), the California Global Warming Solutions Act of 2006.

SUMMARY OF SUPPORTING ARGUMENTS FOR RECOMMENDATION:

The Commission supports SB 412 as the proposed legislation would remove the statutory limits to the SGIP that preclude awarding incentives to GHG reducing technologies other than wind and fuel cells.

As currently implemented, the SGIP program misses opportunities to support clean distributed energy technologies that reduce greenhouse gas emissions, such as: (1) biogas-fueled combined heat and power (CHP) generation,(2) natural gas-fueled CHP generation in certain GHG reducing applications, (3) certain gas-displacing solar thermal technologies such as solar heating and cooling which are not included in the California Solar Initiative (CSI) because they displace gas not electricity, as well as (4) complementary peak load reduction technologies such as energy storage.

The Commission supports the State's climate change goals, and as such sees missed opportunities in the current SGIP as the above technologies and other new and emerging technologies are currently excluded from the program. Additionally, in regard to CHP, the California Air Resources Board's AB 32 Scoping Plan identifies the need for an additional 4,000 MW of CHP facilities by 2020 to meet the AB 32 goals. Making CHP

an eligible technology in SGIP will help smaller CHP facilities contribute to this overall goal.

SUMMARY OF SUGGESTED AMENDMENTS:

Energy storage represents another distributed energy resource that has peak load reduction and potential GHG emissions savings benefits. Since energy storage is not a *generation* technology per se, amending the bill to allow the CPUC to consider *distributed energy resources* when considering eligibility for SGIP is recommended. If this change is not made, perhaps the author could expressly specify that energy storage combined with self-generation is explicitly part of the program.

- Replace the term "distributed generation resources" with "distributed energy resources" on page 3, lines 6 and 26; page 4, line 5; page 5, lines 32,33,37, and 40; and page 6, lines 10,11,13, and 14.

DIVISION ANALYSIS (Energy Division):

- Allows CPUC to determine SGIP technology eligibility: Since January 1, 2008 SGIP has been limited by statute to providing incentives for wind and fuel cell technologies only. This limitation misses GHG savings opportunities from clean distributed generation (DG) technologies such as biogas generators with proven benefits. The limitation also doesn't allow support for emerging clean DG technologies or complementary technologies such as energy storage.

- Since its inception in 2001, SGIP has collected extensive performance data on supported projects and technologies, including GHG emissions savings. In 2006 SGIP projects reduced over 110,000 tons of CO2 equivalent emissions.[1] Of all the technologies in the program at the time, the technologies that reduced the most GHG emission per MWh of electricity produced were biogas generators. Biogas micro turbines, engines and fuel cells on average reduce 2.7 tons of CO2 per MWh of electricity produced. The GHG emissions savings of biogas-fueled CHP generators exceeds the GHG savings of wind, solar, or natural-gas fired CHP (all of which have been funded by the SGIP program and similarly analyzed.) This bill would allow the CPUC to re-include biogas generators in SGIP which makes good sense given the State's GHG goals.

- Natural gas fueled combined heat and power systems, which generate electricity and process usable waste heat, can also be GHG emissions reducing. The best performing CHP micro turbines and engines yield significant GHG reductions- but their GHG savings is based on site specific applications.

- Historically, the State has attempted to maximize the environmental benefits of the SGIP program. During 2002 – 2004, SGIP supported fossil-fueled CHP to the extent that the technologies or systems met air quality (AQ) and overall efficiency

[1] Itron, *CPUC Self Generation Incentive Program Sixth Year Impact Evaluation*, August 2007

specifications overseen by the California Air Resources Board. This bill would extend that authority to allow the CPUC, based on analysis of existing and future data, to determine the necessary programmatic requirements to ensure both performance and waste heat recovery standards for CHP systems that will ensure that all CHP systems supported through SGIP yield GHG emissions reductions.

- There is a range of other technologies that this bill could enable the CPUC to consider supporting through SGIP, including certain solar thermal technologies (due to specific application requirements may not be included in the California Solar Initiative or the AB 1470 solar hot water program). This flexibility also will allow the CPUC to consider supporting *new and emerging* clean DG technologies as they become available on the market.

- Extends the SGIP one year, until January 1, 2013: SGIP is currently set to expire on January 1, 2012.

- Prohibits the recovery of SGIP program related costs from California Alternate Rates for Energy (CARE) ratepayers: Ratepayers participating in the CARE program will not be subject to any increase in rates to fund this program.

- Requires the CPUC to ensure that SGIP incentives are available to all ratepayers: SGIP currently allows that incentives are available to all ratepayers, including both residential and commercial customers. However, in current law there are size requirements in both the SGIP and a companion program, the CEC Emerging Renewables Program (ERP), that can act as customer class limitations as both programs implement incentives for wind and fuel cells, but for different project sizes (generally ERP is for smaller, possibly residential programs, SGIP for larger commercial or industrial programs). If additional technologies were allowed into the SGIP, they would not be limited by size as there would not be an overlap with a CEC program. The current overlap with the CEC ERP prevents SGIP from offering incentives to projects under 30 kW (which would be the size for a residential customer). This could serve as another reason to amend the current law--more technologies would be available to residential customers. The current status of SGIP and ERP size requirements are:

    - SGIP incentives are available for all qualifying wind and fuel cell technologies less than 5 MW, except those already funded elsewhere by ratepayers. The first 3 MW of the project is eligible for incentives. The minimum project size for biogas fuel cells and wind turbines in SGIP is 30 kW. The CEC Emerging Renewables Program (ERP), which is funded by ratepayers from PG&E, SCE, SDG&E, and BVE, offers incentives for the same technologies under 30 kW.

    - SGIP incentives are available to natural gas powered fuel cells of all sizes because the CEC's ERP program does not fund them. Fuel cell applications for residential customers are currently being introduced on the market. For example,

a company called ClearEdge is marketing a residential fuel cell (5 kW), and this product is being offered an incentive under SGIP.

- If additional technology flexibility was added back into the SGIP program, the CPUC would continue to ensure that all customers could participate in the SGIP program. There is no need for the SGIP program to directly overlap with the ERP program.

- Makes customers receiving SGIP incentives responsible for system maintenance: A recipient of state incentives shall be held responsible for maintaining the integrity of their respective system. This maintenance must ensure that the system meets or exceeds efficiency and GHG emissions standards established in Public Utilities Code Section 379.6 (c) 1 and (c) 2 as well as the standard established by the Commission for a load-serving entity pursuant to Public Utilities Code Section 8341. This provision appears to be aimed at maximizing the operating efficiency of CHP systems.

PROGRAM BACKGROUND:

- In response to AB 970 (Ducheny, 2000), Decision (D.) 01-03-073 established the Self-Generation Incentive Program as a peak load reduction program.

- D.04-12-045 modified the program on December 16, 2004 in response to AB 1685 (Leno, 2003), extending the program through January 1, 2008 and adopting thermal efficiency standards for participating CHP.

- The SGIP program was modified as of January 1, 2007 to no longer allow solar to be funded by SGIP; all solar funding was transferred to the CSI program.

- Since January 1, 2008 SGIP has been limited by statute to providing incentives for wind and fuel cell technologies only. Prior to that time, SGIP provided incentives to combined heat and power (CHP) technologies, including microturbines and internal combustion engines. The legislation that eliminated CHP from the SGIP, AB 2778 (Lieber, 2006), simultaneously eliminated the CPUC's flexibility in allowing any other new or emerging technologies into the program. The SGIP program is now limited to wind and fuel cells by statute.

- R.08-06-024 is considering implementation of AB 1613 (Blakeslee, 2007) related to CHP. AB 1613 creates a feed in tariff for CHP systems that optimizes the size of the CHP generator according to the thermal heat needs of the customer, and does not limit the system to onsite load generation only. SGIP has and would foreseeably continue to limit CHP system size to onsite load, and therefore AB 1613 fills a slightly different niche than SGIP. AB 1613 helps CHP installations that will be net electricity generators, whereas SGIP's CHP incentives are aimed at CHP generators that are not net producers of kWh on an annual basis.

- R.08-08-003 is considering implementation of AB 1470 (Huffman, 2008) related to funding gas displacing solar thermal technologies. AB 1470 is limited to only solar hot water. Other gas-displacing solar thermal technologies, such as solar heating and cooling are not considered under AB 1470 or CSI.

- The AB 32 Scoping Plan of the California Air Resources Board identifies the need for an additional 4,000 MW of combined heat and power facilities by 2020 to meet the AB 32 goals.

LEGISLATIVE HISTORY:

- AB 44 (Blakeslee, 2009) is pending in the legislature and also addresses the need for storage technologies.

- SB 1012 (Kehoe, 2008), which was supported by the Commission last year but was *not* adopted, similarly attempted to allow the CPUC to determine eligible technologies.

- AB 1470 (Huffman, 2007) authorized the Commission to create a solar hot water incentive program for gas displacing solar hot water systems. AB 1470 does not provide Commission authority to fund non-hot water solar thermal technologies such as solar heating and cooling that displace natural gas. These other solar thermal technologies are supported by the CSI program but only if they are electric-displacing, so there is a gap in the incentives offered by the Commission.

- AB 1613 (Blakeslee, 2007) gives the Commission authority to establish a feed-in tariff program for CHP facilities. The Commission's implementation of that legislation is underway in R. 08-06-024. AB 1613 is designed to support CHP facilities that exceed onsite load, and in that key respect is different than CHP for onsite load supported by SGIP.

- AB 2778 (Lieber, 2006) adopted by the legislature on August 31, 2006 extended the SGIP through 1/1/12 and removed photovoltaic technologies eligible for CSI incentives from participating in the SGIP as of 1/1/07. AB 2778 also restricted technologies eligible for SGIP beginning 1/1/08 through 1/1/12 to wind and fuel cells.

- AB 1685 (Leno, 2003) required gas-fired SGIP projects to meet stricter emission standards.

- AB 970, adopted on August 31, 2000, gave the Commission the authority to develop a program to pursue load control. In adopting D.01-03-073, the Commission relied on Section 1(d) of AB 970 to create the SGIP:

> (d) The purpose of this act is to provide a balanced response to the electricity problems facing the state that will result in significant new

investments in new, environmentally superior electricity generation, while also making significant new investments in conservation and demand-side management programs in order to meet the energy needs of the state for the next several years.

STATUS:

SB 412 has been referred to the Senate Appropriations Committee upon passage by the Senate Energy, Utilities and Communications Committee on April 21, 2009.

SUPPORT/OPPOSITION:

Support:
California Baptist University
California Clean DG Coalition
Capstone Turbine Corporation
Caterpillar California Counsel
DE Solutions, Inc.
Engine Manufacturers Association
EPS Corp.
Hawthorne Machinery Co.
Holt of California
Industrial Environmental Association
Nong Shim Foods, Inc.
Northstar Power
Onsite Energy Company
Pierce College
QUALCOMM
Quinn Power Systems
Sempra Energy
SDP Energy
Water and Energy Management Co. Inc.

Opposition: The Utility Reform Network

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Date: April 27, 2009

BILL LANGUAGE:

BILL NUMBER: SB 412 INTRODUCED
BILL TEXT

INTRODUCED BY Senator Kehoe

FEBRUARY 26, 2009

An act to amend Section 379.6 of the Public Utilities Code, relating to electricity.

LEGISLATIVE COUNSEL'S DIGEST

SB 412, as introduced, Kehoe. Electricity: self-generation incentive program.

(1) Under existing law, the Public Utilities Commission (PUC) has regulatory authority over public utilities, including electrical corporations and gas corporations, as defined. Existing law requires the PUC, in consultation with the State Energy Resources Conservation and Development Commission (Energy Commission), to administer, until January 1, 2012, a self-generation incentive program for distributed generation resources. The program is applicable to all eligible technologies, as determined by the PUC and subject to certain air emissions and efficiency standards, until January 1, 2008, except for solar technologies, which the PUC is required to administer separately, after January 1, 2007, pursuant to the California Solar Initiative. Commencing January 1, 2008, until January 1, 2012, existing law limits eligibility for nonsolar technologies to fuel cells and wind distributed generation technologies that meet or exceed emissions standards adopted by the State Air Resources Board (state board). Existing law authorizes the PUC, in administering the program, to include other ultraclean and low-emission distributed generation technologies, as defined.

Pursuant to decisions of the PUC, Pacific Gas and Electric Company, Southern California Edison, and Southern California Gas Company are the program administrators throughout their respective service territories and the Center for Sustainable Energy is the program administrator for the San Diego Gas and Electric Company service territory.

The California Global Warming Solutions Act of 2006 requires the State Air Resources Board (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. Existing law prohibits any load-serving entity, as defined, and any local publicly owned electric utility, as defined, from entering into a long-term financial commitment, as defined, unless any baseload generation, as defined, complies with a greenhouse gases emission performance standard. Existing law requires the commission, in consultation with the Energy Commission and the state board, to establish a greenhouse gases emission performance standard for all baseload generation of load-serving entities.

This bill would extend until January 1, 2013, the self-generation

incentive program for nonsolar distributed generation resources and would limit the eligibility for incentives pursuant to the program to distributed generation resources that the commission determines will support the state's goals for the reduction of emissions of greenhouse gases pursuant to the California Global Warming Solutions Act of 2006. The bill would require that combined heat and power units meet certain efficiency and emissions requirements, including the greenhouse gases emission performance standard, to receive incentives.

The bill would require the PUC to ensure that distributed generation resources are made available in the program for all ratepayers. The bill would prohibit recovery of the costs of the program from ratepayers that participate in the California Alternative Rates for Energy (CARE) program. The bill would delete the authorization for the PUC, in administering the program, to include other ultraclean and low-emission distributed generation technologies.

(2) Existing law requires the Energy Commission, by November 1, 2008, and in consultation with the PUC and state board, to evaluate the costs and benefits of providing ratepayer subsidies for renewable and fossil fuel ultraclean and low-emission distributed generation.

This bill would delete that requirement.

(3) Under existing law, a violation of the Public Utilities Act or any order, decision, rule, direction, demand, or requirement of the commission is a crime.

Because the program that is extended under the provisions of this bill is within the act and a decision or order of the commission implements the program requirements, a violation of these provisions would impose a state-mandated local program by creating a new crime.

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:

SECTION 1. Section 379.6 of the Public Utilities Code is amended to read:

379.6. (a) (1) The commission, in consultation with the ~~State~~ Energy ~~Resources Conservation and Development~~ Commission, shall administer, until January 1, ~~2012~~ *2013* , the self-generation incentive program for distributed generation resources originally established pursuant to Chapter 329 of the Statutes of 2000.

~~(2) Except as provided in paragraph (3), the extension of the program pursuant to Chapter 894 of the Statutes of 2003, as amended by Chapter 675 of the Statutes of 2004 and Chapter 22 of the Statutes of 2005, shall apply to all eligible technologies, as determined by the commission, until January 1, 2008.~~

~~(3)~~

(2) The commission shall administer solar technologies

separately ~~, after January 1, 2007~~ , pursuant to the California Solar Initiative adopted by the commission in Decision 06-01-024.

~~(b) Commencing January 1, 2008, until January 1, 2012, eligibility for the program pursuant to paragraphs (1) and (2) of subdivision (a) shall be limited to fuel cells and wind distributed generation technologies that meet or exceed the emissions standards required under the distributed generation certification program requirements of Article 3 (commencing with Section 94200) of Subchapter 8 of Chapter 1 of Division 3 of Title 17 of the California Code of Regulations.~~

(b) Eligibility for incentives under the program shall be limited to distributed generation resources that the commission determines will support state goals for the reductions of emissions of greenhouse gases pursuant to the California Global Warming Solutions Act of 2006 (Division 25.5 (commencing with Section 38500) of the Health and Safety Code).

(c) Eligibility for the ~~self-generation incentive program's level 3 incentive category shall be~~ *funding of any combustion-operated distributed generation projects using fossil fuel is* subject to *all of* the following conditions:

(1) ~~Commencing January 1, 2007, all combustion-operated distributed generation projects using fossil fuel shall meet an~~ *An* oxides of nitrogen (NOx) 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.

(2) Combined heat and power units that meet the 60-percent efficiency standard may take a credit to meet the applicable NOx emissions standard of 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.

(3) Combined heat and power units shall meet the greenhouse gases emissions performance standard established by the commission for a load-serving entity pursuant to Section 8341.

(4) The customer receiving incentives shall adequately maintain and service the combined heat and power units so that during operation, the system continues to meet or exceed the efficiency and emissions standards established pursuant to paragraphs (1), (2), and (3).

~~(3)~~

(5) Notwithstanding paragraph (1), a project that does not meet the applicable NOx emissions 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 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.

(d) In determining the eligibility for the self-generation incentive program, minimum system efficiency shall be determined either by calculating electrical and process heat efficiency as set forth in Section ~~218.5~~ *216.6* , or by calculating overall electrical efficiency.

(e) 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.

~~(f) On or before November 1, 2008, the State Energy Resources Conservation and Development Commission, in consultation with the commission and the State Air Resources Board, shall evaluate the costs and benefits, including air pollution, efficiency, and transmission and distribution system improvements, of providing ratepayer subsidies for renewable and fossil fuel "ultraclean and low-emission distributed generation," as defined in Section 353.2, as part of the integrated energy policy report adopted pursuant to Chapter 4 (commencing with Section 25300) of Division 15 of the Public Resources Code. The State Energy Resources Conservation and Development Commission shall include recommendations for changes in the eligibility of technologies and fuels under the program, and whether the level of subsidy should be adjusted, after considering its conclusions on costs and benefits pursuant to this subdivision.~~

(f) The commission shall ensure that distributed generation resources are made available in the program for all ratepayers.

(g) (1) In administering the self-generation incentive program, the commission shall provide an additional incentive of 20 percent from existing program funds for the installation of eligible distributed generation resources from a California supplier.

(2) "California supplier" as used in this subdivision means any sole proprietorship, partnership, joint venture, corporation, or other business entity that manufactures eligible distributed generation resources in California and that meets either of the following criteria:

(A) The owners or policymaking officers are domiciled in California and the permanent principal office, or place of business from which the supplier's trade is directed or managed, is located in California.

(B) A business or corporation, including those owned by, or under common control of, a corporation, that meets all of the following criteria continuously during the five years prior to providing eligible distributed generation resources to a self-generation incentive program recipient:

(i) Owns and operates a manufacturing facility located in California that builds or manufactures eligible distributed generation resources.

(ii) Is licensed by the state to conduct business within the state.

(iii) Employs California residents for work within the state.

(3) For purposes of qualifying as a California supplier, a distribution or sales management office or facility does not qualify as a manufacturing facility.

(h) The costs of the program adopted and implemented pursuant to this section shall not be recovered from customers participating in the California Alternate Rates for Energy (CARE) program.

SEC. 2. No reimbursement is required by this act pursuant to Section 6 of Article XIII B 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 crime within the meaning of Section 6 of Article XIII B of the California Constitution.