



**California Energy Commission
IEPR Lead Commissioner Workshop**

**Combined Heat and Power to Support
California's AB 32 Climate Change Scoping Plan**

February 16, 2012 – 9:00 a.m.

AGENDA

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|--------------------|---|
| 9:00-9:10 | Introduction
Suzanne Korosec, IEPR Lead |
| 9:10-9:20 | Opening Comments
Commissioner Carla Peterman, IEPR Lead Commissioner
Chair Robert Weisenmiller, California Energy Commission
Cliff Rechtschaffen, Governor's Office |
| 9:20-9:30 | Workshop Goals
Bryan Neff, California Energy Commission |
| 9:30-9:55 | Overview of ICF Report of Technical and Market Potential for New CHP in California
Ken Darrow, ICF International <ul style="list-style-type: none">• Existing California CHP [MW, number, distribution by size]• CHP Market Potential Analysis under Alternative Scenarios |
| 9:55-10:20 | Questions |
| 10:20-11:30 | Small CHP Market in California (up to 20 MW)
<i>Questions for Panel</i> <ol style="list-style-type: none">1. What are the most significant factors that contribute to the decision by a public or private developer to invest in CHP?2. What economic and/or regulatory challenges lead to project delays or failure?3. How can the state support the development of an active market for small CHP development? <p>Moderator: Bryan Neff, California Energy Commission
Panelists: Sam Ruark, Sonoma County
John Hake, EBMUD Energy
Bill Martini, Tecogen
Joe Allen, Solar Turbines</p> |

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11:30-11:45	Questions
11:45-12:15	Industrial CHP Issues Barbara Barkovich, California Large Energy Consumers Association Tom Silva, representing Chevron
12:15-12:30	Questions
12:30-1:30	Lunch
1:30-2:00	Innovative Financing for CHP Development Tom Casten, Recycled Energy Development, ACORE Board Member John Ballam, Massachusetts Department of Energy Resources (via WebEx)
2:00-2:15	Questions
2:15-2:45	Technology Innovation to Overcome CHP Barriers <i>Overcoming CHP Barriers through Innovations: An overview of CHP R&D</i> Rizaldo Aldas, California Energy Commission, PIER <i>Ultra Low Emission Control for Rich Burn Engines</i> Keith Davidson, DE Solutions <i>Low NOx HCCL Technology for CHP Applications</i> Brandon Blizman, Makel Engineering, Inc.
2:45-3:00	Questions
3:00-4:00	CHP Development and Infrastructure Planning <i>Questions for Panel</i> <ol style="list-style-type: none"> <i>To what extent will the QF Settlement contribute to the development of new CHP and associated CO₂ emission reductions?</i> <i>What is a reasonable planning assumption (single point or range) for the peak capacity value of CHP development during 2013-2022?</i> <i>What is a reasonable planning assumption for the division of onsite and export capacity for future CHP development?</i> Moderator: David Vidaver, California Energy Commission Panelists: Jennifer Kalafut, California Public Utilities Commission Michael Alcantar, Cogeneration Association of California Ray Williams, Pacific Gas & Electric Gerome Torribio, Southern California Edison
4:00-4:30	Questions
4:30-4:45	Public Comments
4:45-5:00	Closing Remarks from Commissioners and Governor's Office
5:00	Adjourn

Attachment

Request for Comments

The IEPR Lead Commissioner requests that parties address the following questions in their oral and written comments. The full ICF report *Technical and Market Potential for New CHP in California* will be published on February 27. Written comments may address both the presentation and the draft report. Other comments on CHP will be used to develop the *2012 IEPR Update*. The questions are organized by topic in the workshop. Written comments are due to the Energy Commission by 5:00 p.m. on **March 9, 2012**. Please see the workshop notice for instructions on how to submit written comments:

http://www.energy.ca.gov/2012_energy_policy/notices/2012-02-16_workshop_notice.pdf

I. ICF Report on technical and market potential of CHP including scenario analysis

- 1) Are there major flaws in the assumptions or errors in the report that would have a significant influence on the findings?
- 2) Using the various scenarios as a guide for outcomes of regulatory changes, what regulatory changes should the state pursue and why?
- 3) Is use of the Scoping Plan's GHG reduction accounting method appropriate? If not, provide an alternative.

II. Small and Large CHP project development in California

- 1) What impact will Cap and Trade have on development of non-utility owned CHP? Would having a utility contract change the likelihood of development? How large a factor is the uncertainty of Cap and Trade prices in the decision to install a CHP unit?
- 2) Net-metering for CHP is restricted to fuel-cells and projects that use biogas. Under these parameters have there been any net-metered CHP projects and what are they? Should net-metering be expanded to apply to additional CHP technologies? If so, up to what capacity? Explain.
- 3) A key feature of AB 1613 is that it allows for export and payment of excess electricity. Will the availability of an AB 1613 feed-in tariff effect your decision to pursue a CHP project in California? Are there any deficiencies in the current implementation of AB 1613? How should they be changed?

For CHP Developers and Project Owners

- 1) Comment on the following state programs and their influence on your project if it was available at the time of installation:
 - SGIP
 - AB 1613
 - Rule 21

- Cap & Trade
 - Other incentives? (Please include the current status of the program.)
- 2) Is your system capable of providing ancillary services? Does your interconnection agreement limit your ability to provide or be paid for those services?
 - 3) If applicable, how do air quality management district standards affect your CHP system's performance, emissions, and installation? Does your CHP system improve the level of emissions in the district it operates?
 - 4) If applicable, how do local water quality board regulations affect your CHP system's installation/performance? Does your CHP system improve the water quality/reduce water use?
 - 5) How was your project financed? Discuss any difficulties, unique situations, or special arrangements.
 - 6) What impact do departing load charges have on the viability or operation of your project?
 - 7) If your project qualifies as renewable CHP, what were the barriers specific to a renewable-type project encountered? If yes, what were they? If they were overcome, how?
 - 8) What impact do non-bypassable charges have on the viability or operation of your project?
 - 9) Is your project interconnected to the electric grid? If so, what interconnection procedure was used? Were there problems or unexpected delays? Was cost an issue? Were you able to get an interconnection agreement/FIT in a timely manner?
 - 10) Does your project operate in a networked grid? What issues has this caused and how were they addressed?
 - 11) Can your project be dispatched?
 - 12) Can your CHP system run independently of the grid? Is your CHP system used for backup power? Does your facility act as an emergency shelter?
 - 13) Did your project involve a third party developer? What was their role in your project?

III. Technology Innovation to Overcome CHP Barriers

- 1) What is the role of RD&D in advancing CHP and helping achieve the current and future state policy goals related to CHP, such as the AB 32 Scoping Plan and the Governor's Clean Energy Jobs Plan?

- 2) Which technologies, systems, or components should R&D prioritize to address some of the barriers to the deployment of CHP? What are some emerging technologies that may be able to address the cost issues associated with CHP?
- 3) Should RD&D be focused on renewable and fuel-flexible CHP to better help achieve the climate change and renewable portfolio standard goals? What are the major technological barriers to advancing renewable CHP and how can RD&D address those issues.
- 4) What issues, if any, impede the deployment of CHP into utility territories and how can RD&D help to make CHP beneficial to both the utilities and customers?
- 5) What other future research direction, strategies or initiatives may be recommended so that RD&D can better help accelerate CHP market deployment?

IV. QF Settlement and Infrastructure Planning

Questions for CPUC

The QF Settlement establishes both a MW target for new CHP (3,000 MW) during an initial phase and a GHG emissions reduction target over a longer period (4.3 MMT). The investor-owned utilities will receive credit towards the MW target if they sign (new) contracts with existing CHP; they will receive credit towards the GHG emissions reduction target for those inefficient CHP resources whose contracts expire.

- 1) What are the estimated GHG emissions reductions associated with coal-burning CHP facilities with expiring QF contracts? What are the estimated GHG emissions reductions associated with other QFs with expiring contracts that fail to satisfy the double benchmark? What are the aggregate nameplate MW associated with these resources and their dependable (i.e., net qualifying) capacity?
- 2) Assuming that the utilities re-contracted with all existing and recently expired QFs that meet the double benchmark, how many MW (nameplate and dependable) would be procured?
- 3) Has Energy Division staff developed an estimate of the potential range of values for GHG emissions reductions per MW of new (yet-to-be installed) CHP capacity? How many MW of new CHP capacity might be necessary to realize the targeted savings? How does the performance of existing efficient CHP and associated GHG emission reductions compare to the stylized resources implicitly represented in the AB 32 Scoping Plan?

Questions for the Investor-owned Utilities

The QF Settlement establishes the conditions under which the IOUs may fall short of both the MW and GHG emission targets. Failure to reach MW targets may be justified

by a lack of sufficient offers, inefficiency of resources offered relative to the double-benchmark, excessive offer prices, and the amount of GHG emissions reductions, but may not be made based on lack of need or portfolio fit arguments. The latter, however, may be used as justification for failure to meet GHG emission reduction targets.

- 1) How is the portfolio fit of a prospective resource measured? Which attributes of the resource influence its fit into an existing portfolio? Which of these attributes have the greatest influence on portfolio fit?

Questions for CHP Representatives

The standard planning assumptions in the 2010 LTPP included continued operation of existing CHP, and 1,872 MW of new CHP (1,522 MW in the IOU service territories) that operates at very high capacity factor and evenly divides its output between on site use and export.

- 1) Are existing QF resources that meet the double benchmark likely to be more or less competitive than new projects in CHP RFOs?
- 2) Is it reasonable to expect that existing resources that fail to meet the double benchmark will continue to operate without a PPA?
- 3) What conditions are/might be necessary to realize this quantity of new CHP? What is the likely impact of failing to get a long-term contract for exports on development?
- 4) If large quantities of new CHP are developed, is the assumption of a 50/50 split between on-site use and export a reasonable one? If not, what might a more reasonable split be?

Questions for All

- 1) What is a reasonable planning assumption (single point or range) for the peak capacity value of CHP development during 2013 – 2022?

IV. General Questions for All

- 1) What additional analysis can complement the work completed to support changing CHP development regulations and goals? (i.e. GHG emissions comparison to displaced technologies, etc.)
- 2) Should the state create incentives or penalties to ensure achievement of targets? If so, please suggest program design and implementation.
- 3) What are the near-term and long-term actions needed to achieve 6,500 MW by 2030?
- 4) What additional steps could the state take to encourage further development? Prioritize and explain.

- 5) What market opportunities exist for bio-powered CHP?
- 6) What challenges limit the penetration of bio-powered CHP at existing facilities, such as waste water treatment plants or food processing facilities?
- 7) What can the Energy Commission, or the state, do to increase market penetration of bio-powered CHP?
- 8) What can be done from, a regulatory standpoint, to reduce uncertainty for CHP development?
- 9) What is the potential development of CHP that could be classified as renewable? What are the major regulatory barriers to renewable CHP development and how can they be addressed?
- 10) AB 1613 also encourages utilities to take advantage of CHP. Will utilities take advantage of this opportunity? If not, why? What would it take?
- 11) Utilities have had a role in CHP development in the past. Is there a role for CHP in the utility portfolio and what role would it play? What interest do utilities have in developing of CHP? What incentives are necessary?