

INTRODUCTION

The Brattle Group combines coal and power industry expertise with financial, economic, accounting, environmental, and statistical analyses to advise debtors, creditors, courts, examiners, and governments on coal-related restructurings and bankruptcies.

Brattle's experts work with companies, legal counsel, and regulators to analyze the economic and financial position of coal producers and allied companies. Our areas of expertise include demand analysis for coal in the power sector, valuation of coal mines and other industry assets, and assessment of environmental liabilities. By combining our industry knowledge with relevant financial expertise, Brattle is uniquely positioned to advise on coal-related bankruptcies. We have provided consulting and testifying expertise related to valuation for plan confirmation or liquidation, fraudulent conveyance, debt recharacterization, and other damages analyses in the context of bankruptcy.

Key Services:

- Bankruptcy process support and financial analyses
- Economics of coal use in the power sector
- Mine valuation
- Environmental liability assessment and valuation

REPRESENTATIVE ENGAGEMENTS

Bankruptcy Valuation, Solvency, and Other Financial Analyses

Brattle principals have extensive experience with the bankruptcy process. They have conducted valuation, solvency, and other financial analyses for large scale industrial concerns including steel, aluminum, and energy corporations.

Debt recharacterization: The Brattle Group was retained by counsel to the United States Steel Corporation (USS) in connection with the Canadian bankruptcy proceeding of U.S. Steel Canada (USSC). Brattle provided an expert report and testimony as to whether a series of advances from USS to USSC, totaling approximately \$2 billion, were economically consistent with debt or equity.

Retrospective solvency analysis of electric utility: The Brattle Group was retained by counsel to Wilmington Trust, N.A., First Lien Administrative Agent, and Collateral Agent for Texas Competitive Electric Holdings Company LLC (TCEH)

to provide a retrospective solvency analysis of Energy Future Holdings and certain subsidiaries. The analysis combined business valuation and credit analysis, commodity price forecasting, and economic analysis of the ERCOT market.

Retrospective solvency analysis of aluminum extruder: The Brattle Group is currently retained by counsel to the Chapter 7 Trustee in the Indalex Holdings Finance bankruptcy. At the time of filing, Indalex was the largest independent aluminum extruder in the U.S. and Canadian markets. Brattle was retained to provide a retrospective solvency analysis of the company, on a consolidated and de-consolidated basis, giving effect to a \$76 million shareholder dividend.

Damages from alleged breach of fiduciary duty: A Brattle principal was retained by SemGroup's bankruptcy trustee as a damages expert in litigation brought against the firm's auditors. Brattle modeled the SemGroup founder's speculative oil and gas derivatives trading business, and evaluated the damages caused by the audit firm's alleged breach of fiduciary duty in failing to issue a qualified opinion on the SemGroup financial statements given its knowledge of the trading activity. The case was settled.

Impact on credit assessment of accounting restatement: On behalf of Deutsche Bank, Brattle experts analyzed Enron's special purpose vehicle transactions, the associated off-balance-sheet debt, Enron's securities disclosure, and stock and bond valuation. In the adversary proceedings, the Brattle team sponsored two testifying experts to opine on the accounting of certain transactions involving Deutsche Bank, and analyzed the transactions' impact on Enron's key financial ratios and their potential contribution to Enron's credit downgrade and ultimate bankruptcy. The case was settled before trial in Deutsche Bank's favor.

Accounting and disclosures for capacity lease transactions: On behalf of the Board of Directors for Global Crossing, Brattle experts reviewed the business purposes of the company's fiber optic capacity lease transactions, conducted forensic analysis of the associated accounting records, and reviewed SEC disclosure regarding Global Crossing's pro forma accounting. Brattle also examined the market reaction to the company's various disclosures.

Debt restructuring: Brattle experts served as a financial advisor to Big River Electric Corporation, resulting in a successful restructuring that included the refinancing of more than \$500 million in debt, significant savings in debt service expense, and a regulatory-approved rate increase.

Economics of Coal Use in the Power Sector

Brattle has extensive experience and deep understanding of U.S. coal demand, transportation, and contracting. Our past clients include large producers of coal as well as merchant, publicly-owned, and investor-owned electric utilities. Our experts study the economics of potential retirements of coal-fired generation plants as a result of environmental regulations, climate policy, and low power prices, and the likely implications of such retirements on power prices and coal demand. These studies are done both as screening analyses for all coal plants in the U.S. as well as detailed studies for individual plants and regions. In addition, we have worked with generation owners and coal producers in designing and evaluating coal contracts, and in assessing the impacts of future climate policy scenarios on coal demand and prices. Finally, Brattle experts have experience in analysis of coal transportation and pricing.

Our expertise in the economics of U.S. coal generation can be applied to economic analyses in coal supplier bankruptcy proceedings. A key determinant of the profitability of coal suppliers in the U.S. is the volume of coal that the electric system will use in the future as a function of availability and cost of competing fuels in generation (natural gas, renewables, nuclear), future climate and environmental policies restricting the use of coal generation, and electricity demand. In addition, our experience in designing and evaluating coal supply contracts with generation companies can help inform the committed coal purchases and the profitability under such contracts, depending on terms such as minimum-take and net-back pricing arrangements. In addition, we have a large network of outside experts that we regularly collaborate with depending on the specific needs of the engagement.

Potential coal plant retirements: Brattle experts studied the economics of retirement decisions for each coal plant operating in the U.S. under the proposed and emerging Environmental Protection Agency (EPA) air quality and water regulations, taking into account the predicted profitability and cost of replacement power for both regulated and unregulated plants. The regulations are expected to force coal plants to decide between retiring versus installing expensive control equipment to reduce emissions of SO₂, NO_x, particulates, and hazardous air pollutants such as mercury, as well as cooling towers to reduce the use of cooling water. Our [study](#) projected the impact of potential retirements on coal demand by region.

Coal combustion products: For the American Coal Ash Association, Brattle experts are currently conducting a survey of the production and use of coal combustion products (fly ash, bottom ash, etc.) in order to assess the trends and to identify the key drivers of ash production and use. The results of the survey are being used by various industries and government institutions to assess the trends in the supply of various combustion products and their use for various purposes such as concrete, road construction and gypsum panels.

Compliance planning for a coal plant in Midwest: Brattle experts assisted a municipal electric utility in the Midwest in developing a least-cost strategy to comply with the environmental regulations. We developed a screening tool to compare the economics of environmental retrofits against alternatives, such as replacement with a new gas-fired combined cycle or relying on market purchases of energy and capacity to meet the retail load obligations. We also presented the results of the economic analysis and potential hedging strategies to the executive management.

Impact of coal plant retirements on PJM energy and capacity prices: Brattle experts conducted a [study](#) on likely causes and magnitudes of feedback effects of coal plant retirements on short- and long-term wholesale electricity prices, investigating these issues through a case study and various sensitivity analyses. The primary drivers for feedback effects will be the reduced supply for electricity generation and increases in the cost of natural gas due to increased gas demand from replacing the coal retirements. Increased plant operating costs at retrofit units also will tend to raise prices, while there could be partially offsetting impacts on the cost of coal. Capacity markets, where they exist, may show a short-term increase due to reduced reserves, then a longer-term reduction due to net CONE changing under higher energy prices.

Impact of coal plant retirements on MISO energy and capacity prices: For Wisconsin Public Service Corporation, Brattle experts provided expert testimony on the likely changes in energy and capacity prices as a result of projected coal plant retirements and environmental retrofits in the Midwest Independent Transmission System Operation (MISO)

region. The analysis included a transparent model to estimate the impacts of retirements and retrofits on the regional supply curve, and the impacts of nationwide coal retirements on natural gas prices. We also reviewed the projected reserve margins in the MISO region with and without the coal retirements to evaluate the likely changes in capacity prices in the MISO region after 2016.

Utility resource planning and environmental compliance: Brattle experts wrote a chapter of a recent EPRI report on decision-making complexities and factors in utility resource planning and environmental compliance investment decisions. The chapter described how various metrics of cost and performance are used by power industry planners and executive decision makers, what some of the limitations of those metrics and modeling techniques are, and how this problem and modeling complexity may alter the type and timing of technology preferences. Some of the complexities are illustrated with examples on retire/retrofit choices for coal plants to comply with the environmental regulations and on decision-making for Carbon Capture and Sequestration (CCS) investment under CO₂ price volatility.

Clean Power Plan implementation in the Western states: For a Western electric utility, Brattle experts evaluated the EPA's development of CO₂ rate targets in Arizona and assessed the reasonableness of projected pace and level of emission reductions. We conducted a detailed assessment of the assumptions and modeling approach in EPA's IPM simulations, and identified areas of improvements. Our findings were summarized in a whitepaper that was filed as part of the utility's comments to EPA.

Industry impacts of the Clean Power Plan: For a power industry association, Brattle experts conducted an [analysis](#) of the EPA's proposed rule for regulating CO₂ emissions from existing sources under Section 111(d) of the Clean Air Act, focusing on potential economic impact to hydropower. We summarized key aspects of the rule, assessed how the compliance options for states could differ from the best system of emissions reduction (BSER) options in setting the target rates, and how states can utilize hydropower (existing or new) as a compliance option under the rule.

Clean Power Plan impacts for a coal plant in PJM: Brattle experts assessed the impacts of the final Clean Power Plan (CPP) rulemaking on a coal plant and other generation in PJM under various scenarios for the states' implementation plans. The deliverables include a detailed summary of the requirements under the CPP as well as an assessment of EPA's modeling of the regional and nationwide impacts.

Industry impacts of climate policies: Brattle experts assisted a large coal producer evaluate the implications of several climate policy options on U.S. CO₂ emissions from electric and transportation sectors, and consumption and prices of electricity, natural gas, and coal. The analysis focused primarily on long-term implications for future generation capacity mix, and provided insights about the feedback effects on coal and gas prices, electricity prices, and electricity consumption.

Designing coal supply contracts: For a large coal company, Brattle experts assisted in designing and evaluating innovative coal supply contracts with power plants. The project team developed a customized tool to simulate the regional energy and capacity prices in the eastern power markets, and evaluated the profitability of various types of supply contracts from the perspective of the coal company and the power plant. In addition, the Brattle team

identified coal-fired power plants that could be potential candidates to benefit from signing innovative coal supply contracts.

Coal contract dispute: For a large coal generation company, Brattle experts studied the economics of its generation plants and the coal use as a result of EPA's Mercury and Air Toxics Standards (MATS) in order to assess the implications for a coal supply and delivery contract.

Mine Valuation

Brattle economists have provided advice regarding the sale and acquisition of coal mines and resources for a variety of clients. We combine our knowledge of energy markets, coal mining economics, and environmental risks to provide comprehensive valuations to help guide pricing and purchase decisions.

Valuing coal resource for proposed mine mouth plant: Brattle economists assessed economic viability of proposed mine mouth power plant on behalf of a tribal government. A Brattle principal presented findings to administrative law judge in a proceeding between the Tribe and a private resource developer regarding the economic viability of the proposal. The Tribe prevailed.

Assessing coal mine purchase opportunity: Brattle economists evaluated mine economics, tax issues, and lease terms associated with a large western surface mine on behalf of a potential buyer.

Determining market value of coal reserves: A Brattle economist determined the market value of coal reserves in Montana based on a detailed market assessment and review of coal seams and presented calculations to the U.S. Senate Select Committee on Indian Affairs.

Environmental Liability Assessment and Valuation

Although coal mines must adhere to federal and state environmental regulations and set aside funds for reclamation, they present environmental risks that are not monetized. Costs associated with these risks can be large and have important consequences for asset valuation in bankruptcy proceedings.

Environmental liabilities of a major electric utility: Brattle experts estimated the environmental liabilities of a major electric utility as required during bankruptcy proceedings working closely with hydrologists, biologists, and civil engineers. We continued to provide similar estimates for a period of years after the bankruptcy filing.

Environmental liabilities of a large construction and debris landfill: In a court-mandated asset valuation, Brattle experts assessed the probability of an event resulting in environmental or property damage, and estimated economic damages using Monte Carlo simulations based on environmental reports by federal, state and county regulators. These calculations were used in the final valuation exercise.

Environmental liabilities of a large trucking facility: As part of a sales transaction on behalf of the seller, Brattle experts established the exposure path of potential groundwater contamination by using GIS data developed by hydrologists. This provided the basis to identify properties and land uses in sufficient detail to monetize expected damages.

Environmental liability attributable to a large surface mine: On behalf of the Navajo Nation in coal tax dispute in New Mexico, Brattle experts assessed the potential environmental damages that were accounted for in taxes charged by the Nation. Potential environmental damages were attributed to possible groundwater contamination, dust, and air emissions.

CONTACTS

For more information on our coal bankruptcy expertise and services, please contact one of our practice area representatives.



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ABOUT US

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.

For more information, please visit brattle.com.