

SEPTEMBER 10, 2007

## HEARING SUMMARY: FUTURE OF COAL UNDER CAP AND TRADE

**Note: This summary is intended to provide a sense of the hearing.  
Please do not use it to quote Members of Congress or witnesses.**

On September 6, 2007, the House Select Committee on Energy Independence and Global Warming held a hearing exploring how to maintain coal as part of the energy mix for America and the world while addressing global warming. The committee heard testimony from five witnesses: Gov. Dave Freudenthal (D-WY); Carl Bauer, Director of the National Energy Technology Laboratory (NETL); Stu Dalton, Director, Generation, Electric Power Research Institute (EPRI); Michael Morris, Chairman and CEO, American Electric Power (AEP); David Hawkins, Director, Natural Resources Defense Council (NDRC) Climate Center; and Robert Sussman, Partner, Latham & Watkins, LLP. Witness testimony is not yet available online.

House members at the hearing included Chairman Markey (D-MA), Sensenbrenner (R-WI), Blumenauer (D-OR), Shadegg (R-AZ), Inslee (D-WA), Miller (R-MI), Larson (D-CT), Walden (R-OR), Solis (D-CA), Blackburn (R-TN), Herseth (D-SD), Cleaver (D-MO), McNerney (D-CA), and Hall (D-NY).

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### SUMMARY AND OPENING STATEMENTS

The hearing focused primarily on the status of carbon capture and storage (CCS) and the mechanisms needed to make CCS widely deployable. Markey stated that America's greatest challenge was to reconcile its reliance on coal with the reduction of carbon dioxide (CO<sub>2</sub>) emissions. He pointed out that coal-fired power plants emit twice as much CO<sub>2</sub> as a natural gas power plants and that the former were responsible for a quarter of worldwide CO<sub>2</sub> emissions. Markey said that coal plants need to internalize their CO<sub>2</sub> emissions through capture and storage. He concluded that CCS offers a path forward for coal although he envisioned a future where energy was primarily fueled by renewables and that a regulatory driver was necessary to unleash the power of the private sector to address CO<sub>2</sub>.

Ranking minority member Sensenbrenner opined that affordable CCS would allow the U.S. to continue to use coal. He was encouraged that there were multiple technologies under development and thought that the federal government should not pick a winner but to let the market decide. He also said that China and India must be a part of any solution any addressing climate change and hoped to see labels on plants built in China that read "Made in the U.S.A."

Ten additional members of the Committee gave opening statements. For the sake of brevity, these statements are not included in this summary.

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### PANEL OF WITNESSES

#### **Gov. David Freudenthal, (D-WY)**

Freudenthal briefly described the natural resources in Wyoming (coal, uranium, natural gas). He stated that coal had to be part of the energy mix and that more incentives were necessary to encourage construction of coal plants that used advanced generation technology, as this technology was required before CCS could be widely deployed. Freudenthal pointed out that there was a big difference between CCS and EOR – primarily, EOR does not guarantee that the CO<sub>2</sub> will remain stored. He pointed out that while we do have extensive experience in EOR, large-scale demonstrations of deep saline formation CO<sub>2</sub> were critical. He called on the members of the panel to set ground rules for CO<sub>2</sub> reduction to prevent states from creating their own conflicting programs. He emphasized that building only natural gas plants was not the answer to CO<sub>2</sub> reduction.

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**Michael Morris**, Chairman, President and CEO, AEP

Morris reminded the Committee that his company had an obligation to provide reliable power. He pointed out that CCS can only be widely deployed after that the technology has undergone validation and large-scale demonstration. Morris said that AEP would be building both USC/PC and IGCC, as both generations options were necessary. He opined that few of the 150-odd announced new coal plants or the 30 to 40 new nuclear plants would be built and that the EIA was always wrong in its forecast. Morris reiterated that CCS was not available today and that any climate legislation needed to have a timeline that allows technology development. He also said that worldwide cooperation in reducing CO<sub>2</sub> was required.

**Carl Bauer**, Director, NETL

Bauer stated that our country's economic prosperity was tied to our fossil fuel resources. He said that CCS would be a great opportunity to ensure the use of fossil fuels in the future. Bauer pointed out that the U.S. and Canada had a wealth of potential underground CO<sub>2</sub> storage sites and that EOR represented an early economic opportunity for some companies in some areas. Bauer said that the industry needed incentives to capture carbon and also needed a regulatory framework to support CCS.

**David Hawkins**, Director, NRDC Climate Center

Hawkins stated the following: current coal use trends make protecting the environment impossible; need to prevent new coal plants from being built unless they can capture and store CO<sub>2</sub>; there will be 3,000 coal plants worldwide by 2030 and 40 percent of those plants will be in China; carbon capture and disposal (CCD) technology was ready now; need a regulatory framework to get CCD deployed, which would include a comprehensive cap-and-trade, a low-carbon generation obligation on coal plants, and enactment of a new source performance standard (*i.e.*, cannot emit CO<sub>2</sub>); and that the U.S. had the power to change how coal was burned worldwide.

**Robert Sussman**, Partner, Latham & Watkins

Sussman stated that he was submitting testimony on behalf of the Center for American Progress (CAP). He briefly outlined the conclusions of CAP's recent study: the current trend of country-wide opposition to new coal plants underscored the need for CCS deployment; the cap-and-trade programs currently under consideration in Congress were insufficient to drive CCS technology development prior to 2030; recommended a phased-in approach that required any coal plant built after enactment of legislation to capture carbon by 2016 or four years after plant operation, whichever was later.

**Stu Dalton**, Director, Generation, EPRI

Dalton said that based on EPRI analyses, the development of clean coal generation technology and CCS would allow coal to be used in the future. He said that a substantial R,D and D program with increased funding coupled with the development of a regulatory framework would be required to keep coal in the mix. Dalton stated that adding CCS to coal plants using today's technology would add 60-80 percent to the cost of wholesale electricity from PC plants and 40-50 percent to electricity cost at IGCC plants. He pointed out that technology development had to proceed down a certain timeline: 3-5 years to build, 3-5 years to operate (CCS), 3-5 years to monitor and validate. This timeline meant that commercial application of CCS would be available around 2020. Dalton commented that there were many non-technical barriers to CCS. He concluded that efficiency improvements (existing and new plants, end-use) and CCS were the biggest players in CO<sub>2</sub> reduction.

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**Q & A**

Questions concerned the cost of CCS, the definition of "carbon capture ready," how can the increase in consumer electricity prices be controlled, and how to get China and India involved. Markey then asked each panelist to give a one-minute summary of their testimony:

Dalton: increased efficiency and integrated full-scale testing of CCS was critical; both advanced PC and IGCC plants were necessary; improvements in CCS technologies was necessary; and a diverse fuel and technology portfolio was required.

Sussman: CCS would not be widely deployed before 2030 unless the federal government established a national implementation date (2016).

Hawkins: every month we delay doing something increases the cost of reducing CO<sub>2</sub>; critical that government establish a cap-and-trade and a focused performance standard; commented that while the pieces of CCS were available today, their integration had not be demonstrated.

Bauer: CCS is achievable and realistic and that large-scale demonstrations over the next 15 years will prove this; called for higher building standards; coal has to be a central part of the energy mix.

Morris: any cap-and-trade has to be economy-wide and have timelines that are credible; need credits allocated rather than auctioned; need to address the global issue of carbon reduction; thought early CCS players should be recognized through bonuses and tax credits.

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