

CALIFORNIA ENERGY COMMISSION

1516 Ninth Street
Sacramento, California 95814

Main website: www.energy.ca.gov



**Public Interest Energy Research (PIER)
Staff Grant Solicitation
Pre-Application Workshop on
Hybrid Generation and Fuel-flexible Distributed
Generation/Combined Heat and Power/Combined
Cooling, Heat and Power (DG/CHP/CCHP) Systems**

California Energy Commission Staff will conduct a Pre-Proposal Workshop for a Grant Solicitation on research, development and demonstration projects in the area of Hybrid Generation and Fuel-flexible Distributed Generation/Combined Heat and Power/Combined Cooling, Heat and Power (DG/CHP/CCHP) Systems.

January 17, 2012

1:00 p.m. – 3:00 p.m.

CALIFORNIA ENERGY COMMISSION

1516 Ninth Street

First Floor, Hearing Room A

Sacramento, California

(Wheelchair Accessible)

This is a staff workshop however Commissioners may attend.

Availability of Documents

This Solicitation and all supporting documents and forms can be found at <http://www.energy.ca.gov/contracts/index.html> under "Current Solicitations." In addition, you may request to be added to the mailing notification list to receive changes made to this Solicitation. Interested parties may also register on the electronic mailing list on this webpage to receive notifications of any changes to this Solicitation.

For those parties without internet access, copies of Solicitation documents and information can be obtained by contacting:

Kristyn Jack

Grants and Loans

California Energy Commission

1516 Ninth Street, MS-1

Sacramento, CA 95814

Telephone: (916) 654-4381

Purpose

This is a pre-proposal information workshop for a competitive Grant Solicitation sponsored by the California Energy Commission's (Energy Commission's) Public Interest Energy Research (PIER) Program. The purpose of this Solicitation is to fund research, development and demonstration (RD&D) projects that will: (1) advance the science, technology and market penetration in California of grid-connected DG/CHP/CCHP; and (2) integrate emerging multiple DG/CHP/CCHP technologies, including energy storage and fuel flexibility, in diversified applications.

The PIER Program is releasing this Solicitation to support RD&D projects in the research subject areas of Renewable Energy and Advanced Generation. The intent of funding in this area is to improve the performance and advance the market penetration of DG/CHP/CCHP systems in California with the broad objectives of increasing efficiency; reducing cost; reducing emissions (including greenhouse gases); increasing use of renewable and alternative fuels; and improving the reliability, load factors, and operational flexibility of integrated systems used in residential, commercial, and industrial applications for electricity generation, space conditioning, and process heating and/or cooling.

Background

Distributed generation (DG) refers to localized electricity generation or storage systems that are located at or very near the location where the energy is used. These systems are grid-connected or stand-alone connected to the distribution level of the transmission and distribution grid. Benefits of DG include reduced losses at peak delivery times, energy independence and protection against outages, and reduced need for transmission and distribution infrastructures. Combined heat and power (CHP), also known as cogeneration, is the most efficient and cost-effective form of DG. CHP or CCHP is the concurrent production of electricity or mechanical power and useful thermal energy (heating and/or cooling) from a single source of energy. It provides benefits in the form of reduced energy costs, more efficient use of fuel, fewer environmental impacts, improved reliability and power quality, and other benefits of distributed generation.

The Energy Commission's Integrated Energy Policy Reports (IEPRs) have consistently emphasized the importance of DG/CHP and advanced generation in meeting the state's energy and environmental goals. In the 2005 IEPR, CHP is recognized as an end-use efficiency measure for commercial, industrial, and institutional facilities. The 2005 Energy Action Plan established DG/CHP as a priority element of California's loading order for meeting new electricity needs stating that after cost-effective efficiency and demand response, the energy plan hinges on renewable sources of power and DG such as CHP. The 2009 IEPR calls for increased efficiency and reliability and underscores the role of CHP in attaining increased overall efficiency and reducing greenhouse gas emissions. CHP provides benefits to California through more efficient use of natural gas

fuel which also results in decreased greenhouse gas emissions. Further, the 2009 IEPR emphasized the role of renewable CHP in meeting RPS goals and acknowledged that CHP that uses renewable fuels provides additional benefits to California. Among the recommendations from the 2009 IEPR are developing new approaches to balance criteria pollutant emission reductions against energy efficiency improvements and gas reductions from electricity generation, and funding near-term potential of CHP systems that use biogas as fuel.

Public and stakeholder workshops, conducted in support of developing roadmaps for renewable research at the utility and building scale and for advanced generation research, identified hybrid generation and fuel flexibility among priority strategies for meeting the IEPR 2009 recommendations on efficiency, emissions, and renewable CHP. This advanced generation strategy complements the efforts of addressing renewable power generation barriers related to intermittency, reliability, grid-integration, and slow market penetration, and recognizes that in order to meet the energy goals, improved natural gas power generation is part of the solution.

Public Participation

The Energy Commission's Public Adviser's Office provides the public assistance in participating in Energy Commission activities. If you want information on how to participate in this forum, please contact the Public Adviser's Office at (916) 654-4489 or toll free at (800) 822-6228, by FAX at (916) 654-4493, or by e-mail at [PublicAdviser@energy.state.ca.us] If you have a disability and require assistance to participate, please contact Lou Quiroz at (916) 654-5146 at least five days in advance.

Please direct all news media inquiries to the Media and Public Communications Office at (916) 654-4989, or by e-mail at [mediaoffice@energy.state.ca.us].

If you have questions on the technical subject matter of this meeting, please call [Pablo Gutierrez S., Associate Mechanical Engineer, \(916\) 327-1542](tel:9163271542).

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