



California Energy Commission



California Public Utilities Commission



Air Resources Board

## CALIFORNIA CARBON CAPTURE AND STORAGE REVIEW PANEL MEETING

The fourth meeting of the California Carbon Capture and Storage Review Panel will be held on Thursday, October 21, 2010. The California Energy Commission, the California Public Utilities Commission, and the California Air Resources Board have formed this panel to review carbon capture and storage (CCS) policy and develop recommendations that could help guide legislation and regulations regarding CCS in California. CCS has been identified as a potential strategy for reducing greenhouse gas emissions from major industrial sites.

Other state agencies interested and involved in the issue are the California Department of Conservation and the California State Water Resources Control Board.

**THURSDAY, OCTOBER 21, 2010**

8:30 a.m. – 5:30 p.m.

**CALIFORNIA ENERGY COMMISSION**

1516 Ninth Street

First Floor, Hearing Room A

Sacramento, California

(Wheelchair Accessible)

Public parking is available in the state-owned garage on 10th Street between O and P Streets (entrance on 10<sup>th</sup>), in metered spaces on area streets, and in the public parking garages on L Street between 10th and 11th Streets and on P Street between 11th and 12th Streets.

### **Remote Attendance and Availability of Documents**

**Internet Webcast** - Presentations and audio from the meeting will be broadcast via our WebEx web meeting service. For details on how to participate via WebEx, please see the "Remote Attendance" section toward the end of this notice.

Documents and presentations for this meeting will be available on-line at

[www.climatechange.ca.gov/carbon\\_capture\\_review\\_panel/meetings/index.html](http://www.climatechange.ca.gov/carbon_capture_review_panel/meetings/index.html)

## **Purpose**

The goal of the California CCS Review Panel is to:

1. Identify, discuss, and frame specific policies addressing the role of CCS in meeting the state's energy needs and greenhouse gas reduction goals;
2. Review CCS policy frameworks used elsewhere, and identify gaps, alternatives, and applicability in California; and
3. Develop specific committee recommendations on CCS.

The fourth meeting of the panel will focus on formulating regulatory, legislative and policy recommendations on CCS for California. As part of this process the panel will consider the presentations and comments given in the first three panel meetings on the various regulatory, statutory, and policy issues confronting CCS in California from the perspective of different experts in relevant areas, important stakeholders, and members of the general public. The panel will also utilize staff white papers that have been requested by the panel, currently posted on-line at

[www.climatechange.ca.gov/carbon\\_capture\\_review\\_panel/meetings/2010-08-18/white\\_papers](http://www.climatechange.ca.gov/carbon_capture_review_panel/meetings/2010-08-18/white_papers)

These papers cover a variety of topics of importance to CCS including questions on permitting and agency lead for CCS; primacy (state versus federal); long-term stewardship and liability; enhanced oil recovery-related issues; pore space issues; pipeline issues; saline storage; sequestration history and risk; monitoring, measurement, and verification procedures and protocols; the connection between CCS and Assembly Bill 32, the California Global Warming Solutions Act of 2006; and public outreach issues connected to CCS. The papers given to the panel have received review and input from interested state agencies.

In addition to panel deliberations a period of time will be set aside for open public comments to the panel. The panel deliberations and information gathered through the public meetings will be the basis upon which a final report will be developed by the panel that identifies the major regulatory and legal barriers to CCS in the state, and gives specific recommendations regarding methods to address them and the policy rationales for the recommendations.

## **Background**

CCS refers to the capture, or removal, of CO<sub>2</sub> at large industrial sources and its subsequent compression, transport, and injection into the subsurface for long-term or permanent storage. CCS is one option in a portfolio of mitigation tools to reduce greenhouse gas emissions. Energy efficiency and renewable energy will remain cornerstones of California's efforts to control greenhouse gases; however, CCS could also play a role in helping California reach its greenhouse gas reduction goals if

statutory and regulatory ambiguities are addressed and a consistent policy framework is established. Such a framework should clearly establish the authorities and roles of various state agencies, facilitate and streamline permitting processes, support the development of favorable business cases for adoption of the technology at a commercial scale, and serve the public's interest in assuring climate change mitigation goals are met while protecting the environment and human health and safety.

## **Panel Members**

The following experts comprise the California CCS Review Panel:

**Carl Bauer**, Retired Director of the National Energy Technology Laboratory and Chairman CCS Review Panel

**Sally Benson**, Director Global Climate & Energy Program (GCEP), Stanford University

**Kipp Coddington**, Partner, Mowrey Meezan Coddington Cloud LLP (M2C2)

**John Fielder**, President, Southern California Edison

**John King**, Chairman, North American Carbon Capture & Storage Association and Environment Implementation Manager, Royal Dutch Shell

**Kevin Murray**, Managing Partner, The Murray Group

**George Peridas**, Scientist, Climate Center, Natural Resources Defense Council

**Catherine Reheis-Boyd**, President, Western States Petroleum Association

**Edward Rubin**, Professor of Engineering & Public Policy, Carnegie Mellon University

**Dan Skopec**, Chair, California Carbon Capture and Storage Coalition

Panel members were chosen because of their strong interest and record of accomplishment in developing energy and environmental public policy.

## **Public Comments**

Written comments on the workshop topics must be submitted by **5:00 p.m.** on **October 28, 2010**. Please indicate California Carbon Capture and Storage Review Panel Meeting in the subject line or first paragraph of your comments. Address comments to Carl Bauer, Chairman, CCS Review Panel, in care of John Reed. Please hand deliver or mail an original copy to:

California Energy Commission  
Energy Research & Development Division  
Public Interest Energy Research Program  
1516 Ninth Street, MS 47  
Sacramento, CA 95814-5512

The Energy Commission encourages comments by e-mail. Those submitting comments by electronic mail should provide them in either Microsoft Word format or as a Portable Document (PDF) to [jreed@energy.state.ca.us](mailto:jreed@energy.state.ca.us). Please include your name or the name of your organization within the name of the Word document or PDF file.

Participants may also provide an original copy at the beginning of the meeting. All written materials relating to this workshop will become part of the public record in this proceeding. Time will be set aside at the meeting for oral comments by the public.

## 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](mailto: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](mailto:mediaoffice@energy.state.ca.us).

If you have technical or logistical questions about the meeting, please contact John Reed at (916) 653-7963, or e-mail your question to [jreed@energy.state.ca.us](mailto:jreed@energy.state.ca.us).

## Remote Attendance

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

### Computer Log-on with Telephone Audio:

1. Please go to <https://energy.webex.com> and enter the unique meeting number:  
**920 348 075**
2. When prompted, enter your name and other information as directed and the meeting password: **meeting@9**
3. After you log-in, a prompt will ask for your phone number. If you wish to have WebEx call you back, enter your phone number. This will add your name on the WebEx log so that we know who is connected and have a record of your participating by WebEx.

If you do not wish to do that, click cancel, and go to step 4. Or, if your company uses an older switchboard-type of phone system where your line is an extension, click cancel and go to step 4.

4. If you didn't want WebEx to call you back, then call 1-866-469-3239 (toll-free in the U.S. and Canada). When prompted, enter the meeting number above and your unique Attendee ID number, which is listed in the top left area of your screen after you login via computer. International callers can dial in using the "Show all global call-in numbers" link (also in the top left area).

**Telephone Only (No Computer Access):**

1. Call 1-866-469-3239 (toll-free in the U.S. and Canada) and when prompted enter the unique meeting number above. International callers can select their number from <https://energy.webex.com/energy/globalcallin.php>

If you have difficulty joining the meeting, please call the WebEx Technical Support number at 1-866-229-3239.

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MELISSA A. JONES  
Executive Director

Date: September 28, 2010

Mail Lists: agendas; climatechange; ghgimpacts; newsreleases; local-government; 33by2020; distgen; electricity; naturalgas; research; hydrogenenergy