

FitchRatings

- **Credit Ratings: The What and Why?**
- **EPA Regulations and Coal Plant Retirements**

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What is a rating?

- Independent assessment of credit quality; forward-looking
- Letter representation of the likelihood of full and timely repayment over the life of a specific financial obligation
- AAA, AA, A, BBB ...
- “+” and “-” to refine
- Based on issuer’s ability and willingness to pay on time
- Ability to pay - quantitative
- Willingness to pay - qualitative

FitchRatings

A+

A rating is NOT:

- Buy/sell or pricing recommendation
- Judgment or statement regarding any aspect of public or corporate policy
- Political statement in favor of or against a particular person, management or administration
- Dictate of what should be done or how a matter should be handled



Why do ratings and rating agencies matter?

- A bridge between issuer and investor
- Increased investor knowledge and acceptance
- Continuing oversight and surveillance
- Unbiased and independent assessment
- GENERALLY: Higher ratings = lower interest costs



Rating agency credit analysis

- **Comprehensive review and assessment of obligor creditworthiness**
 - Governance and management strategy
 - Assets and operations
 - Cost structure
 - Debt / legal structure
 - Financial performance
 - Customer profile and service area



Elements of credit analysis: Governance and management

- Strategic planning
- Written, adopted financial management policies:
 - Implemented? Followed? Fiscal discipline maintained even during downturns?
- Disclosure practices
- Tenure / experience
- Responses to economic variables



“Management’s experience and ability to design and implement a comprehensive strategic plan is important to an issuer’s rating, as is its ability to respond to unforeseen circumstances”

- Fitch Ratings U.S. Public Power Rating Criteria

Elements of credit analysis: Assets and operations

- Operating history
- Resource diversity
- Integrated resource planning
- Risk management

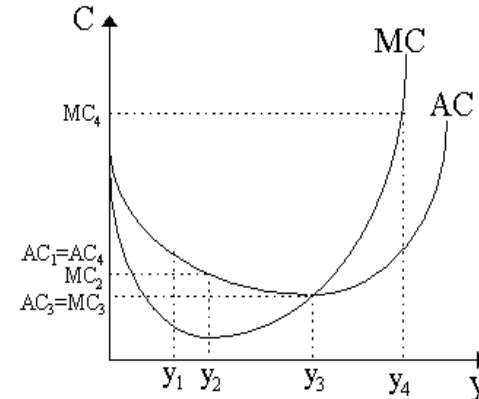


“Fitch analyzes the long-term strategies set forth in a utility’s integrated resource plan to determine if they are adequate and conservatively developed.”

- Fitch Ratings U.S. Public Power Rating Criteria

Elements of credit analysis: Revenue and cost structure

- Rate setting oversight
- Competitiveness and flexibility
- Adequacy and timeliness of recovery
- Diversity of revenue



“The power sales contracts between a wholesale power supplier and its distribution customers are among the most important factors supporting the credit rating of a wholesale power system”

“Fitch assesses management’s and the governing body’s willingness and ability to increase rates to ensure the measured, timely, and adequate recovery of total costs”

- Fitch Ratings U.S. Public Power Rating Criteria

Elements of credit analysis: Debt and legal structure

- Debt and capital plan
- Affordability / debt service coverage
- Security / subordination
- Variable rate exposure
- Swaps, derivatives, etc.



“key bond covenants are important to overall bondholder protection, though the degree to which they influence a rating varies.”

- Fitch Ratings U.S. Public Power Rating Criteria

Elements of credit analysis: Financial performance

- Past and future fiscal balance
- Revenue and expense composition
- Liquidity / cash flow
- Prudent reserves
- Use of non-recurring revenues
- Contingency planning
- Investment policies



“Fitch conducts an analysis of all significant public power information for member systems when reviewing joint-action agencies”

“Wholesale power suppliers generally have lower coverage levels than retail systems, as total wholesale costs are passed through to their members on a monthly basis.”

- Fitch Ratings U.S. Public Power Rating Criteria

Elements of credit analysis: Customer profile and service area

- Inter-entity relationships
- Service area and local demographics
- Diversity / concentration
- Growth prospects



“A utility’s ability to maintain a sound operating position, in spite of changing service area indicators, is an important rating consideration.”

“Fitch conducts an analysis of all significant public power information for member systems when reviewing joint-action agencies”

- Fitch Ratings U.S. Public Power Rating Criteria

2012 Outlook: U.S. Public Power and Electric Cooperative Sector

Powering through the haze

2012 Outlook: Key Sector Characteristics

- Essentiality of electric utility service
- Defined service area, with near monopolistic characteristics
- Local control over rate setting
- Predominately residential and small commercial customer base
- Relative cost advantage over investor-owned utilities
- Customers/ratepayers are the ultimate “stakeholders”

2012 Outlook: Key Issues

Outlook remains Stable

- Environmental Uncertainty Persists
- Willingness to raise rates tested
- Depressed Wholesale Power Prices
- Transfers Stable, So Far
- Nuclear Expansion on Hold

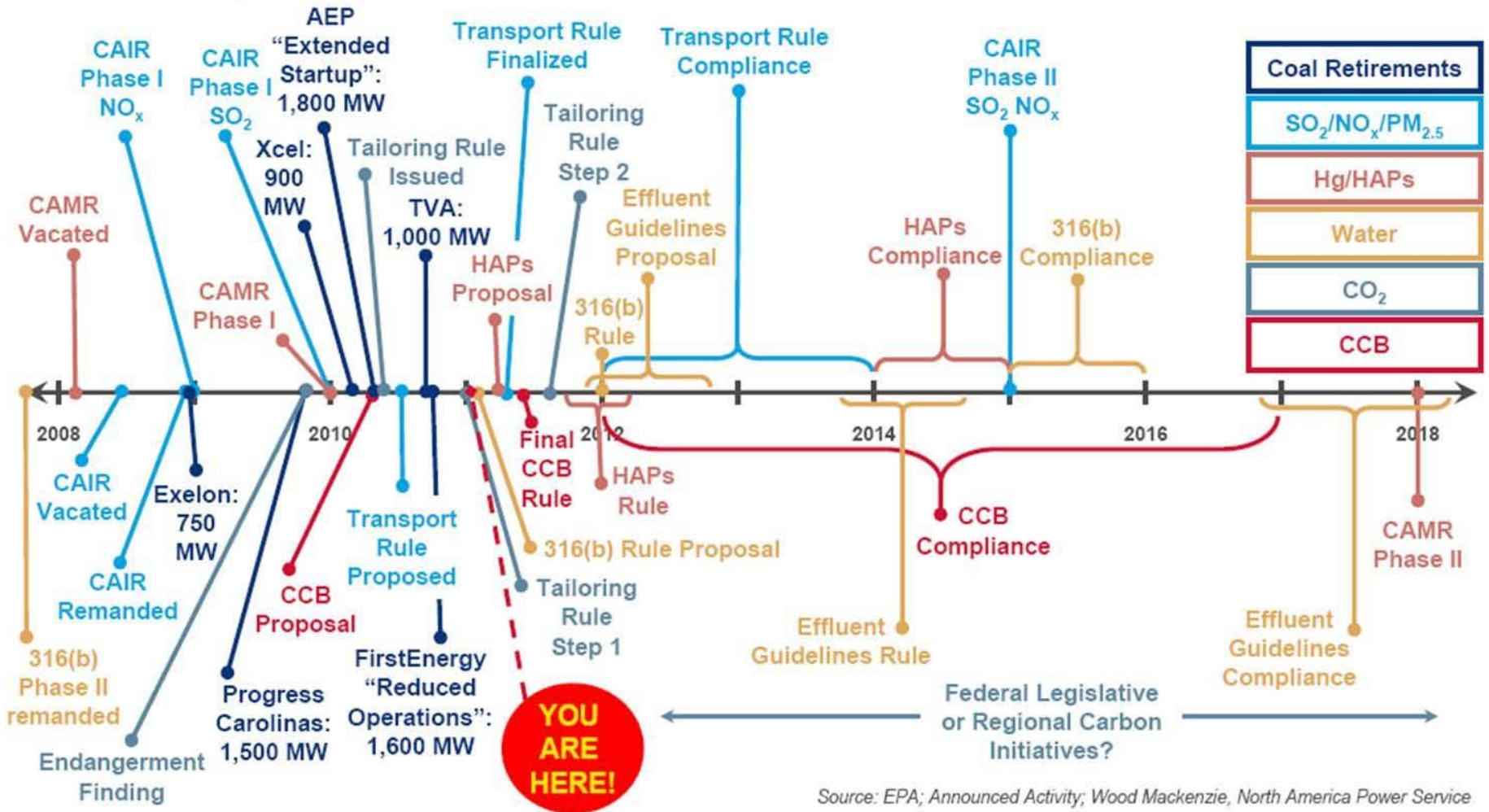
Environmental Rules

- Regulation versus Legislation
- Is legislation still a possibility
- Retire or Retrofit

Environmental Rules

EPA Regulatory Timeline

Trouble Ahead, Trouble Behind



Source: EPA; Announced Activity; Wood Mackenzie, North America Power Service

Environmental Rules

Pollutants	New or Evolving EPA Rules	Regulatory Timeline	Control Technologies
SO ₂	Cross State Air Pollution Rule (CSAPR)	Rule in 2011; effective in 2012 and 2014	Wet scrubber. Dry scrubber. (Flue gas desulfurization; FGD)
NO _x	Cross State Air Pollution Rule (CSAPR)	Same as above	Selective Catalytic Reduction (SCR). Selective Non-catalytic Reduction (SNCR). Low-NO _x Burners
Mercury (Hg) & other heavy metals	Mercury and Air Toxic Standards (MATS)	Released final rule in Dec 2011	Sorbent injection activated carbon. Co-benefits of FGD and SCR
Greenhouse gases, CO ₂	Tailoring Rule and New Source Review (NSR)	Rule effective Jan. 2, 2011. Must be considered in PSD permitting (new or renewals)	Power plant efficiency improvements (within the power plant perimeter)
Ash Disposal	Coal Combustion Residue (CCR)	Two options proposed by EPA in 2010; rule expected in 2012	Landfill and liner. Groundwater monitoring.
Harm to fish from H ₂ O intake	Clean Water Act, Section 316(b)	Rule released in March 2011 for water intake devices and expected in 2012 for thermal discharge	Fish screens. Closed loop cooling using towers

Environmental Rules – Time to Retire II

Top 10 States with At-Risk (<400MW and >40 yrs) Coal Units with No SOx Controls						
State	Total Statewide Capacity (MW)	Total Coal Capacity (MW)	At-Risk Capacity (MW)	At-Risk Capacity with No SOx Controls		
				Total (MW)	% of Total Statewide Capacity	% of Total Coal Capacity
WV	17,250	15,252	2,486	2,486	14	16
MO	22,460	13,087	2,976	2,976	13	23
MI	33,080	12,391	4,076	3,779	11	30
OH	36,462	22,937	7,076	3,777	10	16
IL	50,053	17,183	5,819	4,537	9	26
IN	30,990	20,398	5,465	2,738	9	13
SC	25,790	7,735	2,809	2,037	8	26
VA	25,833	5,751	3,160	1,987	8	35
NC	30,103	13,154	4,749	2,247	7	17
TN	23,207	10,011	6,348	1,485	6	15
Total	295,228	137,899	44,964	28,049		

Note: Capacity data as of 2010, Source: U.S. Energy Information Administration, SNL Financial Data and Fitch.

Environmental Rules – Time to Retire II

Top 10 Owners of At-Risk Coal Units with No SOx Controls						
Company Name	Total System Capacity (MW)	Total System Coal Capacity (MW)	At Risk Capacity (MW)	At-Risk Capacity with No SOx Controls		
				Total Capacity (MW)	% of Total System Capacity	% of Total Coal Capacity
DTE Energy Company	11,257	7,592	2,014	2,014	18	27
Ameren Corporation	17,977	10,384	2,998	2,609	15	25
Edison International	12,841	8,862	2,313	1,631	13	18
FirstEnergy Corp.	18,995	15,345	4,264	2,229	12	15
Duke Energy Corporation	32,056	12,988	5,454	3,247	10	25
American Electric Power Company, Inc.	32,618	20,076	4,023	3,109	10	16
Dominion Resources, Inc.	21,469	7,743	2,709	1,568	7	20
Progress Energy, Inc.	18,659	5,897	1,742	1,328	7	23
Tennessee Valley Authority	38,142	16,951	9,168	1,485	4	9
Southern Company	40,976	19,628	6,950	1,475	4	8
Total	244,990	125,466	41,635	20,695		

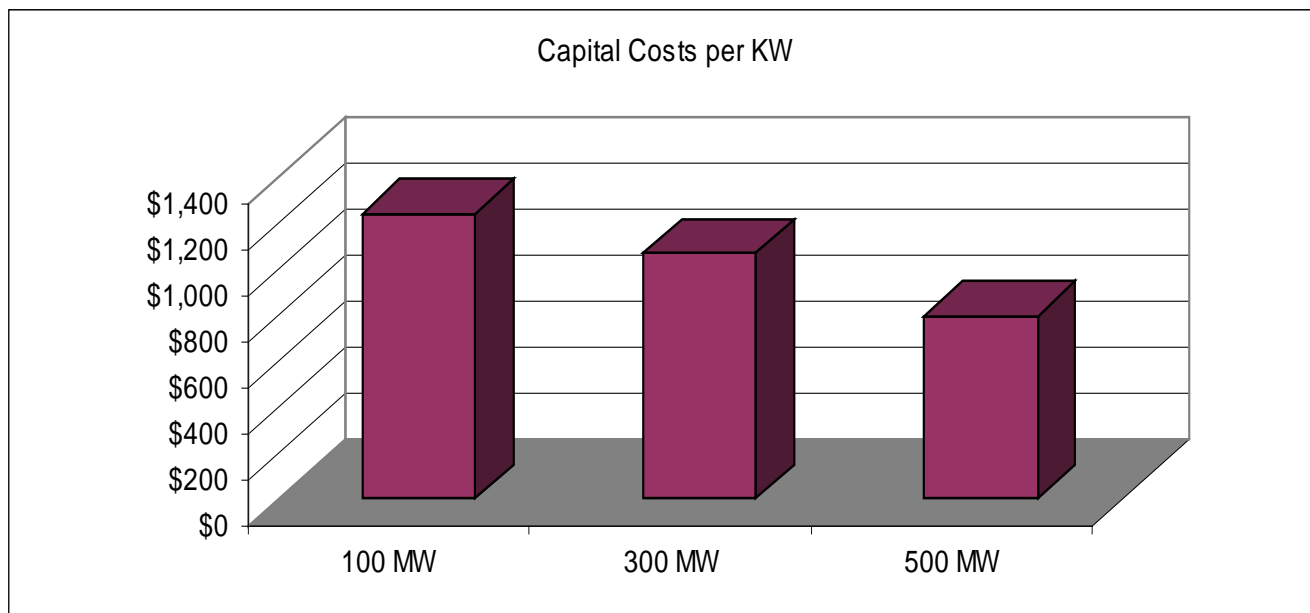
Notes: Capacity data as of 2010, Capacity values adjusted for multiple ownership.
Source: U.S. Energy Information Administration, SNL Financial Data, Fitch.

Time to Retire I & II are available on Fitch's website

Cost To Retrofit High: Costs Decline with Size of Units

Hypothetical Case

1. Added systems: scrubbers for SO_x, burner modifications and selective catalytic reduction for NO_x, and active carbon injection to reduce Hg.
2. Includes costs of equipment and installation.
3. Does not address greenhouse gas emissions, ash disposal, cooling water.



Source: Fitch Ratings. KW – kilowatt; SO_x – sulfur oxides; NO_x – nitrous oxides.

Environmental Rules

Economics of retrofitting a Bituminous Coal Unit

Plant Size	100 MW	300 MW	500 MW
Increase in Annual Operating Costs (%)	15–18	10–13	8–11
Capital Outlay for Equipment and Installation (\$/KW)	1,200–1,250	1,025–1075	750–800
Decline in the Available Capacity (%)	2–3	2–3	2–3
Increase in the Plant Heat Rate (%)	2–3	2–3	2–3
Present Value: Total Changes in Cash Flow due to Retrofit (\$ Mil.)	(170–190)	(450–500)	(600–650)
Present Value of Cash Flow Changes (\$ /KW)	(1,700–1,900)	(1,500–1,666)	(1,200–1,300)

kW – Kilowatt.

Notes: Assumes an uncontrolled power plant burning bituminous coal. Discount rate of 10%; assumed life of 30 years. It includes a penalty for lost margin due to lower output and higher fuel costs with reduced plant efficiency (higher heat rate), as well as the costs of equipment and installation. Controls installed in this example are scrubbers, burner modifications to reduce nitrogen oxide emissions, selective catalytic reduction, and active carbon injection to control mercury.

Source: Fitch Ratings, Electric Power Research Institute.

Environmental Rules

- Credit drivers for the sector: Public Power, IOUs, Merchants
 - Regulatory certainty and implementation timeline
 - Rate flexibility
 - City council versus Board regulated
 - State Commission regulated versus deregulated merchant entity
 - Stranded asset and ability to recover cost
 - Capex growth and financial flexibility especially for IOUs
 - Generation location and fuel mix
 - Long term price of fuel (coal versus natural gas)
- PJM capacity auction (2014-15) delivery year:
 - “These increased costs were a significant contributor to the increase in clearing prices in the western part of the PJM RTO”
 - Fitch estimates an increase in capacity cost of approximately \$4 to \$8 per MWh depending on load factor

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