Evaluating The Long-term Risks Associated With Coal-fired Electric Generation

Advocacy Training: Financial Issuers and the Future of Coal
Institute for Policy Integrity and Institute for Energy Economics and Financial Analysis
NYU School of Law

Jim Hempstead, Senior Vice President

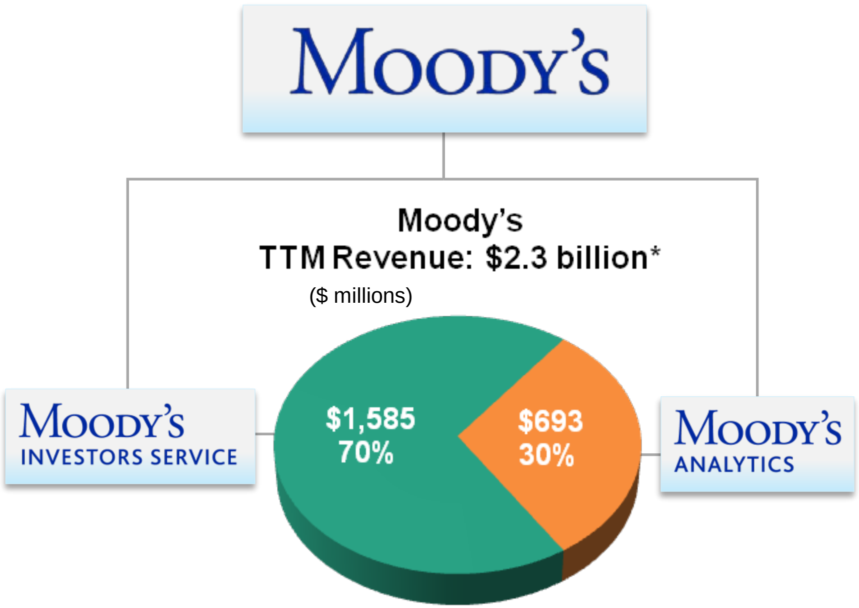
January, 2011

1 Overview of Moody's

Overview of Moody's Corporation

Investment Fundamentals

- Leading market franchise in attractive fixed income industry
- Risk measurement and management products provide long-term growth opportunities
- Moody's Investors Service is well-positioned to take advantage of fixed income issuance
- Moody's Analytics has an increasing addressable market and can drive growth
- Powerful financial model
- Strong balance sheet, plus commitment and track record of returning cash to shareholders



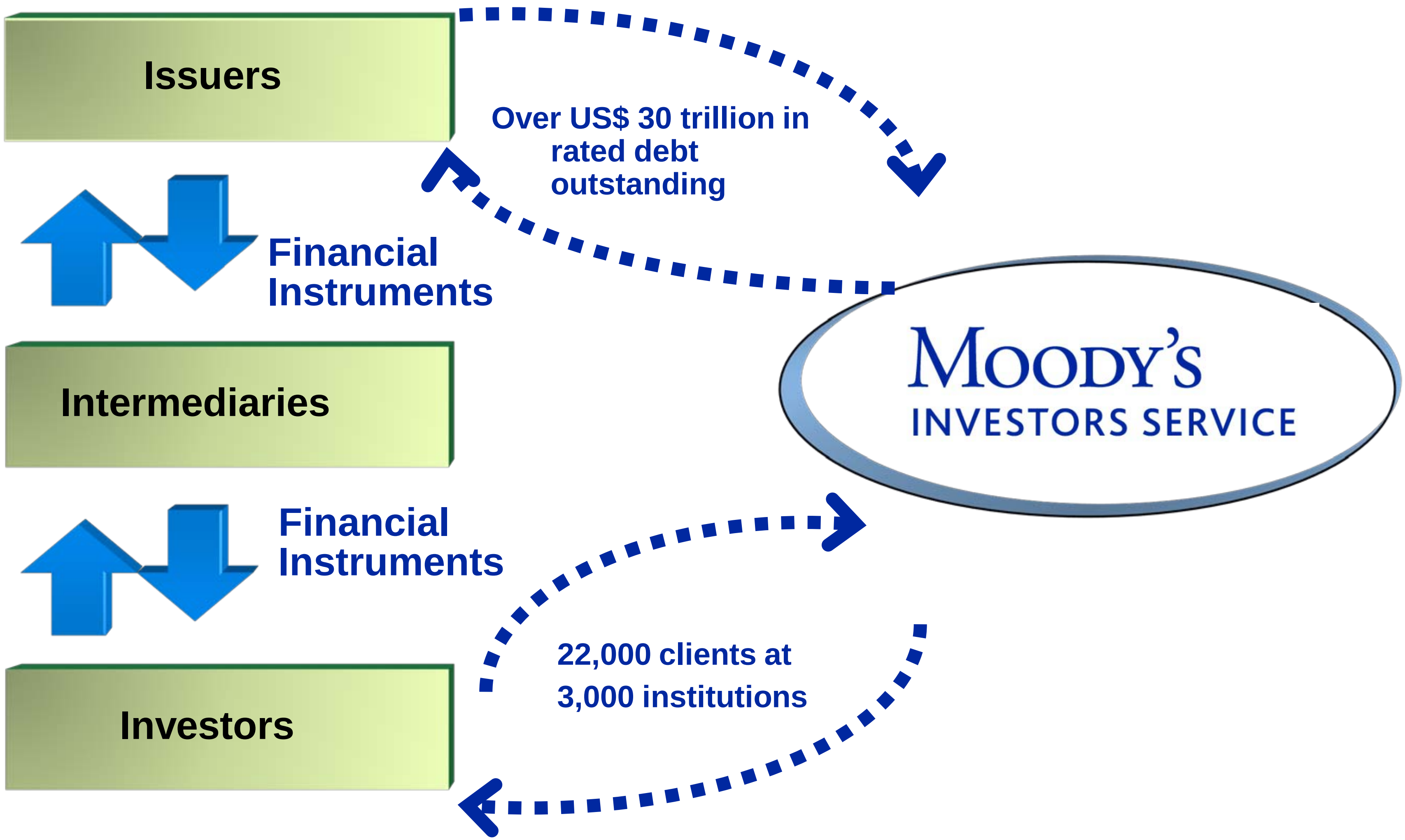
BUSINESS TARGETS

Long-term revenue growth: Double-digit percent

Long-term operating margin: Above 40 percent

* Represents consolidated financials excluding intersegment royalty and eliminations. TTM is trailing twelve months as of September 30, 2011

MIS Business Model



What Are Credit Ratings?

- An independent opinion of credit
- Measures probability of default
  - risk of missed or delayed payment of interest or principal
  - bankruptcy filing
  - distressed exchange
- Measures severity of loss in event of default
  - how much investors can ultimately hope to recoup

What Are Credit Ratings?

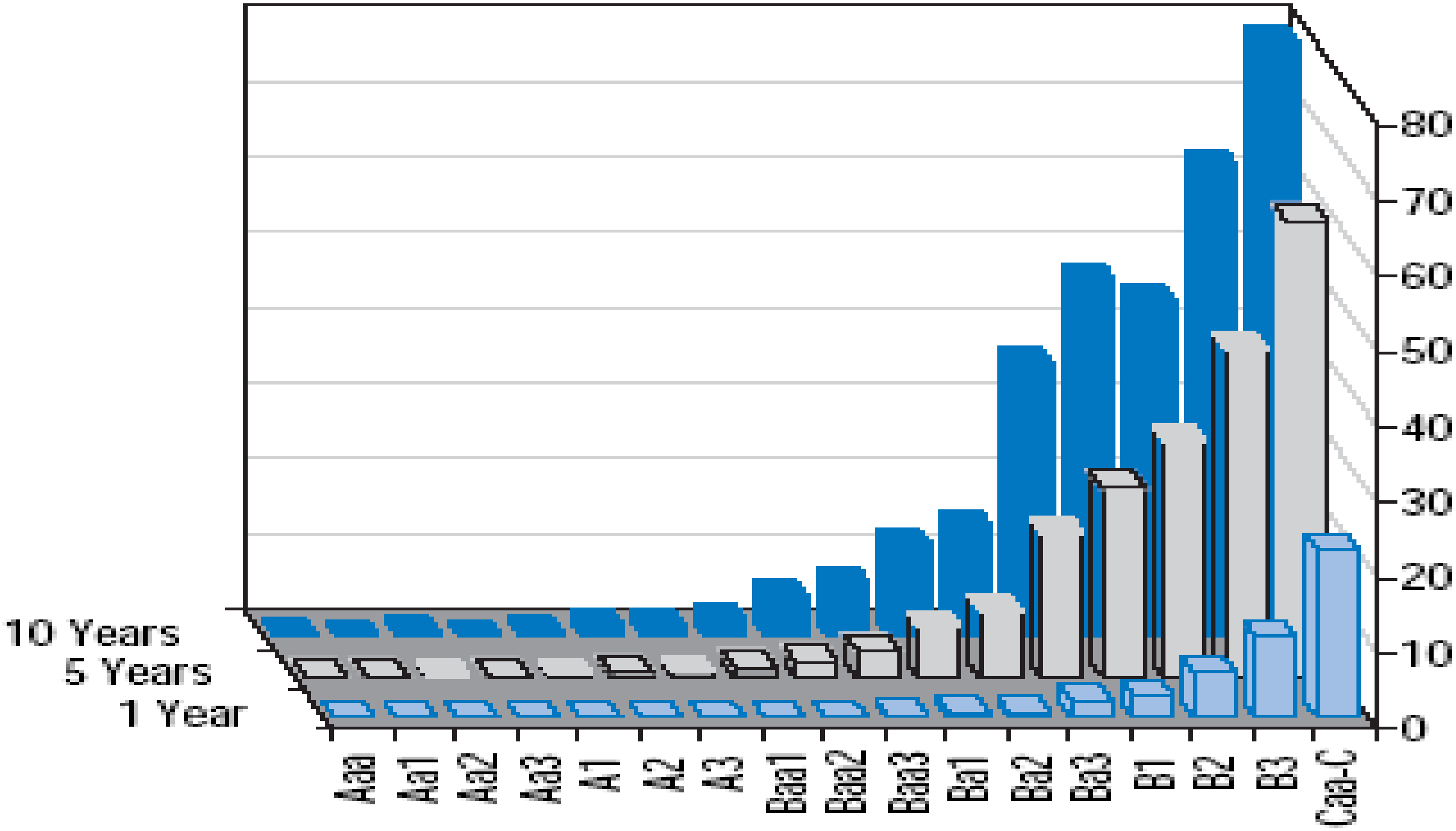
- Only one component of investment decision
  - do not address relative value, pricing
  - do not replace investor due diligence
- Based on information provided
  - public, audited financial statements
  - additional information provided by management
  - not a second audit, not designed to police fraud

The Rating Scale

Quality of credit	long term	short term	
Gilt edged	Aaa		Investment Grade
Very high	Aa1 Aa2 Aa3	Prime-1	
Upper-medium	A1 A2 A3		
Medium grade	Baa1 Baa2 Baa3	Prime-2 Prime-3	
Questionable	Ba1 Ba2 Ba3	Not Prime	Speculative Grade
Poor quality	B1 B2 B3	SGL-1 SGL-2	
Very poor	Caa1 Caa2 Caa3 Ca C	SGL-3 SGL-4	

Default Rates: The Empirical Record

One, Five, and Ten Year Default Rates by Rating Category



2 Transparency

Transparency - Supply

- Volume and market prices flat
- Highly regulated by MSHA with increasingly stringent safety mandates
- EPA permitting process more challenging
- Rising cost structure but unregulated revenues
- Anticipating shut-downs


www.moodys.com

Rating Methodology

Moody's Global Corporate Finance

May 2009

Global Mining Industry

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Team Managing Director

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DECEMBER 2, 2011

CORPORATES

MOODY'S INVESTORS SERVICE

INDUSTRY OUTLOOK

US Coal Industry

US Coal Producers Lean on Export Markets Amid Challenges at Home

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Our outlook for the US coal industry is stable. This outlook reflects our expectations for the fundamental business conditions in the industry over the next 12 to 18 months.

» **US coal production will drop by a modest 2%-3% in 2012, while spot prices for thermal coal will remain flat—a reflection of declining domestic demand and robust but moderating exports.** Producers will continue to maintain a high percentage of contracted thermal coal positions at favorable prices in 2012—a condition that underpins our stable outlook.

» **The electric power sector's consumption of US coal will continue declining, as power generation drops and as utilities and other power producers switch to other fuel sources.** Power producers will begin restocking coal inventories at their facilities once uncertainties surrounding new environmental regulations are resolved by mid-2012.

» **We expect that coal exports will remain strong in 2012, but at more moderate levels, based on new capacity coming on line worldwide and economic weakness in Europe.** Power generation in China and India continues to drive growth in global coal demand.

» **Metallurgical coal prices will remain strong in 2012, but will likely decline somewhat from recent record levels, reflecting the current slowdown in the steel sector.** The continued strength of met coal will benefit such companies as Teck Resources (Baa2 stable), CONSOL Energy (Ba3 review for upgrade), Alpha Natural Resources (Ba2 stable), Walter Energy (B1 positive) and Patriot Coal (B2 stable).

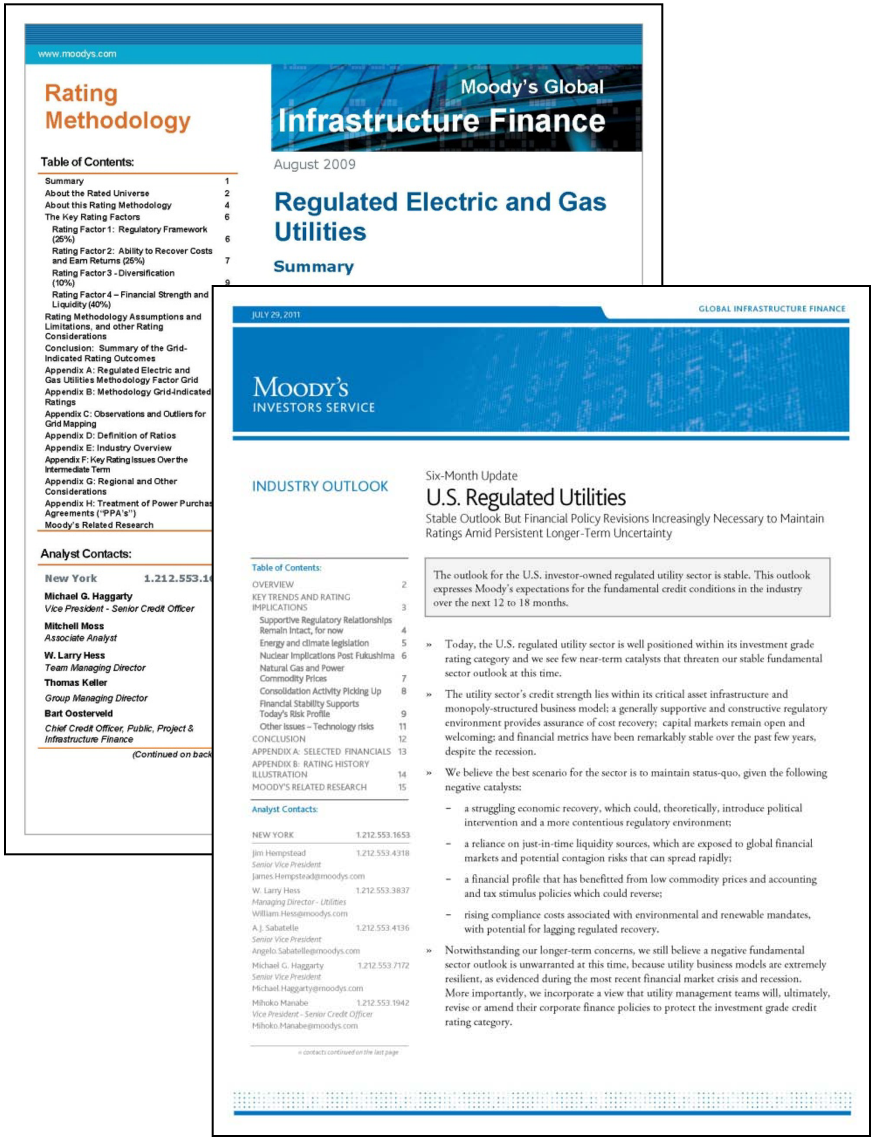
» **Coal producers' costs will continue increasing in 2012, particularly in Central Appalachia, where a secular production decline will increase the stress on companies active in this region, such as Patriot Coal and James River Coal (B3 stable).** Over the longer term, growth in coal from the Illinois Basin and the Powder River Basin (PRB) will offset declining Appalachian production.

» **Our outlook could change to negative if we expect coal production to decline by 5% or more year-over-year, and to positive if we expect power producers to increase consumption by 5% or more.** Our outlook could also change if we expect to see fluctuations of 15% or more in either thermal coal spot prices or the utilities' coal inventories.

Note: Industry outlooks are not explicit signals of the likely direction of ratings in an industry. They are a view of the business conditions that factor into our ratings.

Transparency - Demand

- As a % of total US energy volumes, coal contribution will continue to fall (modestly, over time)
- Numerous plant shut downs
  - Older, less efficient, marginal plants
  - No material impact on reliability
  - No sustained impact on power / capacity prices



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Rating Methodology

Moody's Global Infrastructure Finance

August 2009

Regulated Electric and Gas Utilities

Summary

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JULY 29, 2011

GLOBAL INFRASTRUCTURE FINANCE

MOODY'S INVESTORS SERVICE

INDUSTRY OUTLOOK

Six-Month Update

U.S. Regulated Utilities

Stable Outlook But Financial Policy Revisions Increasingly Necessary to Maintain Ratings Amid Persistent Longer-Term Uncertainty

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The outlook for the U.S. investor-owned regulated utility sector is stable. This outlook expresses Moody's expectations for the fundamental credit conditions in the industry over the next 12 to 18 months.

» Today, the U.S. regulated utility sector is well positioned within its investment grade rating category and we see few near-term catalysts that threaten our stable fundamental sector outlook at this time.

» The utility sector's credit strength lies within its critical asset infrastructure and monopoly-structured business model; a generally supportive and constructive regulatory environment provides assurance of cost recovery; capital markets remain open and welcoming; and financial metrics have been remarkably stable over the past few years, despite the recession.

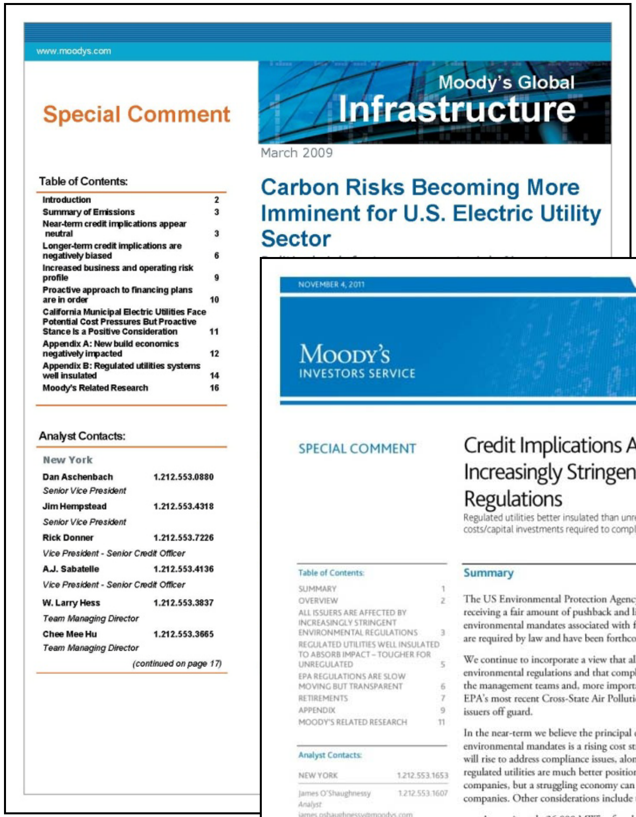
» We believe the best scenario for the sector is to maintain status-quo, given the following negative catalysts:

- a struggling economic recovery, which could, theoretically, introduce political intervention and a more contentious regulatory environment;
- a reliance on just-in-time liquidity sources, which are exposed to global financial markets and potential contagion risks that can spread rapidly;
- a financial profile that has benefitted from low commodity prices and accounting and tax stimulus policies which could reverse;
- rising compliance costs associated with environmental and renewable mandates, with potential for lagging regulated recovery.

» Notwithstanding our longer-term concerns, we still believe a negative fundamental sector outlook is unwarranted at this time, because utility business models are extremely resilient, as evidenced during the most recent financial market crisis and recession. More importantly, we incorporate a view that utility management teams will, ultimately, revise or amend their corporate finance policies to protect the investment grade credit rating category.

Transparency - Regulation

- Increasingly stringent environmental mandates
  - Years for CSAPR / MATS
  - Decades for water
  - Decades for carbon
- Exposed to political intervention events risk
- EPA transparency and regulations have been coming for decades
- Utilities and coal generators well versed with regulation trends



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Special Comment

Moody's Global Infrastructure

March 2009

Carbon Risks Becoming More Imminent for U.S. Electric Utility Sector

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NOVEMBER 4, 2011 INFRASTRUCTURE

Moody's Investors Service

SPECIAL COMMENT

Credit Implications Associated with Increasingly Stringent Environmental Regulations

Regulated utilities better insulated than unregulated power companies to absorb higher costs/capital investments required to comply

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Summary

The US Environmental Protection Agency (EPA) and the Obama Administration are receiving a fair amount of pushback and litigation regarding the increasingly stringent environmental mandates associated with fossil-fired electric generation. But these mandates are required by law and have been forthcoming for decades.

We continue to incorporate a view that all owners of electric generation are well versed with environmental regulations and that complying with these rules is a core-competency for both the management teams and, more importantly, the boards of directors. Despite this view, the EPA's most recent Cross-State Air Pollution Rule (CSAPR) appears to have caught some issuers off guard.

In the near-term we believe the principal effect related to a series of increasingly stringent environmental mandates is a rising cost structure. Investment requirements for generators will rise to address compliance issues, along with operating costs. In general, we believe regulated utilities are much better positioned to absorb these costs than unregulated power companies, but a struggling economy can still create cost recovery challenges for regulated companies. Other considerations include the following:

» Approximately 26,000 MW's of coal capacity retirements have been announced through 2020. We expect the number may be significantly higher, primarily related to the older (over 30 years old), higher heat-rate (above 12,000 Btu/kWh), less efficient (capacity factors below 30%), and most economically challenged coal-fired generation.

» Near-term, we do not see material, sustained changes to regional power prices or capacity markets, but we expect some temporary volatility, mostly with capacity markets, which are less transparent than energy markets.

» The EPA's process is transparent, but subject to political influences. Additional delays in rule-making are a credit negative for the regulated utilities and unregulated power companies, which need to make long-term investment decisions. Shifting legal frameworks greatly favor the regulated utilities over the unregulated power companies, even though the rulings have been forthcoming for decades.

3 Coal Fired Generation

Coal Fired Generation

	Rating	Outlook	Revenue	Total Debt	Total Assets	CFO / Debt	Market Capitalization
Miners							
Peabody Energy Corporation	Ba1	Stable	$ 7,607,100	$ 3,576,625	$ 12,750,100	43.5%	$ 13,378,730
Alpha Natural Resources, Inc	Ba2	Stable	$ 6,022,069	$ 3,105,329	$ 17,275,971	24.7%	$ 6,874,292
Arch Coal, Inc.	Ba3	Stable	$ 3,892,092	$ 4,146,480	$ 10,063,261	19.8%	$ 8,123,166
CONSOL Energy Inc.	Ba3	Stable	$ 5,841,906	$ 3,833,154	$ 12,638,508	44.1%	$ 11,527,845
Transportation - Rail							
BNSF Railway Company	A3	Stable	$ 18,483,000	$ 7,023,539	$ 73,066,539	78.6%	N/A
Canadian National Railway Company	A3	Stable	$ 8,889,471	$ 7,393,119	$ 26,508,325	46.2%	$ 41,422,978
CSX Corporation	Baa3		$ 11,608,000	$ 11,534,000	$ 30,492,000	33.0%	$ 38,683,623
Independent Power Producers							
NRG Energy, Inc.	Ba3	Stable	$ 8,763,000	$ 10,534,000	$ 25,648,000	11.6%	$ 17,342,838
GenOn Energy, Inc.	B2	Negative	$ 2,380,000	$ 3,829,000	$ 11,865,200	12.1%	$ 5,278,640
Energy Future Holdings Corp.	Caa2	Stable	$ 7,308,000	$ 37,392,000	$ 44,499,000	2.7%	N/A
Affiliated Generating Companies							
PSEG Power LLC	Baa1	Stable	$ 6,225,000	$ 3,603,000	$ 11,406,000	38.0%	N/A
FirstEnergy Solutions Corp.	Baa3	Stable	$ 5,674,609	$ 6,045,202	$ 13,418,428	12.1%	N/A
Ameren Energy Generating Company	Ba1	RUR-Down	$ 1,078,000	$ 923,873	$ 2,650,873	17.5%	N/A
Regulated Electric Companies							
Southern Company (The)	Baa1	Stable	$ 17,732,000	$ 22,278,000	$ 58,385,000	25.0%	$ 68,445,945
American Electric Power Company,	Baa2	Stable	$ 15,106,000	$ 20,781,000	$ 53,192,000	22.3%	$ 48,016,361
Dominion Resources Inc.	Baa2	Stable	$ 14,947,000	$ 20,326,750	$ 44,941,000	13.7%	$ 54,661,980
Duke Energy Corporation	Baa2	Stable	$ 14,606,000	$ 20,763,000	$ 61,341,000	19.7%	$ 54,893,379