

Observations About State Choices Under the CPP

PRESENTED TO:

*Resources for the Future (RFF)/Electric Power Research Institute (EPRI) Seminar
Washington, DC*

PRESENTED BY:

Ira Shavel

February 11, 2016



A State's CPP Compliance Decision is Complex

Some states already have a mass-based system in place (California and the RGGI states). They will likely choose mass

Georgia, Tennessee and South Carolina have new nuclear plants coming on line before 2020. These plants will create a large stream of ERCs, which will make rate compliance an attractive option

Other factors include:

- Political – a mass based system has a revenue stream that can be distributed to stakeholders
- Complementary policies already in place or planned affect ERC supply
- Expectation for what other states will do, the opportunities to trade allowances or ERCs, and the impact on wholesale trade
- And, of course, ultimately the cost of compliance will be affected by many factors including state renewable energy potential, coal unit retirements and natural gas prices

Mass-Based Plans Create a Revenue Stream for the State

States adopting mass-based plans decide how to allocate allowances

- Auction (EGUs buy them from state)
- Give to generation (affected EGUs; renewable energy)
- Give to retail companies (load) for sale to EGUs
- Direct allocation to protect sensitive industries

Allowance allocations can affect resources choices

- The primary impact is distributional, but distortions can arise which have resource costs
 - Different allocations produce different types of distortions
 - Relative magnitude and impact of different distortions may be case-specific

EPRI shows an \$12.5/MTCO₂ allowance price for a national mass program. At a national level this is about \$21 billion in revenue for states to allocate

Complementary Measures

Most states will pursue complementary policies no matter what type of plan they chose

- Existing or likely policies could affect the analysis of rate vs. mass
- Political preferences for policy measures could affect choice as well
 - RE/EE policy measures create ERCs
 - ERCs provide direct monetary support mechanism for RE/EE via zero ERCs
 - Under mass, the value of RE/EE policy measures is less direct, unless awarded allowances
- States that prefer to “keep their hands on the tiller” with RE/EE support may prefer rate-based systems or some version of state measures

EPRI’s analysis shows that under a rate program California would sell 131 TWh of ERCs in part due to its RPS and EE programs

Neighbors and Friends

The outcome of state choice between mass and rate based plans will depend heavily on what other states decide

- “Neighbors”: electrically close states
- “Friends”: states pursuing similar plans that enable EGUs in those states to trade allowances or ERCs among states (“trade-ready” states)

For EGU owners operating in multiple states, it may be more important that those states choose the same system, rather than which one any one state chooses

- Generally better off if Neighbors are also Friends
- Operational sanity enhanced, implementation cost possibly reduced

EPRI’s results show the value of trade

- The cost of state-level rate compliance varies from \$0 to \$63/MWh for ERCs, while the price for an ERC if all states adopt rate and trade is \$10.96/MWh
- The cost of state-level mass compliance varies from \$0 to \$29/MTCO₂ for allowances, while if all states adopt mass and trade the price is \$12.49/MTCO₂.

Other factors will also be important

Higher natural gas prices make it more expensive to shift from coal to gas, which, all else equal, drives up the cost of allowances or ERCs

On the other hand, higher natural gas prices make RE more cost-effective, which increases the supply of zero-emission ERCs; but under a mass-based system more RE only indirectly reduces allowance prices

Which effect is more influential depends on state choice of compliance type, RE potential and the gas price levels. It is likely that under a mass cap, higher gas prices will lead to higher allowance prices, but rate limit ERC price patterns will be more complex

EPRI Full Island Compliance Results

	Rate (ERCs in \$/MWh)		Mass (Allowances in \$/MTCO ₂)	
	Low Gas	High Gas	Low Gas	High Gas
Texas	\$10	\$0		
Nevada	\$63	\$12		
Missouri			\$29	\$61
Kentucky			\$16	\$41

Presenter Information



Ira Shavel

202-419-3381

Ira.Shavel@brattle.com

Dr. Ira Shavel is an energy economist with over 35 years of experience in utility economics and environmental policy, as well as transmission analysis. He works for a wide range of private sector clients, including electric utilities, merchant generation companies, independent transmission companies, as well as industry research groups and federal agencies. Early in his career, while he was at ICF, he developed the Integrated Planning Model.

Dr. Shavel's recent work focuses on generation economics, environmental analysis, and power sector modeling. His recent engagements include modeling of low carbon generation scenarios in the ERCOT system, analysis of SO₂ and NO_x controls in preparation for a client's negotiations with EPA, and appraisal of a large Midwest coal plant. Dr. Shavel also draws upon this combined experience to advise clients on potential Clean Power Plan impacts and potential compliance strategies.

Dr. Shavel has testified before the Federal Energy Regulatory Commission (FERC), state regulatory agencies, and the Ontario Energy Board.

About Brattle

The Brattle Group provides consulting and expert testimony in economics, finance, and regulation to corporations, law firms, and governments around the world. We aim for the highest level of client service and quality in our industry.

We are distinguished by our credibility and the clarity of our insights, which arise from the stature of our experts, affiliations with leading international academics and industry specialists, and thoughtful, timely, and transparent work. Our clients value our commitment to providing clear, independent results that withstand critical review.

Our Practices

PRACTICES

- Antitrust/Competition
- Bankruptcy and Restructuring Analysis
- Commercial Damages
- Data Analytics
- Environmental Litigation and Regulation
- Intellectual Property
- International Arbitration
- International Trade
- Mergers & Acquisitions Litigation
- Product Liability
- Regulatory Finance and Accounting
- Risk Management
- Securities
- Tax
- Utility Regulatory Policy and Ratemaking
- Valuation

INDUSTRIES

- Electric Power
- Financial Institutions
- Health Care Products and Services
- Natural Gas and Petroleum
- Telecommunications and Media
- Transportation

Offices

NORTH AMERICA



Cambridge



New York



San Francisco



Washington, DC



Toronto

EUROPE



London



Madrid



Rome