



FIRSTENERGY CORPORATION

Shareholder Proposal: Report on Plan and Progress in Reaching Goals to Reduce Exposure to Coal Risk

FIRSTENERGY IS BECOMING MORE DEPENDENT ON COAL-FIRED GENERATION BUT IT HAS NOT DISCLOSED TO INVESTORS HOW IT WILL MITIGATE THE FINANCIAL AND REGULATORY RISKS FROM ITS RELIANCE ON COAL

As You Sow, on behalf of shareowners, filed a resolution requesting that FirstEnergy's Board of Directors report to shareholders, "on plans to reduce our company's exposure to coal-related costs and risks, including progress toward achieving specific goals to minimize commodity risks, emissions other than greenhouse gases, and costs of environmental compliance."

FirstEnergy faces significant financial risks due to its reliance on coal:

1. Increasing price pressure and price volatility for coal;
2. Competition from low-cost natural gas and alternative generation sources;
3. Increasing capital costs for emissions control.

Introduction

FirstEnergy is the nation's largest investor-owned utility serving over 6 million customers in Ohio, Pennsylvania, Maryland, New Jersey, New York, Virginia, and West Virginia. Most of the company's power (87% of generating capacity)¹ is sold in the PJM competitive power market.

The company merged with Allegheny Energy in 2011. The combined company's generating portfolio is 64% coal, 16% of which does not have scrubbers for SO_x control." Fitch Ratings ranks FirstEnergy fourth among the top ten U.S. utilities with coal units lacking SO_x controls that are at risk of closure; 12% (2,229 MW) of total system capacity is deemed at risk.²

Each of the major credit rating agencies has ranked FirstEnergy among the lowest investment grade with ratings of BBB- (S&P), Baa3 (Moody's), BBB (Fitch).³

FirstEnergy has acknowledged that reliance on coal exposes the company to the risks highlighted by As You Sow's shareholder proposal and noted above. While FirstEnergy admits that these risks have the potential to adversely impact results of operations and its financial condition, the company has not disclosed a plan for how it will mitigate these risks.

Although FirstEnergy has announced plans to close 21 coal units at 9 coal-fired plants by September 2012, thereby reducing its total coal capacity from 65% to 59% of the fleet's total capacity, the company projects that coal generation will increase to 77.4M MWH in 2013, up from 73.2M MWH in 2011.⁴

Due to plant retirements, FirstEnergy recorded impairment charges, totaling approximately \$444 million (\$207 million after-tax) in the fourth quarter of 2011, including approximately \$243 million (\$152 million after tax) which is applicable to FirstEnergy Solutions, FirstEnergy's merchant arm.⁵



Despite the fact that the risks identified in the As You Sow resolution are the result of trends that are eroding the long-term economics of coal for electric power generation, FirstEnergy's disclosures regarding its reliance on coal do not extend beyond 2013.

FirstEnergy's Generation Fleet.

There are 55 coal units in the FirstEnergy fleet with total generating capacity of 14,678 MW.⁶ Thirty of the units first went online before 1960 and not one generating unit in the combined FirstEnergy-Allegheny fleet was built after 1980. The average age of FirstEnergy's current coal fleet is 50 years. The average capacity of FirstEnergy's coal units is 307 MW.⁷

Utility analysts agree that older, smaller, plants without control technology are uneconomical.⁸ In its November 2011 report, Fitch Ratings identified FirstEnergy as fourth among the top ten utilities with at-risk coal units lacking SOx controls. Fitch considers 15% of FirstEnergy's total coal capacity to be at risk of retirement.⁹

The company announced that it is retiring 21 of its dirtiest coal units that have been underutilized over the past three years, serving as peaking or intermediate facilities.¹⁰ All 21 coal units scheduled for retirement lack scrubbers and all but one lack a baghouse for particulate control. Of the remaining 9 coal plants that will not be retired from the FirstEnergy fleet (excluding ownership in OVEC), all but two plants lack mercury controls.¹¹

Announced plant retirements will reduce the capacity of FirstEnergy's coal fleet to 11,235 MW. The post-retirement fleet's capacity will consist of 58% scrubbed coal (11,235 MW); 1% other coal (282 MW); 21% nuclear (3,991 MW); 11% renewables; and 9% oil/gas.¹² The average age of company's fleet after these retirements will be 47 years; and the average coal unit capacity will be 398 MW.¹³

Despite the decrease in coal capacity, FirstEnergy indicated in its February 2012 analyst presentation that the company plans to increase reliance on its remaining supercritical coal-fired plants. Generation from its coal units will go from 60.8M MWH in 2011 to 77.4M MWH in 2013.¹⁴

FirstEnergy's plant retirements are subject to reliability determination by PJM. According to the company, preliminary analysis by PJM indicates that there would be significant reliability concerns and discussions with the company have included the potential for continued operation at some plants.¹⁵ In that case, FirstEnergy could be required to invest in pollution control technology if operations at certain coal plants resume.

FirstEnergy's reliance on coal leaves the company particularly susceptible to the risks outlined by analysts and highlighted below.

1. Increasing price and price volatility of coal

FirstEnergy projects it will need 38.5 million tons of coal to meet 2012 requirements.¹⁶ In 2011, the company sourced approximately 76% of its coal from Central Appalachia (CAPP), 19% from the Powder River Basin (PRB), and 5 % from the Illinois Basin (ILB) in 2011.¹⁷ The company indicates that increases in the cost of fuels for its generation facilities can affect the company's profit margins.¹⁸



Between December 2009 and October 2011, the price of CAPP coal increased 48%, PRB coal increased 59.5%, and ILB coal has increased 20%. Although CAPP coal recently plunged to a two-year low of \$58 per metric ton, mining companies are shoring up profits by exporting more coal to take advantage of international markets where prices are considerably higher, with Japanese utilities paying as much as \$115 per metric ton.¹⁹

Domestic coal is no longer captive of domestic demand and U.S. utilities will be paying prices that increasingly reflect global demand for coal. Industry analysts believe that going forward coal “price swings will be more erratic and of greater magnitude.”²⁰ This is due to several factors: depletion of economically recoverable CAPP reserves; increased demand for low-sulfur PRB coal; and increasing exports. Coal supply, quality, and price problems will only increase and the growing competitiveness of alternative resources will make coal an increasingly less economical choice for electricity generation.

CAPP coal price volatility can hurt FirstEnergy’s revenues, as Bernstein research pointed out in January 2011: “a downward move in the price of Appalachian coal could depress the prices received by First Energy’s Ohio utilities in their 2011 auction. These adverse price movements would erode the gross margins of First Energy’s competitive generation business.”²¹ Although, rising coal prices led FirstEnergy, in September 2011, to file with the West Virginia Public Service Commission to recover approximately \$32 million in fuel and purchased power costs (an approximately 3% overall increase in such costs over the past two years)²² it remains to be seen what impact the drop in CAPP coal prices will have on the company’s 2012 revenues.

Despite a decrease in overall coal capacity due to coal plant closures, the company forecasts it will increase coal generation to 77.4M MWH in 2013, while its natural gas and renewable energy portfolio remain flat.²³ Instead of diversifying its generation portfolio to reduce its exposure to coal, the company plans to increase its reliance on this fuel source.

2. Competition from natural gas and alternative generation sources

FirstEnergy acknowledges that changes in commodity prices could adversely affect profit margins by increasing the amount the company pays to purchase power to supply customer obligations.²⁴

Unlike Ameren and Duke, FirstEnergy does not disclose prices for the coal and natural gas it burns. FirstEnergy’s fuel price information is only broken out for nuclear and “fossil.” However, as oil and gas account for less than 1% of the company’s generating capacity, the price trends disclosed (only to 2013) largely reflect coal prices.²⁵ In the materials released for the February 2012 analyst call, FirstEnergy acknowledges that higher “fossil” fuel expense will be a negative driver for earnings in 2012 – 2013.²⁶

All of FirstEnergy’s coal units (except for the Fort Martin Plant) sell electricity into the competitive markets operated by PJM. The 2011 PJM State of the Market Report confirms that last year the market was good for natural gas, bad for coal:

- The report noted that gas prices fell and coal prices rose in 2011. Gas prices decreased on average by 10% and coal prices increased on average by 19% in 2011.
- The report concluded that the market results in 2011 were generally positive for gas fired units, especially new combined cycle units. Total new entrant combined cycle



revenues were generally higher in 2011 and exceeded the threshold to incent new entry for most zones.

- The report concluded that the market results in 2011 were generally negative for coal fired units, especially older, smaller coal fired units. The profitability of coal units declined as a result of declining revenues and increased costs. The situation was worse for units requiring additional investments to meet environmental regulations.²⁷

According to the EIA, "natural gas combined-cycle units operate at higher efficiency than do older, coal-fired units, which increases the competitiveness of natural gas relative to coal."²⁸ Deutsche Bank calculates that it is more economical to burn natural gas than coal to generate electricity when natural gas costs \$4-6/mmBtu.²⁹ The Henry Hub price for natural gas is projected to be \$6 in 2025.³⁰ Lazard Ltd. calculated the levelized cost³¹ of electricity for wind, in most cases, as less than that for coal and thin-film, biomass, and geothermal are, in many cases, less than that for coal.³²

In its report on "Levelized Cost of New Generation Resources in the Annual Energy Outlook 2011," the EIA compares costs for generating technologies brought on line in 2016. Allowing for regional variation in levelized cost, EIA found that the most expensive advanced combined cycle gas plant costs less (\$70.5/MWh in 2009 dollars) than the least expensive new conventional coal plant (\$85.5/MWh in 2009 dollars). According to EIA, the levelized cost for the least expensive wind power is cheaper (\$81.9/MWh in 2009 dollars) than the least expensive conventional coal plant.³³

3. Increasing capital costs for emissions control

Coal dependent utilities face increased capital costs for coal plant emissions controls. FirstEnergy admits that compliance with environmental regulations could have a "material adverse effect on FirstEnergy's earnings and competitive position."³⁴ The company recently announced retirements of 21 coal units at 9 coal-fired plants by September 2012 in advance of the 2014 compliance deadline for the new mercury air toxics standard, or MATS.

FirstEnergy has allocated \$1.3 to 1.7 billion for capital expenditures for its remaining coal plants related to compliance with MATS. Even after these upgrades are complete, pending regulation of air, water, and waste and the prospect of more stringent enforcement of existing regulations make it highly likely that additional capital expenditures will be needed in the coming years to meet environmental standards for operating coal plants.

In the absence of a national energy policy, utilities face incremental mandates and continued uncertainty over the scope and timing of environmental rules. This further elevates the risks for companies that must decide now whether or not to invest in aging coal fleets. Several of the EPA initiatives affecting coal plants are proceeding pursuant to court orders, while others are tied up in litigation. Congressional efforts to stop EPA regulations have ended in stalemate. However, it is very probable that, over the decades-long expected life of these investments, coal-dependent utilities will be forced to internalize even more of their environmental damage costs. Senator Jay Rockefeller, from the coal state of West Virginia, has stated: "Greenhouse gas emissions are not healthy for the earth. It will not go away if we ignore the issue. There will be some additional regulations."³⁵



FirstEnergy produces over two million tons of coal ash annually, however, it does not report what percentage of this ash is wet-handled and stored in ponds. The Bruce Mansfield ash pond, Little Blue Run Dam, with capacity of 84,300 acre-feet, has a 'high risk' classification from the EPA. McElroy's Run Embankment at Pleasants Power Station, with capacity of 17,548 acre-feet, also has a "high risk" classification from the EPA. Additional ponds at Bruce Mansfield, North LDS-Pond, South LDS Pond, and West HDS Pond, as well as the R Paul Smith stations have a significant risk rating. All of these ponds date from the 1980s or earlier.³⁶ The Little Blue Run coal combustion byproducts impoundment is expected to run out of capacity for disposal of coal combustion products from the Bruce Mansfield Plant between 2016 and 2018. The Bruce Mansfield plant is pursuing several coal combustion byproducts disposal options.³⁷

The company admits that future costs of compliance with federal and state water quality regulations related to cooling water intake, will require material capital expenditures. However the company does not disclose how much water the company uses for its coal plants. The company is also subject to total maximum daily loads (TBDL) restrictions in the Monongahela River and notes that based on the stringency of the TMDL, FirstEnergy may incur significant costs to reduce sulfate discharges into the Monongahela River from the coal-fired Hatfield's Ferry and Mitchell Plants in Pennsylvania and Fort Martin Plant in West Virginia.³⁸

FirstEnergy is also currently facing enforcement actions and litigation alleging that it failed to comply with environmental and safety regulations. FirstEnergy is involved in a CAA citizen suit alleging New Source Review (NSR) violations at the Portland Generation Station. FirstEnergy owned the plant until 1990. The company's motion to dismiss claims for civil penalties was denied.³⁹

In its statement in opposition to the As You Sow resolution, FirstEnergy argues that it does not face any construction risk as it has no plans to build new coal-fired facilities. However, if the company loses the NSR suit it could be forced to bring the plant up to current environmental standards, which include best available control technology for greenhouse gases, or retire it. FirstEnergy was forced to invest \$1.1 billion in upgrades to the WH Sammis plant after years of fighting a losing legal battle over NSR violations. Pending litigation involving former Allegheny plants that are not being retired could also require major capital expenditures for environmental controls.⁴⁰

Conclusion

Despite coal plant retirements, FirstEnergy plans to increase generation at its remaining coal plants in 2013. As such, more than 68% of its generation (77.4M MWH out of 112.9M MWH) faces significant financial risks.

FirstEnergy sources 76% of its coal from Central Appalachia and it faces increased risks as the price of coal from that region becomes more volatile in response to shrinking reserves and increasing exports.⁴¹ Low natural gas prices coupled with an uncertain economy and environmental compliance costs leave FirstEnergy's coal plants extremely vulnerable. Rather than investing in renewable energy capacity, the company is procuring renewable energy credits.

While FirstEnergy acknowledges that the coal risks identified in the As You Sow resolution risks are having or will have an impact on the financial performance of its generation fleet, the



company has not disclosed to investors how the company plans to mitigate the long term financial risks to its coal fleet. FirstEnergy's has disclosed only a very short-term plan for its coal plant fleet, extending only one year to 2013.

At a time when coal's share of the U.S. electric power market is shrinking and coal assets are losing value, investors must exercise enhanced diligence regarding investments in coal-dependent utilities. Enhanced diligence requires greater transparency from companies about their plans to mitigate the risks of reliance on coal. Investors need for FirstEnergy to disclose its plans to mitigate the specific risks discussed and specific goals to reduce those risks so that investors will be able to benchmark a company's progress in reducing these material risks to shareholder value.

¹ FirstEnergy, "Positive Energy for Investors Analyst Meeting," February 29, 2012, FirstEnergy Generation Options, Generation Portfolio, Slide 32, <http://phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9MTI4MzMzfnENoaWxkSUQ9LTF8VHlwZT0z&t=1>

² B. Mahendale, D. Pidhemy, and P. W. Smyth, "Time to Retire II? The Update to Coal Plant Retirements," *Fitch Ratings*, November 17, 2011.

³ Moody's, "FirstEnergy Corp.," accessed March 14, 2012, <http://www.moodys.com/credit-ratings/FirstEnergy-Corp-credit-rating-600041596#>. Moody's, "FirstEnergy Solutions Corp.," accessed March 14, 2012, <http://www.moodys.com/credit-ratings/FirstEnergy-Solutions-Corp-credit-rating-820093069#>.

⁴ FirstEnergy, "Positive Energy for Investors Analyst Meeting," February 29, 2012, FirstEnergy Generation Slide 8. FirstEnergy, "Positive Energy for Investors Analyst Meeting," February 29, 2012, Generation Operations, Slide 33.

⁵ FirstEnergy Corp., *2011 10-K*, accessed March 14, 2012, 48.

⁶ FirstEnergy, "Positive Energy for Investors Analyst Meeting," Total Fleet Generation, Slide 33, February 29, 2012.

⁷ "National Electric Energy Data System (NEEDS) v.4.10," Environmental Protection Agency, last updated September 8, 2010, <http://www.epa.gov/airmarkets/progsregs/epa-ipm/BaseCasev410.html#documentation>.

⁸ H. Wynne, F. D. Broquin, and S. Singh, "U.S. Utilities: A Visit to Washington Finds Utility Lobbyists & Environmentalists Agreeing on the Grim Outlook for Coal," *Bernstein Research*, March 9, 2010. M. J. Bradley & Associates, LLC and Analysis Group, "Ensuring A Clean, Modern Electric Generation Fleet while Maintaining Electric Reliability," *M.J. Bradley & Associates, LLC*, August 2010. The Brattle Group, "Potential Coal Plant Retirements Under Emerging Environmental Regulations," December 8, 2010. Fahey, "Why Small Coal-Fired Plants Are Going Away," *Forbes*, July 19, 2010.

⁹ B. Mahendale, D. Pidhemy, and P. W. Smyth, "Time to Retire II? The Update to Coal Plant Retirements," *Fitch Ratings*, November 17, 2011.

¹⁰ FirstEnergy, "Positive Energy for Investors Analyst Meeting," Generation Portfolio Fossil Environmental Controls, Slide 26, February 29, 2012.

¹¹ FirstEnergy, "Positive Energy for Investors Analyst Meeting," Generation Portfolio Fossil Environmental Controls, Slide 36, February 29, 2012.

¹² FirstEnergy, "Positive Energy for Investors Analyst Meeting," February 29, 2012, FirstEnergy Generation, Plant Retirements, Slide 8.

¹³ Calculated from "National Electric Energy Data System (NEEDS) v.4.10," Environmental Protection Agency, last updated September 8, 2010.



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- ¹⁴ FirstEnergy, "Positive Energy for Investors Analyst Meeting," Total Fleet Generation, Slide 33, February 29, 2012.
- ¹⁵ FirstEnergy Corp. 2011 10-K, 20.
- ¹⁶ FirstEnergy Corp. 2011 10-K, 23.
- ¹⁷ EIA, "Electricity Form EIA-923 Data, Fuel Receipts and Costs," US Department of Energy, 2011, http://www.eia.gov/cneaf/electricity/page/eia906_920.html.
- ¹⁸ FirstEnergy Corp. 2011 10-K, 28.
- ¹⁹ J. Blas, U.S. "Rush to Gas Depresses Coal Prices," *Financial Times*, March 12, 2012, <http://www.ft.com/cms/s/0/868d900a-6c43-11e1-8c9d-00144feab49a.html>.
- ²⁰ Doyle Trading Consultants, LLC. & Hill and Associates, "The Coal Trading Handbook, 2007 Edition," March 2007, 21-1.
- ²¹ Bernstein Research, *EPA Sets Dates to Regulate CO2 New and Existing Power plants and Refineries; What are the implications*, January 4, 2011, p. 13-14.
- ²² FirstEnergy Corp. 2011 10-K, 89.
- ²³ FirstEnergy, "Positive Energy for Investors Analyst Meeting," Total Fleet Generation, Slide 33, February 29, 2012.
- ²⁴ FirstEnergy Corp. 2011 10-K, 28.
- ²⁵ FirstEnergy, "Positive Energy for Investors Analyst Meeting," Generation Operations, Slide 33, February 29, 2012.
- ²⁶ FirstEnergy, "Positive Energy for Investors Analyst Meeting," Enterprise Risk Overview, Slide 62, February 29, 2012.
- ²⁷ "2011 State of the Market Report for PJM Released," *PRNewswire*, March 15, 2012 <http://www.prnewswire.com/news-releases/2011-state-of-the-market-report-for-pjm-released-142804305.html>.
- ²⁸ D. Lowrey, "Coal's share of US electricity generation falls below 40% at end of 2011," *Financial Times*, March 12, 2012.
- ²⁹ Deutsche Bank Climate Change Advisors, "Natural Gas and Renewables: A Secure Low Carbon Future Energy Plan for the United States," November 2010, Executive Summary, 4.
- ³⁰ U.S. Energy Information Administration, Annual Energy Outlook 2011, 78. [http://www.eia.gov/forecasts/aeo/pdf/0383\(2011\).pdf](http://www.eia.gov/forecasts/aeo/pdf/0383(2011).pdf). Futures for natural gas are traded on the New York Mercantile Exchange (NYMEX). Prices for gas delivered to the Henry Hub (a point on the natural gas pipeline) are used as benchmarks for the natural gas market.
- ³¹ "Levelized cost represents the present value of the total cost of building and operating a generating plant over an assumed financial life and duty cycle converted to equal annual payments and expressed in terms of real dollars to remove the impact of inflation." Energy Information Agency, "Levelized Cost of New Generation Resources in the Annual Energy Outlook 2011," November 2010, http://205.254.135.24/oiaf/aeo/electricity_generation.html
- ³² Lazard, "Levelized Cost of Energy Analysis- Version 5.0," June 2011, 2.
- ³³ Energy Information Agency, "Levelized Cost of New Generation Resources in the Annual Energy Outlook 2011, Table 2" November 2010, http://205.254.135.24/oiaf/aeo/electricity_generation.html
- ³⁴ FirstEnergy Corp., 2011 10-K, 18.
- ³⁵ K. Silverstein, "Coal Utilities Take EPA to Court," *energybiz*, February 29, 2012, http://www.energybiz.com/article/12/02/coal-utilities-take-epa-court&utm_medium=eNL&utm_campaign=EB_DAILY2&utm_term=Original-Member.
- ³⁶ U.S. Environmental Protection Agency, "Information Request Responses from Electric Utilities," updated 23 November 2010.



³⁷ FirstEnergy Corp., *2011 10-K*, 23.

³⁸ FirstEnergy Corp., *2011 10-K*, 97.

³⁹ FirstEnergy Corp., *2011 10-K*, 18.

⁴⁰ FirstEnergy Corp., *2011 10-K*, 19. Allegheny is alleged to have violated provisions of the CAA, including; Fort Martin Units 1 and 2; Harrison Units 1, 2 and 3; and Pleasants Units 1 and 2. In June 2005, the PA DEP and the Attorneys General of New York, New Jersey, Connecticut and Maryland filed suit alleging that that Allegheny performed major modifications in violation of the CAA and the Pennsylvania Air Pollution Control Act at the coal-fired Hatfield's Ferry, Armstrong and Mitchell Plants in Pennsylvania. The parties are awaiting a decision from the District Court, but there is no deadline for the decision.