

STATE OF CALIFORNIA

Public Utilities Commission
San Francisco

M e m o r a n d u m

Date: April 17, 2012

To: The Commission
(Meeting of April 19, 2012)

From: Lynn Sadler, Director
Office of Governmental Affairs (OGA) — Sacramento

Subject: **AB 2339 (Williams) – Energy: geothermal heat pump.
As introduced: February 24, 2012**

LEGISLATIVE SUBCOMMITTEE RECOMMENDATION: OPPOSE

SUMMARY OF BILL:

This bill would require the California Public Utilities Commission (CPUC) to evaluate policies and develop sufficient rules to overcome barriers to widespread deployment and use of geothermal and solar heating technologies. It would require the CPUC, by July 1, 2013, to adopt rules addressing specified issues regarding geothermal and solar heating and cooling technologies. The bill requires that the CPUC's rules address all of the following issues:

1. The role the State should take to support the development of these technologies.
2. Identification of the environmental and financial benefits to ratepayers.
3. The existing statutory and permit requirements that create legal impediments to widespread deployment.
4. The impact of widespread use of these technologies on achieving the state's goals pursuant to AB 32 and the Renewables Portfolio Standard (RPS).

SUMMARY OF SUPPORTING ARGUMENTS FOR RECOMMENDATION:

Staff recommends opposing AB 2339 because (1) the CPUC already has programs to address barriers to solar heating technology by providing incentives through the California Solar Initiative (CSI)-Solar Thermal Program, and (2) it would require CPUC funding for geothermal heat pumps without an assessment of the technology's feasibility or cost-effectiveness. The CPUC currently has existing rules and policies to support

distributed generation and energy efficiency, with a process to review and include emerging technologies that reduce greenhouse gas emissions.

Thus, this bill would require new policy and program development for these technologies when the existing program structures could support them. Furthermore, the feasibility and cost effectiveness of geothermal heat pumps are unknown, which could lead to an undetermined level of additional ratepayer costs and potentially negligible energy savings. Finally, if the analysis of these technologies finds that the primary barriers to their implementation is building and fire codes, local zoning and permitting, and tax codes, it would require the CPUC to examine issues outside the scope of its expertise and jurisdiction.

SUMMARY OF SUGGESTED AMENDMENTS:

None.

DIVISION ANALYSIS (Energy Division):

The CPUC already has programs to incentivize solar heating technologies. Specifically, the CSI-Solar Thermal program, established in Decision (D.) 10-01-022, defined the State's role in the development of solar heating technologies by providing incentives to lower the costs to customers. It also considered the cost-effectiveness to ratepayers and assessed gas and electric savings resulting from the programs. The open proceeding on distributed generation, Rulemaking (R.) 10-05-04, continues to review and address the statutory and legal barriers to widespread deployment of distributed generation, including solar heating technologies. Thus, additional legislation is not necessary to support solar heating technology.

The CPUC also already has programs that could provide incentives to geothermal heat pumps. A geothermal heat pump is a central heating or cooling system that pumps heat to or from the ground. It uses the earth as a heat source (in the winter) or a heat sink (in the summer). It could be characterized as both a renewable distributed energy resource as well as an energy efficiency resource, since it uses geothermal heat to reduce a building's electricity requirements.

The Self Generation Incentive Program (SGIP), originally established by AB 970 in 2001 and recently extended by SB 412 (Kehoe, 2009), provides incentives for a number of different distributed generation technologies. SB 412 and D.11-09-015 revised the guidelines for the review and inclusion of new technologies, allowing developers of distributed energy resources that reduce greenhouse gas emissions to propose new technologies to qualify for SGIP. To date, no party has proposed the CPUC consider geothermal heat pumps for the program.

Pursuant to PUC 454.55, the CPUC is required to identify all cost-effective energy efficiency savings, and establish efficiency targets for the utilities to achieve. Since geothermal heat pumps impact the heating and cooling electric and gas loads for a

building, they should be assessed in the energy efficiency potential studies to determine whether they provide cost effective energy savings. If they are deemed cost-effective, then they would be included in the utility energy efficiency goals.

If enacted, AB 2339 would require the development of new programs, using unnecessary state resources to support unproven technologies that already qualify for review within the CPUC's existing customer distributed generation and energy efficiency programs.

PROGRAM BACKGROUND:

1. This bill would require the CPUC to establish rules for geothermal and solar heating and cooling technologies by July 2013.
2. The Geothermal Heat Pump Consortium was last involved in the CPUC's energy efficiency proceeding in 2002, in which the CPUC approved a pilot program. Since the 2002-03 energy efficiency portfolio, there have not been any parties representing the geothermal heat pump industry and the CPUC has not provided additional support for the technology.
3. The Geothermal Heat Pump Consortium has never been involved in SGIP proceedings.
4. The CSI-Solar Thermal program was established in D.10-01-022, authorizing \$250 million for solar thermal incentives through 2018.
5. SB 412 revised SGIP to limit the eligibility for incentives under the program "to distributed energy resources that the commission, in consultation with the State Air Resources Board, determines will achieve reductions of greenhouse gas emissions."
6. The CPUC's requirements for energy efficiency are established by PU Code 454.5 (b)9.C, which requires that the electrical utility "first meet its unmet resource needs through all available energy efficiency and demand reduction resources that are cost effective, reliable, and feasible." PUC 454.55 further requires that the CPUC "shall identify all potentially achievable cost-effective electricity efficiency savings and establish efficiency targets for an electrical corporation to achieve pursuant to Section 454.5."
7. The California RPS program deems geothermal energy to be an eligible RPS resource. Thus, geothermal heat pumps could participate in this program.
8. Geothermal heat pumps qualify to meet the Renewable Energy Standard (RES) in Arizona, Hawaii, Indiana, Pennsylvania, and Texas.

LEGISLATIVE HISTORY:

None.

FISCAL IMPACT:

\$765,476 + possible funds for incentives.

- Adoption of this bill would require an additional track of a current proceeding or a new proceeding to develop a new program, so it will require additional resources.
- As solar thermal technologies have been evaluated in the current distributed generation proceeding and supported through the CSI-Solar Thermal Program, this technology is not likely to need additional resources
- The technologies qualify for review and assessment under Self Generation Incentive Program and Energy Efficiency program, and could utilize these program structures. This would not require additional staff time and fits within the existing staff workload

STATUS:

AB 2339 is scheduled to be heard before the Assembly Utilities and Commerce Committee on April 16, 2012.

SUPPORT/OPPOSITION:

Support

Air Connection
ClimateMaster
Colorado GEO Energy and Heat Pump Association (CoGEHPA)
Crystal Air
Energy Control, Inc.
Enertech Global, LLC
Geothermal Exchange Organization (GEO)
Ground Source Energy NW
Martin Energetics
Meline Engineering Corporation
Plumas-Sierra Rural Electrical Cooperative (PSREC)
WaterFurnace
William Hanson, Contractor

Opposition

None on file.

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BILL LANGUAGE:

BILL NUMBER: AB 2339 INTRODUCED
BILL TEXT

INTRODUCED BY Assembly Members Williams and V. Manuel Pérez

FEBRUARY 24, 2012

An act to add Section 740.5 to the Public Utilities Code, relating to energy.

LEGISLATIVE COUNSEL'S DIGEST

AB 2339, as introduced, Williams. Energy: geothermal heat pump.

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 cooperation with specified entities, to evaluate and implement policies to promote the development of specified technologies.

This bill would require the PUC, in consultation with the State Energy Resources Conservation and Development Commission, State Air Resources Board, electrical corporations, and the geothermal heat pump and distributed solar thermal heating and cooling industries to evaluate policies and develop sufficient infrastructure sufficient to overcome barriers to the widespread deployment and use of geothermal and solar heating and cooling technologies. The bill would require the PUC, by July 1, 2013, to adopt rules addressing specified issues regarding geothermal and solar heating and cooling technologies.

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 740.5 is added to the Public Utilities Code, to read:

740.5. (a) The commission, in consultation with the State Energy Resources Conservation and Development Commission, State Air Resources Board, electrical corporations, and the geothermal heat pump and distributed solar thermal heating and cooling industries, shall evaluate policies to develop an infrastructure sufficient to overcome barriers to the widespread deployment and use of geothermal and solar heating and cooling technologies.

(b) By July 1, 2013, the commission shall adopt rules addressing all of the following:

(1) The technological advances that are needed to ensure the consideration of geothermal heat pumps and solar thermal heating and cooling in state policy and what role the state should take to support the development of these technologies.

(2) The benefits to ratepayers specific to safer, more reliable, or less costly gas or electrical service and through greater energy

efficiency, reduction of health and environmental impacts from air pollution, and reduction of greenhouse gas emissions related to electricity and natural gas production and use, through the use of geothermal heat pump and solar thermal heating and cooling technologies.

(3) The existing statutory and permit requirements that will impact the widespread use of geothermal heat pumps and solar thermal heating and cooling technologies and any recommended changes to existing legal impediments to the widespread use of geothermal heat pumps and solar thermal heating and cooling technologies.

(4) The impact of widespread use of the geothermal heat pump and solar thermal heating and cooling technologies on achieving the state's goals pursuant to the California Global Warming Solutions Act of 2006 (Division 25.5 (commencing with Section 38500) of the Health and Safety Code) and the renewables portfolio standard program pursuant to Section 399.12.