

COAL DIVESTMENT TOOLKIT

MOVING ENDOWMENTS BEYOND COAL



INTRODUCTION

Divestment is the process of selling an asset for either financial or social goals.¹ Divestment is a powerful way to take a stand against companies involved in an activity that is morally reprehensible. This strategy has been used to send a strong message and to force change in corporate policies and governance. Through divestment campaigns, shareholders (the people and organizations that own corporate stock) take responsibility for the actions of the companies they own and demand change or sell their shares.

Why should universities divest from coal-fired utilities and coal mining companies? Coal is a dirty, dangerous fuel—obtaining it destroys mountains, burning it releases hazardous emissions, and disposing of it results in hazardous toxic waste. Every year in the U.S., 21,000 deaths, 24,000 hospitalizations, and 280,000 severe asthma attacks are attributable to the coal industry. Coal is the largest source of mercury pollution in the country, affecting 1 in 12 U.S. women, and damages from the coal industry cost the U.S. \$100 billion a year in health costs. Additionally, coal is scorching the planet; it is the largest source of global warming pollution in the U.S.

Many universities are profiting from this dirty, dangerous, and increasingly risky industry. Is the notion that growing the value of a school's endowment is more important than the hundreds of thousands of people who suffer from coal-related illnesses?

The fact is, today there are alternative investments that make equal or better returns. The emerging renewables and clean technology industries are among the fastest growing sectors of the U.S. economy. Even investing in the campus itself through programs such as green revolving loan

funds can provide real returns while creating educational opportunities. For universities, which are educating and training emerging leaders, the question comes down to whether they are investing in the future, with its new technology solutions that will create jobs and a healthier, cleaner world, or in the past, with its risky dirty energy holdings that are contributing to global problems.

**WHERE ENDOWMENTS ARE CONCERNED,
IT'S TIME FOR UNIVERSITIES TO
PRACTICE WHAT THEY TEACH.**

In the 1980s, students witnessed the atrocities happening in South Africa. Responding to the apartheid system that disenfranchised people of color, the mass democratic movement called for worldwide governments to impose economic sanctions on South Africa. The U.S., which was deeply tied to South Africa, refused. In response, students realized that they could take matters into their own hands and pressure their universities to divest. Through the power of student activism, one university after another divested from South Africa. The country became a moral pariah; owning stock in businesses that benefited from apartheid became morally unacceptable. The apartheid system began to unravel and was ultimately dismantled. In short, college divestment activism can be a powerful tool.

Students have already pushed their schools to reduce global warming pollution, to retire campus-owned coal plants, and to invest in renewable energy and green jobs. Students once again can come together to expose coal as a moral pariah and to pressure universities to divest their coal holdings and reinvest in a clean energy future for the benefit of students and the global community.

¹ Investopedia, "Divestment," accessed August 2011, <http://www.investopedia.com/terms/d/divestment.asp#axzz1WRhnMzPH>

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WHY DIVESTMENT

The movement to transition our nation beyond coal to clean energy has already stopped more than 150 proposed coal-fired power plants from being built, pushed numerous dirty plants toward retirement, and fought major battles to protect communities from destructive mining practices that poison people's drinking water and destroy entire landscapes. The success of this work through grassroots organizing, legal challenges, regulatory advocacy, and pressuring policy makers has been tremendous, but the coal industry is still extremely influential.

Ten of the biggest U.S. utilities spent approximately \$3.84 billion between 2009 and 2010 lobbying our nation's decision makers,² and the industry as a whole spends millions on public relations efforts trying to convince the American public and investors that their practices aren't dangerous. Divestment campaigns are an opportunity to expose the real financial liability of the coal industry. These efforts can show investors that coal is a fuel of the past that is too risky and too dangerous to continue supporting financially.

Electric power companies and their coal mining suppliers are uniquely vulnerable to actions that threaten their image in the investment community and thereby their access to capital. This financial vulnerability should be utilized to accelerate pressure on coal-dependent utilities to shut down their coal-fired plants and move to cleaner, renewable energy. Reduced coal demand by utilities will have negative consequential effects on the coal mining and transportation industries.

Endowment fiduciaries are unlikely to divest from the filthiest coal companies without external pressure challenging the legitimacy of investing in coal from social and economic perspectives. To be successful, students will need to stand up and demand that their universities act immediately to move beyond coal.

THE GOAL OF THESE CAMPAIGNS IS TO DIVEST ALL UNIVERSITY ENDOWMENT FUNDS OUT OF THE FILTHY IS DIRTIEST UTILITIES, COAL OPERATORS AND MINING COMPANIES IN THE U.S.

The question is simple: Does your university profit from the environmental and health degradation of the coal industry? If so, it's time to show your university that it can maintain a successful endowment that is in alignment with its values and invest in a safer, healthier future for all people.

Will you join us?



² Dirty Energy Money, accessed August 2011, <http://dirtyenergymoney.com>

THE POWER OF A NATIONAL DIVESTMENT CAMPAIGN

DIVESTMENT COMES AT A CRISIS POINT

Divestment campaigns are a serious approach to disrupting the cycle of a crisis. For example, the movement to divest from companies tied to the government of Sudan, which at the time was a major perpetrator in the genocide in Darfur, ignited because of the failure of political channels to stop the bloodshed. The coal industry's brazen destruction of communities, poisoning of our air and water, contributions to the global climate crisis, and entanglement in our political system have led us to a crisis point that must be addressed using all the tools and resources we have. Divestment can serve as one of these approaches and can shift the dialogue on major issues that have reverberations in both the financial and policy arenas.

DIVESTMENT IS A SOPHISTICATED STRATEGY

Modern endowment portfolios have been engineered to be resistant to outside influence; sometimes the university itself is completely removed from the decision-making process. Therefore, running a successful divestment campaign requires clear goals, informed strategies, and consistent and visible pressure to overcome the institutional barriers set up to protect the people in charge of investing.

DIVESTMENT IN CONTEXT

It is a profound step when a community decides to make a statement by withdrawing financial support from a corporation that's abusing the environment and society. However, it's important to see this action from the perspective of the corporation from which an investor is choosing to divest. When an institution sells its holdings in a corporation, another investor will buy them, even if it's at a lower price. If a divestment action takes place in isolation, or without significant media exposure, the

corporation may not even know the difference between a concerted, morally motivated action and a bad week for the market.

When a divestment campaign is attempted without a broader national context, it becomes much easier for a university administration to resist a demand for divestment. Almost no higher education institution wants to be the first of its peers to make a move that risks being perceived as political or choosing a side. What some see as an institution taking a leadership position on an important societal issue, others may see as its taking a significant financial and reputational risk that could alienate possible donors and alumni.

DIVESTMENT AS A NATIONAL MOVEMENT

THIS CAMPAIGN WILL UNITE EFFORTS ACROSS CAMPUSES TO DEMONSTRATE THE POWER OF THE YOUTH FIGHT AGAINST THE DIRTY COAL INDUSTRY.

By connecting efforts on individual campuses, the campaign will amplify the pressure felt by universities to invest responsibly and on the coal industry—diminishing its influence in our communities. During the movement for divestment from South Africa, universities insisted for years that their investments were internal, highly sensitive financial decisions, until the effort hit a tipping point that put the reputation of those institutions that continued to support the apartheid government at risk.

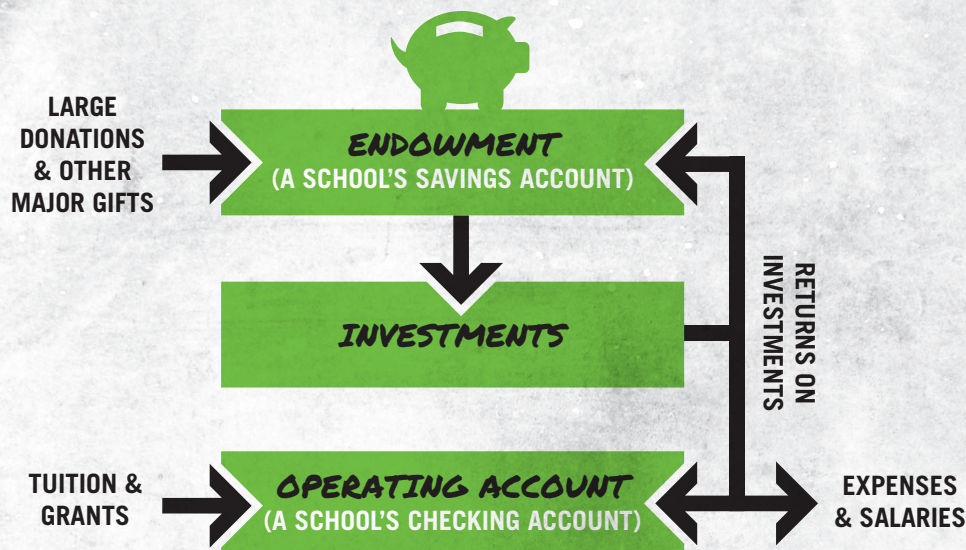
As the pressure heats up on the coal industry, negative media attention will capture the attention of financial analysts, who will begin to reexamine the risks of being tied to the industry. Eventually, this pressure will affect both their earnings and ability to lure support from investors, causing a major backlash against the industry at the same time universities are beginning to move their money into cleaner, safer alternatives.

The impact of this shift in the public discourse is also critical. Political dialogue is a carefully crafted struggle between interests trying to reframe the debate in their own terms. The way the issue is shaped during a national divestment movement could affect the way ordinary people and the media think about and portray

the issue. This could bring momentum to and inspire action in the political arena. A large, effective national divestment movement against coal would have a huge impact on the hearts and minds of those who may currently perceive coal as a risk or a nuisance, but not as a true instigator of crisis. As large numbers of people get behind divesting from coal, it would help remove coal's social license to operate as a pariah industry, like tobacco, responsible for deaths and the environmental catastrophe.



UNDERSTANDING UNIVERSITY ENDOWMENTS



ENDOWMENT BASICS

The endowment is like a school's savings account, while a separate operating account is used more like a checking account. Schools make money by investing their endowment—in simple form, buying ownership in companies and other things that they believe will be successful and lending money to companies that will pay them back. Schools earn money from successful investments, which are called returns. They can also lose money on investments. Divestment campaigns typically focus on the endowment, since that's where most of the university's funds are invested. Unfortunately, most institutions keep information about their endowment investments secret.

ENDOWMENT MAKE-UP

A typical endowment has a mix of different types of investments. The **asset allocation** is the percentage of the endowment invested in each.

Types of investments in a typical endowment portfolio:

Domestic equities are investments in publicly traded companies based in the U.S.—companies whose stock is bought and sold publicly on the stock exchange. “Equity” is essentially another word for “ownership” or “investment.”

International equities are investments in international company holdings.

Short-term assets and cash assets refer to investments that are relatively low risk and therefore unlikely to gain or lose value quickly. They are low return (making a small but steady return) and usually fairly accessible (money that the institution can get its hand on readily).

Fixed-income assets are also low risk and low return assets, such as bonds that have a fixed rate of return for various periods of time.

Alternative strategies and investments are complex, high-risk, high-return vehicles that have become more common over the past few decades. These investments are some of the hardest to scrutinize and understand.

DEMYSTIFYING UNIVERSITY ENDOWMENTS

One of the defining characteristics of the current endowment investment model is just how secretive most of the holdings are. **Typically, only high-ranking university officials and their financial professionals know where the vast majority of an endowment is invested.**

A significant proportion of many university endowments is invested in **commingled funds**. A commingled fund consists of assets from several different investors that are all pooled together, such as in a mutual fund and a hedge fund. Commingled funds are usually intentionally obscured. Often investors don't know who else is invested in the same fund. When a school invests in a mutual fund of stocks, for example, it is not buying shares of the companies that make up the mutual fund but rather shares of the mutual fund itself. This significantly limits the school's rights as a shareholder, as those rights are instead given to the mutual fund manager.

When universities invest with fund managers, they often sign **agreements that limit their freedom to disclose information**, including the specific funds they are invested in and the underlying holdings of those funds. Fund managers argue that these agreements are necessary to protect their competitive advantage, but the truth is, they talk about the inner workings of their financial strategies all of the time—they just want the power to choose who has access to it. If one of the institution's funds includes a dangerous or risky company, the institution has to either sell all its shares of that fund or convince the fund manager to remove the company from the fund.

Universities are nonprofit institutions, so **there are very few regulations for endowment transparency**. Because universities are not forced to be transparent about their investments, they most often are not.

However, there is some momentum to change this, most concretely in Massachusetts, where the Massachusetts Higher Education Transparency Act if passed would require higher education institutions to report more information about their endowments' investment practices, including information about their external fund managers.

SOMETHING TO WATCH OUT FOR

Some schools have successfully divested from a specific industry in their direct holdings, only to find out that they were still invested in that industry through externally managed funds. In 2005, the Harvard Management Company responded to student demands about its investments supporting the Sudanese government. The university agreed to divest shares of PetroChina and Sinopec, two close partners of the Sudanese government. However, in 2007, students discovered Harvard University investments in two externally managed funds that included stakes worth as much as \$16 million in the two companies—a substantially larger amount than the funds previously divested from direct holdings.³



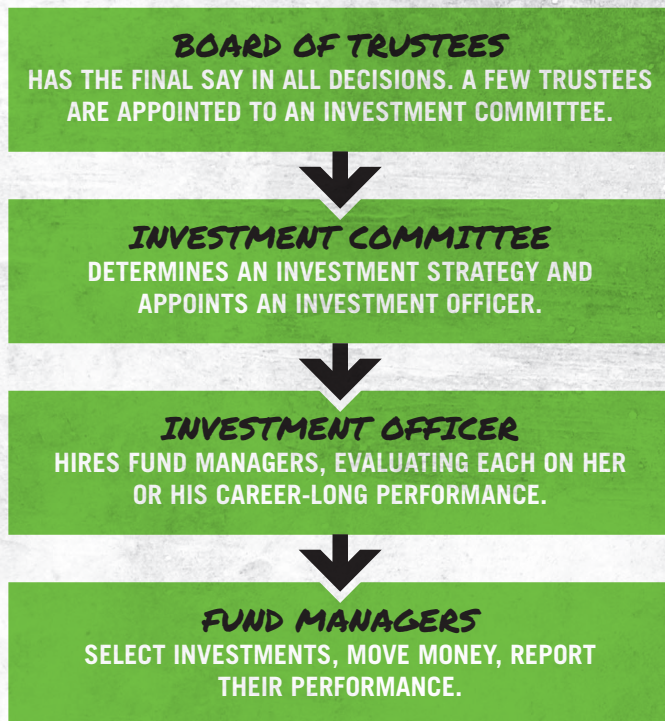
³ "Sudan Stocks," *Harvard Magazine*, September–October 2007, <http://harvardmagazine.com/2007/09/brevia.html>.

Many universities are trying to protect their endowment portfolio practices because they view them as valuable trade secrets. Whereas several decades ago university endowments were invested in more transparent and liquid securities, today most universities employ "a new model of investing that relies on radical diversification

of endowment portfolios into illiquid, riskier asset classes.”⁴ Highly compensated university officials, such as the chief investment officer (CIO) and executive vice president have serious personal interests in keeping their investment strategies hidden. Competitive Wall Street culture is prevalent in university investment offices, and successful CIOs and investment officers often leave their positions to seek even larger salaries from other schools or private asset management companies.

Who controls how the university's endowment is invested?

The board of trustees is the highest legal body of the university, and it makes the highest-level decisions about the university's finances, often through an investment committee. The investment committee is usually composed of influential alumni or individuals who have significant experience in business or management, access to resources, and a desire to help the school. In some public schools, trustees may be political appointees.



⁴ J. Humphreys, "Educational Endowments and the Financial Crisis: Social Costs and Systemic Risks in the Shadow Banking System," 2010, <http://www.tellus.org/publications/files/endowmentcrisis.pdf>.

CONFLICTS OF INTEREST ABOUND

In 2003, University of Pennsylvania students who were advocating for UPenn to reconsider its investments in cigarette giant Philip Morris had to argue their case to a group of trustees that included an individual who also sat on the Philip Morris corporate board. As of 2010, Dartmouth's board had a number of trustees who managed investments valued at approximately \$100 million for Dartmouth's endowment in a five-year period. Even when there are no direct conflicts of interest, trustees' intimate connections to the banking system and their corporate directorships compromise their ability to responsibly oversee endowments. Desensitized by their time spent working in bailout banks, venture capital, hedge funds, private equity, and dirty energy companies, many trustees view risky, exotic, illiquid investments as business as usual.



HEALTH THREATS FROM COAL

Human health is threatened at each phase of the coal life cycle—from mining to washing and transporting, then to burning, and finally to the disposal and storage of coal ash waste.

ACCORDING TO THE PHYSICIANS FOR SOCIAL RESPONSIBILITY, POLLUTION FROM COAL CONTRIBUTES TO FOUR OF THE FIVE LEADING CAUSES OF DEATH IN THE U.S. AND ADVERSELY AFFECTS THE RESPIRATORY SYSTEM, THE CARDIOVASCULAR SYSTEM, AND THE NERVOUS SYSTEM, LEADING TO A WIDE RANGE OF CHRONIC AND FATAL DISEASES.⁵

MINING

Coal mining causes more fatal injuries than any other U.S. industry.⁶ Miners often develop chronic respiratory problems including black lung, which causes scarring of lung tissue; chronic obstructive pulmonary disease (COPD), a progressive disease that limits air passage through the lungs; and silicosis, a disabling and often fatal lung disease.⁷ Miners also experience more disability from back and knee pain, osteoarthritis, and disk degeneration than workers in other industrial sectors.⁸ Communities near coal mines are also at risk. A study of coal mining communities in West Virginia found that people living near higher-producing coal mines had higher rates of cardiopulmonary disease, COPD, hypertension, lung disease, and kidney disease.⁹


⁵ A. Lockwood et al, "Coal's Assault on Human Health," *Physicians for Social Responsibility*, November 2009.

⁶ National Institute for Occupational Safety and Health, "NIOSH Publication No. 2004-146 Worker Health Chart book 2004, Figure 4-1," Centers for Disease Control, 2004, <http://www.cdc.gov/niosh/docs/2004-146/detail/imagetail.asp?imgid304.htm>.

⁷ National Institute for Occupational Safety and Health, Office of Mine Safety and Health Related Research, "Respiratory Diseases," Centers for Disease Control, last updated February 23, 2011, <http://www.cdc.gov/niosh/mining/topics/topicpage35.htm>.

MOUNTAINTOP-REMOVAL

Mountaintop-removal mining (MTR) is a particularly hazardous extraction method that involves blasting the tops off mountains to expose coal seams deep below the surface. The debris is dumped into adjacent valleys, where it blocks streams, destroys freshwater ecosystems, and leaches toxins into local water supplies. This mining technique is widely used across southern Appalachia.



WASHING AND TRANSPORT

After coal is mined, it is washed through a water-intensive process that releases the soil and rock impurities and creates liquid waste called slurry. This slurry is either disposed of in impoundment ponds or in old underground mine shafts. Both disposal strategies methods can leak or break, exposing nearby communities to drinking water contamination by arsenic, barium, lead, and other heavy metals.¹⁰ Coal is then transported to power plants by train, truck, barge, and conveyor. Trains and trucks running on diesel release more than 600,000 tons of NOx and 50,000 tons of particulate matter into the air each year, which adversely affects organ systems. Nearby communities are then exposed to coal dust inhalation from coal trucks as they pass on their way to coal combustion plants.¹¹

⁸ National Institute for Occupational Safety and Health, Office of Mine Safety and Health Related Research, "Musculoskeletal Diseases and Disorders," Centers for Disease Control, last updated May 19, 2011, <http://www.cdc.gov/niosh/mining/topics/topicpage8.htm>.

⁹ M. Hendryx and M. M. Ahern, "Relations Between Health Indicators and Residential Proximity to Coal Mining in West Virginia," *American Journal of Public Health*, April 2008; 98(4): 669-671, <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2376994>.

¹⁰ A. Lockwood et al. "Coal's Assault on Human Health," *Physicians for Social Responsibility*, November 2009.

¹¹ Ibid.



COMBUSTION

The burning of coal places the greatest toll on human health. Coal plants emit sulfur dioxide (So₂), particulate matter (PM), nitrogen oxide (Nox), mercury, carbon dioxide (CO₂), and dozens of other substances that contribute to ozone smog, acid rain, regional haze, mercury pollution, particle pollution, and climate change. These pollutants contribute to premature death, asthma, lung cancer, heart disease, and stroke, in addition to interfering with lung development and increasing the risk of heart attacks and learning

disabilities.¹² Coal is the largest source of mercury; young children are especially vulnerable to mercury, which puts them at risk of brain and nervous system damage and leads to developmental problems and learning disabilities. Coal-related air pollution also triggers attacks of asthma, a disease affecting more than 9% of all U.S. children.

The chart below shows the devastating coal-related health impacts on American citizens in 2009 by the filthiest 10 coal-fired utilities.

Health Threats from the Filthy 10 Coal-Fired Utilities

UTILITY	DEATH	ASTHMA ATTACKS	HEART ATTACKS	ACUTE BRONCHITIS	CHRONIC BRONCHITIS
Duke	1,248	20,511	1,887	1,786	758
AEP	1,236	19,905	1,921	1,730	743
Southern	1,224	20,770	1,710	1,819	752
FirstEnergy	821	12,653	1,341	1,094	484
GenOn	427	6,755	717	585	257
Ameren	407	6,896	628	601	250
Dominion	332	5,528	519	481	205
Edison International	313	5,262	495	458	193
MidAmerican	234	4,305	362	377	152
PPL	221	3,535	373	306	134
Total Filthy 10	6,463	106,120	9,953	9,237	3,928
Total for all US plants	17,057	281,242	26,248	24,488	10,382

Source: C. Schneider and J. Banks, "Toll from Coal," Clean Air Task Force, September 2010, http://www.catf.us/resources/publications/files/The_Toll_from_Coal.pdf.

¹² Ibid.



COAL ASH DISPOSAL AND STORAGE

More than 130 million tons of coal ash is produced in the U.S. every year from coal combustion. If you stacked the coal ash on a football field, it would rise 20 miles high. This toxic ash is either stored in a dry landfill or mixed with water to form slurry and piped into giant impoundments. Every coal plant has several of these “ponds,” which often leach arsenic and other heavy metals into local water supplies.

A TOXIC MESS

In December 2008, a retaining wall of the Tennessee Valley Authority impoundment in Kingston, Tennessee, burst, causing 1.1 billion gallons of toxic sludge to flow into the town and the nearby Tennessee River. The town was evacuated, the river is still dead, and the long-term health impacts of the families living there are not fully accounted for yet.



Because of the pollutants in coal ash, toxic runoff from ponds and dry landfills can severely damage human health and the environment. The EPA's 2010 risk assessment found the cancer risk from drinking water contaminated with arsenic from coal ash disposed in unlined ponds is as high as one in 50 adults, or 2,000 times the EPA's regulatory goal for acceptable cancer risk.¹³ This is equivalent to the cancer risk of smoking 20 packs of cigarettes every day! These impoundments are often sited on the banks of a river, allowing the leachate to move easily into municipal drinking water supplies. Dry landfills can also pose dangers to drinking water and aquatic life, according to the EPA.

Toxic coal ash also endangers people when it is sold for “beneficial use” for landfill in construction projects and landscaping (such as making highway embankments or rolling hills on golf courses). It is also mixed with concrete and used as “recycled material” in plasterboard and bowling balls.

Coal is endangering our health at every stage of its life cycle.

¹³ EPA, Human and Ecological Risk Assessment of Coal Combustion Wastes, RIN 2050-AE81 April 2010, 4–7.

Coal's Contribution to Major Health Effects

	DISEASE OR CONDITION	SYMPTOMS OR RESULT	MOST VULNERABLE POPULATION	COAL POLLUTANTS IMPLICATED
RESPIRATORY	Asthma exacerbation	Coughing, wheezing, shortness of breath, and breathlessness	Children, Adults	NO ₂ , ozone particulate matter (PM)
	Asthma development	new cases of asthma, resulting in coughing, wheezing, shortness of breath, and breathlessness	Children	Suspected but not confirmed: NO ₂ , ozone PM _{2.5}
	Chronic obstructive pulmonary disease (COPD)	Emphysema with chronic obstructive bronchitis; permanent narrowing of airways; breathlessness; chronic cough	Smokers, adults	NO ₂ , PM
	Stunted lung development	Reductions in lung capacity; risk factor for development of asthma and other respiratory diseases	Children	NO ₂ , PM _{2.5}
	Infant Mortality	Death among infants < 1 year	Infants	NO ₂ , PM
	Lung Cancer	Shortness of breath, wheezing, chronic cough, coughing up blood, pain	Smokers, adults	PM
CARDIOVASCULAR	Cardiac arrhythmias	Abnormal rate or rhythm of the heart; palpitation or fluttering; may cause fatigue, dizziness, fainting, rapid heartbeat, and chest pain	Adults, hypertensive, diabetics,	NO ₂ , PM _{2.5}
	Acute myocardial infarction	Chest pain or discomfort	Adults, diabetics, hypertensives	PM _{2.5}
	Congestive heart failure	Shortness of breath, fatigue, edema (swelling) due to impaired ability of heart to pump blood; can result from narrowed arteries, past heart attack, can lead to death	Adults, hypertensives, diabetics,	PM _{2.5}
NEUROLOGICAL	Ischemic stroke	Artery supplying blood to the brain becomes blocked; may cause sudden numbness or weakness, especially on one side of body, confusion, trouble speaking, trouble seeing, trouble walking, dizziness, severe headache; effects can be transitory or persistent	Elderly, hypertensives, diabetics	NO, PM _{2.5} , PM ₁₀ , SO ₂
	Developmental delay	Mental retardation; clinical impairment on neurodevelopmental scales; permanent loss of intelligence	Fetuses, infants, children	Mercury

Source: Adapted from A. Lockwood et al, "Coal's Assault on Human Health," *Physicians for Social Responsibility*, November 2009

COAL IS A RISKY INVESTMENT

Coal was once referred to as cheap and abundant, but it is neither. Coal is a risky financial investment for two primary reasons: First, more than half of the U.S. coal-fired plants are old, inefficient, and require major costly retrofits—costs that will not be recovered in the course of the plant's useful life. Second, the price of coal and cost of extraction is going up, while investments in wind and solar reached record levels making coal-fired electricity a financial loser.

Utilities and public utility commissions (PUCs) know the risks: Since 2005, utilities and PUCs have canceled plans for 153 new coal plants.¹⁴ These cancellations moved \$243 billion away from coal to other opportunities.¹⁵ In 2010, plant closing announcements demonstrated that both larger and younger plants are no longer financially viable as plans for new natural gas plants and alternative energy projects increased.¹⁶

INVESTORS WITH HOLDINGS IN COAL-FIRED UTILITIES FACE SIGNIFICANT FINANCIAL RISKS.

Costs of environmental compliance

- Coal-burning utilities are being required to comply with the Clean Air Act, Clean Water Act, and other environmental laws, forcing expensive retrofits on older plants that cannot be amortized over the plants' useful life.
- Enforcement of existing environmental regulations and proposed new regulations will impose significant increases in capital and operating costs.
- The cumulative risk posed by enforcement of existing regulations and the adoption of new rules for air, water, and waste will increase the cost of producing electricity from coal.

Increasing price and price-volatility of coal.

- In 2010, the price of coal from each of the major U.S. production regions increased significantly: +48.2% in the Powder River Basin; +45.6% in Central Appalachia; +19.4% in the Illinois Basin; and +51.4% in Northern Appalachia.
- Price increases are projected to continue, creating a commodity risk for utilities with substantial power generation based on coal.
- The estimates of coal reserves, once thought to be abundant, have been downgraded.
- The price of natural gas is at historic lows and is projected to stay at these prices—making coal-fired power comparatively expensive.

All these factors, taken individually and cumulatively, make power generation through the combustion of coal uncompetitive with cleaner alternatives.



¹⁴ Sierra Club, "Stopping the Coal Rush," accessed May 2011, www.sierraclub.org/environmentallaw/coal/plantlist.aspx.

¹⁵ Based on National Energy Technology Laboratory cost of plant at \$2,500/kw, average plant size 600MW: Department of Energy and National Energy Technology Laboratory, "Impact of Cost Escalation on Power System R&D Goals," *National Energy Technology Laboratory*, August 2008, p. 9, www.netl.doe.gov/energy-analyses/pubs/Re-baselining%20for%20GPPRA%20rev11.pdf.

¹⁶ M.J. Bradley and Associates and Analysis Group, "Ensuring a Clean, Modern Electric Generation Fleet While Maintaining Electric Reliability," Appendix B: Recent Coal Plant Retirement Announcements, August 2010.

THE FILTHY 15

The Filthy 15 are some of the largest, dirtiest coal companies in the U.S. These companies are jeopardizing public health, damaging the environment, and placing an unfair burden on low-income and minority communities, and they are becoming an increasingly risky investment.

Tell your university to DIVEST from:

- Direct ownership of public equities and corporate bonds in the Filthy 15
- Commingled funds that have equity holdings and corporate bond holdings in the Filthy 15

COAL BURNING COMPANIES



1) American Electric Power: AEP burns more coal than any other utility.



2) Duke: Duke was the #1 killer responsible for 1,248 deaths last year.



3) Southern: Southern is the fourth largest carbon polluter in the world.



4) FirstEnergy: After a merger with Allegheny they doubled their coal capacity.



5) Mid-American: They own PacifiCorp one of the dirtiest energy providers on the West Coast.



6) Ameren: The average age of Ameren's plants reaches 50 years old.



7) PPL: PPL Doled out \$25 million to neighbors of its Colstrip plant after its coal ash ponds contaminated groundwater.



8) GenOn: GenOn has one of the dirtiest fleets of coal plants in the nation.



9) Dominion: They're embroiled in legal battles over misuse of coal ash in public areas.

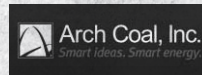


10) Edison International: Edison is the worst environmental justice violator in the country.



COAL MINING COMPANIES

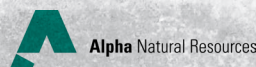
11) Peabody: Peabody is the world's biggest private-sector coal company.



12) Arch: They're the second largest coal producer in the U.S.



13) Patriot: Patriot is the second largest practitioner of mountaintop removal mining.



14) Alpha: Alpha bought Massey and has 9 environmental violations per day.



15) CONSOL Energy: CONSOL is the operator of 7 of the 20 U.S. mines with the most safety citations.



COAL BURNING COMPANIES

Coal-fired power plants contribute to mercury and particulate pollution, arsenic and other toxic groundwater contamination, ozone smog, acid rain, regional haze, and global warming. There is a direct link between this pollution and human health. In 2010 alone, coal plants were responsible for 17,057 deaths, 26,248 heart attacks, 281,242 asthma attacks, and other severe health impacts.¹⁷ Many coal-fired power plants are located near low-income communities placing the greatest health burden on the people who can least afford it.

These polluters were selected based on the following criteria:

- the amount of coal burned
- the amount of pollution emitted from coal-fired plants
- amount of coal ash waste produced and how it is handled
- environmental health and safety violations
- legal issues
- aggregated health impacts
- egregious environmental justice issues
- influence peddling via political donations

COAL MINING COMPANIES

Coal mining causes irreparable damage to land, water, and air and also poses risks to the health, safety, and vitality of local communities. The most destructive type of coal mining, known as mountaintop removal, involves coal companies literally blowing off the tops of mountains to reach thin seams of coal and leaving the debris in valleys and streams, leading to ecosystem damage and impaired landscapes. Additionally, coal miners are exposed to dust and particle pollution that can cause black lung and other respiratory problems. The conditions at many mines are exceedingly unsafe, placing miners at risk of injury and/or deadly explosions like the one that occurred at Massey Energy's (now Alpha Natural Resources) Upper Big Branch mine, which killed 29 miners.

The mining companies were selected based on the following criteria:

- overall tons of coal mined
- method of extraction
- environment and safety regulation violations
- influence peddling via political donations

Investments in the Filthy 15 are morally unjust and fiscally irresponsible. It's time to divest from the Filthy 15 and reinvest in on-campus initiatives and green portfolios.

¹⁷ C. Schneider and J. Banks, "Toll from Coal," *Clean Air Task Force*, September 2010, http://www.catf.us/resources/publications/files/The_Toll_from_Coal.pdf.

GREENING YOUR ENDOWMENT'S PORTFOLIO

SOCIALLY RESPONSIBLE INVESTING

Over the past decade, investors have increasingly moved toward **socially responsible investing** (SRI) to better align personal values with investments. SRI is a broad-based approach to investing that recognizes that a company's environmental, social, and governance practices are critical aspects of investment decisions. Currently, an estimated \$3.07 trillion out of \$25.2 trillion under professional management in the U.S. (nearly one in every eight dollars) is invested responsibly.

SOCIALLY RESPONSIBLE INVESTING STRATEGIES

To direct investments to responsible companies, SRI money managers typically utilize **screening**, which is the practice of evaluating investment portfolios or mutual funds based on social, environmental, and good governance criteria.¹⁸ Screening may entail both positive and negative screens. For instance, positive screens may focus on supporting companies that produce clean technology and companies that demonstrate leadership in environmental performance. Negative screens aim to avoid investing in companies like the Filthy 15 coal companies whose products and practices are harmful to individuals, communities, and the environment. Endowment trustees can use both approaches simultaneously to align a university's investments with its values.

Other SRI strategies include proxy voting, shareholder advocacy, and community investing. **Proxy voting** is part of an investor's basic fiduciary responsibility in which each share owned of a company can be voted at the company's annual meeting. These votes cover a wide range of issues, such as corporate governance, climate change, political contributions, and a host of other topics that require shareholder approval. These issues are included in a company's annual proxy statement. Voting on these issues is the most fundamental way an investor can exercise fiduciary responsibility and weigh in on issues that are aligned

with his or her values. **Shareholder advocacy** allows any shareholder to file a resolution to be placed on a company's annual proxy ballot. The Securities and Exchange Commission requires that a shareholder must hold at least \$2,000 worth of shares for one year prior to the filing date in order to file and has placed a number of restrictions on what and how to file. Generally, once a resolution is filed, company management opens a dialogue with the filer, which is an important first step in getting concrete action on an issue.¹⁹ **Community investing** directs money from investors to communities that are underserved by traditional financial services institutions. Community investing provides communities access to credit, equity, capital, and basic banking products that they would otherwise lack.²⁰

COMPETITIVE FINANCIAL RETURNS

**THE GOOD NEWS IS YOUR UNIVERSITY
ENDOWMENT CAN MAKE EQUIVALENT
OR BETTER RETURNS ON ITS
INVESTMENTS WHILE INVESTING
RESPONSIBLY.**

A growing number of academic studies have shown that SRI funds perform competitively with non-SRI funds over time, and in many cases outperform their non-SRI counterparts.²¹ The **S&P 500** is an index of 500 stocks—chosen for market size, liquidity, industry grouping, as well as a host of other factors—meant to reflect the overall U.S. stock market and is used as a benchmark to test the competitiveness of SRI fund performance.²² The **FTSE KLD 400**, the longest running social index fund, has outperformed the S&P 500 from 1990 through 2009,

¹⁸ US SIF, "Socially Responsible Investing Facts," accessed August 2011, <http://ussif.org/resources/sriguide/srifacts.cfm>.

¹⁹ H. Welsh and M. Passoff, "Proxy Preview 2011: Helping Foundations and Endowments Align Investment and Mission," *As You Sow*, February 2011, <http://asyousow.org/csr/proxyvoting.shtml>.

²⁰ US SIF, "Socially Responsible Investing Facts," accessed August 2011, <http://ussif.org/resources/sriguide/srifacts.cfm>.

²¹ Studies of Socially Responsible Investing, "Key Studies," accessed August 2011, <http://www.sristudies.org/Key+Studies>.

²² Investopedia, "Standard & Poor's 500 Index—S&P 500," accessed August 2011, <http://www.investopedia.com/terms/s/sp500.asp#axzz1WRhnMzPH>.

with returns of 9.31%, versus 8.66%.²³ A study by the Social Investment Forum found that, on average, large-cap funds (a term used to refer to companies with a market capitalization of more than \$10 billion) outperformed the S&P 500 by 6% over three years and over 10 years. The S&P 500 produced returns of 26.46% in 2009, contrasted with 32.67% for SRI U.S. large-cap funds.²⁴

The bottom line is that your school's endowment can make responsible investment decisions and outperform a dirty, coal-aligned portfolio. It is important to let your endowment trustees know that they should divest from the Filthy 15 dirtiest coal companies and reinvest in green, screened funds and campus improvement initiatives.

ON-CAMPUS INVESTMENT INITIATIVES: THE BILLION-DOLLAR GREEN CHALLENGE

Facing rising energy costs and steep budget cuts, many colleges are grappling with how to finance urgently needed, capital-intensive energy-efficiency upgrades on campus. That's where green revolving funds come in.



Green revolving funds (GRFs) are a way for schools to directly invest funds into reducing greenhouse gas emissions while lowering costs and generating high returns on investment. GRFs support projects that improve efficiency and decrease resource use, thereby reducing both operating expenses on campus and the campus' greenhouse gas emissions. These projects result in cost savings that can then be used to replenish the GRF, allowing for the fund to return to its original size and to support new sustainability and efficiency-focused projects.

²³ US SIF, "Performance and Socially Responsible Investments," accessed August 2011, <http://ussif.org/resources/performance.cfm>.

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The Billion Dollar Green Challenge (The Challenge)

is encouraging colleges and universities to invest a combined total of one billion dollars into self-managed revolving funds. GRFs can positively impact a campus in many ways, including:

- providing capital for energy and/or water efficiency measures
- reducing a school's operating budget by decreasing campus electrical and water consumption
- promoting increased tracking of energy and water use (and other sustainability data)
- updating aging infrastructure by providing a source of up-front capital to install newer energy-efficient technology and enable new sustainability programs on campus
- conserving resources, reducing pollution, and decreasing greenhouse gases emissions
- reducing maintenance needs and improving building comfort, functionality, and efficiency
- introducing environmentally friendly initiatives to the campus, such as renewable energy development (like solar panels and wind turbines) that can also be used to further campus research
- offering opportunities for interdisciplinary education and research on sustainability, including providing additional resources to supplement the curriculum and giving students the opportunity to submit project proposals and become project leaders
- fostering collaboration between the offices of finance, sustainability and facilities, and the faculty

GRFs are an attractive investment option based on the track records of existing GRFs. Conservative estimates show that a fund can consistently earn at least a 20% annual return on investment, with the median annual return on investment of 32% for 52 existing green revolving funds. For more information, read *Greening the Bottom Line: The Trend Toward Green Revolving Funds on Campus*, based on the first survey about revolving funds, with data from 52 colleges. Visit www.GreeningTheBottomLine.org or The Challenge at www.greenbillion.org for more information.

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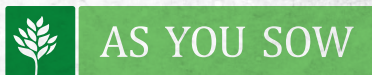
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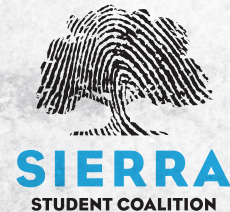
Kim Teplitzky works with the Sierra Student Coalition to run the Campuses Beyond Coal campaign, whose goal is to move our nation's universities off coal to clean energy solutions.

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IB5k



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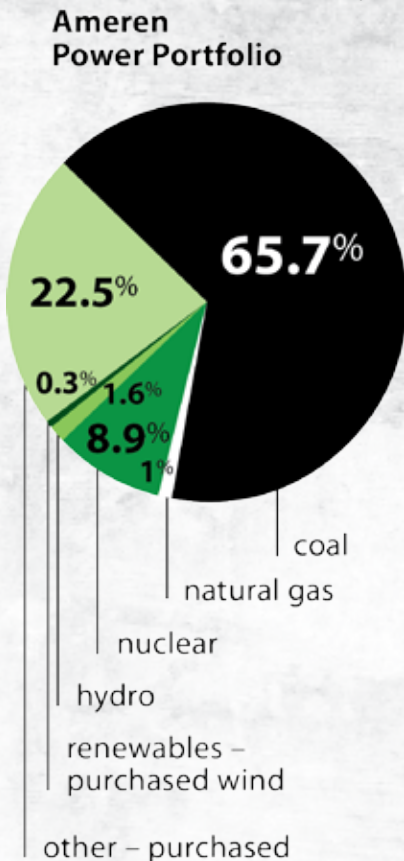
AMEREN CORPORATION



Ameren Corporation is the largest electric utility in Missouri and second largest in Illinois, serving 2.4 million electric customers and nearly one million natural gas customers. Ameren is the parent of two regulated electric utilities- Ameren Illinois and Ameren Missouri- and Ameren Energy Resources Co., LLC, which is the holding company for merchant generation, development, marketing and fuels services companies.¹

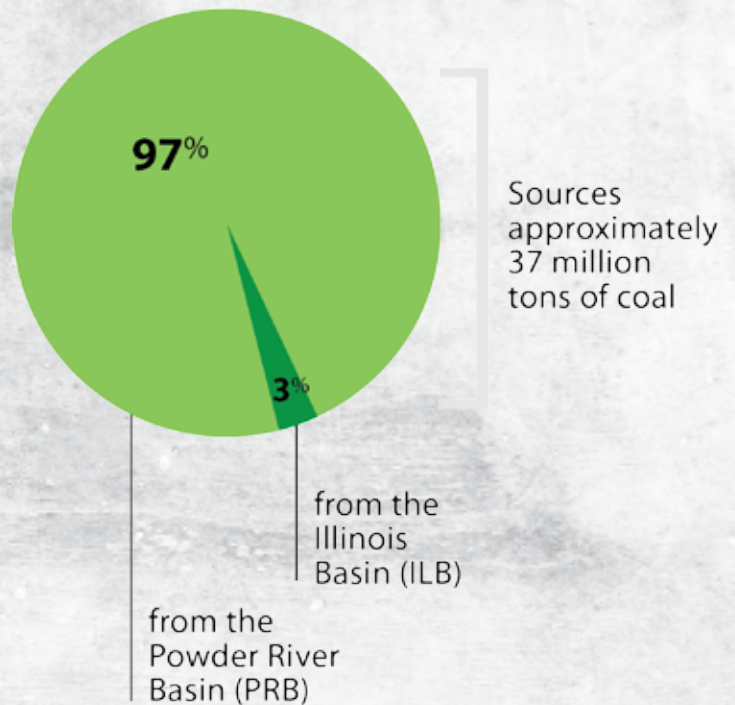
ENERGY PORTFOLIO IS 85% COAL

Ameren companies' net generating capacity is 16,613 MW, including Ameren's 80% share of the Joppa, Ill coal plant. In 2010, coal represented 85% of Ameren's total electric generation, excluding purchased power. Ameren burns 37,030,883 short tons of coal at its four utility generating coal plants and seven merchant generating coal plants.² Most of Ameren's coal units are over 40 years old and have less than 200 MW capacities.



Ameren sources its coal primarily from the Powder River Basin (97%). Prices of PRB coal have increased 48.2% between December 2009 and April 2011 due to declining coal reserves from Central Appalachia and increased regulations.³ As coal prices continue to rise, Ameren's utility business won't be able to remain profitable without raising electricity prices; Ameren's merchant arm will have to cover these increased costs itself, placing the company under considerable financial risk.

Ameren Coal Source



POLLUTION FROM AMEREN'S COAL PLANTS CONTRIBUTED TO 407 DEATHS IN 2010

Ameren's coal plants are responsible for all of Ameren's mercury emissions and the majority of its SO₂, NO_x, and CO₂. Ameren's Labadie plant was rated the 4th worst mercury polluter in the United States, emitting 1,442



pounds of mercury in 2008. Ameren’s Rush Island plant and Newton plant also made the list, ranking 24th and 26th with 669.4 and 661.1 pounds of mercury emitted in 2008, respectively.⁴ Mercury is a powerful neurotoxin that can damage the brain and nervous system, leading to developmental problems and learning disabilities. Pregnant women and children are especially vulnerable to the debilitating effects of mercury pollution.⁵

In 2010, Ameren’s coal plants caused 628 heart attacks, 6,896 asthma attacks, 250 cases of chronic bronchitis, and several other diseases in people living in close proximity to its plants.⁶ To learn more about the death and disease associated with Ameren’s coal, go to: http://www.catf.us/coal/problems/power_plants/existing/.

DEATH AND DISEASE

Mortality	407
Acute Bronchitis	601
Heart Attacks	628
Asthma Attacks	6,896
Chronic Bronchitis	250
Asthma ER Visits	440
Heart Related Hospitalization	198
Respiratory Hospitalization	96

AMEREN HAS 19 UNLINED COAL ASH PONDS

Of the 35 active coal ash ponds that Ameren operates, 19 are unlined. Coal ash ponds leach carcinogens into the groundwater that people drink and landfills leach toxins and carcinogens into surface water. The EPA has found that unlined coal ash waste units pose far greater risks to both human health and ecosystems.⁷

Ameren’s Labadie Power Station ranked 22nd on the list of most polluting power plants for coal ash waste, with 1,740,882 pounds of waste released to surface impoundments in 2006.⁸ One of the two coal ash ponds at the Labadie plant has reportedly been leaking coal ash waste at 35 gallons a minute for nearly two decades. There is no direct evidence that the leak has contaminated groundwater, but neither the state nor the company has ever tested the area for potential contamination.⁹

Ameren is now in the process of obtaining state and local approval for a new 400 acre coal ash landfill at the Labadie plant. The company has proposed that the new coal ash facility be situated within the Missouri River floodplain. Experts warn that siting a coal ash landfill in a flood plain has an especially high risk of leaking toxic heavy metals into groundwater in the event of a flood or earthquake. These toxins could travel down the Missouri River, which supplies drinking water across the St. Louis region.¹⁰

VIOLATING THE CLEAN AIR ACT

In January 2010, Ameren Missouri received a Notice of Violation (NOV) from the EPA alleging violations of the Clean Air Act’s New Source Review (NSR) and Title V programs. In the NOV, the EPA contends that various projects at Ameren’s Labadie, Meramec, Rush Island, and Sioux coal-fired power plant facilities triggered NSR requirements. NSR is a program under the Clean Air act that requires stationary sources of air pollution, including coal plants, to get permits before they start construction to ensure that the modification or construction does not lead to increases in air pollution. In October 2010, the EPA included additional projects at Ameren Missouri’s coal-fired power plants to the NOV.



In January 2011, the EPA filed a complaint against Ameren Missouri in the United States District Court for the Eastern District of Missouri. The EPA's complaint alleges that in performing projects at its Rush Island coal-fired generating facility, Ameren Missouri violated provisions of the Clean Air Act and Missouri law.¹¹

CCS PROJECT ABANDONED

Ameren and partners were awarded funding through the U.S. Department of Energy's FutureGen 2.0 initiative to retrofit the now-shuttered Meredosia plant as a carbon capture and sequestration (CCS) facility. The first FutureGen initiative was launched by the Bush administration in 2003, but was cancelled as a result of cost overruns.¹² Ameren recently announced that it was abandoning its FutureGen 2.0 CCS project citing fiscal concerns.

AMEREN MISSOURI CANCELS ENERGY EFFICIENCY PROGRAM

Ameren has announced plans to cut energy efficiency investments by \$5 million, down from \$25 million in 2010.¹³

POLITICAL DONATIONS

Ameren has one affiliated political action committee, the AmerenFed PAC. From 2009 to 2011, Jerry Costello (D-IL) was one of the AmerenFed PAC's top recipients with \$18,000 in contributions from Ameren Corp and an Ameren executive.¹⁴ Costello co-sponsored the Recycling Coal Combustion Residuals Act of 2011 to restrict the EPA's regulation of fossil fuel combustion waste, including coal ash, under the Solid Waste Disposal Act.¹⁵ Costello also voted in favor of barring the EPA from regulating greenhouse gas emissions in the Energy Tax

Prevention Act of 2011.¹⁶

AmerenFed PAC has financially supported Representative Jo Ann Emerson (R-MO), a member of the Committee of Appropriations, the committee that directly oversees and directs government expenditures. Along with Costello, Emerson is one of AmerenFed PAC's top corporate political contribution recipients, having received \$16,750 since 2009.¹⁷ Emerson co-sponsored the Jobs and Energy Permitting Act of 2011. Another Republican representative from Missouri, Blaine Luetkemeyer, has received at least \$14,000 since 2009.¹⁸ Luetkemeyer, chair of the House Financial Services Committee Financial Services, was a co-sponsor of the American Energy Act of 2008 that supported an increase of coal-to-liquid fuels and sought to give tax credits coal-to-liquid fuel manufacturing facilities.¹⁹ Coal-to-liquid fuels have been projected to produce two times the amount of greenhouse gas emissions as traditional fuel.²⁰

Since 2009, AmerenFed PAC has contributed at least \$8,500 to Aaron Schock (R-IL).²¹ Schock was a co-sponsor of the Infrastructure Jobs and Energy Independence Act and the Roadmap for America's Energy Future, two bills that seek to "liberate" domestic oil and coal reserves for "environmentally responsible development."²² AmerenFed PAC has also contributed \$9,000 to John Shimkus (R-IL) since 2009. Shimkus, Chair of the House Energy and Commerce Subcommittee on Environment and the Economy, co-sponsored the Clean Coal-Derived Fuels for Energy Security Act of 2009. The act would require a recommended volume of coal-derived fuels as a component of certain fuel types, including aviation, motor vehicle, boiler fuel, and home heating oil.²³



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2

ALPHA NATURAL RESOURCES



Alpha Natural Resources

Alpha Natural Resources (ANR) faces significant risks due to its reliance on mining coal, particularly due to its 2010 merger with Massey Energy after the Upper Big Branch mine disaster.

ANR is third-largest coal producer in the U.S., producing approximately 126 million tons of coal from approximately 150 active mines in Virginia, West Virginia, Kentucky, Pennsylvania, and Wyoming. ANR has 5.1 billion tons of proven and probable coal reserves on land they own or lease.¹

Steam coal for electricity generation and manufacturing accounted for approximately 86% of its 2010 sales. Nearly 60% of ANR's total 2010 coal production came from the huge Belle Ayr and Eagle Butte surface mines in the Powder River Basin of Wyoming.² Coal from both these mines is mostly supplied to power stations in the West, Midwest, and the South.

DEMAND FOR COAL AT RISK

ANR is facing what it describes as “intense” competition from other domestic coal producers supplying power stations. A significant risk is that proposed stricter pollution standards will substantially reduce demand for coal or result in older inefficient plants being closed. For example, stricter sulphur dioxide emissions standards could undermine demand for high sulphur coal, which 37% of ANR's 2.3 billion tonnes of pre-Massey merger proven and probable reserves are classed as.³

#1 MOUNTAIN TOP REMOVAL COMPANY

ANR now ranks as the single largest company using mountain top removal. ANR produces approximately 25% of all coal produced by mountaintop removal,⁴ a mining method it concedes is “controversial.”⁵ It has

been estimated that in 2010, ANR mined 15.5 million tons of coal by mountaintop removal, accounting for 36.4% of its Central Appalachian coal. Massey produced 14.6 million tons of coal by mountaintop mining in 2010, accounting for 47.6% of its Central Appalachian coal production. ANR does not disclose that banks are being lobbied by environmentalists to cease funding companies involved in mountaintop mining projects.⁶

ANR is vulnerable to increased regulatory restrictions on mountaintop mining⁷ with permits subject to legal challenge by environmental groups. ANR notes that new laws and regulations may cause “delays, interruptions or a termination of operations, the extent of which we cannot predict.”⁸ ANR does not disclose which power generators or power stations consume its coal.

PROPOSED FRACKING FOR COAL

In February 2010, Alpha entered into a 50/50 joint venture with Rice Energy to develop a coal seam gas operation on “a portion” of its 20,000 acres of land in southwest Pennsylvania underlain by Marcellus Shale.⁹ It proposed that the project use the controversial practice of “fracking,”¹⁰ which ANR has not specifically disclosed is facing increased calls for stricter regulation from Pennsylvania regulators, legislators, and citizens.¹¹

EXPORT CAPACITY UNCERTAIN

ANR may have global aspirations but its current production is solely from mines in the U.S. While ANR has potential U.S. East Coast coal export terminal capacity of 10-15 million tons more than its 2010 exports,¹² it has not disclosed that new coal export terminal proposals are being challenged by environmentalists.¹³

2

ALPHA NATURAL RESOURCES



29 MINERS DEAD IN UPPER BIG BRANCH EXPLOSION

The April 2010 disaster at Massey Energy's Upper Big Branch mine in West Virginia resulted in the deaths of 29 miners and triggered several investigations, regulatory changes and legal actions which have not yet been finalized. The disaster ultimately led to Massey's merger with ANR. In 2010, ANR received 1,453 notices of violations -- over 4 a day -- from the Mine Safety and Health Administration (MSHA) for breaches of health or safety standards that could cause a serious injury. For these breaches the MSHA has proposed the company be fined \$3.27 million.¹⁴ There are also 355 legal actions pending before the Federal Mine Safety and Health Review Commission.¹⁵

PAYING OFF POLITICIANS

Faced with a myriad of political challenges, not surprisingly ANR is a major political contributor to politicians from both major political parties. In 2009-2010 alone ANR's political action committee (PAC) allocated \$206,997 to candidates.¹⁶ As of early August 2011, ANR's PAC has contributed \$86,501 to candidates in the 2011-2012 election cycle.¹⁷

ANR has been a significant lobbyist on numerous proposals before Congress including bills on the federal regulation of greenhouse gases¹⁸ and moves to improve safety regulation in the coal industry.¹⁹ In 2010, the company spent \$540,000 on in-house lobbying efforts and, as of July 2011, a further \$223,000.²⁰ It also spent \$322,000 in 2010 and, as of July 2011, a further \$68,000 on external consultants to lobbying to protect its interests. ANR is also a member of the National Mining Association and the American Coal Council, both of which have vigorously lobbied legislators on issues affecting the coal industry.²¹

2

ALPHA NATURAL RESOURCES



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ALPHA NATURAL RESOURCES



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AMERICAN ELECTRIC POWER COMPANY



AEP BURNS MORE COAL THAN ALL U.S. UTILITIES

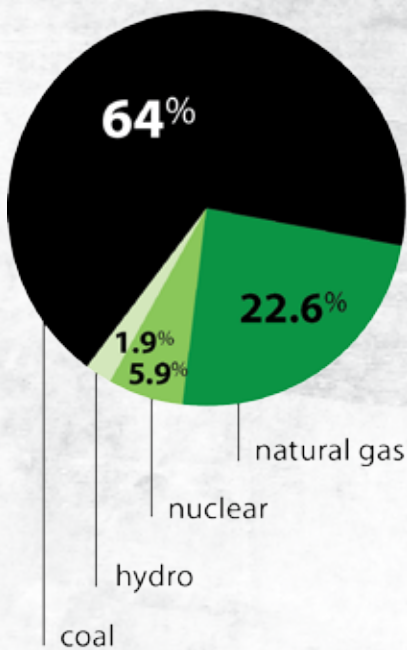
American Electric Power Company (AEP) is one of the largest generators of electricity in the nation, serving 5.3 million customers in the eastern and central U.S. AEP's subsidiaries AEP Texas, Ohio Power Co, Appalachian Power Co, Indiana Michigan Power, Kentucky Power, Public Service of Oklahoma, and Southwestern Electric Power Company, operate in Texas, Ohio, Tennessee, Indiana, Kentucky, Oklahoma, Arkansas, and east Texas, respectively.¹

The company owns and/or operates 26 coal plants with a combined total generating capacity of approximately 37,235 MW.² AEP's energy portfolio is 64% dependent on coal.

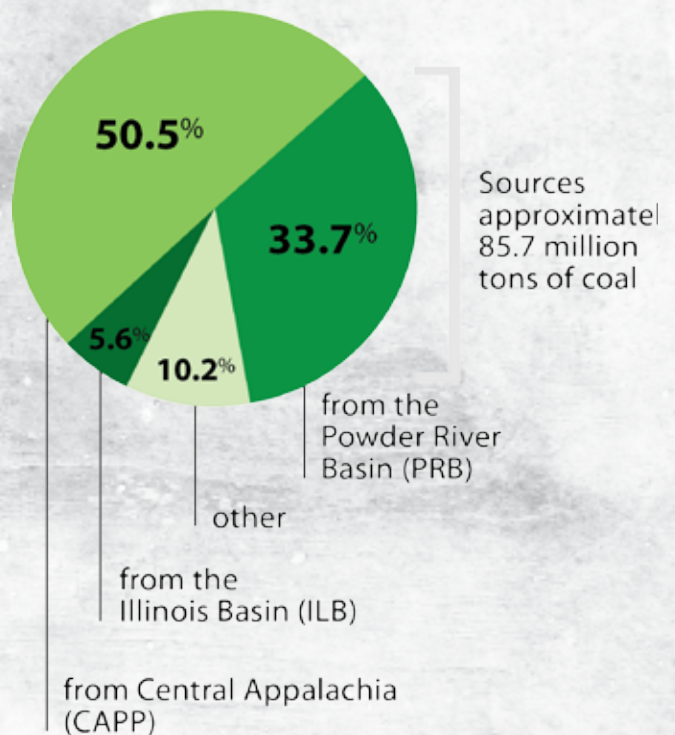
The majority of AEP's coal plants are over 40 years old and have less than 400 MW capacity.³

AEP sources its coal mainly from the Central Appalachia (CAPP) and the Powder River Basin (PRB). Between December 2009 and April 2011, the price of CAPP coal increased 45.6% due to declining coal reserves and increased regulations. Prices for PRB coal increased 48.2% during the same time period.⁴ As coal prices continue to rise, AEP won't be able to remain profitable without raising electricity prices.

American Electric Power Co. Power Portfolio



American Electric Power Co. Coal Source

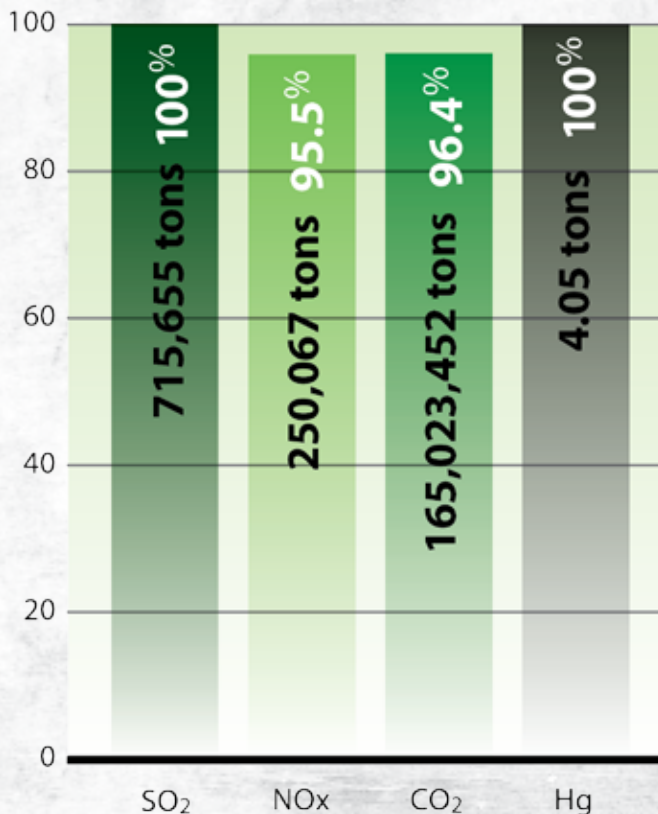




AMERICAN ELECTRIC POWER COMPANY



American Electric Power Co. Emissions from Coal



AEP's coal plants also caused 1,921 heart attacks, 19,905 asthma attacks, and several other diseases in people living in close proximity to its plants. The total annual cost of these health-related impacts is over \$9.65 billion.⁶

To learn more about the death and disease associated with AEP's coal, go to: http://www.catf.us/coal/problems/power_plants/existing/.

HIGH HAZARD POTENTIAL AT 11 COAL ASH SITES

AEP's operating companies produced over 5.3 million tons of fly ash and 1.1 million tons of bottom ash in

2007 that are stored in ponds and landfills.⁷ Both are very dangerous to the environment as ash ponds leach carcinogens into the groundwater that people drink and landfills leach toxins and carcinogens into surface water.

AEP owns 11 of the 44 "high hazard potential" coal ash sites, as rated by the EPA. The rating applies to sites at which a dam failure would most likely cause loss of human life.⁸ AEP's Flint Creek Power Plant has already been connected to groundwater contamination caused by coal ash waste

DEATH AND DISEASE

Mortality	1,236
Acute Bronchitis	1,730
Heart Attacks	1,921
Asthma Attacks	19,905
Chronic Bronchitis	743
Asthma ER Visits	1,114
Heart Related Hospitalization	618
Respiratory Hospitalization	292

AVOIDING COSTLY ENVIRONMENTAL COMPLIANCE UPGRADES

To comply with existing environmental statutes and regulations, AEP estimates that it will make capital expenditures of \$223.1 million, \$340.3 million, \$678.57 million for 2011, 2012, and 2013, respectively.¹⁰

In response to proposed EPA regulations, AEP has announced plans to retire five power plants: Kammer Plant in Moundsville, WV; Kanawha River Plant in Glasgow, WV; Philip Sporn Plant in New Haven, WV; Picway Plant in Lockbourne, OH; and Glen Lyn Plant in Glen Lyn, VA. The company will also retire some of the



AMERICAN ELECTRIC POWER COMPANY



boilers at coal plants in Indiana, Kentucky, Ohio, Texas, and Virginia.¹¹

Meanwhile the company has drafted legislative language that would delay the implementation of EPA regulations until 2020. If passed, AEP would effectively defer its compliance and retirement plans and continue operating its oldest, dirtiest coal plants.

INVESTING IN A NEW COAL PLANT

AEP has begun construction on the John W. Turk Jr. Power Plant, a 600 MW new baseload coal-fueled plant just north of Fulton in Hempstead County, Arkansas. Opponents of the plant include land users, local hunting groups, the Sierra Club, Arkansas Wildlife Federation, Arkansas Audubon Society, and Friends United for a Safe Environment. The construction of the plant has led to various legal challenges by many of these groups over air, water, and other environmental permitting violations. The Sierra Club and the National Audubon Society/Audubon Arkansas are in the process of challenging the plant's air permit and an Army Corps of Engineers-issued water permit before the Arkansas Court of Appeals. Despite these challenges, AEP expects to complete construction in late 2012.¹²

SHELVED CARBON CAPTURE AND SEQUESTRATION PROJECT

AEP recently announced that it was terminating a carbon capture and sequestration (CCS) project at its Mountaineer plant in West Virginia, despite its agreement with the U.S. Department of Energy to pay for half of the project. The company claims that the uncertain status of U.S. climate policy, which would help to rationalize investments in the plant, and the continued weak economy as contributors to the decision.

¹³ The project had been touted as one of the best test pilots of installing CCS equipment on a large, existing

coal-fired power plant. It remains unclear if CCS technology will serve as a savior for old coal plants.¹⁴

POLITICAL SPENDING

AEP has many affiliated political action committees (PACs), including AEP Indiana PAC, AEP Michigan PAC, AEP Ohio PAC, AEP Texas PAC, AEP Federal PAC, and AEP Committee for Responsible Government. AEP gave \$300,000 in corporate political contributions to the 527s committee, American Solutions for Winning the Future in 2010.¹⁵ The committee promoted the slogan "Drill Here. Drill Now." to motivate the increase of domestic oil drilling and coal mining as an energy solution for America.

Since 1999, AEP and its affiliated PACs have contributed over \$3.2 million to Speaker of the House John Boehner (R-OH). The PACs have contributed more than \$40,750 since 2010.¹⁶ Boehner is notable as the main sponsor of the American Energy Act in 2009. The American Energy Act sought to decrease the amount of environmental restrictions placed on domestic shale and oil drilling (especially in the Arctic National Wildlife Refuge), incentivize offshore drilling for coastal states, and also included a provision for expansion of energy investment tax credit to include "clean coal" technology and coal-burning plants.



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ARCH COAL, INC.



SECOND LARGEST COAL PRODUCER

Arch Coal, Inc. is America's second largest coal producer and through its national network of mines, provides 6% of the electricity generated in the U.S. The company operates 14 mining complexes and controls approximately 5.5 billion tons of coal reserves domestically in Montana, Wyoming, Central Appalachia, Illinois, Utah, and Colorado. The company reports that it supplies 16% of the U.S. market.¹

In June 2011, Arch Coal completed a \$3.4 billion buyout of West Virginia coal producer International Coal Group. The deal expanded Arch's coal reserves in Appalachia, ranking it as the nation's second largest supplier of metallurgical coal. Arch Coal will soon oversee the 12 additional mining operations in Appalachia and one in Illinois.² However, 76% of Arch's coal is supplied to U.S. power stations,³ with 20% of its total revenue from sales to Tennessee Valley Authority, Ameren Corporation, and Tuco. Another 20% of Arch's revenue comes from the next six largest customers.⁴ Approximately 12% of Arch Coal's reserves are high sulfur coals, which there will be less demand for if stricter air quality regulations are imposed on electricity generators.⁵⁶

The company has touted its global aspirations in the coal exports but admits that price fluctuation and greenhouse gas emission regulations may expose them to potential economic risk.⁷ Arch Coal has shipping infrastructure for both domestic and international sales. Of critical importance to Arch being able to sell Powder River Basin coal into the Asian market are its investments in terminal capacity in British Columbia and Washington. In January 2011, Arch Coal purchased a 38% stake in the proposed Millennium Bulk Logistics Longview Terminal in Longview, Washington. Arch Coal hopes to export two million short tons of through put capacity

to the Asian market.⁸ However, the export terminal is opposed by environmental and local citizen groups.⁹

MOUNTAINTOP REMOVAL MINING

Arch Coal's operations have proved vulnerable to environmental regulations in West Virginia, where it practices mountaintop removal. In October 2010, the EPA vetoed Arch Coal's Spruce 1 mine in West Virginia. Later, in January 2011, the EPA vetoed a Clean Water Act Section 404 "dredge-and-fill permit" that would have expanded the mine.¹⁰ Arch Coal reportedly refused to consider paying an extra 55 cents a ton for coal in order to meet EPA and Clean Water Act standards for the mountaintop removal operation.¹¹

FACING LAWSUITS, SAFETY VIOLATIONS, AND OPPOSITION

In 2010, Arch Coal leased 9,600 acres in Montana's Powder River Basin known as Otter Creek. It is estimated that the property holds 731 million tons of coal reserves. In all, Arch Coal controls 1.5 billion tons of coal on state and private land in Otter Creek.¹² In 2010, two separate lawsuits were filed by the Sierra Club and Montana Environmental Information Center challenging the state lease of Otter Creek on the grounds that the lease granter Montana Land Board did not properly consider the 2.4 billion tons of carbon dioxide emitted by the mined coal prior to the lease.¹³ Attorneys for the company and the state said that review must be done before mining, not at the leasing stage. In January 2011, District Court Judge ruled that the groups' lawsuit could proceed.¹⁴

The company has had numerous mining violations in recent years. Arch Coal's subsidiary Cumberland River Coal Co. received an imminent danger notice from federal regulators in October 2010 after three coal trucks were allegedly operating in an unsafe manner on



ARCH COAL, INC.



a mine road at Pine Branch 1 coal mine in Appalachia. One day later, another Arch Coal subsidiary, Canyon Fuel Co., received an imminent danger order from the federal government about a pipe in its rock dust transfer system that was improperly grounded at Dugout Canyon Mine in Utah.¹⁵

In March 2011, the EPA and the U.S. Justice Department announced that Arch had agreed to pay a \$4 million dollar penalty for alleged violations of the Clean Water Act in Virginia, West Virginia, and Kentucky, and agreed to implement significant changes to its mining operations to ensure compliance.¹⁶

In June 2011, an Arch Coal subsidiary encountered stiff opposition over the proposed expansion of its Wolf Run Mine under both the Buckhannon-Upshur High School and a proposed site for a new middle school in Buckhannon, West Virginia. The Board of Education has filed a complaint against the proposal with the West Virginia Department of Environmental Protection. The proposal is also likely to face legal challenges.¹⁷

POLITICAL SPENDING

Arch Coal has been active on the political front throughout the years. In 2009, the company spent over \$2.32 million on lobbying efforts. In 2010, Arch Coal spent \$1.9 million and as of July 2011, they spent \$920,000 on lobbying efforts. The company has also developed the Arch Coal Political Action Committee, which is a substantial donor to West Virginia politicians.¹⁸



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LARGEST PRODUCER OF UNDERGROUND COAL MINING

CONSOL Energy is a Pennsylvania-based coal and gas company that began operations in 1864. By year-end 2010, CONSOL had coal reserves of 4.4 billion tons and sold 63.9 million tons. Half is used for electricity.¹

As of 2011, CONSOL operates 11 active mining complexes across five states: Utah, Ohio, Pennsylvania, Virginia, and West Virginia. It is the largest producer of underground coal mining in the United States. The company's 17 mines are mostly longwall mining operations in Appalachia.²

Longwall is a deep mining technique capable of fully extracting huge panels of coal, frequently up to 1,500 feet wide and two miles long. When the coal (often 400-800 feet below the earth's surface) is extracted, it leaves little support behind, often causing both the natural and man-made structures to sink, including railroad tracks, highways, farmland, and buildings. Longwall mining disturbed over 13,000 acres of land in 2009.³ This type of mining also lowers water tables, drains aquifers, and increases sulfate levels in groundwater.⁴

Reports by the Pennsylvania Citizens Coal Council on longwall mining in the state argues that oversight and enforcement of pre-mining mitigation and post-mining restoration and coal mine reclamation are piecemeal and inadequate, and may in fact be illegal under the federal Clean Water Act, the state Clean Streams Law, and the Pennsylvania Constitution.⁵

In September 2010, several thousand fish washed up along the banks of Dunkard Creek in West Virginia, due to mining discharges from Consol Energy's underground Blacksville 2 Mine.⁶

In 2010, CONSOL derived over 25% of its total revenues from sales to its four largest customers, consisting of 21 coal supply agreements that expire at various times from 2011 to 2030. According to CONSOL's 2010 Annual Report, while the company is currently discussing the extension of existing agreements, "these negotiations may not be successful."⁷

Risks to the supply agreements include "proposed reductions in emissions of mercury, sulfur dioxides, nitrogen oxides, or particulate matter may require the installation of additional costly control technology or the implementation of other measures." Higher sulfur coal currently accounts for a significant portion of CONSOL's sales, which will soon face increased sulfur dioxide regulation by the EPA.⁸

CONSOL Energy is also one of the fastest growing methane gas fracking companies in the Marcellus Shale region of the U.S. since it began drilling there in 2008. The company is facing a host of lawsuits alleging it removed methane gas without obtaining legal claim to the resource from the landowners, and in 2010 was fined over \$150,000 by the EPA for violations of the Safe Drinking Water Act.⁹

PENALTIES FOR MINING OPERATIONS

In 2010, 2.5 million tons of the coal CONSOL mined was from mountaintop removal strip mining.¹⁰ In 2008 the Obama administration EPA has tightened the issuing of mountaintop removal permits. On November 24, 2009, U.S. District Judge Chuck Chambers ruled that the U.S. Army Corps of Engineers violated federal environmental laws by issuing permits for CONSOL's mountaintop Ike Fork mines and Penn Virginia's Nellis mine without allowing sufficient public involvement.¹¹

On March 14, 2011, CONSOL announced it will spend \$200 million on a wastewater treatment system for three West Virginia coal mines, and pay the state and federal governments \$6 million to settle hundreds of Clean Water Act violations, including \$500,000 for the damage to Dunkard Creek. The settlement covers alleged violations at six CONSOL operations over the past four years: the government cited chronic problems with chloride discharges into the Monongahela watershed from the Blacksville, Loveridge, Robinson Run and Four States mines, and into the Ohio River from the Shoemaker and Windsor mines.¹²

POOR MINE SAFETY CONDITIONS

CONSOL has seven of the top 20 mines with the most safety citations in the U.S., including the McElroy mine in West Virginia with the second most safety violations of any U.S. mine. CONSOL has paid over \$29 million in coal mining fines between 2000 and 2009. Since 2000, there have been over 20,000 violations and 23 deaths in CONSOL mines. In 2011, CONSOL Energy was cited for a violation by the Mine Safety and Health Administration for “failing to adequately support a section of a rock wall” that fell and killed a miner in 2010.¹³

POLITICAL SPENDING

CONSOL spent \$3.1 million on lobbying in 2010, against the proposed House and Senate climate change bills, and against a provision in the financial reform bill—which ultimately passed—compelling coal companies to report safety violations in their Securities and Exchange Commission reports. CONSOL spent \$870,000 lobbying from January to July 2011 alone, on issues related to updated Clean Air Act regulations, and on the Senate joint resolution disapproving the EPA’s endangerment finding of greenhouse gases.¹⁴

Regardless, the EPA is moving forward with establishing rules for regulating greenhouse gas pollution standards.

CONSOL Chief Executive Officer J. Brett Harvey – who has an annual compensation of almost \$13 million – is Chairman of the Board of Directors of the National Mining Association, the U.S. trade organization that since 1997 has spent over \$40 million lobbying against issues such as clean air, clean energy, and green jobs, and for carbon capture and storage.¹⁵ One million of that was just in first quarter 2011, a significant increase over previous years.¹⁶ Harvey is also a member of the executive committee on the board of the American Coalition for Clean Coal Energy (ACCCE). In 2009 ACCCE hired a lobbying firm which sent letters forged to look like it came from civil rights groups like the National Association for the Advancement of Colored people (NAACP) calling on lawmakers to oppose greenhouse gas regulations.¹⁷

CONSOL is also a member of the U.S. Chamber of Commerce. In October 2009, the Chamber threatened to sue the EPA in order to have a hearing on climate science before any federal climate regulation is passed, causing several large companies to quit the organization in protest. Nicholas J. Deluliis, the President of CONSOL Energy, is a member of the Chamber’s Board of Directors.¹⁸

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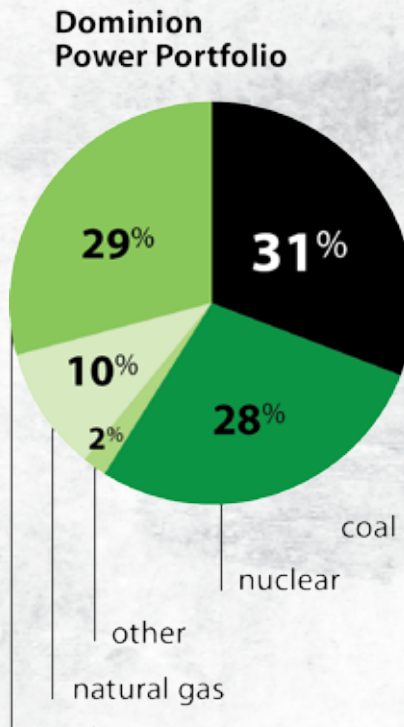
DOMINION RESOURCES



Dominion Resources is a power and energy company headquartered in Richmond, Virginia that supplies electricity in parts of Virginia and North Carolina and supplies natural gas to areas in West Virginia, Ohio, Pennsylvania, and eastern North Carolina. Dominion also has generation facilities in Wisconsin, Indiana, Illinois, Connecticut, and Massachusetts.

EXPOSED TO COAL RISK

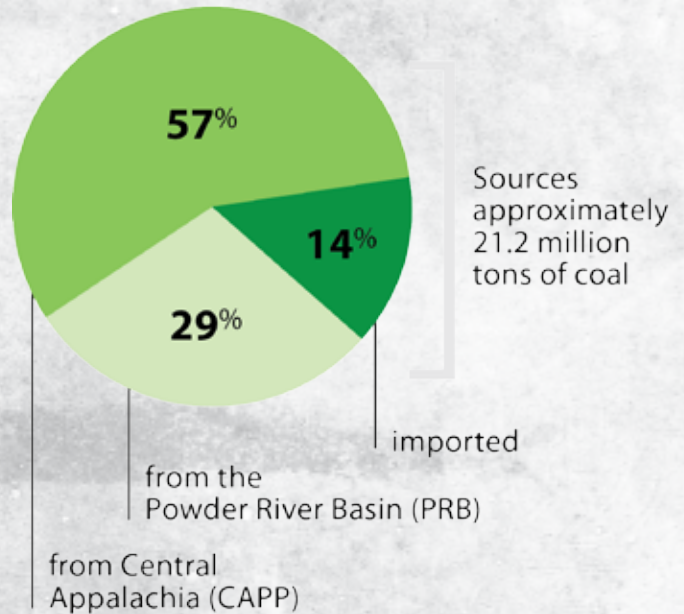
The company owns and/or operates 11 utility generating coal plants and five merchant generating coal plants with a combined total generating capacity of 7,900 MW¹.



Most of Dominion's coal plants are over 40 years old and have less than 200 MW capacity.

Dominion sources approximately 21.2 million tons of coal per year, the majority of which comes from Central Appalachia (CAPP).³

Dominion Coal Source



Dominion's new plant at Virginia City is mandated to burn coal mined in Virginia, part of the CAPP region.⁴

Between December 2009 and April 2011, the price of coal from CAPP increased 45.6% due to declining coal reserves and increased regulations. Prices for coal from the Powder River Basin increased 48.2% during the same time period.⁵ As coal prices continue to rise, Dominion will face significant financial risk to its coal operations.

POLLUTION FROM COAL PLANTS

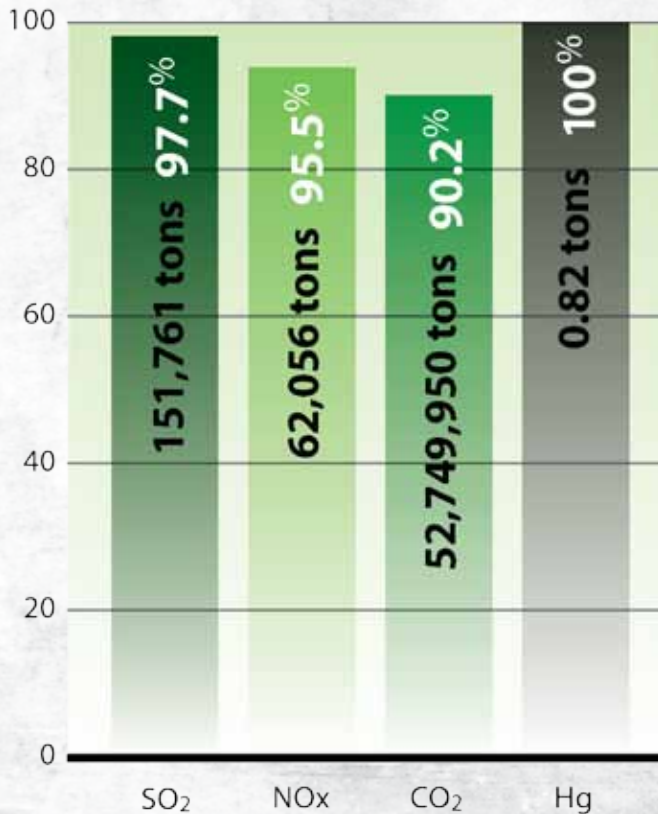
Almost all of Dominion's SO₂, Nox, and CO₂, and all of its mercury emissions come from coal combustion.

6

DOMINION RESOURCES



Dominion Emissions from Coal



Under Virginia regulations, companies emitting more than 900 pounds of mercury in 1999, like Dominion, will not be allowed to buy allowances in order to comply with the new mercury standards. This means that compliance for these generators can only be met by reductions in emissions and not by purchasing allowances.⁶ Dominion will have to install costly mercury controls technology to meet emissions reductions targets.

POLLUTION CAUSES MAJOR HEALTH IMPACTS

In 2010, pollution from Dominion’s coal-fired power plants contribute to 332 deaths, 519 heart attacks,

5,528 asthma attacks, and 205 cases of chronic bronchitis per year.⁷ To learn more about the death and disease associated with Dominion’s coal plants, go to: http://www.catf.us/coal/problems/power_plants/existing/.

DEATH AND DISEASE

Mortality	332
Acute Bronchitis	481
Heart Attacks	519
Asthma Attacks	5,528
Chronic Bronchitis	205
Asthma ER Visits	293
Heart Related Hospitalization	170
Respiratory Hospitalization	80

HIGH COSTS TO CLEAN UP COAL PLANTS

Dominion and its subsidiary, Virginia Power, estimate that they will make capital expenditures of approximately \$2.4 billion and \$2 billion, respectively, during the period of 2011 through 2015 in order to bring facilities into compliance with Clean Air Act emissions limits.⁸ Dominion has determined that the new 1–hour SO₂ National Ambient Air Quality Standards will likely require significant future capital expenditures at its State Line plant and, accordingly, recorded an impairment charge of \$163 million on this facility in the second quarter of 2010.⁹

Dominion has received requests for information and/or Notices or Findings of Violations (NOV/FOV) from the EPA regarding compliance with New Source Review and Title V permit program at its Salem Harbor, State Line, Kincaid, and Brayton Point plants.¹⁰

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DOMINION RESOURCES



WATER CONTAMINATION

Dominion owns five ash disposal sites, three of which are ponds.¹¹ The EPA reported an unusual discharge from Dominion's Chesterfield Pond in 2005. Almost 1.5 million tons of coal ash produced by the company was beneficially reused in 2009.¹²

Dominion is currently being sued by two different groups regarding coal ash reuse in a golf course in the Chesapeake Bay area. The total amount being asked is over \$2.25 billion.¹³ Dominion was forced to connect local residents' houses to grid water so that they would not be reliant upon potentially contaminated well water.¹⁴

In 2003 the EPA and the Massachusetts Department of Environmental Protection each issued water withdrawal permits for Dominion's Brayton Point plant that included mandates for the installation of cooling towers – at a total cost now estimated to be approximately \$600 million, including \$354 million yet to be spent for completion of the project by 2012.¹⁵

CONSTRUCTION COSTS PROVE COSTLY

Dominion has not disclosed actual costs for construction of the 585 MW Virginia City Hybrid Energy Center. Dominion can raise rates to finance the plant's \$1.8 billion construction for a return on equity of 12%. Cost overruns beyond that cannot automatically be charged back to ratepayers.¹⁶

Costs for plant construction in the Southeast are rising exponentially. A single Cliffside unit cost Dominion Energy almost as much the company estimated for a two-unit plant only two years earlier.¹⁷ Dominion customers have faced several rate hikes in order to cover the cost of constructing the plant.¹⁸

ENVIRONMENTAL JUSTICE ISSUES

Dominion's State Line plant is located across the state border from Chicago's East Side neighborhood, one of the poorest of Greater Chicago with a densely populated Latino community. The average income within 3 miles of the plant is approximately \$14,000, 70% below the Indiana average. There are five schools within one mile of the plant.

Due to rising costs of environmental compliance, Dominion has announced that it will be closing the plant between 2012 and 2014. While this is a major victory for Chicago's East Side community, the health implications will likely persist in local residents through respiratory damage caused during the life of the plant.

POLITICAL SPENDING

Dominion Resources' Political Action Committee's (PAC) main political action committee is Dom PAC. Historically, the PAC has been active in contributing to the campaigns of congressmen and representatives in Virginia and Pennsylvania, two of the top coal-mining states in the U.S.¹⁹

Since 2008, the PAC directly contributed \$25,000 to campaign of current House Majority Leader Eric Cantor (R-VA), a co-sponsor of the American Energy Act.²⁰ Cantor's track record demonstrates a consistent and unrelenting opposition to greenhouse gas emissions regulation, as seen through his support to ban enforcing limits on CO₂ global warming pollution, opposition to tax incentives for renewable energy, and continued support for oil and gas exploration subsidies.²¹ Dom PAC has also contributed to the campaigns of Representatives Scott Rigell (R-VA) and Robert Hurt (R-VA), congressmen who, alongside Cantor in 2011, voted to block the EPA from updating Clean Air Act safeguards.²²

6

DOMINION RESOURCES



ENDNOTES

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DOMINION RESOURCES



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DUKE ENERGY



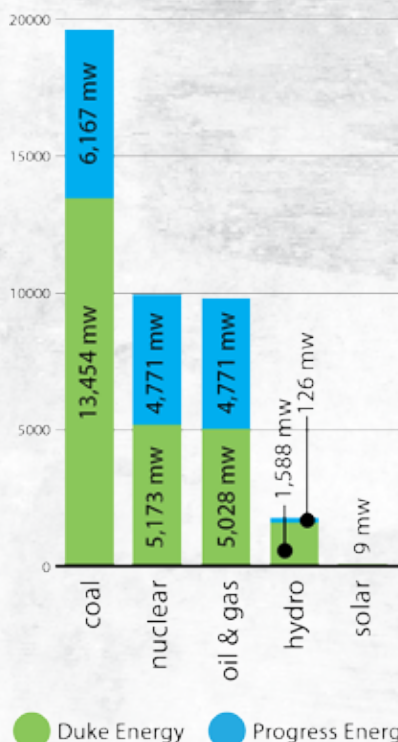
DUKE AND PROGRESS MERGE TO CREATE THE LARGEST U.S. UTILITY

Duke Energy, headquartered in Charlotte, North Carolina, is among the largest electric power companies in the United States, supplying and delivering energy to approximately 4 million customers. Duke and Progress Energy have announced a merger agreement to combine the two companies. The combined company will be the largest utility in the nation, with more than 7 million customers in North Carolina, South Carolina, Florida, Indiana, Kentucky, and Ohio.¹

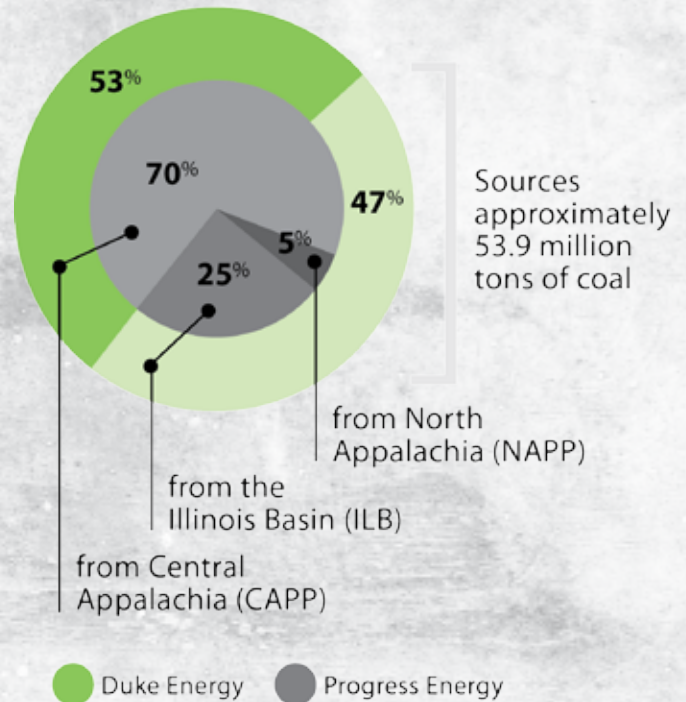
The combined company will have over 57,000 MW generating capacity. Both Duke and Progress are heavily dependent on coal for electricity generation. Combined, the companies produce 19,621 MW of electricity from coal from 89 coal-generating units. The new company will have 6,600 MW of unscrubbed coal-fired capacity.² The majority of the combined company's plants are over 40 years old.

Duke and Progress source approximately 53.9 million tons of coal, primarily from Central Appalachia (CAPP) and the Illinois Basin (ILB). Between December 2009 and April 2011, the price of CAPP coal increased 45.6% due to declining coal reserves and increased regulations. As coal prices continue to rise, Duke will not be able to remain profitable without raising electricity prices.

Duke Energy Power Portfolio

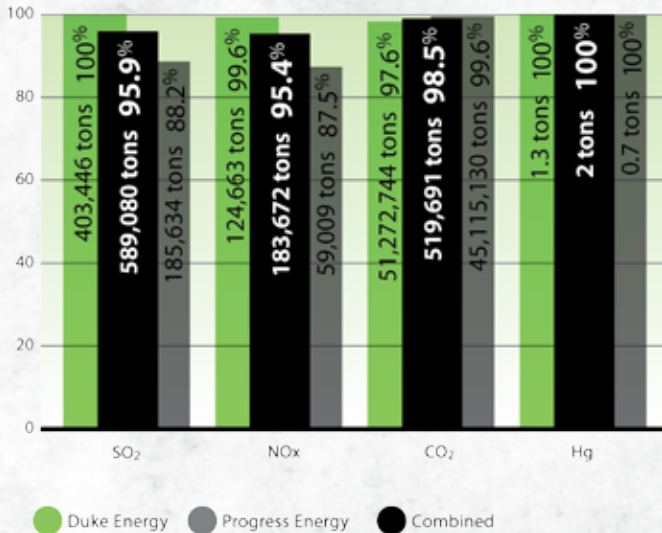


Duke Energy Coal Source





Duke Energy Emissions from Coal



POLLUTION FROM COAL PLANTS CAUSE MAJOR HEALTH IMPACTS

Almost all of Duke and Progress' SO₂, NO_x, and CO₂, and all of its mercury emissions come from coal combustion.

DEATH AND DISEASE

Mortality	1,248
Acute Bronchitis	1,786
Heart Attacks	1,887
Asthma Attacks	20,511
Chronic Bronchitis	758
Asthma ER Visits	1,175
Heart-Related Hospitalization	623
Respiratory Hospitalization	292

In 2010, pollution from Duke and Progress' coal plants

caused 1,248 deaths, 1,887 heart attacks, 20,511 asthma attacks, and 758 cases of chronic bronchitis per year.⁴ To learn more about the death and disease associated with Duke and Progress' coal plants, go to: http://www.catf.us/coal/problems/power_plants/existing/.

HAZARD POTENTIAL FOR 8 COAL ASH STORAGE SITES

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.⁵ Cliffside Pond experienced “a significant localized flood event” and the W.C. Beckjord Pond was noted for significant deterioration around the embankment.⁶

WATER COOLING INFRASTRUCTURE RISK

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 the EPA mandates improved water cooling systems.

VIOLATING THE CLEAN AIR ACT

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 2011.⁷

HUGE COST ESTIMATES TO CLEAN UP COAL PLANTS

Duke has \$5 billion slated for capital expenses (CapEx) related to pollution controls over the next 10 years. 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 the EPA's new Clean Air rules. However, the standards are expected to be revised

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DUKE ENERGY



before the upgrades are completed, requiring further investment.⁸

Instead of investing in many of its coal units that do not have scrubbers, Progress has announced several retirements by 2014.⁹ Progress expects CapEx for environmental compliance through 2013 to be approximately \$70 million.¹⁰

INVESTING IN TWO NEW COAL PLANTS

Although Duke is retiring 17 coal-fired units at six of its plants, the company is investing in new coal: an 800 MW unit (Unit 6) in Cliffside, NC and a 618 MW integrated gasification combined cycle (IGCC) plant in Edwardsport, IN.

Duke faces significant construction risk on these projects. Cliffside Unit 6 costs have risen to \$2.4 billion from the \$1.8 billion originally estimated. 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.¹¹

Such overruns raise the prospect of disallowance of these costs by regulators because Duke operates in jurisdictions that do not favor cost recovery.¹² The company’s capital plan includes nine new coal plant proposals.¹³ Indiana’s governor has stated that the company, not ratepayers, should cover the cost overruns at the Edwardsport plant.

ETHICS SCANDAL OVER NEW EDWARDSPORT COAL PLANT

The Edwardsport IGCC plant has been embroiled in an ethics scandal that has led to resignations within high level Duke management and by an Indiana state utility regulator. Emails between former COO James Turner, who resigned amid the scandal, and David Lott

Hardy, the chairman of the Indiana Utility Regulatory Commission (IURC) who has since been terminated from the commission, revealed that the men had an all too close relationship. Allegations of “improper communications” have been made and investigation is ongoing.

Additionally, it was revealed that Duke Energy Indiana President Michael W. Reed, a former IURC regulator, and Scott Storms, who served as general counsel of the IURC before being hired by Duke, were in negotiations for positions at Duke while the Edwardsport plant was being considered by the IURC. It has been reported that Storms cleared the way for Duke to increase rates to pay for cost overruns at the plant. On October 5th 2010, Duke Energy placed both Storms and Reed on administrative leave.¹⁴

POLITICAL SPENDING

Duke has a main political action committee (PAC), Duke Energy Corporation PAC, or DUKEPAC. The PAC has contributed \$13,000 to the campaign of Representative Sue Myrick (R-NC) since 2009. Myrick is a co-sponsor of the Coal Residuals Reuse and Management Act 2011 that sought to oppose enforcing basic safeguards to prevent the improper disposal of coal ash and prohibits the EPA from enforcing certain protections in affected communities.¹⁵

DUKEPAC was a large contributor to John Dingell (D-MI), the Chairman of the House Energy and Commerce Committee, from January 2007 to January 2009. During his time as Chairman, Dingell received \$12,000 from DUKEPAC.¹⁶ In 2008, Dingell was accused of delaying coal and vehicle-related environmental regulations.¹⁸



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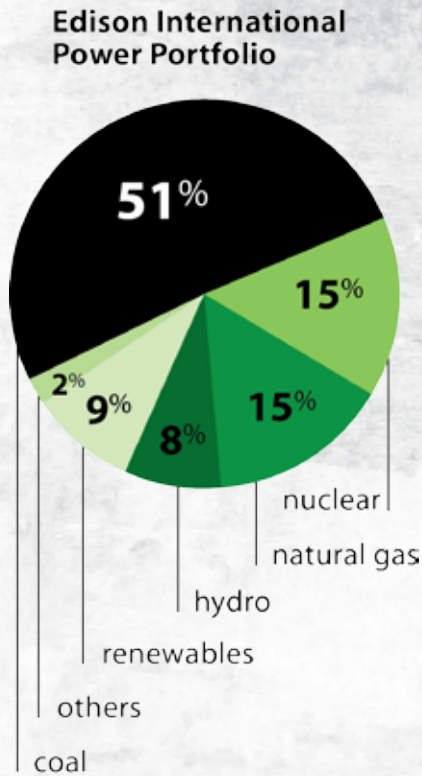
Edison International, through its subsidiaries, is a generator and distributor of electric power. Edison International is the parent company of Southern California Edison, a regulated electric utility, and Edison Mission Group, a holding group which acts through subsidiaries to manage Edison International's competitive power generation business, Edison Mission Group.¹ Edison Mission Group subsidiaries include: Edison Mission Energy (EME), Midwest Generation (MWG), Edison Mission Operations & Maintenance, Inc (EMOMI), and Edison Capital.

total generating capacity of over 8,000 MW. Edison International's energy portfolio is heavily dependent on coal. The majority of Edison International's coal plants are over 40 years old and have less than 400 MW capacity.

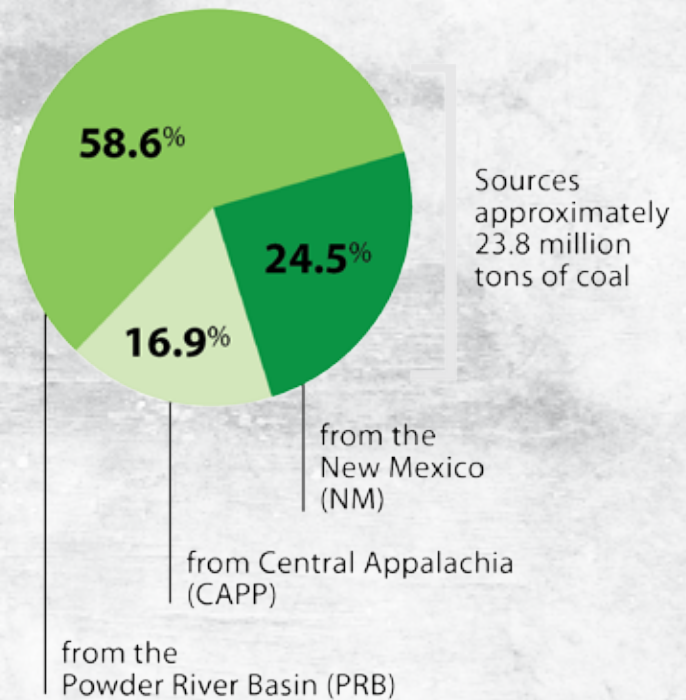
Edison International sources its coal from the Powder River Basin (PRB), Raton Basin, and Central Appalachia (CAPP). Between December 2009 and April 2011, prices of PRB coal have increased 48.2% and prices of CAPP coal increased 45.6% due to declining coal reserves and increased regulations.

EXPOSURE TO COAL RISK

Edison International ranks 12th among U.S. electric utilities for power generated from coal.² The company owns and/or operates nine coal plants with a combined



Edison International Coal Source

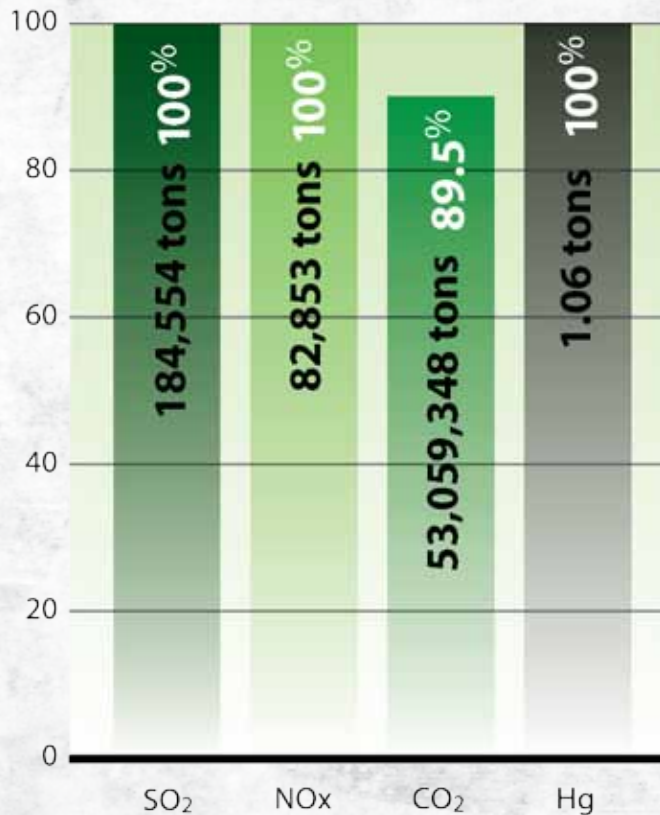




COAL PLANT POLLUTION CAUSE MAJOR HEALTH IMPACTS

Almost all of Edison International's SO₂, NO_x, and CO₂, and all of its mercury emissions come from coal combustion.

Edison International Emissions from Coal



Edison International subsidiary Midwest Generation is subject to Illinois' stringent Combined Pollutant Standard (CPS) that aims to reduce mercury, NO_x, and SO₂ emissions. According to the CPS, those reductions should contribute to compliance with existing EPA ambient air quality standards. The CPS also stipulates the control technologies that are to be installed on units by specified dates.⁴

DEATH AND DISEASE

Mortality	298
Acute Bronchitis	432
Heart Attacks	473
Asthma Attacks	4,973
Chronic Bronchitis	183
Asthma ER Visits	298
Heart Related Hospitalization	148
Respiratory Hospitalization	71

In 2010, Edison International's coal-fired power plants contribute to 298 deaths, 473 heart attacks, 4,973 asthma attacks, and 183 cases of chronic bronchitis per year. The total annual cost of these health-related impacts is over \$2.3 billion.⁵ For more information on death and disease from Edison International's coal power plants, go to: http://www.catf.us/coal/problems/power_plants/existing/.

COAL ASH CONTAMINATED GROUNDWATER IN JOLIET

Edison International discloses limited information regarding their coal combustion byproducts. One of Edison International's subsidiaries, Midwest Generation, has implemented a coal ash recycling program to recycle into products such as cement and roof shingles. According to the website "very little [coal combustion byproducts] make its way into local landfills."⁶

However, it has reported that Edison International's Joliet coal ash disposal landfill has contaminated groundwater. Tests on private wells in southwest Joliet showed high levels of arsenic, barium, copper, and other



toxic contaminants.⁷

CLEAN AIR ACT VIOLATION

The EPA has filed New Source Review (NSR) violations actions against Midwest Generation's Homer City coal plant. NSR regulations are issued by the EPA when major modifications are made to sources of air emissions without the proper permits specifying what construction is allowed, what emission limits must be met, and often how the emissions source must be operated.⁸

HIGH COSTS FOR COAL PLANT UPGRADES

In 2010, Edison International spent \$4.5 million in capital expenditures for environmental controls. Midwest Generation estimates that it plans to spend \$109 million for 2011 related to NOx reduction equipment (selective non-catalytic reduction or SNCR) and \$372 million for 2011 to 2013 to begin to retrofits to comply with Illinois' CPS. The company notes that "capital expenditures relating to controls contemplated by the CPS are expected to be significant and could make some units uneconomic to maintain or operate."⁹

ENVIRONMENTAL JUSTICE ISSUES

Edison International's Fisk and Crawford plants are two of the highest emitting coal-fired plants in the nation. Both plants are situated in the Lower West side of Chicago, in the predominately Latino communities of Pilsen and Little Village. Nearby communities also include largely African American populations.

POLITICAL SPENDING

The Edison International Political Action Committee (PAC) has two associated PACs, the Edison International

Civic PAC and the Edison International PAC (EIPAC).

EIPAC has supported the campaigns of Fred Upton (R-MI), Ken Calvert (R-CA), and Kevin McCarthy (R-CA), co-sponsors of the American Energy Act. McCarthy, the Majority Whip of the House of Representatives, received \$10,000 in 2010 from Edison.¹⁰ His voting record has leaned pro-coal: he supported banning greenhouse gas emissions from the Clean Air Act and voted against tax incentives for newer renewable energy technologies.¹¹ Devin Nunes (R-CA), author of the Roadmap for America's Energy Future 2011, has received over \$30,000 from EIPAC and Edison International since 1999.¹² Nunes' Roadmap is an energy plan that is designed to promote North American oil, gas, and coal mining from un-tapped North American reserves.¹³



ENDNOTES

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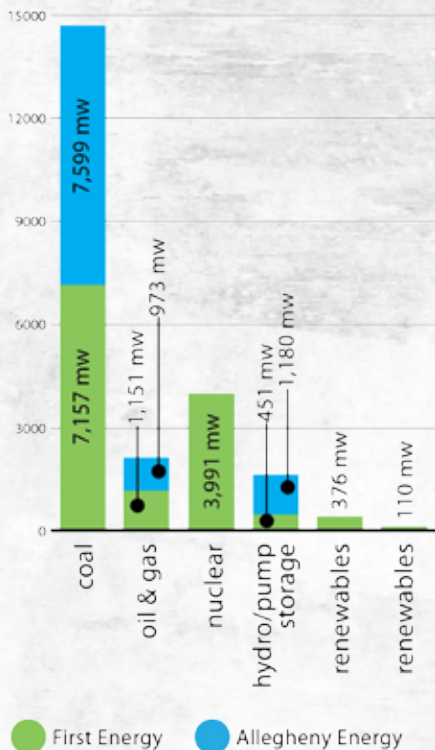
COAL CAPACITY DOUBLED WITH ALLEGHENY MERGER

FirstEnergy Corporation is among the nation's largest investor-owned utilities, serving six million customers in Ohio, Pennsylvania, New Jersey, West Virginia, and Maryland. FirstEnergy subsidiaries include: Ohio Edison, The Illuminating Company, Toledo Edison, Met-Ed, Penelec, Penn Power, West Penn Power, Jersey Central Power & Light, Mon Power, and Potomoc Edison.

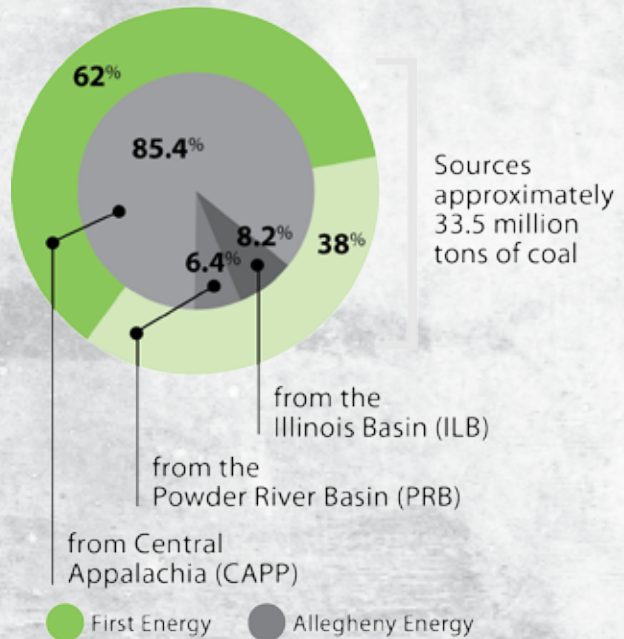
FirstEnergy merged with Allegheny Energy and doubled the company's generation capacity from coal and more than doubled the number of coal plants from nine to 20. The combined company is now the 5th largest U.S. electric utility that generates power from coal. Of the 20 coal plants in the combined FirstEnergy-Allegheny fleet, 13 first went online before 1960. Not one generating unit in the combined fleet was built after 1980.

FirstEnergy's coal comes from Central Appalachia (CAPP) and from the Powder River Basin (PRB). Between December 2009 and December 2010, prices for CAPP coal rose 31% and for PRB coal prices rose 59.5%. Allegheny also sources coal from the Illinois Basin (ILB). During that time, prices for ILB coal rose 19.4%.

First Energy Power Portfolio



First Energy Coal Source



In response to the slow economy and changing economics for coal, FirstEnergy announced it was reducing generation at four of its smaller coal-fired plants beginning in September 2010. Allegheny Energy's merchant fleet also generated approximately 25% less power in 2008 and 2009 "because of the increased amount of time during which it is not economical to run its generating units."³

Even with these announcements, two-thirds of FirstEnergy's growth strategy is tied to coal.⁴ The



FIRSTENERGY CORPORATION

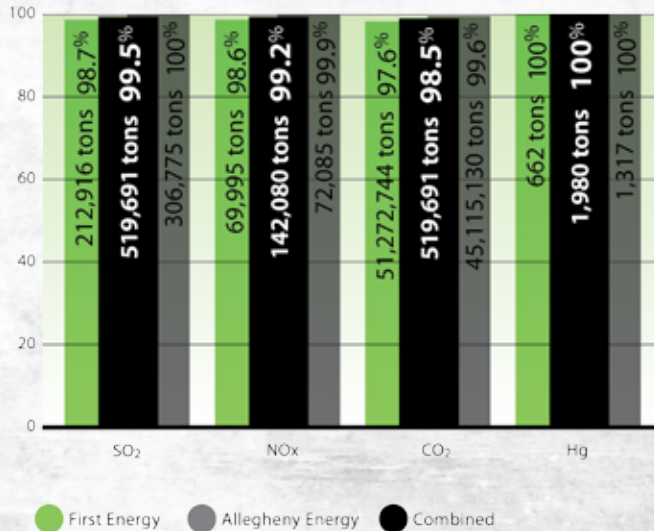


company's capital plan includes nine new coal plant proposals.

COAL PLANT POLLUTION

Almost all of FirstEnergy's SO₂, NO_x, and CO₂, and all of its mercury emissions come from coal combustion.

First Energy Emissions from Coal



Only eight of the 20 plants are equipped with modern pollution control technologies for SO₂ or NO_x. Analysts have shown that old, small, uncontrolled plants are uneconomical and should be retired.

HEALTH IMPACTS FROM COAL POLLUTION

In 2010, FirstEnergy's coal-fired power plants contributed to 821 deaths, 1,341 heart attacks, 12,653 asthma attacks, and 484 cases of chronic bronchitis per year.⁶ To learn more about death and disease from FirstEnergy's coal power plants, go to: http://www.catf.us/coal/problems/power_plants/existing/.

DEATH AND DISEASE

Mortality	821
Acute Bronchitis	1,094
Heart Attacks	1,341
Asthma Attacks	12,653
Chronic Bronchitis	484
Asthma ER Visits	629
Heart Related Hospitalization	421
Respiratory Hospitalization	199

COSTLY COAL PLANT UPGRADES ESTIMATED

Capital expenditures for compliance at only five of FirstEnergy's plants are projected at \$399 million for 2010-12. Even after these upgrades are complete, the majority of the fleet will not have control equipment installed.

VIOLATING REGULATIONS

FirstEnergy has two Notices of Violation for New Source Review, one finding of Violation/Notice of Violation for CAA violations, and has been named as potentially responsible for disposal of hazardous substances at waste sites. The company also faces four environmental litigations.

HIGH RISK COAL ASH PONDS

FirstEnergy produces over two million tons of coal ash annually. Neither FirstEnergy nor Allegheny report what percentage of their ash is wet-handled and stored in ponds. The Bruce Mansfield ash pond, with capacity of 84,300 acre-feet, has a "high risk" classification from the EPA. Allegheny's Pleasants and R Paul Smith stations have high and significant risk ratings, respectively. All of these ponds date from the 1970s or



earlier.

RISING CONSTRUCTION COSTS

FirstEnergy operates in regions where construction costs are rising exponentially. The WH Sammis retrofit, originally estimated to cost \$1.1 billion, has cost FirstEnergy \$1.8 billion as of the end of 2010, making it one of the largest such projects in the U.S. The cost of another project in the region, AMP-Ohio's proposed 960 MW coal-fired power plant project, nearly doubled in two years.⁸

ENVIRONMENTAL JUSTICE ISSUES

FirstEnergy's Lake Short Plant is located in Cleveland, Ohio in the predominately low income African American community of Glenville, one of the poorest neighborhoods in Cleveland.⁹ The neighborhood adjacent to Glenville has the highest childhood lead poisoning rate in Ohio.¹⁰ There are six schools within one mile of the plant and a large park directly across the street.

POLITICAL SPENDING

FirstEnergy and Allegheny have two affiliated political action committees: FirstEnergy's FirstEnergy Corp PAC and Allegheny's Allegheny Energy Inc Federal PAC, also known as Allegheny PowerPAC.

The PAC has contributed to Steven LaTourette (R-OH), co-sponsor of Roadmap for America's Energy Future, the Coal Residuals Reuse and Management Act of 2011, and the Infrastructure Jobs and Energy Independence Act. These bills support greater inclusion of North American coal reserves to feed coal-burning utilities and the energy grid.

Shelley Moore Capito (R-WV) has received contributions from both FirstEnergy Corp PAC and Allegheny Energy Inc Fed PAC. In 2011, Capito introduced her bill, the Clean Coal-Derived Fuels for Energy Security Act of

2011. The bill would require a minimum volume of clean coal-derived fuel in U.S. aviation fuel, motor vehicle fuel, home heating oil, and boiler fuel.¹¹ Notably, Capito sponsored a bill in her home state of Virginia that would repeal the limitations on transporting coal and coal by-products on Interstate Route 77.¹²



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- 2 United States Energy Information Administration, “Form EIA-906, EIA-920, and EIA-923 Data,” http://eia.doe.gov/cneaf/electricity/page/eia906_920.html.
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ONE OF THE LARGEST MERCHANT ENERGY GENERATORS

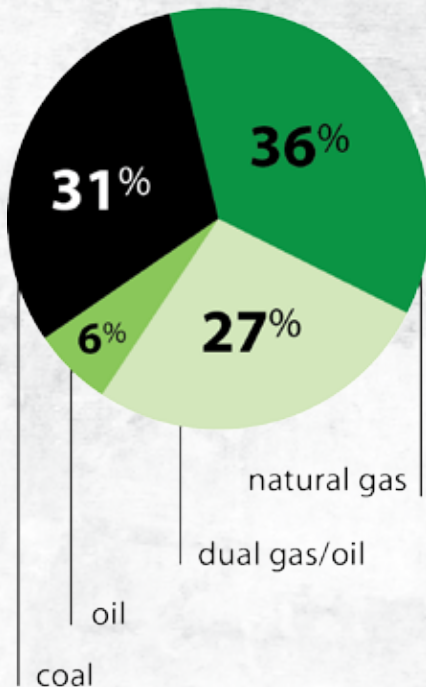
GenOn Energy, Inc. is among the largest competitive generators of wholesale electricity in the United States. The company was formed on December 3, 2010 when Houston-based RRI Energy merged with Atlanta-based Mirant. GenOn is headquartered in Houston, Texas and sells energy to independent service operators (ISOs), regional transmission organizations (RTOs), and investor-owned utilities. GenOn's generating capacity is 50% in the PJM Interconnection LLC, which serves Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and the District of Columbia; 23% in California ISO; 10% in the Southeast; 10% in New York ISO and New England ISO; and 7% in Midwest ISO.¹

RELIES ALMOST ENTIRELY ON APPALACHIAN COAL

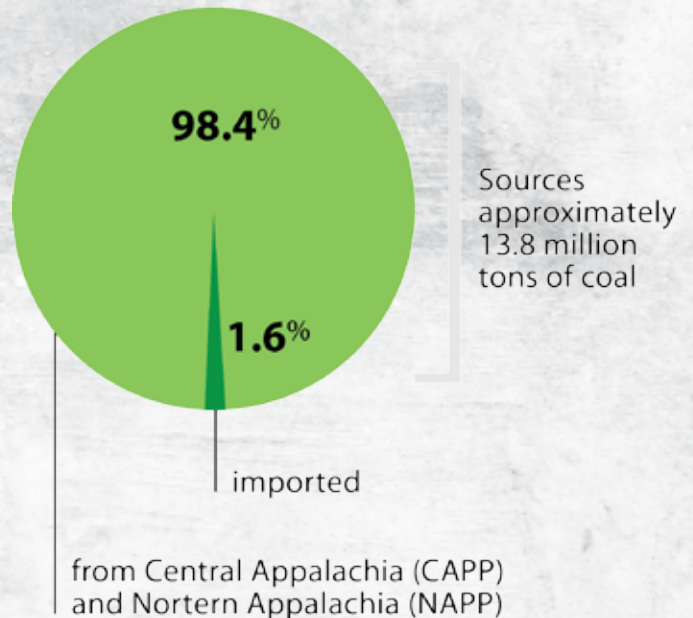
GenOn's net generating capacity is 24,2237 MW. In 2010, coal represented 31% of GenOn's total electric generation. GenOn burns 13,805,328 short tons of coal at its 15 merchant generating coal plants.² The average age of GenOn's coal units is 50 years and majority of the company's coal units have less than 200 MW capacities.

GenOn sources its coal primarily from Central and Northern Appalachia (98%).³ Between December 2009 and April 2011, the price of coal from Central Appalachia increased 45.6% due to declining coal reserves and increased regulations.⁴ As coal prices continue to rise, GenOn will have to cover these increased costs, placing the company under considerable financial risk.

GenOn Energy Power Portfolio



GenOn Energy Coal Source



10

GENON ENERGY, INC.



COAL PLANT POLLUTION CAUSES MAJOR HEALTH IMPACTS

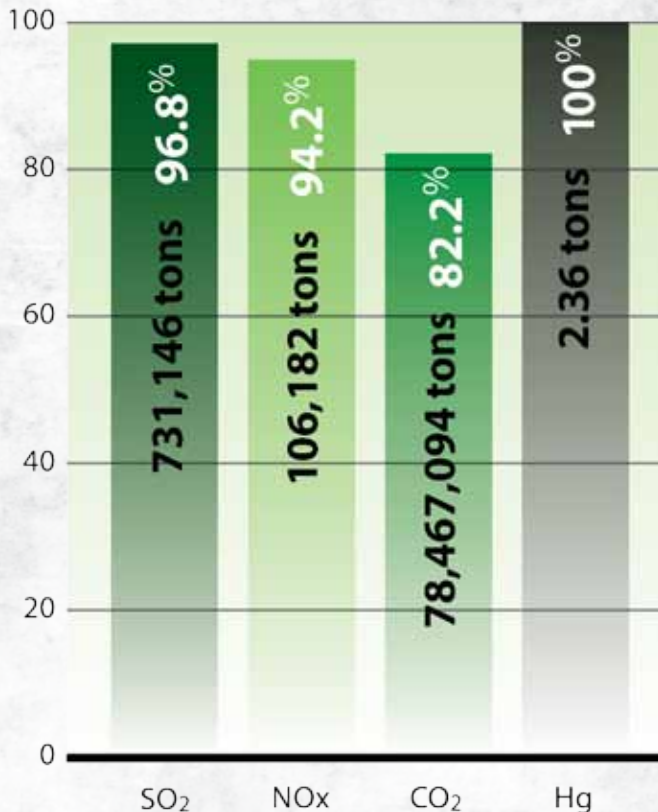
GenOn's coal plants are responsible for all of GenOn's mercury emissions and the majority of its SO₂, NO_x, and CO₂.⁵ Mercury is a powerful neurotoxin that can damage the brain and nervous system, leading to developmental problems and learning disabilities. Pregnant women and children are especially vulnerable to the debilitating effects of mercury pollution.⁶

In 2010, GenOn's coal plants caused 717 heart attacks, 6,755 asthma attacks, 257 cases of chronic bronchitis, and several other diseases in people living in close proximity to its plants.⁷ To learn more about the death and disease associated with GenOn's coal, go to: http://www.catf.us/coal/problems/power_plants/existing/.

DEATH AND DISEASE

Mortality	427
Acute Bronchitis	585
Heart Attacks	717
Asthma Attacks	6,755
Chronic Bronchitis	257
Asthma ER Visits	313
Heart Related Hospitalization	225
Respiratory Hospitalization	107

GenOn Energy Emissions from Coal



WATER POLLUTION ALLEGATIONS FROM COAL ASH

GenOn faces significant risk as a result of its coal ash operations. The company is responsible for environmental costs related to site contamination investigations and remediation requirements at four generating facilities in New Jersey. The company also has three open complaints related to their fly ash facilities in Maryland. There have been several allegations by the Maryland Department of Environment that the Brandywine Fly Ash Facility, the Faulkner Fly Ash Facility, and the Westland Fly Ash Facility have violated various water pollution control laws, including the Clean and Water Act and Maryland's Water Pollution Control Laws as a result of pollutant discharges that violate water quality criteria. Each of these cases is still pending.⁸

10

GENON ENERGY, INC.



Additionally, one of GenOn's Maryland ash facilities has reached design capacity and the company expects that another one of their Maryland sites may reach full capacity in the next few years. In response, the company has commenced construction of a facility that is designed to prepare ash for beneficial reuse. The company is also identifying the viability of additional coal ash disposal facilities however they note that the costs associated with purchasing new land and permitting the land to allow for ash disposal could be material and the amount of time needed to obtain permits may extend beyond the expected timeline.⁹

VIOLATING THE LAW

GenOn has several notices of violation (NOV) and litigations pending. The Virginia Department of Environment has issued four separate NOVs for the company's Potomac River plant relating to excessive air pollution and permitting violations. The company has since announced that the plant will be retired by October 2012.

The company also has New Source Review (NSR) NOVs for three of its coal plants. The EPA's NOVs allege that past work at Shawville, Portland, and Keystone plants violated the NSR provision of the Clean Air Act, whereby any large sources of pollution are required to obtain proper federal permits prior to major renovations. The company's Conemaugh plant is also under litigation; PennEnvironment and the Sierra Club filed a citizen suit to enforce provisions of a water discharge permit for the plant. The plaintiffs are seeking civil penalties, remediation, and injunction against further action.¹

POLITICAL DONATIONS

GenOn Energy, Inc. has two registered political action

committees: the GenOn Energy PAC, created in 2011, and RRI Energy, Inc. PAC. RRI Energy PAC has given contributions to another political action committee called Team Republicans for Utilizing Sensible Tactics, or TRUST PAC. This PAC directly contributed to the campaign of Congressman Fred Upton's (R-MI). Upton chairs the Committee on Energy and Commerce in the House of Representatives. Over his term, the congressman has fought to prolong oil and gas exploration subsidies from the government, voted to open Outer Continental Shelf oil drilling, supported opening Arctic National Wildlife Refuge drilling, and voted against barring greenhouse gas emissions from the Clean Air Act.¹¹ In 2011, Upton sponsored the Energy Tax Prevention Act that aimed to amend the Clean Air Act to prohibit the EPA's regulation of greenhouse gases,¹² and the American Energy Independence and Price Reduction Act, that sought to establish an oil and gas leasing program for the exploration of oil and gas on the Coastal Plain of Alaska.¹³ Upton was also a co-sponsor of the North American-Made Energy Security Act that sought to expedite the approval process of the \$13 billion Keystone XL oil pipeline in Canada.¹⁴

In 2010, GenOn Energy PAC also contributed to Upton's fellow members on the House Committee on Energy and Commerce, including Raymond Green (D-Texas), Pete Olson (R-TX), and Edward Whitfield (R-KY). Green, Olson, and Whitfield received \$25,000, \$5,000, and \$5,000, respectively, from the PAC in 2011.¹⁵ All three were co-sponsors of the Jobs and Energy Permitting Act of 2011, which seeks to amend the Clean Air Act to allow increased pollution from the Outer Continental Shelf activities¹⁶ and shorten the permitting period to the EPA's Environmental Appeals Board to a maximum period of six months in order to expedite the permitting process.¹⁷



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MIDAMERICAN ENERGY HOLDINGS COMPANY



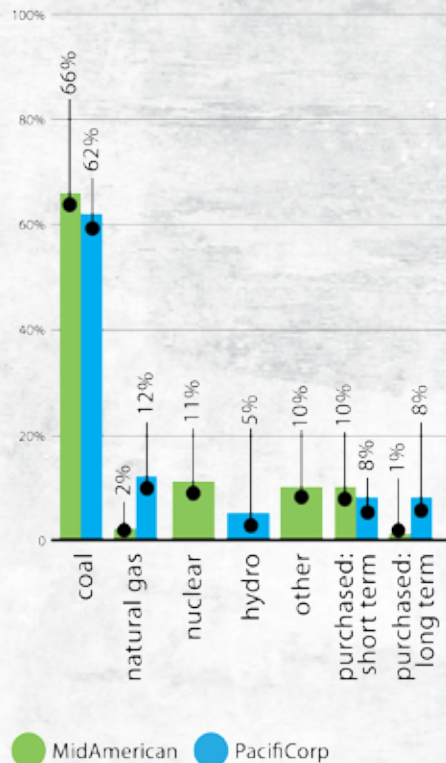
WARREN BUFFET'S POWER COMPANY

MidAmerican Energy Holdings Company through its subsidiaries provides energy services for approximately 6.9 million customers in the U.S. and the United Kingdom. The company is owned by Warren Buffet's Berkshire Hathaway. MidAmerican Energy Holdings Company's American subsidiaries include MidAmerican Energy and PacifiCorp. MidAmerican Energy provides electric service to more than 729,000 customers and natural gas services to more than 709,000 customers in Iowa, Illinois, Nebraska, and South Dakota. PacifiCorp serves approximately 1.7 million customers and operates as Pacific Power in Oregon, Washington and California; and as Rocky Mountain Power in Wyoming, Utah, and Idaho.¹

MidAmerican Energy Holdings ranks 6th among U.S. electric utilities for power generated from coal.² The company owns and/or operates 17 utility generating coal plants with a combined total generating capacity of approximately 9,568 MW. MidAmerican and PacifiCorp's energy portfolio is heavily dependent on coal.

MidAmerican Energy Company sources all its coal from the Powder River Basin.⁴ PacifiCorp has interests in coal mines that support its coal plants. In 2010, these mines supplied 29% of PacifiCorp's total coal requirements. These mines are located adjacent to certain of its coal-fired plants. The coal reserves are leased and mined by Bridger Coal Company, a joint venture between Pacific Minerals, Inc. (PMI) and a subsidiary of Idaho Power Company. PMI, a wholly owned subsidiary of PacifiCorp, has a two-thirds interest in the joint venture.⁵

MidAmerican Energy Holdings Co. Power Portfolio

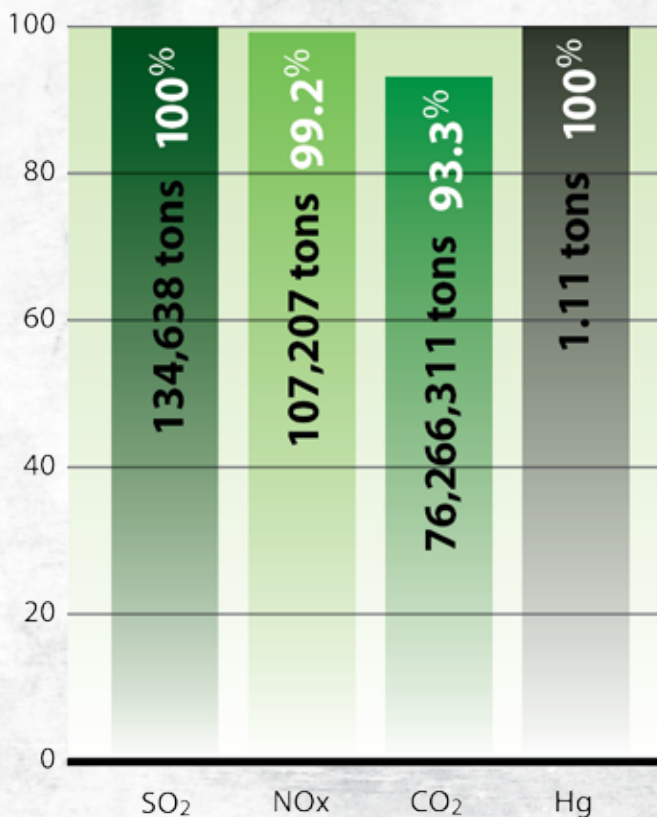


COAL PLANT POLLUTION

Almost all of the company's SO₂, NO_x, and CO₂, and all of its mercury emissions come from coal combustion.

As of December 2010, MidAmerican Energy Holdings has not installed scrubbers in all of its coal-plant facilities. Although there are some planned installments for 2011 through 2014, seven units remain unprotected.⁶

MidAmerican Energy Holdings Co. Emissions from Coal



COAL PLANTS CAUSE SERIOUS HEALTH IMPACTS

In 2010, pollution from MidAmerican’s coal-fired power plants contribute to 234 deaths, 362 heart attacks, 4305 asthma attacks, and 152 cases of chronic bronchitis per year. The total annual cost of these health-related impacts is over \$1.8 billion.⁷ To learn more about the death and disease from MidAmerican’s coal power plants, go to: http://www.catf.us/coal/problems/power_plants/existing/.

DEATH AND DISEASE

Mortality	234
Acute Bronchitis	377
Heart Attacks	362
Asthma Attacks	4,305
Chronic Bronchitis	152
Asthma ER Visits	229
Heart Related Hospitalization	113
Respiratory Hospitalization	54

HIGH CAPITAL EXPENDITURE ESTIMATES

MidAmerican Energy Holdings estimates that it will make capital expenditures of \$229 million and \$399 million, for PacifiCorp and MidAmerican Energy, respectively, in 2011. An unspecified portion of those amounts are for environmental expenditures to comply with existing statues and regulations ⁸

STORING TOXIC COAL ASH

MidAmerican Energy operates eight surface impoundments and four landfills that contain coal ash waste.⁹ PacifiCorp operates 16 surface impoundments and six landfills that contain coal combustion byproducts. ¹⁰

POLITICAL SPENDING

MidAmerican’s political action committee is called the MidAmerican Energy Co Executive PAC. In 2010, one of the PAC’s largest contributions was \$20,000 to Republican Governor Terry Branstad from Iowa.¹¹ In October of 2011, Branstad led an effort to limit the EPA’s ability to regulate and require a decrease in the volume of greenhouse gas emissions and particulate matter that coal-burning plants



MIDAMERICAN ENERGY HOLDINGS COMPANY



MidAmerican
ENERGY

produce.¹²

In 2010, the PAC contributed \$10,000 to Lee Terry's Congressional campaign, the same year Terry co-sponsored the Clean Coal-Derived Fuels for Energy Security Act of 2011.¹³ Terry is a member of the Committee on Energy and Commerce and a co-sponsor of the American Energy Act, a bill that encouraged the use of America's un-mined coal reserves to make transportation fuels; the bill also supports the construction of the nation's first seven coal-to-liquids plant through loan agreements with the Secretary of Energy.¹⁴

MidAmerican Energy Company Executive PAC contributed \$5,000 to John Barrasso (R-WY), a member of both the Committee on Energy and Natural Resources and the Committee on Environment and Public Works. Barrasso sponsored the Clean, Affordable, and Reliable Energy Act of 2009 that sought to offer specific tax breaks, incentives, and bonus depreciation to coal infrastructure and coal plant-related technology costs.¹⁵



MIDAMERICAN ENERGY HOLDINGS COMPANY



MidAmerican
ENERGY

ENDNOTES

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12

PATRIOT COAL CORPORATION



SPIN OFF OF PEABODY'S EASTERN U.S. OPERATIONS

Patriot Coal Corporation is a coal-mining company based in St. Louis, Missouri. The company is a 2007 spin-off of most of the eastern U.S.A. operations of Peabody Energy.¹ Patriot has 14 mining complexes in Appalachia and the Illinois Basin, and controls approximately 1.9 billion tons of proven and probable coal reserves.² In 2010, Patriot sold 30.9 million tons of coal, of which 78% was sold to domestic electricity generators and industrial customers and 22% was sold to domestic and global steel and coke producers.³

In April 2011 Patriot Coal stated that it expects to export 25% of its total 2011 shipments to meet growing international coal demand in China and India.⁴ This continued expansion would depend upon the creation of increased rail and port capacity in the U.S. to export the coal, which is being strongly opposed by numerous citizen groups.

It would also require Patriot to secure or acquire more coal reserves and permits, which the company acknowledges may get more difficult as impending regulations on U.S. coal mining and coal waste are implemented. According to the company, "increased scrutiny of mining could make it difficult to receive permits or could otherwise cause production delays in the future."⁵

SECOND LARGEST MTR PRODUCER

Patriot was the second largest producer of coal from mountaintop removal (MTR) in 2010, making up about a quarter of what the company sold in 2010 (over 7 million tons). Mountaintop removal mining has been linked to increased poverty and health problems, increased cancer rates, and increased birth defects. Due to its impact, several banks have announced they

will cut back or no longer fund projects associated with mountaintop removal coal mining, which will create credit barriers for Patriot.⁶

On September 1, 2010, Patriot Coal was found in contempt of court by Judge Chambers and ordered to clean up selenium pollution at two mountaintop mines in West Virginia. Chambers ordered Patriot to comply with pollution limits in its operating permit by 2013.⁷ The coal producer estimates that it will cost \$50 million to comply with the judgment, plus \$3 million in annual operating costs. Chambers also ordered Patriot to post a \$45 million letter of credit to guarantee the treatment systems are installed.⁸ In its 2010 annual report, Patriot Coal stated that "the lack of proven technology to meet selenium discharge standards creates uncertainty as to the future costs of water treatment to comply with mining permits."⁹

ALMOST 3,000 SAFETY VIOLATIONS

Coal companies also face increased safety regulations. From 2000 to 2010, Patriot Coal had nearly 3,000 "significant" violations from the Mine Safety and Health Administration, one death on the job, and close to \$10 million in fines.¹⁰ After 29 miners died in Massey Energy's 2010 Upper Big Branch Mine disaster, Congress and regulators began proposing tighter standards for mine safety, which Patriot Coal's 2010 Annual Report said will likely slow down production and increase the costs of its mining.¹¹

Coal plants in the U.S. are also facing new regulations, including emissions of mercury, soot, smog, and carbon dioxide. This might significantly contract U.S. demand for Patriot's coal. As these regulations are implemented, it will create uncertainty for Patriot, as acknowledged in its 2010 10-K: "the increasingly stringent requirements of the Clean Air Act or other laws and regulations[...]"

12

PATRIOT COAL CORPORATION



may result in more electric power generators shifting away from coal-fueled generation, the closure of existing coal-fueled plants and the building of more non-coal fueled electrical generating sources in the future.”¹²

POLITICAL SPENDING

In 2010, Patriot Coal spent \$2.15 million on lobbying through the firm American Freedom Innovations, primarily to defeat legislation on greenhouse gas regulations.¹³ Patriot’s top political contribution in 2010 was to U.S. Representative Nick Rahall,¹⁴ who boasted in 2010 that his position on two key Congressional committees has made him solely responsible for preventing regulation of mountaintop removal mining.¹⁵

Patriot Coal is a member of and contributor to the National Mining Association, the national trade organization of the U.S. mining industry which since 1997 has spent over \$40 million lobbying against issues such as clean air, clean energy and green jobs, and for carbon capture and storage.¹⁶ One million of that was in the first quarter 2011 alone.¹⁷ Coal companies have been trying to commercialize carbon capture and storage (CCS)- the extraction of carbon dioxide from the waste stream for secure long-term burial underground, ideally without making coal power prohibitively expensive. However, a 2010 report by the United States Government Accountability Office stated that CCS is unproven on a large scale, risky, expensive, and will not be commercially viable for at least over a decade.¹⁸

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13

PEABODY ENERGY

Peabody

LARGEST PRIVATE-SECTOR COAL COMPANY IN THE WORLD¹

Peabody Energy produced 218 million tons of coal in 2010.² Peabody claims that it fuels approximately 10% of the electricity generated in the United States. Peabody has mines in the U.S., Australia, and Venezuela.³

Peabody Energy owns 20 coal mining operations in Wyoming, Colorado, Arizona, New Mexico, Illinois, and Indiana which predominantly supply domestic power generators. With 84% of its 2010 sales to U.S. electricity generators,⁴ Peabody is vulnerable to reduced demand for coal-fired electricity and regulations aimed at pollutants such as sulfur dioxide. Approximately 55% of Peabody's 9 billion tonnes of proven and probable coal reserves are high-sulfur coal.⁵ While five customers account for one quarter of all Peabody's sales, their identities are not disclosed.⁶

With the possible decline of the domestic demand Peabody aims to increase exports to Asia from its western mines.⁷ It has agreed to export up to 24 million metric tons of coal via the proposed Gateway Pacific Terminal near Ferndale, Washington.⁸ However, Peabody has not disclosed that environmental groups such as the Sierra Club have vowed to oppose new coal export proposals.⁹

OVER NINE MINE HEALTH AND SAFETY VIOLATIONS A DAY

In 2010 Peabody received 3,233 notices of violations -- over nine a day -- from the Mine Safety and Health Administration (MSHA) for breaches of health or safety standards that could cause a serious injury. The MSHA has proposed the company be fined \$5.89 million in 2010. Despite the significant number of violations at a number of mines, MSHA so far has only notified

Peabody that the Willow Lake Mine has been identified for "a potential pattern of violations."¹⁰ The company also faces 147 legal actions before the Federal Mine Safety and Health Review Commission.¹¹

INVESTING IN NEW COAL PROJECTS

Peabody's is also investing in range of coal projects in Mongolia,¹² Indonesia,¹³ China, and India.¹⁴ These include a 12 million ton/year mine to supply a 1,200 MW power station in Inner Mongolia¹⁵, a 20 million ton/year surface coal mine in northwestern China¹⁶ and a 50 million ton/year mine in the Xinjiang region.¹⁷ It is a part of a consortium selected by the Mongolian government to develop the Tavan Tolgoi coal deposit and is investigating coal projects in Bangladesh¹⁸ and Mozambique.¹⁹ Peabody has provided little information on these projects, the risks associated with them or specific risk profiles for coal mining projects in China, Indonesia, Mongolia, Bangladesh, or Mozambique.

MAJOR POLITICAL DONOR

Faced with numerous political challenges, Peabody has become a major political donor to politicians. Peabody Energy donated \$580,334 to federal candidates in 2010 and, as of late July 2011, \$57,000 in the 2011-2012 election cycle.²⁰

Peabody spent almost \$6.6 million on lobbying in 2010²¹ and in the first 5 months of 2011 the company spent \$3.7 million, including on a bill aimed at preventing the EPA from taking action relating to greenhouse gas emissions to address climate change.²²

Peabody is also a member of numerous trade associations in Australia and the United States -- including the American Coal Council, National Mining Association, U.S. Chamber of Commerce Australian Coal Association, and the Minerals Council of Australia -- all

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PEABODY ENERGY

Peabody

of which have opposed proposals for measures to put a price on carbon and restrict greenhouse gas emissions.²³ Peabody has also been actively involved in the American Coalition for Clean Coal Electricity, a coal industry lobby group working to defend the coal industry on issues including climate change, mercury emission standards, plant development, and EPA rulings.²⁴

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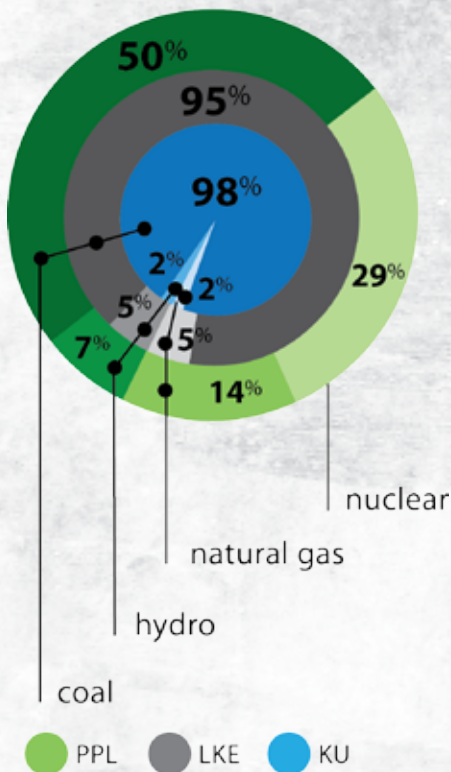
EXPOSED TO COAL RISK

PPL Corporation is a global energy holding company, providing electricity and natural gas to approximately 10 million customers in the United States and the United Kingdom. PPL's U.S. subsidiaries PPL Generation LLC, Louisville Gas and Electric, and Kentucky Utilities, operate power plants in Montana, Pennsylvania, Kentucky, Virginia, and Tennessee.¹

PPL ranks 6th among U.S. electric utilities for power generated from coal.² The company owns and/or operates 15 coal plants with a combined total generating capacity of approximately 31,449 MW. PPL's energy portfolio is heavily dependent on coal. The majority of PPL's coal plants are over 40 years old.

PPL sources its coal from the Central Appalachia, the Illinois Basin, and the Powder River basin. Between December 2009 and April 2011, the price of coal from Central Appalachia increased 45.6% due to declining coal reserves and increased regulations. Prices for coal from the Powder River Basin increased 48.2% during the same time period.⁴

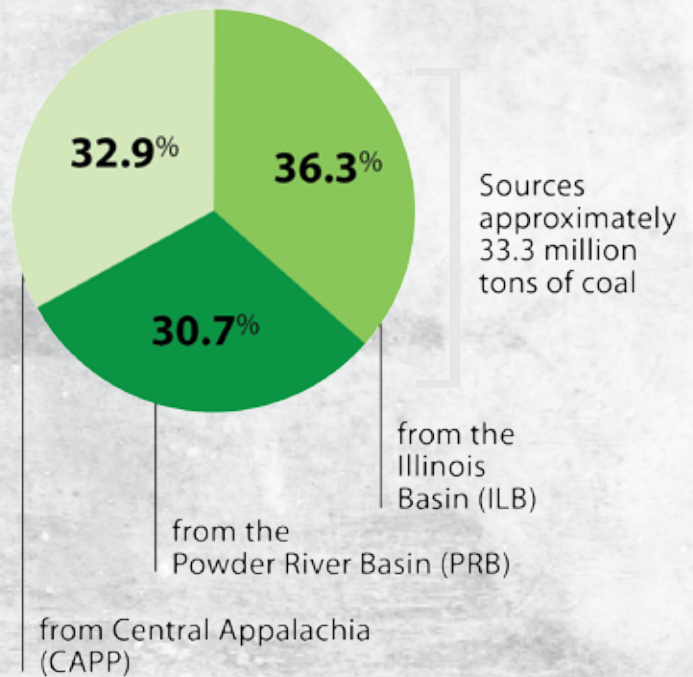
PPL Corp. Power Portfolio



* LKE: 5% is a combined capacity of natural gas and hydro

** KU: 2% is a combined capacity of natural gas and hydro

PPL Corp. Coal Source

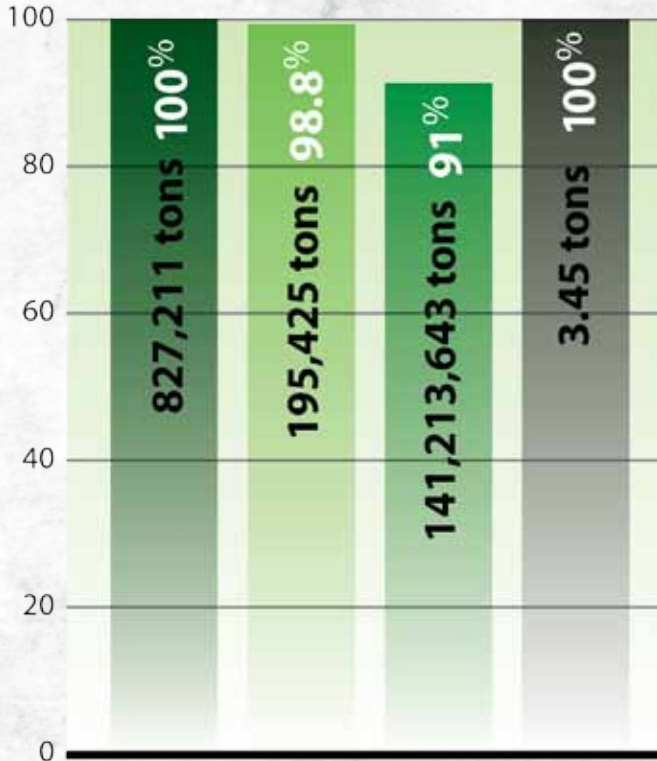


COAL PLANTS POLLUTE

The majority of PPL's SO₂, NO_x, and CO₂, and all of its mercury emissions come from coal combustion.



Southern Company Emissions from Coal



COAL PLANTS CAUSE SEVERE HEALTH IMPACTS

In 2010, pollution from PPL Corporation's coal-fired power plants contribute to 601 deaths, 957 heart attacks, 9,650 asthma attacks, and 362 cases of chronic bronchitis per year. The total annual cost of these health-related impacts is over \$4.18 billion.⁵ To learn more about the death and disease from PPL's coal power plants, go to: http://www.catf.us/coal/problems/power_plants/existing/.

DEATH AND DISEASE

Mortality	601
Acute Bronchitis	838
Heart Attacks	957
Asthma Attacks	9,650
Chronic Bronchitis	362
Asthma ER Visits	509
Heart Related Hospitalization	305
Respiratory Hospitalization	145

CONTAMINATING OUR WATER

PPL's operating companies produced approximately 26,325,846.67 cubic yards of coal ash.⁶

In 2006, PPL's Martins Creek plant released approximately 100 million gallons of fly ash lased water from a disposal basin which led to toxic ash deposits on adjacent roadways and fields, and into a nearby creek and the Delaware River. The breach was caused by a failure in the disposal basin's discharge structure. While PPL has conducted clean-up and completed studies about water impacts of the release, the Pennsylvania Department of Environmental Protection (DEP) filed a complaint in the Pennsylvania Commonwealth Court against PPL Martins Creek and PPL generation contending violations of various state laws and regulations. PPL and the Pennsylvania DEP agreed to a settlement which required PPL to submit a report on potential natural resource damage. PPL Energy Supply has spent \$28 million for remediation and related costs.⁷

Various basin seepages have been detective in both

active and retired wastewater basins at several PPL plants. Various lawsuits were filed against PPL's Colstrip plant owners asserting property damage claims associated with damages from seepage from the freshwater and wastewater ponds at Colstrip. These suits have since been settled.⁸

VIOLATING THE CLEAN AIR ACT

In January 2009, PPL and other companies that own or operate the Keystone plant in Pennsylvania received a Notice of Violation (NOV) from the EPA contending that certain projects were performed without adequate New Source Review (NSR) compliance.

In March 2009, Kentucky Utilities received a NOV alleging that flue gas desulfurization and SCR controls were installed at the Ghent plant without proper NSR compliance.⁹

The Sierra Club and other environmental groups petitioned Kentucky regulators to overturn an air permit for PPL's Trimble County Unit 2. These environmental groups also petitioned the EPA to object to the revised state permit. The case is pending.¹⁰

CAPITAL EXPENDITURES

PPL estimates that it will make capital expenditures of \$381 million, \$614 million, and \$789 million for 2011, 2012, and 2013, respectively, to comply with existing statutes and regulations.¹¹

POLITICAL DONATIONS

PPL Corp's main political action committee is PPL People for Good Government. In 2011, the PAC contributed \$10,000 to the campaign of Dennis

Rehberg (R-MT).¹² In July of 2011, Rehberg introduced the Montana Mineral Conveyance Act to the House floor. The bill would allow coal reserves located on tribal land to be mined.¹³

Since 2007, the PAC has contributed \$18,500 to Representative Joe Barton (R-TX). Barton, along with Rehberg, is a co-sponsor of the Coal Residuals Reuse and Management Act and the American Energy Act, which offers government support through tax breaks and promotion of clean coal production and technology. PPL has contributed \$22,000 since 2008 to Tim Holden (D-PA).¹⁴ Holden is a co-sponsor of the Save Our Energy Jobs Act and co-sponsor of the Clean Coal-Derived Fuels for Energy Security Act of 2009 and 2011.¹⁵

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SOUTHERN COMPANY

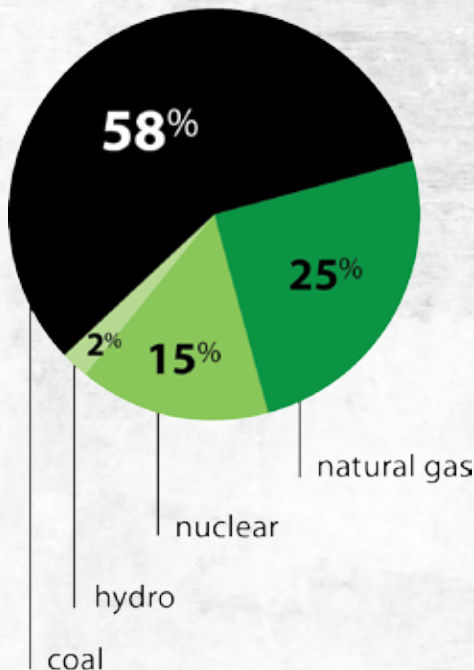
HEAVILY DEPENDENT ON COAL

Southern Company is one of the largest generators of electricity, serving 4.4 million retail customers in the southeastern U.S. and about 75 investor-owned utilities, electric cooperatives, and municipalities through its wholesale generation business. Southern Company subsidiaries Alabama Power, Gulf Power, Georgia Power, and Mississippi Power operate in Alabama, Florida, Georgia, and Mississippi, respectively. ¹

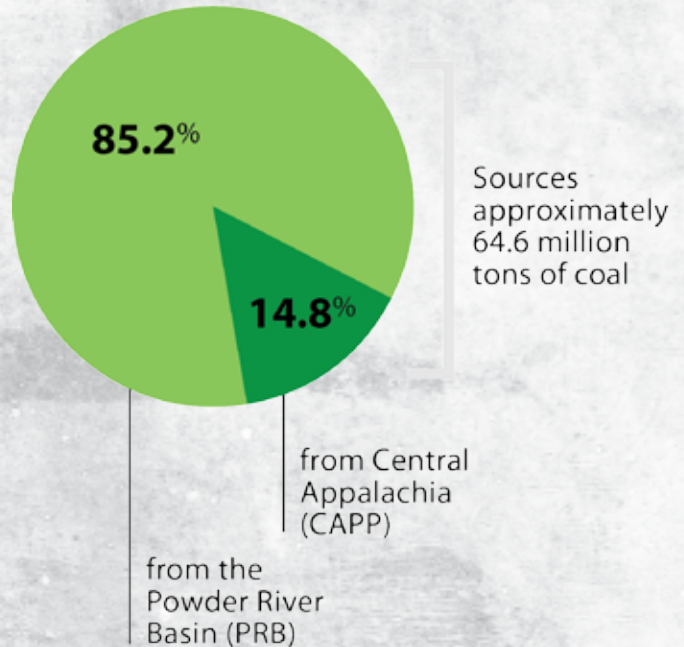
Southern ranks 3rd among U.S. electric utilities for power generated from coal.² The company owns and/or operates 22 coal plants with a combined total generating capacity of approximately 24,918 MW. Southern's energy portfolio is heavily dependent on coal. The majority of Southern's coal plants are over 40 years old and have less than 400 MW capacity. Analysts have shown that old, small, uncontrolled plants are uneconomical and should be retired.

Southern sources its coal from the Powder River (PRB) Basin and Central Appalachia. Prices of PRB coal have increased 48.2% between December 2009 and April 2011 due to declining coal reserves from Central Appalachia and increased regulations.⁴

**Southern Company
Power Portfolio**



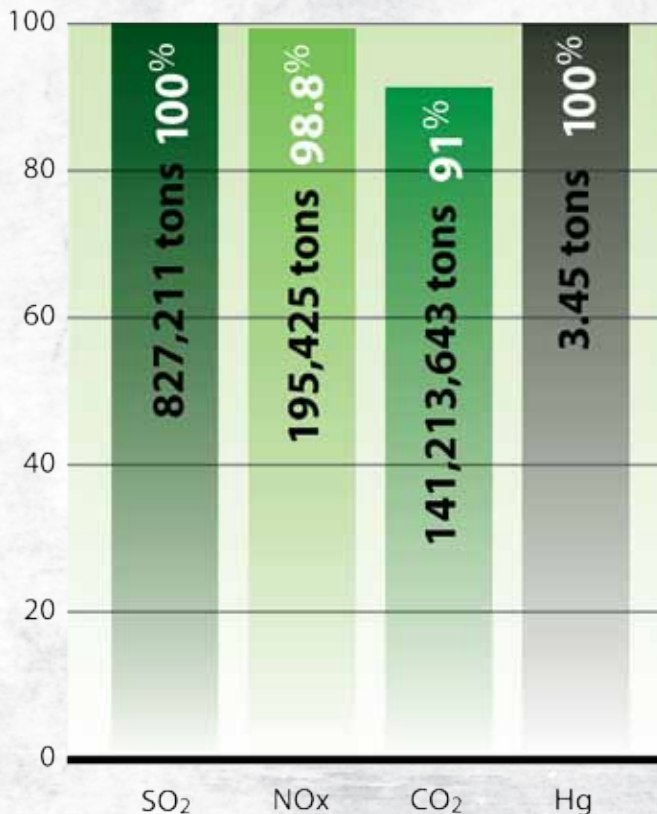
**Southern Company
Coal Source**



PLANTS LIST AMONG TOP MERCURY POLLUTERS

Almost all of Southern's SO₂, NO_x, and CO₂, and all of its mercury emissions come from coal combustion.

Southern Company Emissions from Coal



Six of Southern’s plants in Georgia and Alabama are ranked among the top 50 power plant mercury emitters for overall mercury emissions.⁵ Mercury is a powerful neurotoxin that can damage the brain and nervous system, leading to developmental problems and learning disabilities. Pregnant women and children are especially vulnerable to the debilitating effects of mercury pollution.⁶

Georgia Power operates in a designated nonattainment area for ozone air quality and it is expected that the EPA’s revisions of the eight-hour ozone air quality standard will lead to new nonattainment areas within Southern’s service territory, requiring further NO_x emissions reductions. Georgia Power is also subject to the Georgia’s Multi-Pollutant Rule, which was designed to reduce mercury (Hg),

sulfur dioxide (SO₂), and nitrous oxide emissions (NO_x) by control technology requirements. The state of Georgia also adopted a companion rule requiring a 95% reduction in SO₂ emissions from the controlled units.

As of December 2010, Southern had installed the required controls on 10 of Georgia Power’s largest coal-fired generating units. Georgia Power has delayed work related to both the installation of emissions control equipment at Plant Branch Units 1 and 2 and Plant Yates Units 6 and 7 and the conversion of Plant Mitchell from coal-fired to biomass-fired.⁷

COAL PLANT POLLUTION LEADS TO SERIOUS HEALTH IMPACTS

In 2010, Southern Company’s coal-fired power plants contribute to 1,224 deaths, 1,710 heart attacks, 20,770 asthma attacks, and 752 cases of chronic bronchitis per year. The total annual cost of these health-related impacts is over \$9 billion.⁸ To find out more about death and disease from Southern’s coal power plants, go to: http://www.catf.us/coal/problems/power_plants/existing/.

DEATH AND DISEASE

Mortality	1,224
Acute Bronchitis	1,819
Heart Attacks	1,710
Asthma Attacks	20,770
Chronic Bronchitis	752
Asthma ER Visits	1,255
Heart Related Hospitalization	597
Respiratory Hospitalization	274

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SOUTHERN COMPANY

**SOUTHERN
COMPANY**
Energy to Serve Your World®

HIGH HAZARD POTENTIAL AT TWO ASH PONDS

Southern Company's operating companies produced 3.9 million tons of fly ash, 1 million tons of bottom ash, and 728,000 tons of gypsum in 2009. Southern owns and operates coal ash management facilities for fly ash and bottom ash and manages ash wet, in ponds, or dry, in landfills.

22 of Southern's plants manage their coal ash in surface impoundments. The EPA identified one ash pond at Plant Branch and one pond at Plant McDonough on their list of 50 high hazard potential impoundments.⁹

COAL PLANTS TO REQUIRE COSTLY UPGRADES

Southern estimates that it will make capital expenditures of \$341 million, \$427 million, and \$452 million for 2011, 2012, and 2013, respectively, to comply with existing statutes and regulations. In addition, Southern estimates that compliance with anticipated new environmental regulations could range from \$74 million to \$289 million in 2011, \$191 million to \$670 million in 2012, and \$476 million to \$1.9 billion in 2013.¹⁰

STILL INVESTING IN NEW COAL

Mississippi Power has proposed construction of an Integrated Coal Gasification Combined Cycle plant in Kemper County, Mississippi. While the Mississippi Public Utility Commission (PUC) has approved cost overruns for the plant by transferring costs to ratepayers, the PUC approval is being challenged by the Mississippi Chapter of the Sierra Club.¹¹

POLITICAL SPENDING

Southern has a main affiliated political action committee (PAC) known as the Southern Company Employees PAC. Since 2009, the PAC has contributed more than \$15,500 to Jim Matheson (D-UT).¹² Matheson was one of three democrats that voted against the American Clean Energy and Security Act of 2009 that would require electric utilities to meet 20% of their electricity demand by sourcing renewable energy by 2020.¹³

Since 2006, Representative Steny Hoyer (D-MD) has received \$19,500 from Southern's PAC.¹⁴ Hoyer was a co-sponsor of the Emergency Economic Stabilization Act of 2008, which included provisions to expand new coal projects like coal gasification. Hoyer was the primary sponsor for the Program for Real Energy Security Act in 2006 and 2007. The act included a measure to allow the Department of Defense to enter into contracts with coal-mining companies to produce coal-to-liquid fuels for departmental use.¹⁵

Lincoln Davis (D-TN) has received as much as \$22,000 in PAC contributions from Southern since 2008.¹⁶ Davis was a co-sponsor of America's Domestic Fuels Act, a bill that supported research and development into coal gasification technology for energy.¹⁷

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