

Greenhouse Gas Reduction Options

The ongoing evolution and implementation of carbon management policies at state, regional, and national levels are forcing electric companies to evaluate potential impacts of mandatory carbon constraints on operations and financial performance. Companies need to understand the costs and risks associated with low-carbon generation, delivery, and end-use technologies and to effectively communicate insights to policymakers and regulators. This program provides public- and private-sector decision makers with vital insights regarding the costs, availability, performance, and potential risks of greenhouse gas (GHG) emission reduction and mitigation options. The program provides investment strategies for expanding these options over time and insights on how to integrate GHG policy risk management into corporate business strategies as companies respond to growing demand for electric power. This information helps members develop coherent corporate strategies in response to climate change and helps decision makers create and implement cost-effective, environmentally sound public policies.

Research Value

Policymakers and utility personnel need to understand the implications of climate policy implementation choices (e.g., program scope, use of market mechanisms, and offsets) and potential compliance costs. Through its GHG reduction options program, EPRRI helps the industry and the public understand the costs and risks associated with a low-carbon future; make strategic generation, delivery, and end-use technology choices; and communicate these insights to policymakers and state regulators. With this research utilities and the public may see

- more-efficient (and thereby less expensive) policy designs due to better effectiveness of the user community in informing the policy development process,
- lower compliance costs and less risky business strategies due to better understanding of potential impacts of climate policy on power markets and incentives to add or retire generation,
- higher probability that cost-effective GHG offsets will be available to reduce compliance costs, and
- assistance for adoption of advanced generation technologies due to better understanding of tradeoffs between risks and benefits.

Approach

The program provides improved analytical approaches to support strategic decisions and consideration of generation investments and emission reduction options. It produces software tools and methodologies that help companies develop least-cost approaches to achieving voluntary and mandatory GHG emissions reduction targets. The program informs the public policy process by communicating research results with the broadest possible audience through issue briefs; newsletters; congressional testimony; briefings for stakeholders, policymakers, researchers, and the press/media; and peer-reviewed literature submitted to prestigious journals. This program delivers

- a greater understanding of how climate policy will fundamentally change electric sector economics and oil power markets,
- opportunities to inform evolving climate policies by helping companies understand subtle nuances of climate policy design and its impact on utility asset owners and customers, and
- development of robust compliance strategies. Increased understanding of detailed policy design alternatives, impacts on power markets, the role of advanced low-emission technologies, and opportunities for GHG offsets can have tremendous value in forging robust corporate business and compliance strategies in a turbulent environment.

Accomplishments


Climate policy designs for achieving an environmental goal can vary in cost by trillions of dollars, and climate policy can significantly affect returns on existing capital and on new corporate investments. Sound analyses and clear communication are critical to creating effective, efficient policies and effective corporate strategies. Program accomplishments include the following:

- Launched the Global Climate Policy Design Forum Series to inform company and Congressional discussions on key domestic policy choices, including an Offset Policy Dialogue
- Helped companies develop and communicate publicly their climate strategies
- Developed and applied frameworks for helping companies evaluate specific generation and emissions reduction investments
- Evaluated incentives for early deployment of advanced coal technologies and communicated insights to key stakeholders
- Examined and communicated the implications of a CO₂ price in a regional electricity market

Current Year Activities

Program R&D for 2010 will focus on the following:

- Analyses examining detailed implementation of climate policy choices, such as the interplay between market and regulatory approaches and the challenges of making emission offset markets viable
- Frameworks to incorporate power market impacts into corporate business and compliance strategies
- Analyses that examine the benefits to electric utilities of new technology in a carbon-constrained business environment
- Expanded capability to analyze electric sector effects of climate policy at state and regional levels
- Frequent domestic and international climate policy workshops and policy forums



Estimated 2010 Program Funding
\$3.7M

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