

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

ENERGY DIVISION

RESOLUTION G-3418

June 26, 2008

R E S O L U T I O N

Resolution G-3418. The California Energy Commission (“CEC”) requests approval of its Fiscal Year 2008-2009 program plan and funding request for the Natural Gas Public Interest Research Program. The CEC’s request is approved, pursuant to California Public Utilities Commission (“CPUC”) Decision (D.) 04-08-010.

SUMMARY

This Resolution approves the CEC report, *Proposed Program Plan and Funding Request for Fiscal Year 2008-2009, Natural Gas Public Interest Research Program*. That program was established pursuant to D. 04-08-010. The CEC filed this plan and the funding request on April 30, 2008.

BACKGROUND

D. 04-08-010 (the “Decision”) implemented Assembly Bill (AB) 1002, establishing a natural gas surcharge to fund gas public purpose programs, including public interest research and development (R&D).

The CPUC instituted Rulemaking 02-10-001 to implement AB 1002. In this proceeding the Commission addressed various issues related to the design and implementation of a surcharge to fund gas public purpose programs.

D. 04-08-010 established certain criteria for gas R&D projects to be approved under this program.

The Decision defines public interest gas R&D activities as those which “are directed towards developing science or technology, 1) the benefits of which [sic]

accrue to California citizens and 2) are not adequately addressed by competitive or regulated entities." (p.25)*.

The CPUC established the following criteria for public interest gas R&D projects:

- 1) Focus on energy efficiency, renewable technologies, conservation and environmental issues
- 2) Support State Energy policy
- 3) Offer a reasonable probability of providing benefits to the general public, and
- 4) Consider opportunities for collaboration and co-funding opportunities with other entities.

D. 04-08-010 designated the CEC as administrator of the R&D program.

The CEC administers the Public Interest Energy Research (PIER) program and is publicly accountable, being subject to the Bagley-Keene Open Meeting Act and the Public Records Act (p. 31). Projects will be selected by the CEC, and reviewed and approved by the CPUC.

D. 04-08-010 reserved ultimate oversight for the CPUC.

The CPUC is responsible for adopting the R&D program, and for setting the surcharge to fund the R&D program. The Decision therefore made it clear that the CPUC has final responsibility to "approve and resolve administration, funding, project approval, or other matters, and make a final decision" (p.32). The Decision further designated the CPUC's Energy Division to serve as this Commission's advisor (*ibid.*).

The CEC's R&D program plans and budgets have been approved by the CPUC for calendar years 2005 through 2007. D. 04-08-010 established a zero-based budget for the Gas R&D program, starting at \$12 million per year for 2005, with annual increases of up to \$3 million per year, subject to CPUC approval. The

* See http://www.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/39314.PDF

CPUC-approved program budget for 2007 was \$18 million. Thus the maximum allowable budget for the program for Fiscal Year 2008-2009 is \$21 million (p. 38).

The CEC has submitted its Program Plan and Funding Request for Fiscal Year 2008-2009.

In addition to providing its research plan and budget for Fiscal Year 2008-2009, the CEC also provided information on Fiscal Year 2007 program activities and expenditures.

DISCUSSION

Consistent with D. 04-08-010, the CEC's Public Interest Natural Gas Research Program comprises a research and development effort directed towards maximizing energy efficiency and mitigating environmental effects of gas consumption.

The CEC proposes to allocate its \$21 million budget to administration (\$3.1 million), small grants (\$1 million), and a set of five ranked Key Research Areas, broken down into their sub-areas for further explication:

1. Affordable, comfortable, and energy-smart choices for daily life.
 - a. Develop energy-efficient end-use technologies and strategies for unique California conditions and industries (climate, construction practices, state standards, industrial processes).
 - b. Reduce and optimize the hot water use in residential, commercial, and industrial operations by developing technologies that conserve water or provide cost-effective alternate thermal energy sources.
 - c. Increase efficiency of existing building systems and industrial processes (develop replacement / retrofit products, improve operational strategies, identify intervention tactics).
 - d. Develop sustainable technologies, designs and systems for buildings and industrial applications (sustainable building construction practices, use of industrial waste as an energy resource).
 - e. Improve understanding of consumer behavior and market issues.

2. Clean and diverse natural gas supply that optimizes California's resources.
 - a. Reduce the cost and improve the performance of solar thermal, biogas, and geothermal technologies for natural gas replacement (for example, space heating and industrial applications) as well as hybrid systems (for example, solar/gas hybrids).
 - b. Improve the performance and reduce the cost of clean combustion technologies.
 - c. Assess the quality and interchangeability of liquefied natural gas to determine its environmental and performance impact.

3. Clean and diverse transportation system in California.
 - a. Develop and demonstrate advanced fuel efficient transportation technologies and fuel switching strategies that result in a cost-effective reduction of on-road and off-road petroleum fuel use in the short and long term.
 - b. Develop and demonstrate technologies for the in-state production of renewable and non-petroleum transportation fuels that can augment transportation fuel supplies, provide state economic and ratepayer benefits, reduce air pollutant and greenhouse gas emissions, and increase on- and off-road transportation fuel diversity.

4. Integrated natural gas system that is reliable and secure.
 - a. Improve the safety of natural gas production, storage, delivery, and use.
 - b. Analyze impact storage would have on market and the conditions required for investment in storage infrastructure.

5. Environmentally sound natural gas system.
 - a. Develop strategies to reduce direct and indirect GHG emissions (CO₂, NO, CH₄) associated with natural gas in California.
 - b. Develop methods (emissions testing protocols) to improve regulatory processes (pipeline siting) and inform future state environmental/energy policy.
 - c. Create tools for assessing the impacts of global climate change on key sectors and develop robust mitigation and adaptation strategies.

- d. Improve the understanding of and develop solutions to reduce the impacts on air quality, biological, land use, public health, and water from natural gas production, storage, and use, and contribute to a sustainable energy future.

These areas and the CEC's proposed budget allocation are delineated in the appended tables (Table 1 and Tables 4 through 8), taken from the CEC report.

The Energy Innovations Small Grants Program is intended to complement ongoing core research for natural gas.

This program is modeled on a well-established one in electricity research known as the Energy Innovations Small Grant Program (EISG). It is primarily intended to fund feasibility studies, which will assess proofs of concepts, and as a new mechanism for identifying emerging and promising natural gas technologies. Maximum funding is to be set at \$95,000 per hardware project and \$50,000 per modeling project. The program will be administered by the San Diego State University Research Foundation.

The CEC's proposed program budget and funding request should be approved.

In accordance with D. 04-08-010, the annual proposed R&D program for Fiscal year 2008-2009 was provided by the CEC to the Energy Division. The CEC has furthermore solicited R&D project proposal abstracts and incorporated them into the development of its plan. The Energy Division has reviewed the CEC report and found it to be submitted properly in compliance with D. 04-08-010. The basic program areas meet the criteria for public interest gas R&D projects laid out in the Decision, the CEC reasonably selected gas R&D program areas, and the CEC reasonably allocated the program's budget to the different program areas.

COMMENTS

Public Utilities Code Section 311(g)(1) provides that this resolution must be served on all parties and subject to at least 30 days public review and comment prior to a vote of the Commission. Our Rules of Practice and Procedure (Rule

14.6(c)(2)) provide that the Commission may waive or reduce the period for public review and comment on draft resolutions in an uncontested matter where the decision grants the relief requested. The Rules of Practice and Procedure (Rule 14.6(c)(9)) also allow the Commission to waive or reduce the review and comment period when required by "public necessity." "Public necessity" refers to circumstances in which the public interest in the Commission's adopting a decision before expiration of the 30-day review and comment period clearly outweighs the public interest in having the full 30-day period for review and comment. In this instance, no protests have been filed since the proposal was made outside of the usual advice letter process, and we are approving the CEC's proposed gas R&D budget and program.

Because we are approving the CEC's proposed plan and budget and because there is a public necessity in notifying the CEC of this approval and the changes to the approval timetable as soon as possible, the CPUC allowed comments on the draft resolution with a reduced comment period. Accordingly, the draft resolution was mailed to parties for comments on May 28, 2008, with comments due on June 16, 2008.

No comments were received.

FINDINGS

1. The CEC has met its obligation to file its Fiscal Year 2008-2009 public interest gas R&D report, per D. 04-08-010.
2. The CEC's proposed R&D project areas meet the criteria set forth in D. 04-08-010.
3. The CEC reasonably selected gas R&D project areas, and reasonably allocated the Fiscal Year 2008-2009 R&D budget to the different project areas.
4. The CEC's report, *Program Plan and Funding Request for Fiscal Year 2008-2009, Natural Gas Public Interest Research Program*, should be adopted.

THEREFORE IT IS ORDERED THAT:

1. The Fiscal Year 2008-2009 public interest gas R&D plan submitted by the CEC in its report, *Program Plan and Funding Request for Fiscal Year 2008-2009, Natural Gas Public Interest Research Program*, is approved.

This Resolution is effective today.

I certify that the foregoing resolution was duly introduced, passed and adopted at a conference of the Public Utilities Commission of the State of California held on June 26, 2008; the following Commissioners voting favorably thereon:

/s/ Paul Clanon

Paul Clanon
Executive Director

MICHAEL R. PEEVEY
PRESIDENT

DIAN M. GRUENEICH

JOHN A. BOHN

RACHELLE B. CHONG

TIMOTHY ALAN SIMON

Commissioners

**Appendix (Numbering by CEC Proposed Program Plan and Funding Request
for Fiscal Year 2008-2009)**

Table 1: FY 2008-2009 Program Budget Summary

Budget Item	2008-09 Budget
Research Areas	
1. Affordable, comfortable, and energy-smart choices for daily life	\$5,050,000
2. Clean and diverse energy supply that optimizes California's resources	\$2,950,000
3. Clean and diverse transportation system in California	\$6,000,000
4. Integrated natural gas system that is reliable and secure	\$675,000
5. Environmentally sound energy system in California	\$2,225,000
Sub-Total Research Areas	\$16,900,000
Energy Innovation Small Grants	\$1,000,000
Program Administration and Management	\$3,100,000
Total	\$21,000,000

Table 4: Research Area 1 Budget for 2008-2009 NG Budget Plan

Research Solution	Budget
Develop energy-efficient end-use technologies and strategies for unique California conditions and industries (climate, construction practices, state standards, industrial processes).	\$1,200,000
Reduce and optimize the hot water use in residential, commercial, and industrial operations by developing technologies that conserve water or provide cost-effective alternate thermal energy sources.	\$1,400,000
Increase efficiency of existing building systems and industrial processes (develop replacement / retrofit products, improve operational strategies, identify intervention tactics).	\$1,050,000
Develop sustainable technologies, designs and systems for buildings and industrial applications (sustainable building construction practices, use of industrial waste as an energy resource).	\$650,000
Improve understanding of consumer behavior and market issues.	\$750,000
Total	\$5,050,000

Table 5: Research Area 2 Budget for 2008-2009 NG Budget Plan

Research Solution	Budget
Reduce the cost and improve the performance of solar thermal, biogas, and geothermal technologies for NG replacement (for example, space heating and industrial applications) as well as hybrid systems (for example, solar/gas hybrids).	\$1,500,000
Improve the performance and reduce the cost of clean combustion technologies.	\$1,000,000
Assess the quality and interchangeability of LNG to determine its environmental and performance impact.	\$450,000
Total	\$2,950,000

Table 6: Research Area 3 Budget for 2008-2009 NG Budget Plan

Research Solution	Budget
Develop and demonstrate advanced fuel efficient transportation technologies and fuel switching strategies that result in a cost-effective reduction of on-road and off-road petroleum fuel use in the short & long term.	\$2,000,000
Develop and demonstrate technologies for the in-state production of renewable and non-petroleum transportation fuels that can augment transportation fuel supplies, provide state economic and ratepayer benefits, reduce air pollutant and greenhouse gas emissions, and increase on- and off-road transportation fuel diversity.	\$4,000,000
Total	\$6,000,000

Table 7: Research Area 4 for 2008-2009 NG Budget Plan

Research Solution	Budget
Improve the safety of natural gas production, storage, delivery, and use.	\$175,000
Analyze impact storage would have on market and the conditions required for investment in storage infrastructure.	\$500,000
Total	\$675,000

Table 8: Research Area 5 Budget for 2008-2009 NG Budget Plan

Research Solution	Budget
Develop strategies to reduce direct and indirect GHG emissions (CO ₂ , NO, CH ₄) associated with natural gas in California.	\$175,000
Develop methods (emissions testing protocols) to improve regulatory processes (pipeline siting) and inform future state environmental/energy policy.	\$600,000
Create tools for assessing the impacts of global climate change on key sectors and develop robust mitigation and adaptation strategies.	\$1,350,000
Improve the understanding of and develop solutions to reduce the impacts on air quality, biological, land use, public health, and water from natural gas production, storage, and use, and contribute to a sustainable energy future.	\$100,000
Total	\$2,225,000