

STATE OF CALIFORNIA

Public Utilities Commission  
San Francisco

**M e m o r a n d u m**

**Date:** May 27, 2009

**To:** The Commission  
(Meeting of June, 4, 2009)

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

**Subject:** **AB 1536 (Blakeslee) – Modifies the existing Self-Generation Incentive Program (SGIP) and renames it the Clean Technology Incentive Program (CTIP)**

**LEGISLATIVE SUBCOMMITTEE RECOMMENDATION:** SUPPORT WITH AMENDMENTS

**SUMMARY OF BILL:**

AB 1536 would rename the existing Self-Generation Incentive Program (SGIP) (Public Utilities Code 379.6) to the Clean Technology Incentive Program, modify the program's purpose, expressly allow stand-alone storage used on customer sites to be funded under the program, specify that hydroelectric facilities are not eligible for SGIP funding, and establish a \$75 million annual program budget limit.

AB 1536 is a companion bill to AB 44 which relates to wholesale side storage.

**SUMMARY OF SUPPORTING ARGUMENTS FOR RECOMMENDATION:**

This bill provides a welcome expansion of the existing SGIP program, namely allowing stand-alone storage to be eligible for the program. Current statute limits program eligibility to only wind and fuel cell generating technologies. In 2008, the Commission modified the program to provide an additional incentive to wind and fuel cell technologies coupled with storage. The flexibility provided in AB 1536, would enable the program to explore many more potential applications of storage that may provide benefits to the grid and ratepayers.

However, this bill as currently written redefines the program and constrains the CPUC's ability to implement it in ways that will limit the program's ability to support the State's

broader energy policy goals and GHG reduction targets. We therefore suggest several amendments to the current version of the bill.

#### **SUMMARY OF SUGGESTED AMENDMENTS:**

##### **Remove the provision that energy storage facilities use emerging technologies not in commercial use and allow the CPUC to determine technology eligibility.**

Currently, AB 1536 limits the program to wind, fuel cell and storage technologies, and modifies the purpose of the program to focus on emerging, pre-commercial technologies. These limitations miss opportunities to support other distributed energy technologies that may provide substantial benefits and require financial incentives to achieve greater market adoption. The program should instead focus on supporting distributed energy technologies that support the State's renewable energy and greenhouse gas emissions goals and allow the CPUC to determine eligibility.

**Provide a broader, more general definition of energy storage.** The bill narrowly defines the attributes or services that an "eligible storage facility" can provide, including specific definitions of the storage time (2 hours) and dispatch characteristics. Energy Storage includes a diverse and rapidly changing set of technologies that can provide a broad range of benefits to the grid. A simpler definition of energy storage (e.g. energy storage includes any technology capable of storing electricity to be dispatched at a later time) should be provided in this bill, rather than a definition based on technical requirements that might preclude beneficial technologies and require changes in the future.

**Remove the budget cap provision.** Since the inception of SGIP in 2001, the CPUC has had authority to determine the budget for the program. The budget has been adjusted over time to reflect changes in the program and the market for distributed energy technologies. An annual budget, as included in the current version of the bill, limits the CPUC's ability to respond to changes. If the Legislature feels a budget cap is appropriate, a more reasonable approach would be to cap total program expenditures over the remainder of the program or for a longer period of time (i.e. three or five years).

**Extend the program through 2016 or 2020.** The California Solar Initiative is currently authorized through 2016. The Legislature is currently considering establishing a 33% RPS by 2020. If the goal of this program is to support the broader energy policy goals of the State, then it would be appropriate to extend it accordingly. The program currently sunsets January 1, 2012.

## **DIVISION ANALYSIS (Energy Division):**

**Restates the purpose of program to focus on financial support of newly emerging, not-yet-commercialized technologies:** *“that the commission determines require ratepayer incentives to achieve commercialization and produce benefits for ratepayers commensurate with their contribution to the costs of the program.”*

The SGIP program started as a peak load reduction program in Decision (D.) 01-03-073, in response to AB 970 (Ducheny, 2000), and now also is an avenue for GHG reducing activities to support the state’s emissions goals. SB 1012 (Kehoe, 2008) suggested that SGIP be used to "support the state's goals for the reduction of emissions of greenhouse gases pursuant to the California Global Warming Solutions Act of 2006", which certainly is a laudable additional purpose. AB 1536 would restate the new purpose of SGIP to become a Development and Demonstration (D&D) program – which is expressly not its current purpose. SGIP has a requirement that it only fund technologies that are "commercially" available. SGIP is designed to grow the market for commercial technologies, not to help "commercialize" emerging technologies. The latter may be more 1) the purview of the CEC’s PIER distributed generation program, or 2) akin to the IOUs’ energy efficiency “Emerging Technologies” program. The latter is not so much an incentive program, but a set of support activities to prove the merits and performance characteristics of new (efficiency) technologies not yet in the commercial mainstream, and in most cases to identify the most promising technologies ripe for receiving mainstream incentives through statewide efficiency programs.

**Adds energy storage technologies to the list of SGIP eligible technologies, as long as they ‘use emerging technologies not in commercial use’ and meet any of the following functional requirements:**

- (1) Store renewable energy
- (2) Respond to ISO commands to absorb/dispatch electricity and can store electricity for 2 hours
- (3) Can provide frequency control to integrate intermittent renewable energy resources
- (4) Store energy during off-peak periods and dispatch during peak periods

Advanced energy storage (AES) is already eligible for a \$2/watt incentive as ordered in Decision (D.) 08-11-044, but only if used in conjunction with a wind turbine or fuel cell. Stand alone energy storage is not allowed in the program, at the present time.

The definition for storage (that it must do any of the four items listed above) appears to be unnecessary, and a simpler definition should be considered, e.g. storage is a technology capable of storing kilowatt hours to be dispatched at a later time, rather than

a definition based on technical requirements that might need to change in the future. For example, item (2) above should be modified to delete the "for 2 hours" requirement.

**Introduces limit of \$75,000,000 per year for program costs.**

The current SGIP budget is \$83,000,000 per year, and the budget is established by the Commission and not by statute. AB 1536 would reduce the current budget by 8.4% which may not be in the long term best interest of the state. The budget has been adjusted over time to reflect changes in the program and the market for distributed energy technologies. An annual budget, as included in the current version of the bill, limits the CPUC's ability to respond to changes. If the Legislature feels a budget cap is appropriate, a more reasonable approach would be to cap total program expenditures over the remainder of the program or for a longer period of time (i.e. three or five years).

**Renames the SGIP program to the "Clean Technology Incentive Program."**

Renaming the program gives it a fresh start, and may be necessary since some parties may argue that "storage" is not "self generation." The new name may also be overly broad, however, and cause some confusion.

**Specifies that hydroelectric facilities are not eligible for SGIP incentives.**

There is no reason to eliminate all hydroelectric facilities from the potential tools SGIP participants may use. There may be small hydroelectric facilities located near load that would qualify as distributed resources. The author's intent may be to limit large scale pumped storage, which would not qualify for SGIP anyway since SGIP projects are limited to 5 MW.

**Deletes out-of-date statutory language related to combined heat and power facilities (which were previously eligible for SGIP) and a report that was ordered to be written by the California Energy Commission (which has been completed.)**

These changes are inconsequential and appear to be "clean up." But elimination of reference to CHP may be ill advised if CHP is added back to the program some other time as the Commission hopes; the CHP language had specified that only ultraclean CHP qualified for SGIP.

**Fails to provide CPUC any additional flexibility to include other technologies, such as CHP, in the SGIP program.**

The statutory removal of CHP technologies from SGIP eligibility as of 2008 has limited the potential peak load reduction and GHG savings from SGIP. CHP facilities funded

by SGIP facilities were delivering 70% of the program's electricity. The program delivered over 720,000 MWh of electricity to California's electricity system; enough electricity to power over 60,000 homes for one year. In addition, of all the technologies in the program at the time of Itron's August 2007 Impact Evaluation, the technologies that reduced the most GHG emission per MWh of electricity produced were CHP biogas-fueled generators.<sup>1</sup> Biogas micro turbines, engines and fuel cells on average reduce 2.7 tons of CO<sub>2</sub> per MWh of electricity produced. The GHG emissions savings of biogas-fueled CHP generators reduced over 38,000 tons of CO<sub>2</sub> equivalent, which exceeds the GHG savings per MW installed of wind, solar, or natural-gas fired CHP (all of which have been funded by the SGIP program and similarly analyzed.)

### **PROGRAM BACKGROUND:**

The Self-Generation Incentive Program was established in 2001 in response to AB 970 (Ducheny, 2000), which gave the Commission the authority to develop a program to pursue peak load control. SGIP is one of the largest distributed generation incentive programs in the United States, with approximately 1,200 projects totaling 300 megawatts on-line at the end of 2007. The program has paid over \$488 million incentives to complete projects (total project funds equal almost \$1.3 billion). The program has another \$283 million reserved for Active projects. The program provides up-front, capacity-based incentives for clean, distributed generation technologies at customer sites.

Historically SGIP eligibility has been determined by the CPUC and has included both renewable and highly efficient fossil fuel powered systems.<sup>2</sup> Eligible technologies have included solar photovoltaics (PV), wind, fuel cells, microturbines, internal combustion engines and small gas turbines. With the passage of SB 1 (Murray, 2006) and the creation of the California Solar Initiative in 2007, solar PV was removed from SGIP. AB 2778 (Lieber, 2006) further limited SGIP eligibility to wind and fuel cell technologies only, effective January 1, 2008.

Per D. 08-11-044, SGIP now provides incentives for energy storage systems that are coupled with eligible SGIP technologies, currently wind and fuel cell technologies. Due to limitations established in AB 2778, energy storage systems not connected with wind or fuel cells (for example, stand-alone storage or storage coupled with solar) are not eligible under the program.

From 2001 to 2006, the annual statewide budget for SGIP, authorized by the Commission, was \$125 million. Since the creation of the California Solar Initiative in

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<sup>1</sup> Itron, *CPUC Self Generation Incentive Program Sixth Year Impact Evaluation*, August 2007

<sup>2</sup> All fossil fuel powered combustion technologies that have participated in SGIP have been required to operate in a combined heat and power application, which maximizes operating efficiency by capturing and utilizing waste heat.

2007, and the removal of incentives for solar from SGIP, the annual budget has been \$83 million.

**LEGISLATIVE HISTORY:**

AB 44 (Blakeslee, 2009) is a companion storage bill that authorizes the CPUC to increase a utility's rate of return for investment in specified energy storage technologies and requires the CPUC to develop a time-variant tariff to incentivize those same technologies.

SB 412 (Kehoe, 2009) would expand eligibility of SGIP to include any clean technologies, which the CPUC determines support the state's AB 32 related goals.

**STATUS:** This bill passed out of the Assembly Appropriations Committee on May 20, 2009. It will be referred to Senate Energy, Utilities & Communications Committee at a later date.

**SUPPORT/OPPOSITION:** None on file.

**STAFF CONTACTS:**

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**Date:** May 27, 2009

**BILL LANGUAGE:**

BILL NUMBER: AB 1536 AMENDED  
BILL TEXT

AMENDED IN ASSEMBLY MAY 6, 2009  
AMENDED IN ASSEMBLY APRIL 14, 2009

INTRODUCED BY Assembly Member Blakeslee

FEBRUARY 27, 2009

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

LEGISLATIVE COUNSEL'S DIGEST

AB 1536, as amended, Blakeslee. Clean technology incentive program.

Under existing law, the Public Utilities Commission (PUC) has regulatory authority over public utilities, including electrical 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.

This bill would instead require the PUC, in consultation with the Energy Commission, to administer the clean technology incentive program for distributed generation until January 1, 2012, *for the purposes of deploying distributed generation technologies that the commission determines require ratepayer incentives to achieve commercialization and produce benefits for ratepayers commensurate with their contribution to the costs of the program*. The bill would additionally authorize incentives to be provided pursuant to the program for energy storage facilities meeting certain requirements, *would specify that hydroelectric facilities are not eligible for the program, and would delete certain combustion-operated distributed generation projects from eligibility. The bill would delete the commission's existing authority to include other ultraclean and low-emission distributed generation technologies, as defined, in the program. The bill would limit program costs to no more than \$75,000,000 per year*.

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

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 Energy Commission, shall administer, until January 1, 2012, the clean

technology incentive program for distributed energy 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. specified in subdivision (b). The  
purposes of the program are to deploy distributed generation  
technologies that the commission determines require ratepayer  
incentives to achieve commercialization and produce  
benefits for ratepayers commensurate with their contribution to the  
costs of the program.~~

~~(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 , as modified by Chapter 8.8 (commencing with Section  
25780) of Division 15 of the Public Resources Code and Article 1  
(commencing with Section 2851) of Chapter 9 of Part 2 .

~~(b) Commencing January 1, 2008, until January 1, 2012, eligibility  
for the program pursuant to paragraphs (1) and (2) of subdivision  
(a)~~

(b) Distributed generation technologies  
that are eligible for the program shall be limited to the  
following:

(1) 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.

(2) Energy storage facilities that use emerging technologies  
not in commercial use and meet any of the following  
requirements:

(A) The facility stores energy generated from an eligible  
renewable energy resource pursuant to Article 16 (commencing with  
Section 399.11).

(B) The facility is capable of responding to Independent System  
Operator commands to either absorb or dispatch electricity from the  
electrical grid and is capable of storing the electricity for a  
minimum of two hours.

(C) The facility is capable of providing frequency or area control  
error regulation required to integrate intermittent eligible  
renewable energy resources and maintain reliable operation of the  
electrical grid.

(D) The facility stores energy during off-peak periods and  
dispatches electricity during peak periods.

~~(c) Eligibility for the clean technology incentive program's level  
3 incentive category shall be subject to the following conditions:~~

~~(1) Commencing January 1, 2007, all combustion operated  
distributed generation projects using fossil fuel shall meet 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 NO<sub>x</sub> 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) Notwithstanding paragraph (1), a project that does not meet the applicable NO<sub>x</sub> 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 clean technology incentive program, minimum system efficiency shall be determined either by calculating electrical and process heat efficiency as set forth in Section 218.5, or by calculating overall electrical efficiency.~~

*(c) Hydroelectric facilities are not eligible for the program described in this section.*

~~—(e)~~

*(d) In administering the clean technology incentive program, the commission may adjust the amount of rebates — include other ultra-clean 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 Energy 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 "ultra-clean 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 Energy 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.~~

~~(g)~~

(e) (1) In administering the clean technology 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.

*(f) The commission may authorize the expenditure of no more than seventy-five million dollars (\$75,000,000) per year for the program, including incentive payments and program administrative costs.*