



Shareholder Proposal #6 on the Proxy:
FINANCIAL RISKS of RELIANCE on COAL
Duke Energy Corporation Symbol: DUK

Duke does not address the financial risks related to its exposure to coal.

Vote “FOR”

REPORT ON THE FINANCIAL RISKS OF CONTINUED RELIANCE ON COAL

Duke Energy:

- Is the 3rd largest producer of coal-fired electricity in the US, and the 6th largest electricity producer.¹
- In 2010, 61.5% of Duke’s generation was derived from coal.
 - Has 15 coal-fired plants with “combined owned capacity” of 13,454 MW.
 - Is investing in new coal: an 800 MW unit (Unit 6) at Cliffside, NC; and a 618 MW IGC plant in Edwardsport, IN. It’s also building two new combined cycle natural gas plants.
 - Is retiring 17 coal-fired units at 6 of its plants.²
 - Sources coal from Central Appalachia (CAPP) and the Illinois Basin (ILB).
 - Operates in regulated markets in Ohio, Indiana, Kentucky, North Carolina and South Carolina
 - Operates in deregulated markets in Ohio, Illinois, Indiana, Pennsylvania, Wyoming and Texas.
- Is pursuing a merger with Progress Energy and, upon completion of the merger, the combined company will be the largest utility in the US.
 - The combined company will own and operate twenty-nine coal-fired plants with a total capacity of over 23,000 MW³ and 6,600 MW of unscrubbed coal-fired capacity.⁴
- Recorded impairments of \$500 million and \$371 million related to Commercial Power’s non-regulated Midwest generation reporting unit in 2010 and 2009. Duke Energy Ohio recorded impairments of \$677 million and \$727 million related to Commercial Power’s non-regulated Midwest generation reporting unit in 2010 and 2009.⁵

Duke Energy is particularly susceptible to the significant financial risks of continued reliance on coal outlined in the [investor’s proxy information sheet](#).

1. COAL RISK EXPOSURE:

- Of the twenty-nine coal plants in the combined Duke-Progress fleets, fourteen first went online during the 1940s and 1950s. Ten went online during the 1960s and 1970s.
- Duke has six plants without scrubbers totaling 4.2 GW.
- Duke is the 4th largest consumer of coal. Progress is the 15th.
- In CAPP, declining coal reserves and increased regulations are producing price increases for the remaining high quality product.
- Duke is a defendant in litigation brought by the states of Connecticut, New York, California, Iowa, New Jersey, Rhode Island, Vermont, and other plaintiffs, alleging that the company’s emissions of CO₂ is a public nuisance.⁶ The U.S. Supreme Court reviewed the case on 19 April 2011 and a decision is expected by the end of June 2011.⁷
- Duke has announced retirements of 17 coal units (including some that are 60 years old) and is considering additional retirements, but has plans for two new coal-fired units.



Risk Profile of Five Duke Coal Plants

Name of plant	Allen, NC	Gallagher, IN	WC Beckjord, OH	Wabash River, IN	Riverbend, NC
Year	1957	1958	1952/1969	1953	1929
Plant Capacity (MW)	1,127	560	862	676	454
Total Electricity Generated (MWh) 2008	6,456,126	2,727,876	2,526,330	3,539,288	1,952,004
% MW Generated From Coal	99.8	98.6	99.3	99.8	99.5
SO ₂ Emissions (tons) 2008	49,578	40,433	20,175	55,999	15,941
NO _x Emissions (tons) 2008	9,336	4,942	5,783	6114	2,081
CO ₂ Emissions (tons) 2008	6,409,508	2,691,037	2,815,534	3,844,743	2,194,066
Hg Emissions (pounds) 2008 ⁸	243	37	130	141	97
Emissions Controls SO ₂	Flue Gas Desulfurization (FGD)/"Scrubber" under installation	None installed	None installed	None installed	None installed
Emissions Controls NO _x	Selective Non-Catalytic Reducer (SNCR) and/or Low NO _x Burner	SNCR and/or Low NO _x Burner	SNCR and/or Low NO _x Burner	SNCR and/or Low NO _x Burner	SNCR and/or Low NO _x Burner

2. **REGULATORY AND OPERATIONAL RISKS RELATED TO CONTINUED RELIANCE ON COAL:** Coal-burning utilities are being increasingly required to comply with the Clean Air Act, Clean Water Act, and other environmental laws governing air, water, and waste emissions.

Air

Although many regulations have been "on the books" for decades, we are seeing ever greater enforcement of these regulations in recent years due to litigation challenging the EPA as well as utility companies that will require significant capital expenditures to equip coal plants with the necessary controls.

- Duke plans to spend \$60 million between 2011 and 2015 to upgrade pollution controls to comply with state clean air mandates that may help satisfy EPA's new Clean Air rules. However, the standards are expected to be revised before the upgrades are completed, requiring further investment.⁹
- Duke's coal-fired plants in NC, OH, IN, KY, and PA are subject to the CATR starting in 2014 that is designed to reduce SO₂ emissions by 71% below 2005.¹⁰

**Air: New Source Review & Environmental Litigation**

- In 2000 the EPA cited 25 of Duke's plants for New Source Review (NSR) violations. Some of the claims were rejected, but a trial on the remaining claims will be scheduled for after 2011.¹¹
- In March 2010, Duke settled NSR litigation involving units at Gallagher Station, Duke estimates the cost of the controls to be \$88 million and is seeking recovery of these costs; a hearing is set for 2011.¹²
- In May 2009, Duke was ordered to install particulate controls at two units at the W.C. Beckjord plant and it was recently allowed to place units at the Wabash plant back in service.¹³
- EPA requested information regarding possible NSR violations at the Miami Fort and W.C. Beckjord stations in 2009, and the Zimmer station in 2010. EPA has since issued a Notice of Violations.

Water

EPA is developing new rules for Cooling Water Intake Structures for new and existing generators and, by January 2014, will issue new rules regarding limitations on heavy metals in effluents.

- 14 of Duke's 23 coal and nuclear facilities withdraw over 50 million gallons of water per day for cooling and would likely be required to invest in new intake technology if EPA mandates improved water cooling systems.

Duke's facilities in the Carolinas, Wyoming, and Texas are in areas subject to periodic droughts.

- In 2007, Duke intervened in an equitable apportionment case between North and South Carolina regarding transfers from the Catawba River, which had been affected by severe drought conditions.¹⁴

Waste

The EPA is moving towards re-classifying coal ash as hazardous waste; Duke's ponds would represent a significant material liability if this came to force.

- Duke plans to spend \$369 million between 2011-2015 to install synthetic caps and liners at coal combustion project landfills, and on converting *some* of its wet handling systems to dry handling.¹⁵ Given the scale of Duke's coal ash ponds, these costs are likely to be only a small portion of future compliance costs.
- Duke's coal ash is predominantly stored in wet handling ash ponds on-site; these present significant future financial and litigation risks.
- Twelve of Duke's coal plants have on-site ash ponds. Eight of these are noted by the EPA to have a hazard potential – a high risk for five of them, and a significant risk for two.¹⁶
- Cliffside pond experienced "a significant localized flood event" and the W.C. Beckjord pond was noted for significant deterioration around the embankment.¹⁷

3. CONSTRUCTION AND COST RECOVERY: Duke's new coal plants are facing cost escalation and resistance from regulators to rate recovery.

- Construction costs for the Edwardsport IGCC plant have increased by \$530 million to \$2.88 billion. Costs over \$2.76 Billion are subject to "prudence review" in the next base rate increase.¹⁸
- Cliffside Unit 6 costs have risen to \$2.4 billion from the \$1.8 billion originally estimated.
- Duke was given approval to recover only \$33 million of the \$121 million site assessment and characterization plan for carbon capture and storage at the Edwardsport plant. This decision was challenged by an intervenor and the outcome of the hearing held in late 2009 has not been reported.¹⁹



4. **A CONSENSUS AMONG INDUSTRY ANALYSTS:** Studies since 2009 increasingly conclude that coal plants are uncertain, risky, volatile, costly investments requiring extra diligence.²⁰

Duke has not adequately addressed the material financial risks identified by industry analysts related to its exposure to coal.

In its Statement in Opposition to this Shareholder Proposal, Duke focuses on its efforts to reduce our company's greenhouse gas emissions, its disclosures related to climate change and its leadership in the area of climate policy, all of which are laudable. However, Duke does not address the issues raised in this Proposal or the numerous reports from utility industry analysts highlighting the very material and cumulative financial risks confronting coal-fired generating fleets.

While carbon emissions are a matter of concern, coal plants, as noted above, face multiple environmental mandates that will require them to internalize costs for several pollution externalities (acid rain, smog, mercury and other air toxics, as well as combustion wastes and wastewater).

Moreover, these costly pollution controls confront our company at a time when commodity risk for coal is increasing and low natural gas prices are exerting a downward pull on electric power rates.

Given these conditions, Duke's six coal-fired merchant plants are at high risk from competitively priced power from natural gas.

Bernstein Research looked at risks particular to merchant plants and found that:

The gross margin of merchant coal plants "has fallen by over three quarters since 2008, from \$20 billion to \$5 billion" and forward price curves "suggest that in 2011 aggregate unregulated gross margin will erode further, dropping by a fifth from \$5 billion to \$4 billion. This dramatic erosion in gross margin reflects the collapse in the price of natural gas [...] aggravated by continued upward pressure on the price of Appalachian coal."²¹

5. **CONCLUSION:**

Our company has not provided investors with sufficient information to enable them to determine whether the company recognizes and is properly managing the risks associated with its continued reliance on coal. In the absence of meaningful disclosure, investors have no way of fully assessing the risks and rewards from investing in various companies in the utilities sector, and are concerned about unpleasant shocks to shareholder value.

Vote "FOR" Shareholder Proposal #6
Report on the Financial Risks of Reliance on Coal



- ¹ M. J. Bradley & Associates, "Benchmarking Air Emissions of the 100 Largest Electric Power Producers in the United States," 2010, available at: <http://www.nrdc.org/air/pollution/benchmarking/2008/benchmark2008.pdf>.
- ² J. Gilbert and M. Niven, "Upcoming, recent coal-fired power unit retirements," *SNL Energy*, 22 February 2011.
- ³ Duke Energy, "Creating the Leading U.S. Utility," 10 January 2011, available at: http://www.duke-energy.com/pdfs/Slides_011011.pdf.
- ⁴ Duke Energy, "Creating the Leading U.S. Utility," 10 January 2011, Slide 19, available at: http://www.duke-energy.com/pdfs/Slides_011011.pdf.
- ⁵ Duke Energy, "2010 Form-10K," *U.S. Securities and Exchange Commission*, 25 February 2011, p. 60.
- ⁶ Duke Energy, 2010 Form 10-K, p. 140.
- ⁷ Reuters, "Supreme Court Questions Global Warming Lawsuit," 21 April 2011, available at: <http://www.greenchoicestandard.com/latest-news/supreme-court-questions-global-warming-lawsuit/>.
- ⁸ Natural Resources Defense Council (NRDC), "Benchmarking Air Emissions of the 100 Largest Electric Power Producers in the United States, All 2008 Data," accessed 8 April 2011, available at: http://www.nrdc.org/air/pollution/benchmarking/2008/benchmark2008_data.zip.
- ⁹ Duke Energy, "2010 Form 10-K," *U.S. Securities and Exchange Commission*, p. 138.
- ¹⁰ Bernstein Research, "Black Days Ahead for Coal: Implications of EPA Air Emissions Regulations for the Energy & Power Markets," 21 July 2010, p. 4.
- ¹¹ Duke Energy, "2010 Form 10-K," *U.S. Securities and Exchange Commission*, pps. 138-139.
- ¹² Duke Energy, 2010 Form 10-K.
- ¹³ Duke Energy, 2010 Form 10-K.
- ¹⁴ *North Carolina v. South Carolina*, 552 U.S. 804, 128 S. Ct. 349 (2007).
- ¹⁵ Duke Energy, "2010 Form 10-K," *U.S. Securities and Exchange Commission*, 25 February 2011, p. 138.
- ¹⁶ US EPA, Wastes- Non-Hazardous Waste- Industrial Waste, "Information Request Responses from Electric Utilities," last updated 23 November 2010, available at: <http://www.epa.gov/epawaste/nonhaz/industrial/special/fossil/surveys/index.htm>.
- ¹⁷ US EPA, 23 November 2010.
- ¹⁸ Duke Energy, "2010 Form 10-K," *U.S. Securities and Exchange Commission*, pps. 10-11. Also see J. Russell, "Contractor says Duke took risks at plant," *Indy Star*, 29 January 2011, available at: <http://www.indystar.com/article/20110129/NEWS14/101290350/Contractor-says-Duke-took-risks-Edwardsport-power-plant?odyssey=tab|topnews|text|IndyStar.com>.
- ¹⁹ Duke Energy, "2010 Form 10-K," p. 11.
- ²⁰ M. Celebi, F. Graves, G. Bethla and L. Brennan, *Potential Coal Plant Retirements Under Emerging Environmental Regulations*, Brattle Group, 8 December 2010; Deutsche Bank Climate Change Advisors, *Natural Gas and Renewables: A Secure Low Carbon Future Energy Plan for the United States*, November 2010; Bernstein Research, *U.S. Utilities Coal-Fired Generation Is Squeezed in the Vice of EPA Regulation: Who Wins and Who Loses?*, October 2010; Bernstein Research, *Black Days Ahead for Coal: EPA Air Emissions Regulation & the Outlook for Coal Fired Generation*, 22 September 2011; MJ Bradley and Analysis Group, *Ensuring A Clean, Modern Electric Generation Fleet while maintaining electric Reliability*, August 2010; Fahey, Jonathan, "Why Small Coal-Fired Plants Are Going Away," *Forbes*, 19 July 2010; Bernstein Research, *U.S. Utilities: A Visit to Washington Finds Utility Lobbyists and Environmentalists Agreeing on the Grim Outlook for Coal*, 9 March 2010; Mark Kaplan, *Displacing Coal with Generation from Existing Natural Gas-Fired Power plants*, Congressional Research Service, 19 January 2010. See also: North American Electric Reliability Corporation (NERC), *2010 Special Reliability Scenario Assessment: Resource Adequacy and Impact of Potential U.S. Environmental Regulations*, October 2010; Mike Morris, CEO, American Electric, Power, Power and Gas Leaders Conference, Bank of America Merrill Lynch, New York, 29 September 2010; ICF International, *Clean Air Regulations: Impacts of EPA Proposed Rules*, 16 September 2010.
- ²¹ Bernstein Research, "Bernstein Commodities & Power: No Light for Dark Spreads: How Ruinous Economics of Coal-Fired Power Plants Affect the Markets for Coal and Gas," 18 February 2011, p. 1.