




Legislative and Regulatory Update

John Blaney
December 7, 2010

Outline



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ICF Overview

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OVERVIEW

Introduction to ICF



- ICF is in its 41st year – founded in 1969
- Public company on NASDAQ under “ICFI”
- End-to-end management, technology, strategy and policy services. We advise, implement, and help companies improve
- Diverse client base – 79% federal, state, and local agencies; 15% commercial; and 6% international governments.
- Energy & Climate work 50% commercial/international and 50% government
- About 3,500 employees, including 500 in energy and climate change and 600 in environment and infrastructure
- 35 years of environmental support for US EPA
- Global presence with 31 offices, with headquarters in the Washington, D.C. area

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OVERVIEW

ICF is among the world's largest management and policy firms specializing in energy and environment



Asset Acquisition & Deployment

- Wholesale power market and renewables analysis
- Asset valuation, due diligence
- Fuel market analysis
- Asset & portfolio optimization
- Solicitations for new capacity

Environmental and Climate Change Management

- Regulatory analysis/testimony
- Project emissions reductions
- Emissions permit allocation & trading support
- Carbon trading
- Value-at-risk analysis
- Environmental and social impact statements

About 3,500 professionals and 40+ years of experience helping clients manage the world's natural, physical, and economic resources

Network Analysis

- Integrated resource planning
- Regulatory strategy
- Transmission and inter-connection assessment
- Network valuation
- Value of transmission
- Energy efficiency

Related Services

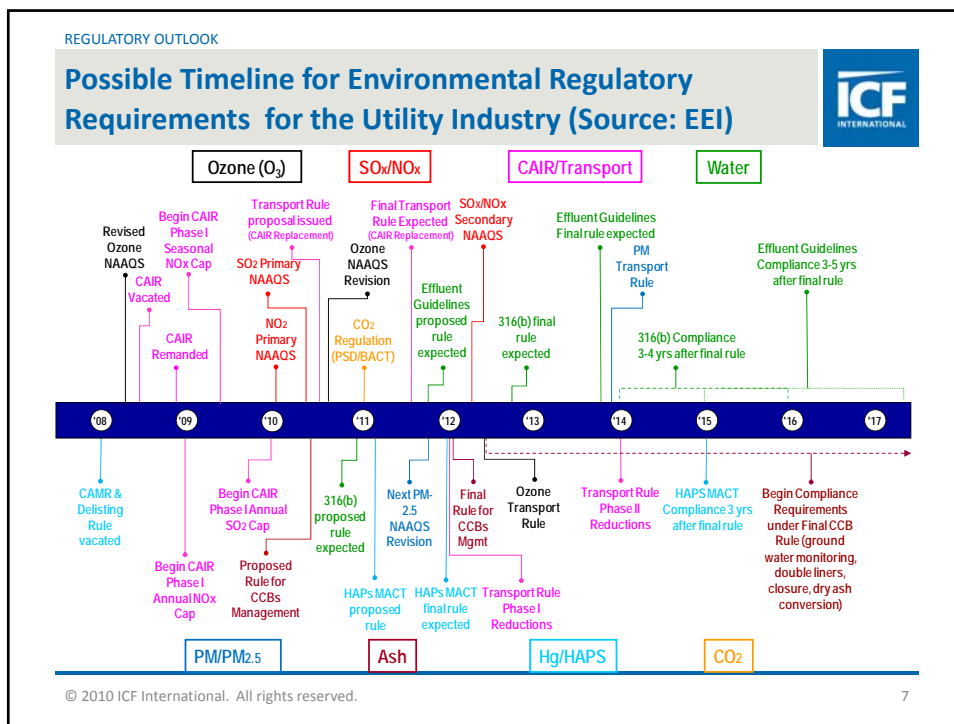
- Transport
- Information mgmt systems
- Environmental risk
- Economic & community development
- Emergency management

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Regulatory Outlook



REGULATORY OUTLOOK

EPA offers some clarity with proposed Clean Air Transport Rule

- On July 6, 2010, EPA released its proposed Clean Air Transport Rule (“Transport Rule”). The rule was published in the Federal Register on August 3, 2010. The Transport Rule is designed to reduce emissions from power plants in certain states that contribute to non-attainment and/or maintenance of attainment of the National Ambient Air Quality Standards (NAAQS) in jurisdictions in other downwind states. The proposed Transport Rule replaces the Clean Air Interstate Rule (CAIR) – which was aimed at accomplishing the same goal but was remanded by the DC Circuit Court in 2008 on a number of grounds.
- While EPA maintained many aspects of the CAIR in their proposed Transport Rule, they tried to be responsive to the Court’s demand that they establish a clear linkage between the emissions reductions in upwind states and their impact on allowing downwind states to achieve their NAAQS requirements. EPA therefore developed a new methodology for determining which states were subject to regulation, and subsequently, new emission limits for each of these regulated states.
- Similar to CAIR, the Transport Rule includes a program for SO₂ and Annual NO_x (27 states + DC) for addressing non-attainment for PM_{2.5} and Ozone NO_x (25 states + DC) for addressing 8-hour ozone non-attainment. The states covered under each of these has changed slightly from CAIR.

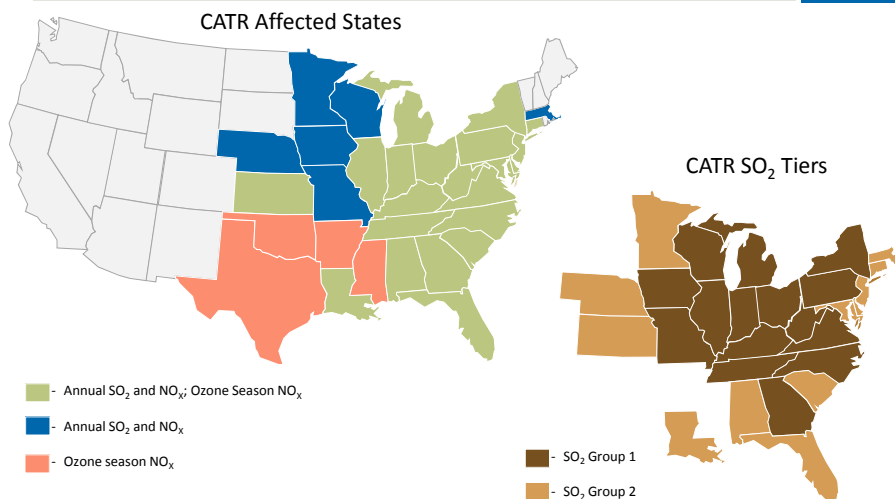
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EPA's Preferred Approach allows for limited regional allowance trading



- In its Transport Rule proposal, EPA provided for three options for implementing the required reductions. The Preferred Approach is the approach modeled.
- The Preferred Approach includes four separate trading programs: SO₂ Group 1, SO₂ Group 2, Annual NO_x, and Ozone NO_x. The caps for all four programs start in 2012, with SO₂ Group 1 states having an additional emissions cut in 2014.
 - The SO₂ program is divided into two separate groups. Group 1 states need to make more aggressive reductions, while Group 2 states have less stringent reduction requirements.
- Each affected state is provided a budget for each of the applicable programs that affects it (Group 1 and Group 2 SO₂, Annual NO_x and Ozone NO_x). In addition to these budgets, each state is provided with a "variability" limit. A state may exceed its budget up to the variability limit by purchasing out of state allowances from within its group.
- The variability limits take into account the inherent variability in baseline emissions and recognizes that state emissions may vary somewhat after all significant contribution is eliminated. EPA proposes 1-year and 3-year variability limits. The variability in the budget would be the larger of (1) 1,700 tons or (2) 10 percent of an individual state's budget for year-to-year variability, and the three-year rolling average variability would be the year-to-year limits divided by the square root of three (approximately 6% for the majority of states).
- The proposed rule only includes variability limits starting in 2014, however, EPA has requested comment on variability for 2012 and 2013.
- Banking of allowances is permitted; however, no allowances from previous programs (Title IV SO₂, CAIR, SIP Call NO_x) may be carried forward.

Clean Air Transport Rule Regions



EPA expected to release updated rule for cooling water intake structures



- The Clean Water Act (CWA, 1972) seeks to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” Key elements of the CWA’s regulatory program include:
 - Prohibits unauthorized discharge of pollutants from point sources to US waters
 - National Pollutant Discharge Elimination System (NPDES) permits that regulate the discharge of pollutants (EPA, state or tribe issued)
 - Requires EPA to develop effluent limitation guidelines and standards, and for states to develop water quality standards that are the basis for the limitations required in NPDES permits
- Section 316(b) of the CWA addresses withdrawals for cooling, not discharges, by point sources subject to NPDES program. It grants EPA the authority to regulate “location, design, construction and capacity of cooling water intake structures” to ensure that these structures reflect “the best technology available [“BTA”] for minimizing adverse environmental impact.”
- EPA will release soon a revised Phase II rule for large existing generating units, including coal-fired, nuclear and other steam units, that require new investments at facilities with once-through systems.

EPA releases proposed rule for handling of coal combustion residuals (CCRs)



- The Resource Conservation and Recovery Act (RCRA) gives EPA a framework for the management of hazardous and nonhazardous solid wastes, including ash from coal-fired boilers.
- Following on the ash pond failure at TVA’s Kingston plant, EPA released a proposed rule this April for the handling of CCRs. In that proposal, it offered two potential regulatory approaches; one under RCRA Subtitle C and another under Subtitle D.
- The following slides compare implementation of the two options. The most critical difference may be in implementation. Federal permitting and enforcement under the Subtitle C option would require 100 percent compliance in a limited timeframe, whereas state enforcement under D may be driven, in some states, by citizen lawsuits and take much longer to achieve.
- The table below shows the current distribution of CCRs across disposal methods. Units relying on surface impoundments would face the greatest compliance obligation.

Surface impoundments (wet)	Landfills (dry or moist)	Mines	Recycled materials
21%	36%	5%	38%

Source: EPA 2007

REGULATORY OUTLOOK

EPA's Alternative CCR Proposed Rules - Differences between Subtitle C and Subtitle D



Criteria	Subtitle C	Subtitle D
Effective date	Timing will vary from state to state, as each state must adopt the rule individually; can take one to two years or more.	Six months after final rule is promulgated for most provisions; certain provisions have a longer effective date.
Enforcement	State and federal enforcement	Enforcement through citizen suits; states can act as citizens.
Corrective action	Monitored by authorized states and EPA	Self-implementing
Financial Assurance	Yes	Considering subsequent rule using CERCLA 108(b) authority
Permit issuance	Federal requirement for permit issuance by states	No
Requirements for storage, including containers, tanks and containment buildings	Yes	No
Surface impoundments built before rule is finalized	Remove solids and meet land disposal restrictions; retrofit with a liner within five years of effective date. Would effectively phase out use of existing surface impoundments.	Must remove solids and retrofit with a composite liner or cease receiving CCRs within 5 years of effective date and close the unit.
Surface impoundments built after rule is finalized	Must meet Land Disposal Restrictions and liner requirements. Would effectively phase out use for new surface impoundments.	Must install composite liners. No Land Disposal Restrictions.
Landfills built before rule is finalized	No liner requirements, but groundwater monitoring required.	No liner requirements, but groundwater monitoring required.
Landfills built after rule is finalized	Liner requirements and groundwater monitoring	Liner requirements and groundwater monitoring
Requirements for closure and post closure care	Yes; monitored by states and EPA	Yes; self-implementing

Source: EPA

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REGULATORY OUTLOOK

The EPA moves forward with CO₂ regulation under the Clean Air Act



- In March, EPA established GHG emission standards for cars and light trucks, scheduled to take effect in 2011.
- Also in March, EPA issued its endangerment finding for CO₂, enabling its regulation under the Clean Air Act's Prevention of Significant Deterioration (PSD) Permitting Program
 - New and modified industrial facilities will be required to adopt Best Available Control Technologies (BACT), which will be determined on a project-by-project basis.
- EPA also issued the Tailoring Rule, which increases the emission threshold under which stationary sources will be exempt from the PSD requirements that are slated to be phased in starting in 2011.
- In addition, EPA is likely to issue New Source Performance Standards (NSPS) for GHGs, which apply to new and modified facilities ("modifications" criteria are different from those used under NSR).
- ICF does not expect regulation of CO₂ under NAAQS.
- Efforts to stop or reverse EPA's regulatory action on GHGs have so far been unsuccessful but are continuing. The outcome of the November election may lead to a face-off over the issue between Congress and the Obama Administration.

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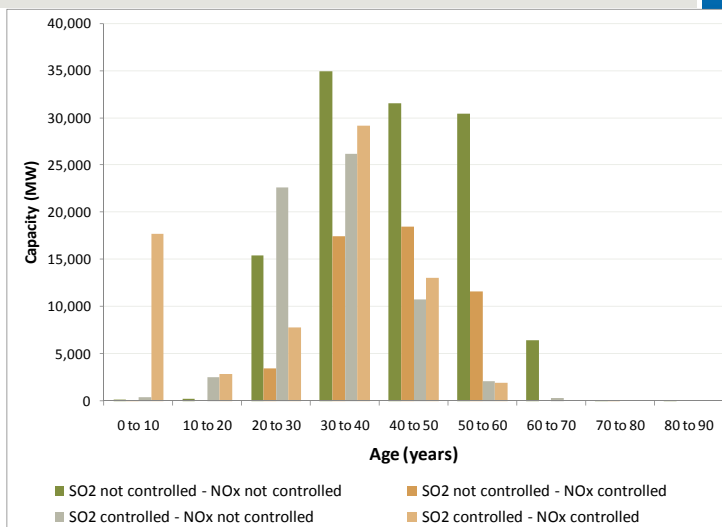
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Market Impact

MARKET IMPACT

Age Distribution of Coal-fired Capacity, by control status



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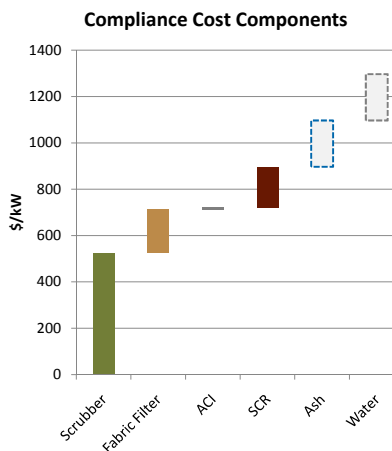
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MARKET IMPACT

Regulations may impose large capital outlays on uncontrolled coal units



- For units uncontrolled for SO₂ and mercury now, compliance costs under the assumed HAPs program may total more than \$700 per kW.
 - Nearly two-thirds of existing coal-fired units will be scrubbed by 2014, removing what might be the largest single cost requirement for HAPs compliance.
- Costs for managing coal combustion byproducts and water will add to this total for many units, depending on their current ash handling and water usage configurations.
 - Costs shown are representative of a broad range of possible requirements for a unit roughly 500 MW in size. Costs for smaller units may be greater.
 - Ash handling conversion cost, for example, could vary across a wide range depending on how much ash is currently landfilled, wet v. dry handling capabilities, etc.
 - Two-thirds of coal-fired capacity may face no or very little cost.

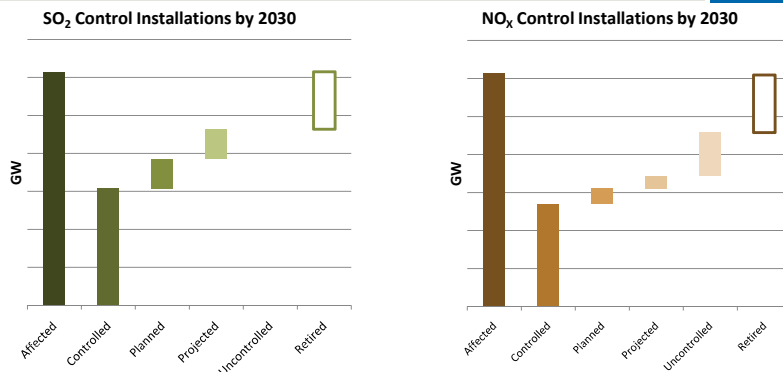


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MARKET IMPACT

HAPs MACT drives retirements and scrubber installations



- Analysts have projected 25 to 75 GW of coal units are projected to retire by 2018. Remaining units must be controlled with a scrubber, fabric filter and ACI by 2015.
- Limited number of NO_x controls are economic beyond those already announced to comply with the NO_x cap and trade programs

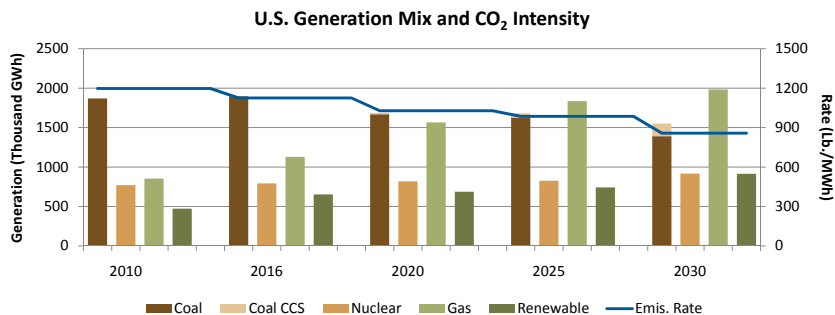
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MARKET IMPACT

Generation mix projected to move away from coal toward gas



- By 2030, coal-fired generation accounts for less than one-third of total generation, down from 47 percent in 2010.
- Over the same period, gas-fired generation grows from a 20 percent share in 2010 to account for 37 percent of total generation by 2030.
- Nuclear and renewable generation each account 17 percent of total generation in 2030.



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