GENERATION STRATEGIES IN AN ERA OF CARBON UNCERTAINTY

SEPTEMBER 10-11, 2007 • AED CONFERENCE CENTER, WASHINGTON, DC

Final Agenda

Monday, September 10

1-1:15pm *Opening Comments from the Conference Chair*
Steve Fine, *Vice President*, ICF International

1:15-2:45pm *Panel Discussion:*
Impacts of the Carbon Regulatory Environment on Power Supply Decision-making
This panel will analyze the "moving target" of climate change legislation at the federal and multi-state level, and the impacts on generation portfolios and new generation construction are likely to play out over the next 2-3 years..

- *How will state and federal rules be reconciled?*
- *Relative impacts of carbon regulation design elements: tax vs. cap and trade schemes, sector-biased vs. economy-wide, upstream vs. downstream*
- *What kind of consensus or direction in thinking exists around how to allocate carbon allowances*
- *What will be the relationship between a US carbon market and foreign markets?*
- *How will the new dynamic of environmental firms working closely with utilities and power generators (such as the ground-breaking KKR/TPG buyout of TXU) affect the legislative dynamic?*

Moderator:
Mary Anne Sullivan, *Partner*, Hogan & Hartson LLP; *Former General Counsel*, DOE
Speakers:
Dan Bakal, *Director of Electric Power Programs,* Ceres
Roger S. Ballentine, *President*, Green Strategies Inc.
David G. Hawkins, *Director, Climate Center,*
Natural Resources Defense Council
Helen Howes, *Vice President, Environmental Health & Safety,*

Exelon Corporation
Kevin Kennedy, *Advisor to Commissioner Byron*,
California Energy Commission

2:45-3:15 Afternoon Networking Break

3:15-4:00 Presentation:
Forecasting CarbonPrices to Successfully Manage Portfolio Risk in Coming Years
Forecasting future carbon prices in the US and their impacts on power portfolios can be daunting task. Uncertainty abounds on three fronts: policies, technologies, and markets. However, plausible pressure points can be established, and parameters placed on these uncertainties. Realistic scenarios can be developed indicating the directionality and magnitude of prices. The track record to date of carbon markets among Kyoto-signatories, and generation development in that context, provide useful reference points for anticipating a parallel evolution in the US.
Steve Fine, *Vice President*, ICF International

4-4:45 **Impacts of Alternative Carbon Allocation Methodologies on Market and Portfolio Strategies**
Possible methods of allocation:
- *Historical-based allocations*
- *Auctions*
- *Historical-auction hybrids*
- *Upstream vs. downstream*
- *"Safety valves"*

Impacts of each allocation method on market and generation and portfolio strategies. Considerations for rate-based generation vs. competitive generation.
Rafe Pomerance, *President*, Climate Policy Center

Tuesday, September 11

8:00-8:15 *Chairman's Opening Remarks for Day Two*

8:15-8:45 Presentation:
Impact of CO2 on the Economics of Generation and Dispatch Orders
- *How are carbon forecasts applied to comparing and balancing different resource options in a power portfolio?*
- *What are the crossover points for the relative economics of coal, gas, nuclear and renewables?*
- *How to apply assumptions about carbon credit allowances in economic scenarios and options*
- *Impacts on Darkspreads*

Chris MacCracken, *Manager*, ICF International

8:45-10:00am *Panel Discussion:*

Technical and Economic Risks of Carbon Capture and Sequestration on IGCC and PC Plants

The debate over the cost and comparative efficiencies of IGCC vs. SuperCritical Pulverized Coal technologies –called by some an "apples to oranges comparison" – is heating up. MIT's Future of Coal *study downplayed IGCC claims to be cheaper than coal combustion when carbon capture is included. Addition of capture technology, in itself a fixed cost, can also severely reduce the efficiency of coal plants, both IGCC and PC, by varying percentages. Furthermore the capture technologies are still in their embryonic stages. On top of that, there are the unknown economics and ill-defined liabilities of carbon sequestration. This panel will discuss how utility strategic planners and resource analysts can factor all these new variables into existing decision-making processes.*

Moderator:

Eric Redman, *Shareholder*, Heller Ehrman LLP

Speakers:

Theresa Pugh, *Director, Environmental Services***,** American Public Power Association

Scott Olson, *Senior Consultant*, **Nexant, Inc.**

Robert Sussman, *Partner,* Latham & Watkins LLP

Ben Yamagata, *Executive Director*, Coal Utilization Research Council (invited)

10:00-10:15 Morning Refreshment Break

10:15-11:45 *Panel Discussion:*

Utility and Generator Perspectives on Mitigating Carbon Risk: Portfolio, Technical and Trading Strategies

Carbon prices and allowances add an entirely new and complex dimension to utility asset management and generation planning. Resource planners must now perform a delicate balancing act between the various economic and environmental benefits of IGCC vs. pulverized coal, vs. nuclear, vs. renewables, vs. demand-side Management and energy efficiency. Some large generators have diametrically opposite views of the economics of IGCC--for example, TXU (until their recent buyout) and NRG. This panel will allow senior representatives from industry-leading power generators to share their views and debate the trade-offs between various power and carbon-sink options.

- Integrating forward carbon prices with existing RPS commitments and challenges
- Financing and litigation risks associated with high carbon risks
- Packaging "green deals" a la TXU buyout in proactive consultation with environmentalists

- Energy Efficiency Resource Standard – California's Resource Loading Order

Moderator:
John Blaney, *Director, Energy & Resources,* ICF International
Panelists:
Doug Esamann, *Senior Vice President, Strategy & Planning,* Duke Energy
Michael S. Freeman, *Mid-market Origination*, Exelon Generation Company, LLC
David Gardiner, *President*, David Gardiner & Associates LLC; *Author, Ceres Electric Utility/Investor Dialogue Report*
Anne E. Hoskins, *Vice President – Federal Affairs and Policy*, PSEG Services Corporation
Frank Prager, *Vice President, Environmental Policy***,** Excel Energy

11:45-1:15 Group Luncheon
Luncheon Address:
Who Cares About American Energy Security?
Kenneth J. Nemeth, *Executive Director,* Southern States Energy Board

1:15-2:45 *Panel Discussion:*
The Changing Role of Regulators in a Carbon-constrained World: Balancing Consumer Protection with Climate Change Concerns
Traditionally utilities have been charged with providing low-cost reliable power. However a carbon control regime is likely to introduce higher costs to consumers and encourage higher risk technologies. How can regulators respond?
• What kind of state-level policies (IRP, rate-decoupling) can be used to realign portfolios?
• The emerging regulatory compact: What array of carbon reduction measures does a regulated utility need to show to regulators, environmentalists and the public to offset the addition of new coal or gas plants?
• California PUC's Resource Loading Order—how is it affecting the viability of demand response programs?
• Role of energy efficiency programs in a carbon-constrained world: what kind of regulation can motivate utilities and service providers?
Moderator:
Robert Garvin, *Of Counsel*, Foley & Lardner LLP
Panelists:
Parviz M. Adib, Ph.D., *Director, Wholesale Market Oversight*, Texas Public Utilities Commission
Jeanne Fox, *President,* New Jersey Public Utilities Board (invited)
Mark Reeder, *Chief of Regulatory Economics,* New York State Public Service Commission
Jon F. Savage, *Commissioner***,** Oregon Public Utilities Commission

John Shelk, *President & CEO*, Electric Power Supply Association

2:45-3:15pm Afternoon Break

3:15-4:45 *Panel Discussion:*
Will There Be a 'Carbon' Valve on the Wall Street Money Spigot?
How will emerging carbon prices and carbon-management methods be applied by financiers and investors and factored into their assessment and ratings of energy companies, new generation projects, asset acquisitions and divestitures, and M&A?

- *Importance of carbon management standards, reporting, transparency for corporate valuation*
- *Will banks lend money for clean coal add-ons to existing projects?*
- *How will carbon compliance markets affect financial decisions on new projects?*
- *Role of federal loan guarantees and tax breaks in facilitating clean coal project financings*

Moderator:
Mary Anne Sullivan, *Partner*, Hogan & Hartson LLP
Panelists:
Veronique Bugnion, *Managing Director*, PointCarbon
Andre Burba, *Vice President, Investment Banking - Energy, Global Project Finance*, Credit Suisse
Stephen C. Byrd, *Senior Vice President – Finance, Business Development, Strategy and M&A*, Public Service Enterprise Group Incorporated
John D. Clapp, *Director, Power Sector Specialist*, Citigroup
Michael Degernes, *Senior Credit Analyst*, Aberdeen Asset Management
Denise Furey, *Senior Director of Global Power*, Fitch Ratings

4:45-5:00pm Chairman's Wrap-Up, Conference Adjourns