

# CALIFORNIA CARBON CAPTURE AND STORAGE REVIEW PANEL Update

**Carl O. Bauer, Panel Chairman**

Presented WESTCARB Annual Meeting  
Sacramento, CA  
October 19, 2010

## CCS is not just about “clean coal”

Sector	Percentage
Coal power	39.6%
Biomass synfuel	20.2%
Gas power	8.4%
Iron and Steel	10%
Biomass power	4.8%
Natural gas synfuel	4%
Gas processing	4.3%
Cement	5.3%
Chemicals	3.3%
Pulp and paper	0.2%

**Coal power only makes up around 40% of  
stored emissions in 2050**

Source: T Kerr IEA

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## California Climate Change Policy Context for CCS

- The major CA policy driver for CCS technology was the enactment of the Global Warming Solutions Act of 2006 (Assembly Bill 32, Chapter 488, Statutes of 2006). This landmark legislation declares global warming as a serious threat to California's environment and economy. The law requires a reduction in statewide GHG emissions to 1990 levels by the year 2020 and to 2000 levels by 2050.

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## Formation and Purpose of Panel

- The California Energy Commission, California Public Utilities Commission, and Air Resources Board have **formed** this Panel.
- **Review** carbon capture and storage (CCS) policy and **develop recommendations** that could help guide legislation and regulations regarding potential use of CCS in the California.
- Web site

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

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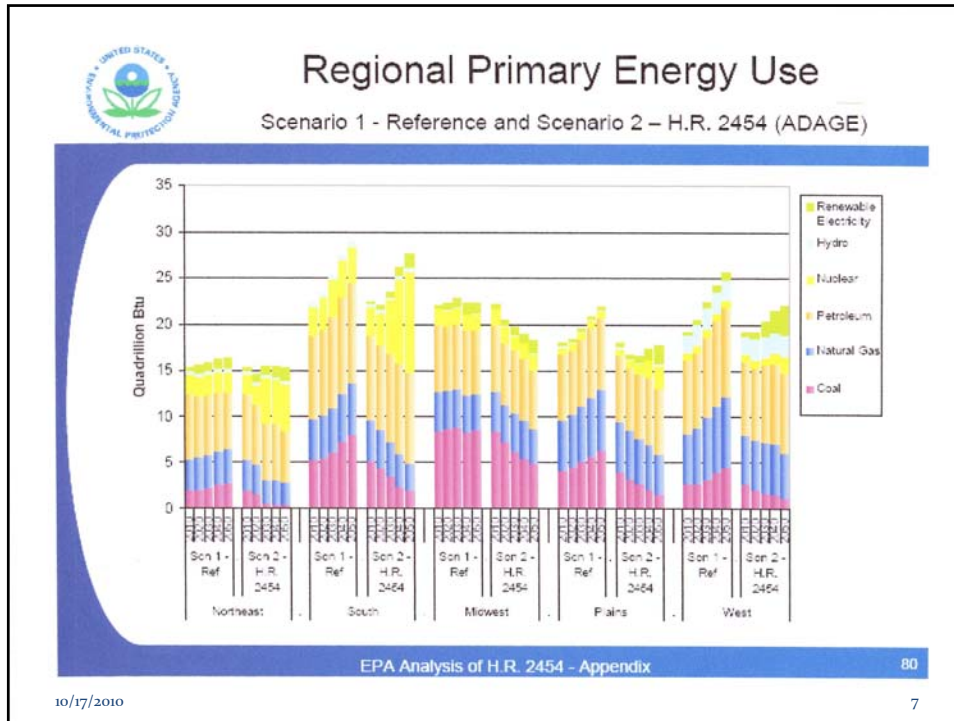


## Federal Context For CCS

- “The Obama administration says it remains committed to cutting U.S. greenhouse-gas emissions 17 percent by 2020.” Bloomberg Article By Kim Chipman - Oct 14, 2010 10:04 AM ET
- EPA Continues to develop regulations and rulemaking to address GHG and CO<sub>2</sub> reporting and reductions
- Congress has proffered several Bills
- New Congress in 2011

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## Panel Members

Carl O. Bauer	John King
Sally M. Benson	Kevin Murray
Catherine Reheis-Boyd	George Peridas
Kipp Coddington	Ed Rubin
John Fielder	Dan Skopec

## Public Meetings

- April 22, 2010
- June 2, 2010
- August 18, 2010
- October 21, 2010

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## Public Briefings and Discussions

- WESTCARB Overview and Status
- Permitting Considerations
- Regulatory Activities
- GHG accounting
- Property considerations
- Industry Inputs (Oil & Gas, Electricity)
- Environmental Spokespersons (NGOs)
- Environmental Justice Spokespersons
- Consumer Advocates
- Federal (EPA&DOE) Input
- Technical White Paper and Presentations (CA Agencies)
- Panel member discussions and material provided

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## Possible Recommendation Areas

No order of importance

- The Regulatory Framework for Permitting CCS Projects
- Regulation and Permitting of CO<sub>2</sub> Pipelines
- Ownership of Pore Space for CO<sub>2</sub> Storage
- Requirements for Measurement, Monitoring and Verification
- Long-Term Stewardship of Storage Sites
- Role of Public Outreach, Education and Input
- Commercial Considerations/Incentives/Policy Drivers
- Environmental Justice

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**Thank You**