CALIFORNIA ENERGY COMMISSION
1516 Ninth Street
Sacramento, California 95814
Main website: www.energy.ca.gov

California Energy Commission
DOCKETED
13-IEP-1D
TN 71918
AUG 26 2013

In the matter of,	)	Docket No. 13-IEP-1D
	)	
2013 Integrated Energy Policy Report (2013 IEPR)	)	WORKSHOP
	)	RE: Evaluation of Electricity
	)	System Needs in 2030

Notice of IEPR Lead Commissioner Workshop on Evaluation of Electricity System Needs in 2030

The California Energy Commission Lead Commissioner for the *Integrated Energy Policy Report* will conduct a workshop to explore a range of perspectives for evaluating potential electricity system needs in 2030. Commissioner Andrew McAllister is the Lead Commissioner. Other commissioners may attend and participate in this workshop.

MONDAY, AUGUST 19, 2013
Beginning at 9:30 a.m.
CALIFORNIA ENERGY COMMISSION
1516 Ninth Street
First Floor, Hearing Room A
Sacramento, California
Wheelchair Accessible

Remote Access Available by Computer or Phone via WebEx™
(Instructions below)

Agenda

The Lead Commissioner will host stakeholders in a discussion of expected system development through the current ten-year planning horizon and uncertainties that influence the evolution of the electricity system in the five- to ten-year period that follows.

Background

Senate Bill 1389 (Bowen, Chapter 568, Statutes of 2002) mandates that:

> [The Energy Commission] shall adopt an integrated energy policy report. This integrated report shall contain an overview of major energy trends and issues facing the state, including, but not limited to, supply, demand, pricing, reliability, efficiency,

and impacts on public health and safety, the economy, resources, and the environment. (Pub. Resources Code, § 25302(a).)

The commission shall conduct electricity and natural gas forecasting and assessment activities to meet the requirements of paragraph (1) of subdivision (a) of Section 25302, including, but not limited to, all of the following: (1) Assessment of trends in electricity and natural gas supply and demand. (Pub. Resources Code, § 25303(a)(1).)

Evaluation of the adequacy of electricity and natural gas supplies to meet forecasted demand growth. Assessment of the availability, reliability, and efficiency of the electricity and natural gas infrastructure and systems. (Pub. Resources Code, § 25303(a)(3).)

The State of California has set a target for long-term economy-wide reductions in greenhouse gas (GHG) emissions reductions of 80 percent from 1990 levels by 2050. Proportional reductions for the electricity sector alone would require substantial decarbonization, reducing coal- and gas-fired generation from 150,000 GWh today to roughly one-third this value in 2050. This will require energy efficiency savings on an historically unprecedented scale, reductions in electricity use that are likely to be more than offset by the electrification of the transportation and industrial sectors. Additionally, development and deployment of new zero- or low-carbon carbon technologies (e.g., fossil-fueled generation with carbon capture and sequestration, advanced biofuels) increased deployment of nuclear generation, marked expansion of existing renewable technologies (solar, wind, geothermal, biomass), or a combination of all three will be needed.

Since new zero-carbon technologies and nuclear generation cannot be assumed to be in place by 2030, the pathway to additional GHG emission reductions over the next 15 – 20 years, beyond those realized by California's divestiture of the coal-fired generation, largely entails continued "conventional" renewable technology development. Projected renewable development through 2020 includes more than 9,000 MW of wholesale solar capacity. Post-2020 renewable resource development will depend upon load growth, increases in the Renewable Portfolio Standard, and advances in renewable technologies that lead to "grid parity" with non-renewable generation. Additional development in the post-2020 period on the customer side of the meter is expected due to falling costs, rising electricity prices, and expected regulations requiring that new residential construction be "zero-net energy."

The daily pattern of solar generation presents challenges to grid operators and planners when such resources are deployed in large quantities across the system. Sufficient dispatchable generation, demand response, and storage resources must be available to the operators to manage increased ramping. Increasing need for these resources comes at the same time that more than 12,500 MW of dispatchable gas-fired generation is retiring due to the State Water Resources Control Board's policy on once-through cooling. The California Independent System Operator is currently developing analyses on the complimentary resources needed to integrate the renewable portfolio projected for 2022.

The increased penetration of intermittent generation resources, as well as distributed generation that is neither visible to nor controlled by the transmission operator, create the need for new, stochastic methods of evaluating risk. The system is evolving from one in which

dispatchable energy flows from large generation sources to consumers, who face fixed prices and thus have stable demand, to a system in which energy flows are bi-directional, incorporating thousands of generation sources, many of which are intermittent, serving demand that can increasingly respond to varying real-time prices.

Public Comment

Oral Comments: Staff will accept oral comments during the workshop. Any comments may become part of the public record in this proceeding.

Written Comments: Written comments should be submitted to the Dockets Unit by **Tuesday, September 3, 2013**. Written comments will be also accepted at the workshop; however, the Energy Commission may not have time to review them before the conclusion of the meeting. For additional information, see Standing Order re: Proceedings and Confidentiality Procedural Requirements for Filing, Service, and Docketing Documents with the Energy Commission, available at www.energy.ca.gov/commission/chief_counsel/docket.html.

Additionally, written comments may be posted to the Energy Commission's website for the proceeding. Please note that your written and oral comments, attachments, and associated contact information (for example, your address, phone, email, and so forth) become part of the viewable public record. This information may become available via Google, Yahoo, and any other search engines.

The Energy Commission encourages comments by e-mail. Please include your name and any organization name. Comments should be in a downloadable, searchable format such as Microsoft® Word (.doc) or Adobe® Acrobat® (.pdf). Please include the docket number 13-IEP-1D and indicate Evaluation of Electricity System Needs in 2030 in the subject line. Send comments to docket@energy.ca.gov.

If you prefer, you may send a paper copy of your comments to:

California Energy Commission
Dockets Office, MS-4
Re: Docket No. 13-IEP-1D
1516 Ninth Street
Sacramento, CA 95814-5512

Public Adviser and Other Commission Contacts

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

Media inquiries should be sent to the Media and Public Communications Office at mediaoffice@energy.ca.gov or (916) 654-4989.

If you have questions on the subject matter of this meeting, please contact David.Vidaver@energy.ca.gov or (916) 654-4656.For general questions regarding the IEPR proceeding, please contact Lynette Green, IEPR project manager, at (916) 653-2728 or by e-mail at Lynette.Green@energy.ca.gov.

The service list for the *2013 IEPR* is handled electronically. Notices and documents for this proceeding are posted to the Energy Commission website at www.energy.ca.gov/2013_energypolicy/index.html. When new information is posted, an e-mail will be sent to those on the energy policy e-mail list server. We encourage those who are interested in receiving these notices to sign up for the list server through the website www.energy.ca.gov/listservers/index.html.

Remote Attendance

You may participate in this meeting through WebEx, the Energy Commission's online meeting service. Presentations will appear on your computer screen, and you may listen to audio via your computer or telephone. Please be aware that the meeting may be recorded.

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Availability of Documents

Documents and presentations for this meeting will be available online at: www.energy.ca.gov/2013_energypolicy/documents/index.html.

Date: August 6, 2013

ANDREW MCALLISTER
Lead Commissioner
2013 Integrated Energy Policy Report

Mail Lists: Energypolicy, electricity, renewable energy