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The Price Of Pollution Politics: Eight Companies Attacking Clean Air Standards...and the Toll on America's Health

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About NRDC

NRDC (Natural Resources Defense Council) is a national nonprofit environmental organization with more than 1.3 million members and online activists. Since 1970, our lawyers, scientists, and other environmental specialists have worked to protect the world's natural resources, public health, and the environment. NRDC has offices in New York City, Washington, D.C., Los Angeles, San Francisco, Chicago, Montana, and Beijing. Visit us at www.nrdc.org.

Credits

This report was written by Pete Altman with tremendous assistance from Emily Davis, as well as help from John Walke, Diane Bailey, Ed Chen, Dan Lashof, Kim Knowlton and David Hawkins.

The technical analysis was performed by David Schoengold of MSB Energy Associates.

The health impacts and valuations presented in this report were developed using the same approach as in the NRDC report "Plugging Into Death and Disease: the Hidden Costs of American Electric Power's Pollution and Politics" The methodology in that analysis was reviewed by Conrad Schneider of the Clean Air Task Force and Donald McCubbin, who developed the model used when he was at Abt and Associates. In addition, Dr. Joel Schwartz of the Harvard School of Public Health, reviewed the methodology early on in the development of the analysis.

* <http://switchboard.nrdc.org/blogs/paltman/Plug%20into%20Death%20and%20Disease%20FINAL~.pdf>

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EXECUTIVE SUMMARY

A handful of companies are spending millions to finance an assault on clean air—lobbying and litigating to block, weaken and delay clean air standards that would save lives and protect Americans’ health from the power sector’s dangerous and deadly air pollution.

Leading this effort to weaken, delay or block cleaner air standards are eight companies which spent a combined \$67 million lobbying Congress between 2010 and the first quarter of 2012, including on EPA clean air standards and authority, among other topics.

Their coal-fired power plants generated enough air pollution last year to contribute to as many as 10,300 deaths, 65,000 asthma attacks and incidents, 6,600 hospital and emergency room visits, and 3.4 million lost work-days. All told, the combined economic toll for that pollution reaches as high as \$78 billion, based on a new analysis conducted for the Natural Resources Defense Council by energy consulting firm MSB Energy Associates, Inc. The analysis is based on a widely-accepted, peer-reviewed model that links air pollution to adverse health consequences.

The eight companies are American Electric Power (AEP), Ameren, DTE Energy, Energy Future Holdings, FirstEnergy, GenOn, PPL and Southern Company. The coal-fired power plants owned by these companies emitted more than 2.3 million tons of sulfur dioxide, nitrogen oxides and soot, along with over 580 million tons of industrial carbon dioxide and 22,820 pounds of mercury, into the air in 2011.

It doesn’t have to be this way.

This Gang of Eight can reduce the harm to our families and communities—including their paying customers—by investing a portion of their revenues to clean up, or replace altogether, these dirty plants, using cleaner, sustainable alternatives.

And by pairing such investments with energy efficiency, the companies can help their customers enjoy lower energy bills, as well as better health, while putting thousands of people back to work.

Sadly, these companies are choosing instead to wield their wealth and influence in Congress, as well as resorting to lawsuits and other legal machinations, in an effort to stymie the work of scientists and other health professionals at the EPA.

Let there be no doubt: The health and welfare of millions of individuals (including children) who are vulnerable to the asthma-attack inducing effects of air pollution or the brain-poisoning impacts of mercury pollution hang in the balance.

These companies need to clean up their pollution without further delay.

INTRODUCTION

Air pollution from coal-fired power plants is harmful to not only those who live nearby, but also to people who live downwind of these plants, often hundreds and even thousands of miles away. Such plants spew a wide range of dangerous pollutants that can contribute to asthma attacks, learning disabilities and even death. These include sulfur and nitrogen oxides, soot, mercury and cancer-causing dioxins.¹

Throughout the United States, air pollution from coal-burning power plants each year contributes to thousands of premature deaths and hundreds of thousands of asthma attacks.² The aggregate toll caused by these harmful health impacts, and the attendant medical bills and lost wages, has been estimated to exceed \$100 billion a year.³

This report documents the public health implications of the coal-fired power plants owned wholly or in part by eight utility companies and makes the case that if these companies truly aspire to be responsible corporate citizens they should stop trying to undermine stronger air pollution standards and instead invest their considerable resources in improving and applying the technologies and systems that reduce air pollution and save lives, while building a clean energy economy that creates jobs.

As the US EPA moves forward with clean air standards to protect our health from mercury, carbon and other pollutants, it's time for these companies to stop pushing back. After all, they can't serve their customers well by making them sick.

THE PUBLIC HEALTH IMPACTS OF COAL-FIRED POWER PLANTS

More than 500 large coal power plants, along with tens of thousands of other industrial fossil fuel sources, constitute a major public health hazard through the complex mixture of air pollutants that are regularly released from their smokestacks: soot, or fine particulate matter (PM 2.5), nitrogen oxides (NOx), volatile organic compounds, (VOCs), sulfur oxides (SOx), and a wide range of toxic air emissions, including mercury.

Numerous studies have linked a wide range of adverse health impacts to exposure to particulate matter, including increased rates of: cardiovascular disease, such as atherosclerosis; heart attacks; respiratory illness, such as asthma; emergency room visits; and premature deaths.⁴ Exposure to particulate matter has also been linked to birth defects, low birth weights, and premature births.⁵

Nitrogen oxides can have a toxic effect on the airways, leading to inflammation, asthmatic reactions, and worsening of allergies and asthma symptoms.⁶ In addition, nitrogen oxides react with VOCs in sunlight to form ground-level ozone—a principal component of smog. This layer of brown

haze contributes to decreased lung function, increased respiratory problems, asthma attacks, emergency room visits, hospital admissions, and premature deaths. Ozone can also cause irreversible changes in lung structure, eventually leading to chronic respiratory illnesses, such as emphysema and chronic bronchitis.

Sulfur oxides (SOx) are another group of dangerous air pollutants produced by burning coal. These react in the air to create fine particles and acids that irritate the airways, often causing severe respiratory symptoms in asthmatics.⁷ Exposure to sulfur dioxide is also linked with preterm births, increases in premature mortality, and emergency hospitalizations for respiratory disease of the elderly.⁸

Electricity generation is the largest source of industrial mercury emissions and accounts for about 68 percent of mercury air pollution in the U.S.⁹ Mercury is a potent neurotoxin that gets deposited in oceans, lakes, and streams where it accumulates in fish, other wildlife, and humans when we eat contaminated foods such as tuna. Nearly every state—48 out of 50—has measured mercury contamination in fish, recording unsafe levels that have prompted health advisories. Health effects of mercury include neurological, developmental, and behavioral problems, such as lower IQ, attention deficit hyperactivity disorder (ADHD), and impaired memory and motor skills. Cardiovascular effects including increased risks of heart attacks, increased blood pressure, and thickening of arteries are also associated with elevated mercury levels.¹⁰

Mercury is just one of the toxic compounds coming from power plants. The electric sector is the largest source of industrial (stack) emissions of toxic air pollution in the United States. In 2009, coal-fired power plants accounted for nearly 50 percent of all reported toxic pollution from industrial sources. Power plants are the leading source of industrial toxic air pollution in 28 states and the District of Columbia. Exposure to toxic pollution from power plants, including hydrochloric acid, mercury, and other metals, is known to contribute to or exacerbate a wide variety of health conditions, including asthma and other respiratory ailments, developmental disorders, neurological damage, birth defects, cancer, and premature mortality.¹¹

The carbon dioxide pollution emitted by coal-fired power plants also poses a serious public health threat, primarily by driving the rising temperatures of climate change. The EPA determined in 2009 that rising temperatures threaten public health in a variety of ways, including worsening air pollution, increases in heat-related deaths and illnesses, increases in food- and water-borne pathogens, as well as infectious diseases, and a variety of health impacts associated with a rise in frequency or intensities of droughts, floods and other weather extremes, among other impacts.¹²

REDUCING DEADLY AND DANGEROUS POWER PLANT POLLUTION

Under the Clean Air Act, the US EPA is required to protect public health from dangerous air pollution. In response to the agency's proposals and authority to protect health from several dangerous air pollutants, the major power companies have variously proposed or supported legislative and litigation strategies that would if successful block, delay or otherwise undermine EPA action to protect public health from air pollution.

Polluters have attacked three particular EPA efforts:

- The Cross-State Air Pollution standard that is estimated to save as many as 34,000 lives per year and prevent hundreds of thousands of asthma attacks, as well as deliver a number of other health benefits, by reducing the amount of smog-forming and soot pollution from power plants. The health and environmental benefits of the standard are estimated to be between \$120 and \$240 billion in 2014.¹³
- The Mercury and Air Toxics standard, which sets the first-ever limits for mercury and other toxic pollutants from power plants. The health-saving benefits of this standard include preventing up to as many as 11,000 deaths per year and averting as many as 130,000 asthma attacks. The health and environmental benefits of the standard are estimated to be between \$37 and \$90 billion each year.¹⁴
- EPA's formal "Endangerment Finding" that carbon pollution threatens public health. In 2009, the EPA formally announced its determination that global warming is a threat to public health, saying "current and projected concentrations of the six key well-mixed greenhouse gases ... in the atmosphere threaten the public health and welfare of current and future generations." EPA also states that "climate change is expected to increase regional ozone pollution, with associated risks in respiratory illnesses and premature death." The Endangerment Finding is the basis of EPA's obligation to set standards to limit carbon and other warming pollutants.¹⁵

THE GANG OF EIGHT

This report focuses on eight power companies and their efforts to block, weaken or delay EPA standards to clean up pollution. These companies are among the 20 power companies that generated the most electricity from coal in 2010.¹⁶ Seven of the eight – AEP, Ameren, DTE, Energy Future Holdings, First Energy, PPL and Southern Company are members of the American Coalition for Clean Coal Electricity (ACCCE).

ACCCE is a coal- and power- industry lobbying group and the most prominent and voice opposing EPA's efforts to set and strengthen standards to protect health from

power plant pollution.¹⁷ These efforts include multi-million dollar ad campaigns, as well as frequent reports, videos and other materials, which champion coal and downplay its health consequences.

In addition, four of the eight companies—AEP, Ameren, FirstEnergy and PPL—are members of the Midwest Ozone Group (MOG),¹⁸ and ACCCE itself is a member. MOG is a smaller coalition of Midwest companies and associations¹⁹ which have long opposed EPA's clean air standards. The group has sued EPA to void both its Mercury and Air Toxics Standards for power plants and its Cross-State Air Pollution rule.

The only company profiled here that is not a member of ACCCE or MOG is GenOn, which is included here because it independently filed a lawsuit to overturn CSAPR.

PREMATURE DEATH AND DISEASE FROM THE GANG OF EIGHT'S POWER PLANTS

The following analysis estimates critical health impacts related to air pollution from the coal-fired electric power plants owned wholly or in part by the eight companies, and the costs of those health impacts using a well-established, peer-reviewed methodology, based on the soot, or fine particulate matter (PM_{2.5}), sulfur dioxide (SO₂) and NO_x pollution emitted from the plants in 2011.²⁰

To perform this analysis, we obtained SO₂ and NO_x emissions data for the companies' coal-fired power plants in 2011 from the US EPA. We estimated 2011 primary PM_{2.5} emissions based on 2010 primary PM_{2.5} emissions by assuming that the PM_{2.5} emission rate per MMBTUs of heat input was unchanged from 2010 and using that emission rate with the 2011 heat input (adjustments for changes in the PM_{2.5} emission rate resulting from known changes in emission controls at specific plants were made). The SO₂, NO_x and estimated PM 2.5 emissions for each plant were fed into a modeling program developed by Abt Associates, a leading research and technical firm, for the purpose of providing the EPA with assessments of health impacts from power plants. The model calculates the secondary PM 2.5 from the SO₂ and the NO_x, and combines that with the estimate for primary emitted PM 2.5. The primary and secondary PM 2.5 go into the dispersion model which is built into the Abt model. The dispersion model calculates the PM 2.5 concentration by county. The county level PM concentrations are used to calculate the health impacts.

The modeling program employs the same fundamental process as that used by EPA, which has been approved by both the EPA's Science Advisory Board and the National Academy of Sciences (NAS).²¹

The health impacts of other pollution such as carbon dioxide and mercury are not covered by this analysis.

The economic costs of these health impacts are estimated based on either the cost of services that must be provided (for example, the average cost of an emergency room visit to treat a severe asthma attack) or an estimate of the value of avoiding a particular risk (such as mortality.)²²

According to publicly reported data, coal-fired power plants owned wholly or in part by the companies emitted into the air 1.6 million tons of sulfur dioxides, 525,000 tons of nitrogen oxides and 582 million tons of carbon dioxide in 2011. Particulate pollution is not reported to the EPA,

however we estimate 147,000 tons were emitted in 2011.²³ The companies emitted 22,800 pounds of mercury into the air during 2010, the last year for which these data are available.²⁴

According to this analysis, the particulate, SO₂ and NOx pollution emitted in 2011 by the companies' plants contributed to between 4,000 and 10,300 deaths; as many as 65,000 asthma attacks and incidents, 6,600 hospital and emergency room visits and 3.4 million lost work-days. The estimated combined economic toll is between \$31 billion and \$78 billion.

Gang of Eight Key Information				
Utility Company	States Served	2011 Revenue (millions)	2011 Net income (million)	HQ
AEP	Arkansas, Indiana, Kentucky, Louisiana, Michigan, Ohio, Oklahoma, Tennessee, Texas, Virginia, and West Virginia	\$15,116	\$1,949	Columbus, Ohio
Ameren	Illinois and Missouri	\$7,531	\$519	Collinsville, Illinois
DTE Energy	Michigan	\$8,897	\$711	Detroit, Michigan
Energy Future Holdings	Texas	\$7,040	(\$1,913)	Dallas, Texas
FirstEnergy	Maryland, New Jersey, Pennsylvania, Ohio, and West Virginia	\$16,258	\$869	Akron, Ohio
GenOn	California, Florida, Illinois, Maryland, Massachusetts, Mississippi, New Jersey, New York, Ohio, Pennsylvania, Texas, Virginia	\$2,938	\$16	Houston, Texas
PPL	Kentucky, Montana, Tennessee, Virginia and Pennsylvania	\$12,737	\$1,495	Allentown, Pennsylvania
Southern Company	Alabama, Florida, Georgia, and Mississippi	\$17,657	\$2,203	Atlanta, Georgia

Note: Revenue and income data from 2011 company earning statements, headquarters and state presence from company websites.

Gang of Eight Lobbying and Litigation					
Utility Company	Lobbying 2010-2012	Membership		Challenging Standards in Court?	
		ACCCE	MOG	CSAPR	MATS
AEP	\$22,690,000	Y	Y	Y	Y
Ameren	\$7,590,000	Y	Y	Y	Y
DTE Energy	\$3,650,000	Y	N*	Y	Y
Energy Future Holdings	\$7,061,000	Y	N*	Y	Y
FirstEnergy	\$5,720,000	Y	Y	Y	Y
GenOn	\$1,070,000	N	N	Y	N
PPL	\$1,960,000	Y	Y	Y	Y
Southern Company	\$17,975,000	Y	N*	Y	Y

*ACCCE is itself a member of MOG, so while this company is not a direct member of MOG, it is connected to it through its membership in ACCCE.

2011 Pollution					
Utility Company	Sulfur Dioxide (tons)	Nitrogen Oxides (tons)	Fine Particulates (tons)	Carbon Pollution (tons)	Mercury (pounds)
AEP	416,260	116,942	32,821	141,383,419	5,168
Ameren	163,564	40,275	11,343	70,761,892	3,426
DTE Energy	140,334	40,201	8,355	38,247,139	1,846
Energy Future Holdings	212,162	31,501	7,280	48,880,021	2,009
FirstEnergy	143,128	93,103	24,724	77,085,815	3,286
GenOn	115,862	30,227	8,441	25,909,826	816
PPL	123,387	71,899	16,935	65,694,388	1,789
Southern Company	342,004	100,853	37,623	114,948,700	4,481
Total	1,656,701	525,000	147,523	582,911,199	22,820

Estimated Death and Disease Attributable to 2011 Pollution					
Utility Company	Premature Deaths	Asthma Attacks and Exacerbation	ER and Hospital Admissions	Work Loss and Reduced Activity Days	Total Health Costs reported in \$1,000s
AEP	1,271 – 3,261	20,193	2,046	1,063,998	\$9,934,000 – \$24,466,000
Ameren	358 – 920	6,062	645	311,280	\$2,812,000 – \$6,933,000
DTE Energy	361 – 925	5,725	579	300,594	\$2,830,000 – \$6,972,000
Energy Future Holdings	208 – 541	3,712	383	188,257	\$1,648,000 – \$4,066,000
FirstEnergy	530 – 1362	8,171	809	435,190	\$4,153,000 – \$10,227,000
GenOn	352 – 904	5,543	534	294,341	\$2,762,000 – \$6,799,000
PPL	384 – 979	6,131	612	322,131	\$2,984,000 – \$7,354,000
Southern Company	580 – 1,497	9,888	1,012	508,390	\$4,535,000 – \$11,209,000
Total	4,044 – 10,389	65,425	6,620	3,422,926	\$31,658,000 – \$78,026,000

Estimated Death and Disease Attributable to the Gang of Eight's 2011 Pollution				
State	Premature Deaths	Asthma Attacks and Exacerbation	ER and Hospital Admissions	Work Loss and Reduced Activity Days
Pennsylvania	581 – 1489	7,216	689	398,017
Ohio	464 – 1192	7,235	817	373,518
New York	355 – 914	5,785	504	311,109
Virginia	210 – 541	3,768	384	202,621
Michigan	190 – 490	3,388	371	170,714
New Jersey	190 – 490	3,273	278	165,481
North Carolina	172 – 441	2,972	306	151,214
Georgia	167 – 429	3,594	346	178,388
Illinois	159 – 408	2,873	318	145,728
Maryland	149 – 382	2,703	270	140,412
Indiana	148 – 378	2,699	293	129,596
Tennessee	136 – 348	2,047	214	111,378
Kentucky	127 – 325	2,057	209	109,479
Alabama	95 – 244	1,465	151	75,783
West Virginia	94 – 240	1,146	128	66,886
Massachusetts	84 – 215	1,306	117	72,321
Texas	77 – 200	1,708	164	82,373
Missouri	76 – 196	1,206	137	62,980
South Carolina	68 – 174	1,081	111	55,521
Connecticut	68 – 173	1,073	95	56,251
Florida	65 – 168	889	101	48,748
Wisconsin	57 – 146	940	108	51,047
Mississippi	39 – 102	680	67	32,485
Arkansas	39 – 99	585	61	29,060
Iowa	30 – 77	449	53	24,234
Oklahoma	29 – 76	474	49	24,164
Louisiana	24 – 62	429	42	20,813
Delaware	24 – 62	373	39	20,266
Kansas	17 – 44	304	34	15,452
Minnesota	17 – 43	332	37	17,685
District of Columbia	16 – 43	222	24	13,970
New Hampshire	15 – 40	246	22	13,856
Maine	15 – 39	193	19	11,660
Rhode Island	15 – 38	217	20	12,238
Vermont	15 – 37	193	19	11,964
Nebraska	7 – 17	120	14	6,007
Total	4,044 – 10,389	65,425	6,620	3,422,926

Note: Estimates of premature deaths are presented as a range, reflecting two different risk factors employed by US EPA to estimate premature deaths. The lower estimates are based on Pope et al., 2002, and the higher estimates based on Laden et al. 2006. See the methodology for more information on the two approaches. Asthma exacerbation indicates coughs, shortness of breath and wheezing. ER and Hospital admissions include estimates of visits needed to treat respiratory and cardiopulmonary symptoms.

States with fewer than ten deaths are not included in this table, but health impacts in those states are included in the totals.

Estimated Health Costs Attributable to the Gang of Eight's 2011 Pollution (All costs reported in \$1,000s)				
State	Premature Deaths	Asthma Attacks and Exacerbation	ER and Hospital Admissions	Work Loss and Reduced Activity Days
Pennsylvania	\$4,248,000 – \$10,880,000	\$375	\$10,193	\$25,745
Ohio	\$3,399,000 – \$8,709,000	\$376	\$7,542	\$24,262
New York	\$2,603,000 – \$6,680,000	\$301	\$6,949	\$20,570
Virginia	\$1,542,000 – \$3,958,000	\$196	\$3,816	\$13,379
Michigan	\$1,397,000 – \$3,586,000	\$176	\$3,257	\$11,365
New Jersey	\$1,395,000 – \$3,579,000	\$170	\$3,726	\$11,278
North Carolina	\$1,257,000 – \$3,231,000	\$155	\$2,972	\$9,644
Georgia	\$1,219,000 – \$3,142,000	\$187	\$2,968	\$11,600
Illinois	\$1,163,000 – \$2,988,000	\$149	\$2,755	\$9,624
Maryland	\$1,088,000 – \$2,798,000	\$141	\$2,669	\$9,412
Indiana	\$1,079,000 – \$2,770,000	\$140	\$2,481	\$8,389
Tennessee	\$991,000 – \$2,548,000	\$106	\$2,235	\$7,071
Kentucky	\$925,000 – \$2,376,000	\$107	\$2,121	\$6,944
Alabama	\$693,000 – \$1,784,000	\$76	\$1,544	\$4,810
West Virginia	\$684,000 – \$1,752,000	\$60	\$1,492	\$4,197
Massachusetts	\$613,000 – \$1,570,000	\$68	\$1,638	\$4,856
Texas	\$566,000 – \$1,460,000	\$89	\$1,441	\$5,327
Missouri	\$558,000 – \$1,435,000	\$63	\$1,245	\$4,009
South Carolina	\$493,000 – \$1,270,000	\$56	\$1,117	\$3,521
Connecticut	\$495,000 – \$1,267,000	\$56	\$1,330	\$3,823
Florida	\$477,000 – \$1,225,000	\$46	\$1,159	\$3,100
Wisconsin	\$415,000 – \$1,064,000	\$49	\$1,012	\$3,316
Mississippi	\$288,000 – \$743,000	\$35	\$629	\$2,031
Arkansas	\$282,000 – \$725,000	\$30	\$621	\$1,811
Iowa	\$218,000 – \$559,000	\$23	\$520	\$1,544
Oklahoma	\$215,000 – \$554,000	\$25	\$495	\$1,521
Louisiana	\$177,000 – \$456,000	\$22	\$396	\$1,317
Delaware	\$176,000 – \$452,000	\$19	\$408	\$1,331
Kansas	\$126,000 – \$324,000	\$16	\$299	\$995
Minnesota	\$123,000 – \$316,000	\$17	\$328	\$1,164
District of Columbia	\$120,000 – \$311,000	\$12	\$242	\$943
New Hampshire	\$113,000 – \$289,000	\$13	\$311	\$908
Maine	\$111,000 – \$283,000	\$10	\$290	\$742
Rhode Island	\$109,000 – \$279,000	\$11	\$282	\$799
Vermont	\$107,000 – \$273,000	\$10	\$290	\$762
Nebraska	\$48,000 – \$124,000	\$6	\$118	\$382
Total	\$31,658,000 – \$78,026,000	\$3,403	\$71,409	\$223,190

States with fewer than ten deaths are not included in this table, but health impacts in those states are included in the totals. The estimated economic costs of health impacts presented here adhere to standards and methods used by the US EPA in calculating health benefits of pollution standards. The estimated health costs are based on either the cost of services that must be provided (for example, the average cost of an emergency room visit to treat a severe asthma attack) or an estimate of the value of avoiding a particular risk (such as mortality.)

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- 16 The "gang of eight" all rank among the top 20 largest coal producers in 2010 based on data from EIA Form 923 (2010) and EIA Form 860 (2010).
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- 18 See <http://midwestozonegroup.com/membercomp.html>.
- 19 <http://midwestozonegroup.com/aboutus.html>.
- 20 As noted above, power plants emit a wide range of air pollutants associated with serious health impacts. Here we only quantify some (but not all) of the health impacts for which the methodology is very well established, such as premature mortality related to exposure to PM 2.5.
- 21 See the appendix for a more detailed explanation of the methodology used.
- 22 For full explanation of the methods and sources of estimates of economic costs associated with each health effect, see Abt's "Technical Support Document for the Power plant Impact Estimator Software Tool", pages 84-95.
- 23 See methodology for an explanation of how the particulate pollution is estimated.
- 24 US EPA, Clean Air Markets Data. <http://ampd.epa.gov/ampd/>.

AMERICAN ELECTRIC POWER (AEP)

EFFORTS BY UTILITY COMPANIES TO BLOCK OR DELAY EPA STANDARDS

LOBBYING EXPENDITURES

- AEP spent over \$22.5 million lobbying Congress in 2010-2012, including (but not limited to) advocacy on proposals to disapprove and delay implementation of the Cross-State Air Pollution standard, advocacy on delaying carbon pollution standards, and prohibiting EPA from developing carbon pollution standards under the Clean Air Act.¹ AEP also indicates lobbying activities on ozone standard and standards for industrial boilers.
- AEP has also provided millions of dollars² to organizations that oppose EPA efforts:
 - AEP reports paying \$2.375 million to the American Coalition for Clean Coal Electricity (ACCCE) for lobbying officials in 2010. ACCCE is one of the most prominent voices against EPA strengthening standards on power plant pollution and opposes EPA setting limits on carbon pollution.³
 - AEP paid \$500,000 to the U.S. Chamber of Commerce for lobbying in 2010. The Chamber is legally challenging stronger EPA standards.⁴

DRAFTING LEGISLATION TO BLOCK CLEAN AIR STANDARDS

AEP has been connected to two proposals whose effects would have been to weaken, block or delay life-saving standards developed by the EPA. In early 2011, AEP lobbyists drafted a sweeping, 56-page bill to weaken and delay federal clean air standards.⁵ The bill (dubbed the “Electric Power Regulatory Coordination Act of 2011”) would, if it became law, halt implementation of the nation’s clean air laws for the nation’s single largest source of air pollution: fossil fueled power plants.⁶

The “Electric Power Regulatory Coordination Act of 2011” didn’t gain much support, but later in the year a similar proposal emerged. AEP claimed credit for “working with Senator Manchin”⁷ on the Coats-Manchin bill, a late 2011 proposal to block and delay for several years clean air safeguards against smog, soot, mercury and other toxic air pollution from power plants that burn coal, that are estimated to contribute to the loss of as many as 73,360 lives.⁸

ACCCE MEMBERSHIP

AEP is a member of the American Coalition for Clean Coal Electricity (ACCCE).⁹ ACCCE is one of the most prominent voices against EPA strengthening standards on power plant pollution and opposes EPA setting limits on carbon pollution.¹⁰

MOG MEMBERSHIP

AEP and its subsidiaries, and ACCCE, are also members of the Midwest Ozone Group (MOG), which is a collective of power companies that has sued EPA to void both its Mercury and Air Toxics Standards for power plants and its Cross-State Air Pollution rule.¹¹

GOING TO COURT TO BLOCK CLEAN AIR STANDARDS

AEP, under the name of a number of its subsidiaries, has filed a lawsuit to eliminate EPA’s Cross-State Air Pollution standards (CSAPR).¹² CSAPR is estimated to save as many as 34,000 lives per year and prevent hundreds of thousands of asthma attacks by reducing the amount of smog-forming and soot pollution from power plants that crosses state lines.¹³

MOG has also filed suit against the CSAPR standards.¹⁴

MOG has filed a lawsuit to strike down EPA’s Mercury and Air Toxics Standards for power plants (MATS).¹⁵ MATS sets the first-ever national limits for mercury and other toxic pollutants from power plants, and is imperative for protecting the health of thousands of Americans. MATS is estimated to prevent as many as 11,000 premature deaths from air pollution and avoid as many as 130,000 asthma attacks every year.¹⁶ MOG’s lawsuit seeks to undo these standards.

Estimated Death and Disease Attributable to AEP's 2011 Pollution				
State	Premature Deaths	Asthma Attacks and Exacerbation	ER and Hospital Admissions	Work Loss and Reduced Activity Days
Pennsylvania	204 – 523	2,518	241	139,018
Ohio	179 – 458	2,803	316	144,890
New York	111 – 284	1,804	157	96,936
Virginia	92 – 236	1,615	165	87,092
North Carolina	67 – 173	1,180	121	59,938
New Jersey	63 – 162	1,076	91	54,396
Maryland	57 – 146	1,036	103	53,791
Michigan	54 – 139	972	106	48,866
Indiana	49 – 125	898	97	43,053
West Virginia	48 – 123	581	65	33,868
Kentucky	44 – 112	706	72	37,723
Tennessee	36 – 93	536	57	29,539
Illinois	33 – 86	613	68	31,015
Massachusetts	27 – 70	427	38	23,663
Georgia	24 – 62	518	50	25,782
Connecticut	22 – 56	345	30	18,095
South Carolina	16 – 42	263	27	13,521
Missouri	16 – 41	249	28	12,953
Texas	14 – 36	297	29	14,383
Wisconsin	13 – 34	216	25	11,744
Alabama	12 – 32	193	20	10,009
Florida	10 – 25	132	15	7,255
Arkansas	9 – 22	131	14	6,539
Delaware	9 – 22	131	14	7,156
Oklahoma	8 – 20	124	13	6,331
Iowa	7 – 18	106	13	5,727
District of Columbia	7 – 17	88	9	5,539
Mississippi	5 – 13	87	9	4,156
Rhode Island	5 – 13	72	7	4,055
New Hampshire	5 – 13	79	7	4,412
Maine	5 – 12	62	6	3,720
Kansas	5 – 12	84	9	4,303
Vermont	4 – 11	58	6	3,581
Minnesota	4 – 10	78	9	4,168
Louisiana	4 – 10	67	7	3,256
Nebraska	2 – 4	30	3	1,490
Total	1,271 – 3,261	20,193	2,046	1,063,998

Note: Estimates of premature deaths are presented as a range, reflecting two different risk factors employed by US EPA to estimate premature deaths. The lower estimates are based on Pope et al., 2002, and the higher estimates based on Laden et al. 2006. See the methodology for more information on the two approaches. Asthma exacerbation indicates coughs, shortness of breath and wheezing. ER and Hospital admissions include estimates of visits needed to treat respiratory and cardiopulmonary symptoms.

States with fewer than ten deaths are not included in this table, but health impacts in those states are included in the totals.

Estimated Health Costs Due to AEP's 2011 Pollution (All costs reported in \$1,000s)				
State	Premature Deaths	Asthma Attacks and Exacerbation	ER and Hospital Admissions	Work Loss and Reduced Activity Days
Pennsylvania	\$1,493,000 – \$3,821,000	\$131	\$3,576	\$8,992
Ohio	\$1,306,000 – \$3,344,000	\$146	\$2,903	\$9,404
New York	\$809,000 – \$2,075,000	\$94	\$2,162	\$6,414
Virginia	\$673,000 – \$1,725,000	\$84	\$1,654	\$5,740
North Carolina	\$492,000 – \$1,263,000	\$61	\$1,167	\$3,827
New Jersey	\$460,000 – \$1,181,000	\$56	\$1,226	\$3,705
Maryland	\$415,000 – \$1,067,000	\$54	\$1,022	\$3,607
Michigan	\$395,000 – \$1,014,000	\$51	\$924	\$3,260
Indiana	\$357,000 – \$915,000	\$47	\$823	\$2,787
West Virginia	\$350,000 – \$896,000	\$30	\$762	\$2,125
Kentucky	\$320,000 – \$820,000	\$37	\$729	\$2,392
Tennessee	\$265,000 – \$681,000	\$28	\$599	\$1,873
Illinois	\$244,000 – \$628,000	\$32	\$582	\$2,052
Massachusetts	\$201,000 – \$514,000	\$22	\$536	\$1,589
Georgia	\$177,000 – \$455,000	\$27	\$431	\$1,676
Connecticut	\$159,000 – \$408,000	\$18	\$428	\$1,230
South Carolina	\$120,000 – \$310,000	\$14	\$271	\$857
Missouri	\$115,000 – \$297,000	\$13	\$259	\$822
Texas	\$102,000 – \$262,000	\$15	\$255	\$928
Wisconsin	\$96,000 – \$245,000	\$11	\$233	\$762
Alabama	\$91,000 – \$234,000	\$10	\$204	\$636
Florida	\$72,000 – \$185,000	\$7	\$175	\$462
Arkansas	\$63,000 – \$162,000	\$7	\$140	\$407
Delaware	\$63,000 – \$160,000	\$7	\$145	\$469
Oklahoma	\$57,000 – \$146,000	\$6	\$130	\$398
Iowa	\$52,000 – \$132,000	\$6	\$123	\$365
District of Columbia	\$48,000 – \$123,000	\$5	\$96	\$374
Mississippi	\$37,000 – \$95,000	\$5	\$80	\$260
Rhode Island	\$36,000 – \$92,000	\$4	\$93	\$265
New Hampshire	\$36,000 – \$92,000	\$4	\$99	\$289
Maine	\$35,000 – \$90,000	\$3	\$92	\$237
Kansas	\$35,000 – \$90,000	\$4	\$83	\$277
Vermont	\$32,000 – \$82,000	\$3	\$87	\$228
Minnesota	\$29,000 – \$74,000	\$4	\$77	\$275
Louisiana	\$28,000 – \$72,000	\$4	\$63	\$206
Total	\$9,287,000 – \$23,818,000	\$1,051	\$22,289	\$69,416

States with fewer than ten deaths are not included in this table, but health impacts in those states are included in the totals. The estimated economic costs of health impacts presented here adhere to standards and methods used by the US EPA in calculating health benefits of pollution standards. The estimated health costs are based on either the cost of services that must be provided (for example, the average cost of an emergency room visit to treat a severe asthma attack) or an estimate of the value of avoiding a particular risk (such as mortality.)

- 1 U.S. Senate, Lobbying Disclosure Act Database. Queried by client name, filing year (2010, 2011 and 2012), and issue area (clean air and water, environment/superfund). Note that because disclosure requirements are limited, it isn't possible to determine exactly how much a company spent specifically on any given activity, and lobbying totals may include expenditures on activities other than opposing clean air standards. However, only expenditure reports which list activity relating to air standards and EPA authority were included in lobbying amounts reported here. Available at: <http://soprweb.senate.gov/index.cfm?event=selectfields> (Accessed May 3, 2012).
- 2 AEP Sustainability Report 2010. http://www.aepsustainability.com/ourissues/publicpolicy/docs/AEP-Corporate%20Political%20Contributions_2010chart.pdf.
- 3 American Coalition for Clean Coal Electricity (ACCCE). See <http://www.americaspower.org/press-room> for multiple relevant public statements.
- 4 Power Magazine. http://www.powermag.com/POWERnews/Published-MATS-Rule-Rouses-Challenges-Lawsuits_4427.html.
- 5 "American Electric Power seeking legislation to delay EPA regulations," E&E News April 28, 2011, (subscription only) <http://www.eenews.net/Greenwire/2011/04/28/archive/2?terms=AEP>.
- 6 NRDC Switchboard Blog. http://switchboard.nrdc.org/blogs/fbeinecke/how_many_lives_will_american_e.html.
- 7 The State Journal. <http://www.statejournal.com/story/16953012/aep-ceo-says-new-air-quality-regulations-are-not-cost-effective>.
- 8 NRDC Switchboard Blog. http://switchboard.nrdc.org/blogs/jwalke/senators_dan_coats_r-in_and.html.
- 9 ACCCE. <http://www.cleancoalusa.org/about-us/members>.
- 10 American Coalition for Clean Coal Electricity (ACCCE). See <http://www.americaspower.org/press-room> for multiple relevant public statements.
- 11 See <http://midwestozonegroup.com/membercomp.html>.
- 12 See Petition for Review filed by AEP Texas North Company, Appalachian Power Company, Columbus Southern Power Company, Indiana Michigan Power Company, Kentucky Power Company, Ohio Power Company, Public Service Company of Oklahoma and Southwestern Electric Power Company in No. 11-1369 (D.C. Cir. Oct. 6, 2011) (Consolidated on Oct. 12, 2011 with *EME Homer City Generation, L.P. v. EPA*, No. 11-1302 (D.C. Cir. filed Aug. 23, 2011)).
- 13 US EPA, accessed 3/21/12, <http://www.epa.gov/airtransport/>.
- 14 *EME Homer City Generation, L.P. v. EPA*, No. 11-1302 (D.C. Cir. filed Aug. 23, 2011) (See No. 11-1362, petition for review filed by Midwest Ozone Group of which AEP is a member (<http://midwestozonegroup.com/membercomp.html>). Filed on Oct. 5, 2011 in the Court of Appeals for the D.C. Circuit consolidated with 11-1302 on Oct. 12, 2011 no. 1334791). See also http://www.eenews.net/assets/2012/02/09/document_pm_02.pdf.
- 15 *White Stallion Energy Ctr. v. EPA*, No. 12-110 (D.C. Cir. filed Feb. 16, 2012) (See No. 12-1172, petition for review filed by Midwest Ozone Group, of which AEP is a member (<http://midwestozonegroup.com/membercomp.html>). Filed on April 12, 2012 in the Court of Appeals for the D.C. Circuit consolidated with 12-1100 on April 19, 2012, no. 1369559).
- 16 U.S. EPA, <http://www.epa.gov/mats/health.html>.

AMEREN

EFFORTS BY UTILITY COMPANIES TO BLOCK OR DELAY EPA STANDARDS

LOBBYING EXPENDITURES

Ameren spent over \$7.5 million lobbying Congress in 2010-2012, including (but not limited to) advocacy on proposals to delay the implementation of the MATS and CSAPR standards, as well as proposals to delay limits on industrial carbon pollution, deny EPA's authority to develop carbon pollution standards and to delay setting of standards for carbon pollution.¹

ACCCE MEMBERSHIP

Ameren is a member of the American Coalition for Clean Coal Electricity (ACCCE).² ACCCE is one of the most prominent voices against EPA strengthening standards on power plant pollution and opposes EPA setting limits on carbon pollution.³

MOG MEMBERSHIP

Ameren and ACCCE are both members of the Midwest Ozone Group (MOG), which is a collective of power companies that has sued EPA to void both its Mercury and Air Toxics Standards for power plants and its Cross-State Air Pollution rule.⁴

GOING TO COURT TO BLOCK CLEAN AIR STANDARDS

MOG has joined other petitioners in a lawsuit to void EPA's Cross-State Air Pollution standards (CSAPR).⁵ CSAPR is estimated to save as many as 34,000 lives per year and prevent hundreds of thousands of asthma attacks by reducing the amount of smog-forming and soot pollution from power plants that crosses state lines.⁶

MOG has filed a lawsuit to strike down EPA's Mercury and Air Toxics Standards for power plants (MATS).⁷ MATS sets the first-ever national limits for mercury and other toxic pollutants from power plants, and is imperative for protecting the health of thousands of Americans. MATS is estimated to prevent as many as 11,000 premature deaths from air pollution and avoid as many as 130,000 asthma attacks every year.⁸ MOG's lawsuit seeks to undo these standards.

Estimated Death and Disease Attributable to Ameren's 2011 Pollution				
State	Premature Deaths	Asthma Attacks and Exacerbation	ER and Hospital Admissions	Work Loss and Reduced Activity Days
Illinois	62 – 159	1,104	122	56,131
Michigan	36 – 93	643	71	32,549
Indiana	32 – 83	589	64	28,213
Ohio	31 – 79	493	55	25,297
Missouri	26 – 66	410	46	21,504
Tennessee	16 – 42	260	27	13,725
Wisconsin	15 – 40	262	30	14,092
Pennsylvania	15 – 39	187	18	10,295
Kentucky	13 – 34	210	21	11,120
New York	12 – 30	182	16	9,860
Georgia	9 – 24	198	19	9,827
North Carolina	8 – 21	138	14	7,061
Alabama	8 – 19	117	12	6,054
Arkansas	7 – 19	112	12	5,550
Texas	7 – 19	162	16	7,831
Iowa	7 – 18	105	12	5,675
Virginia	7 – 17	112	12	6,093
Mississippi	6 – 16	109	11	5,212
Florida	5 – 13	66	8	3,618
New Jersey	4 – 11	77	7	3,883
Total	358 – 920	6,062	645	311,280

Note: Estimates of premature deaths are presented as a range, reflecting two different risk factors employed by US EPA to estimate premature deaths. The lower estimates are based on Pope et al., 2002, and the higher estimates based on Laden et al. 2006. See the methodology for more information on the two approaches. Asthma exacerbation indicates coughs, shortness of breath and wheezing. ER and Hospital admissions include estimates of visits needed to treat respiratory and cardiopulmonary symptoms.

States with fewer than ten deaths are not included in this table, but health impacts in those states are included in the totals.

Estimated Health Costs Due to Ameren's 2011 Pollution (All costs reported in \$1,000s)				
State	Premature Deaths	Asthma Attacks and Exacerbation	ER and Hospital Admissions	Work Loss and Reduced Activity Days
Illinois	\$451,000 – \$1,158,000	\$57	\$1,065	\$3,703
Michigan	\$266,000 – \$682,000	\$33	\$622	\$2,155
Indiana	\$236,000 – \$606,000	\$31	\$540	\$1,829
Ohio	\$226,000 – \$579,000	\$26	\$506	\$1,645
Missouri	\$189,000 – \$485,000	\$21	\$416	\$1,375
Tennessee	\$119,000 – \$306,000	\$13	\$267	\$874
Wisconsin	\$113,000 – \$290,000	\$14	\$276	\$919
Pennsylvania	\$111,000 – \$284,000	\$10	\$265	\$665
Kentucky	\$95,000 – \$245,000	\$11	\$219	\$705
New York	\$85,000 – \$218,000	\$9	\$223	\$648
Georgia	\$68,000 – \$175,000	\$10	\$165	\$638
North Carolina	\$60,000 – \$153,000	\$7	\$141	\$450
Alabama	\$55,000 – \$142,000	\$6	\$124	\$384
Arkansas	\$54,000 – \$140,000	\$6	\$119	\$346
Texas	\$53,000 – \$137,000	\$8	\$136	\$507
Iowa	\$51,000 – \$130,000	\$5	\$121	\$362
Virginia	\$49,000 – \$126,000	\$6	\$118	\$399
Mississippi	\$46,000 – \$119,000	\$6	\$100	\$326
Florida	\$36,000 – \$92,000	\$3	\$87	\$230
New Jersey	\$33,000 – \$84,000	\$4	\$87	\$265
Total	\$2,630,000 – \$6,749,000	\$315	\$6,158	\$20,220

States with fewer than ten deaths are not included in this table, but health impacts in those states are included in the totals. The estimated economic costs of health impacts presented here adhere to standards and methods used by the US EPA in calculating health benefits of pollution standards. The estimated health costs are based on either the cost of services that must be provided (for example, the average cost of an emergency room visit to treat a severe asthma attack) or an estimate of the value of avoiding a particular risk (such as mortality).

1 U.S. Senate, Lobbying Disclosure Act Database. Queried by client name, filing year (2010, 2011 and 2012), and issue area (clean air and water, environment/superfund). Note that because disclosure requirements are limited, it isn't possible to determine exactly how much a company spent specifically on any given activity, and lobbying totals may include expenditures on activities other than opposing clean air standards. However, only expenditure reports which list activity relating to air standards and EPA authority were included in lobbying amounts reported here. Available at: <http://soprweb.senate.gov/index.cfm?event=selectfields> (Accessed May 3, 2012).

2 ACCCE. <http://www.cleancoalusa.org/about-us/members>.

3 American Coalition for Clean Coal Electricity (ACCCE). See <http://www.americaspower.org/press-room> for multiple relevant public statements.

4 See <http://midwestozonegroup.com/membercomp.html>.

5 *EME Homer City Generation, L.P. v. EPA*, No. 11-1302 (D.C. Cir. filed Aug. 23, 2011) (See No. 11-1362, petition for review filed by Midwest Ozone Group of which Ameren is a member (<http://midwestozonegroup.com/membercomp.html>). Filed on Oct. 5, 2011 in the Court of Appeals for the D.C. Circuit consolidated with 11-1302 on Oct. 12, 2011 no. 1334791).

6 US EPA, accessed 3/21/12, <http://www.epa.gov/airtransport/>.

7 *White Stallion Energy Ctr. v. EPA*, No. 12-110 (D.C. Cir. filed Feb. 16, 2012) (See No. 12-1172, petition for review filed by Midwest Ozone Group of which Ameren is a member. Filed on April 12, 2012 in the Court of Appeals for the D.C. Circuit consolidated with 12-1100 on April 19, 2012, no. 1369559).

8 U.S. EPA, <http://www.epa.gov/mats/health.html>.

DTE ENERGY

EFFORTS BY UTILITY COMPANIES TO BLOCK OR DELAY EPA STANDARDS

LOBBYING EXPENDITURES

DTE spent over \$3.5 million lobbying Congress in 2010-2012, including (but not limited to) advocacy on proposals to delay limits on industrial carbon pollution, blocking the EPA from setting carbon pollution standards, and advocacy to delay the implementation of the Cross-State Air Pollution Standard.¹

ACCCE MEMBERSHIP

DTE is a member of the American Coalition for Clean Coal Electricity (ACCCE).² ACCCE is one of the most prominent voices against EPA strengthening standards on power plant pollution and opposes EPA setting limits on carbon pollution.³ ACCCE is also a member of the Midwest Ozone Group (MOG), which is a collective of power companies that has sued EPA to void both its Mercury and Air Toxics Standards for power plants and its Cross-State Air Pollution rule.⁴

GOING TO COURT TO BLOCK CLEAN AIR STANDARDS

DTE, under the name of one of its subsidiaries, has filed a lawsuit to eliminate EPA's Cross-State Air Pollution standards (CSAPR).⁵ CSAPR is estimated to save as many as 34,000 lives per year and prevent hundreds of thousands of asthma attacks by reducing the amount of smog-forming and soot pollution from power plants that crosses state lines.⁶

DTE is also connected to the CSAPR suit as a member of the Midwest Ozone Group (MOG).⁷

MOG has filed a lawsuit to strike down EPA's Mercury and Air Toxics Standards for power plants (MATS).⁸ MATS sets the first-ever national limits for mercury and other toxic pollutants from power plants, and is imperative for protecting the health of thousands of Americans. MATS is estimated to prevent as many as 11,000 premature deaths from air pollution and avoid as many as 130,000 asthma attacks every year.⁹ MOG's lawsuit seeks to undo these standards.

Estimated Death and Disease Attributable to DTE Energy's 2011 Pollution				
State	Premature Deaths	Asthma Attacks and Exacerbation	ER and Hospital Admissions	Work Loss and Reduced Activity Days
Ohio	59 – 152	912	103	47,036
Pennsylvania	57 – 147	710	68	39,166
New York	46 – 118	724	64	39,155
Michigan	33 – 84	570	63	28,500
New Jersey	17 – 43	291	25	14,670
Virginia	15 – 39	278	28	14,933
Indiana	12 – 31	222	24	10,627
North Carolina	12 – 30	204	21	10,378
Massachusetts	11 – 29	179	16	9,887
Maryland	11 – 29	207	21	10,772
Illinois	10 – 25	177	19	8,916
Connecticut	8 – 21	129	11	6,810
Kentucky	8 – 20	128	13	6,799
Tennessee	7 – 18	107	11	5,858
West Virginia	6 – 15	72	8	4,197
Georgia	6 – 15	120	12	5,932
Wisconsin	5 – 13	84	10	4,569
Florida	4 – 10	51	6	2,817
South Carolina	4 – 10	61	6	3,131
Total	361 – 925	5,725	579	300,594

Note: Estimates of premature deaths are presented as a range, reflecting two different risk factors employed by US EPA to estimate premature deaths. The lower estimates are based on Pope et al., 2002, and the higher estimates based on Laden et al. 2006. See the methodology for more information on the two approaches. Asthma exacerbation indicates coughs, shortness of breath and wheezing. ER and Hospital admissions include estimates of visits needed to treat respiratory and cardiopulmonary symptoms.

States with fewer than ten deaths are not included in this table, but health impacts in those states are included in the totals.

Estimated Health Costs Due to DTE Energy's 2011 Pollution (All costs reported in \$1,000s)				
State	Premature Deaths	Asthma Attacks and Exacerbation	ER and Hospital Admissions	Work Loss and Reduced Activity Days
Ohio	\$434,000 – \$1,112,000	\$47	\$961	\$3,058
Pennsylvania	\$419,000 – \$1,072,000	\$37	\$1,004	\$2,529
New York	\$336,000 – \$863,000	\$38	\$887	\$2,577
Michigan	\$240,000 – \$616,000	\$30	\$553	\$1,904
New Jersey	\$123,000 – \$315,000	\$15	\$330	\$1,001
Virginia	\$112,000 – \$288,000	\$14	\$279	\$988
Indiana	\$88,000 – \$227,000	\$12	\$203	\$688
North Carolina	\$86,000 – \$220,000	\$11	\$202	\$662
Massachusetts	\$84,000 – \$214,000	\$9	\$224	\$664
Maryland	\$83,000 – \$214,000	\$11	\$204	\$722
Illinois	\$70,000 – \$179,000	\$9	\$167	\$591
Connecticut	\$60,000 – \$154,000	\$7	\$161	\$462
Kentucky	\$57,000 – \$147,000	\$7	\$131	\$432
Tennessee	\$52,000 – \$134,000	\$6	\$118	\$372
West Virginia	\$43,000 – \$110,000	\$4	\$94	\$263
Georgia	\$41,000 – \$106,000	\$6	\$100	\$385
Wisconsin	\$37,000 – \$96,000	\$4	\$91	\$296
Florida	\$29,000 – \$73,000	\$3	\$69	\$180
South Carolina	\$28,000 – \$72,000	\$3	\$63	\$198
Total	\$2,645,000 – \$6,783,000	\$298	\$6,378	\$19,672

States with fewer than ten deaths are not included in this table, but health impacts in those states are included in the totals. The estimated economic costs of health impacts presented here adhere to standards and methods used by the US EPA in calculating health benefits of pollution standards. The estimated health costs are based on either the cost of services that must be provided (for example, the average cost of an emergency room visit to treat a severe asthma attack) or an estimate of the value of avoiding a particular risk (such as mortality.)

1 U.S. Senate, Lobbying Disclosure Act Database. Queried by client name, filing year (2010, 2011 and 2012), and issue area (clean air and water, environment/superfund). Note that because disclosure requirements are limited, it isn't possible to determine exactly how much a company spent specifically on any given activity, and lobbying totals may include expenditures on activities other than opposing clean air standards. However, only expenditure reports which list activity relating to air standards and EPA authority were included in lobbying amounts reported here. Available at: <http://soprweb.senate.gov/index.cfm?event=selectfields> (Accessed May 3, 2012).

2 ACCCE. <http://www.cleancoalusa.org/about-us/members>.

3 American Coalition for Clean Coal Electricity (ACCCE). See <http://www.americaspower.org/press-room> for multiple relevant public statements.

4 See <http://midwestozonegroup.com/membercomp.html>.

5 See Petition for Review filed by DTE Stoneman in No. 11-1391 (D.C. Cir. Oct. 7, 2011) (Consolidated on Oct. 12, 2011 with *EME Homer City Generation, L.P. v. EPA*, No. 11-1302 (D.C. Cir. filed Aug. 23, 2011)).

6 US EPA, accessed 3/21/12, <http://www.epa.gov/airtransport/>.

7 *EME Homer City Generation, L.P. v. EPA*, No. 11-1302 (D.C. Cir. filed Aug. 23, 2011) (See No. 11-1362, petition for review filed by Midwest Ozone Group of which DTE Energy, as a member of ACCCE, is a member (<http://midwestozonegroup.com/membercomp.html>)). Filed on Oct. 5, 2011 in the Court of Appeals for the D.C. Circuit consolidated with 11-1302 on Oct. 12, 2011 no. 1334791). See also http://www.eenews.net/assets/2012/02/09/document_pm_02.pdf.

8 *White Stallion Energy Ctr. v. EPA*, No. 12-110 (D.C. Cir. filed Feb. 16, 2012) (See No. 12-1172, petition for review filed by Midwest Ozone Group of which DTE, as a member of ACCCE, is a member. Filed on April 12, 2012 in the Court of Appeals for the D.C. Circuit consolidated with 12-1100 on April 19, 2012, no. 1369559).

9 U.S. EPA, <http://www.epa.gov/mats/health.html>.

ENERGY FUTURE HOLDINGS

EFFORTS BY UTILITY COMPANIES TO BLOCK OR DELAY EPA STANDARDS

Note: NRDC Energy Program Co-Director, Ralph Cavanagh, has served since 2008 as a member of the company's Sustainable Energy Advisory Board, which was established as part of an ownership transfer that included commitments for significantly expanded investment in energy efficiency and renewable energy and the abandonment of plans to add eight new coal-fired plants to the company's generation portfolio.¹

LOBBYING EXPENDITURES

Energy Future Holdings spent over \$7 million lobbying Congress in 2010-2012, including (but not limited to) advocacy on proposals to delay implementation of CSAPR, as well as proposals to delay limits on industrial carbon pollution, deny EPA's authority to develop carbon pollution standards, and delay setting of standards for carbon pollution.²

Energy Future Holdings is a member of the Electric Reliability Coordinating Council (ERCC),³ a coal utility front group run out of Bracewell & Giuliani's office by lobbyist Scott Segal.⁴

ACCCE MEMBERSHIP

Energy Future Holding's subsidiary, Luminant, is a member of the American Coalition for Clean Coal Electricity (ACCCE).⁵ ACCCE is one of the most prominent voices against EPA strengthening standards on power plant pollution and opposes EPA setting limits on carbon pollution.⁶ ACCCE is also a member of the Midwest Ozone Group (MOG), which is a collective of power companies that has sued EPA to void both its Mercury and Air Toxics Standards for power plants and its Cross-State Air Pollution rule.⁷

GOING TO COURT TO BLOCK CLEAN AIR STANDARDS

In September 2011, Luminant, a division of Energy Future Holdings⁸ and the largest power producer in Texas, filed a lawsuit challenging the CSAPR rule.⁹ Luminant objected to the inclusion of Texas power plants in the final EPA rule, and asked the court to delay enforcement of the rule while the case is being decided.¹⁰ The standard would save as many as 34,000 lives per year and prevent hundreds of thousands of asthma attacks, as well as deliver a number of other health benefits, by reducing the amount of smog-forming and soot pollution from power plants.¹¹

Luminant also sued EPA over these life-saving standards jointly with other power companies as a member of ACCCE, which is a member of the Midwest Ozone Group (MOG).¹²

Energy Future Holdings has also filed a lawsuit challenging the EPA's Mercury and Air Toxics standards under the name of one of its subsidiaries, Oak Grove Management Company, LLC, a Texas power plant owned by EFH.^{13,14} Luminant is a member of ACCCE, which in turn is a member of MOG, and MOG has also filed a lawsuit with other power companies challenging EPA's MATS for power plants.¹⁵ MATS sets the first-ever national limits for mercury and other toxic pollutants from power plants, and is imperative for protecting the health of thousands of Americans. MATS is estimated to prevent as many as 11,000 premature deaths from air pollution and avoid as many as 130,000 asthma attacks every year.¹⁶ EFH's legal filings (under the names of Oak Grove and Luminant) declare its intent to argue that EPA lacks authority under the Clean Air Act to regulate power plants under MATS and that the standards violate the Clean Air Act. If a court agreed with such arguments, the court would invalidate the standard.

Estimated Death and Disease Attributable to Energy Future Holding's 2011 Pollution				
State	Premature Deaths	Asthma Attacks and Exacerbation	ER and Hospital Admissions	Work Loss and Reduced Activity Days
Texas	39 – 101	865	83	41,697
Illinois	17 – 45	311	35	15,786
Missouri	15 – 39	240	27	12,498
Oklahoma	13 – 34	210	22	10,700
Ohio	11 – 29	180	20	9,231
Arkansas	11 – 28	167	18	8,324
Michigan	11 – 27	182	20	9,274
Wisconsin	9 – 22	142	16	7,794
Indiana	9 – 22	155	17	7,440
Tennessee	6 – 17	106	11	5,533
Iowa	6 – 16	95	11	5,148
Pennsylvania	6 – 16	77	7	4,241
Kansas	6 – 14	99	11	4,982
Kentucky	5 – 12	78	8	4,102
Louisiana	5 – 12	84	8	4,037
New York	5 – 12	75	7	4,080
Georgia	4 – 10	81	8	3,988
Total	208 – 541	3,712	383	188,257

Note: Estimates of premature deaths are presented as a range, reflecting two different risk factors employed by US EPA to estimate premature deaths. The lower estimates are based on Pope et al., 2002, and the higher estimates based on Laden et al. 2006. See the methodology for more information on the two approaches. Asthma exacerbation indicates coughs, shortness of breath and wheezing. ER and Hospital admissions include estimates of visits needed to treat respiratory and cardiopulmonary symptoms.

States with fewer than ten deaths are not included in this table, but health impacts in those states are included in the totals.

Estimated Health Costs Due to Energy Future Holding's 2011 Pollution (All costs reported in \$1,000s)

State	Premature Deaths	Asthma Attacks and Exacerbation	ER and Hospital Admissions	Work Loss and Reduced Activity Days
Texas	\$286,000 – \$737,000	\$45	\$728	\$2,697
Illinois	\$127,000 – \$325,000	\$16	\$300	\$1,042
Missouri	\$111,000 – \$285,000	\$12	\$250	\$792
Oklahoma	\$95,000 – \$245,000	\$11	\$219	\$674
Ohio	\$82,000 – \$211,000	\$9	\$184	\$600
Arkansas	\$79,000 – \$204,000	\$9	\$178	\$519
Michigan	\$77,000 – \$197,000	\$9	\$179	\$613
Wisconsin	\$64,000 – \$164,000	\$7	\$156	\$505
Indiana	\$62,000 – \$160,000	\$8	\$143	\$482
Tennessee	\$47,000 – \$122,000	\$5	\$106	\$353
Iowa	\$47,000 – \$119,000	\$5	\$111	\$328
Pennsylvania	\$46,000 – \$117,000	\$4	\$109	\$274
Kansas	\$41,000 – \$106,000	\$5	\$97	\$320
Kentucky	\$35,000 – \$90,000	\$4	\$81	\$260
Louisiana	\$35,000 – \$90,000	\$4	\$78	\$255
New York	\$35,000 – \$90,000	\$4	\$92	\$268
Georgia	\$28,000 – \$72,000	\$4	\$67	\$258
Total	\$1,536,000 – \$3,95,9000	\$193	\$3,651	\$12,145

States with fewer than ten deaths are not included in this table, but health impacts in those states are included in the totals. The estimated economic costs of health impacts presented here adhere to standards and methods used by the US EPA in calculating health benefits of pollution standards. The estimated health costs are based on either the cost of services that must be provided (for example, the average cost of an emergency room visit to treat a severe asthma attack) or an estimate of the value of avoiding a particular risk (such as mortality.)

- 1 See <http://www.energyfutureholdings.com/about/seab.aspx>.
- 2 U.S. Senate, Lobbying Disclosure Act Database. Queried by client name, filing year (2010, 2011 and 2012), and issue area (clean air and water, environment/superfund). Note that because disclosure requirements are limited, it isn't possible to determine exactly how much a company spent specifically on any given activity, and lobbying totals may include expenditures on activities other than opposing clean air standards. However, only expenditure reports which list activity relating to air standards and EPA authority were included in lobbying amounts reported here. Available at: <http://soprweb.senate.gov/index.cfm?event=selectfields> (Accessed May 3, 2012).
- 3 Verbal communication from Scott Segal to NRDC's John Walke. (http://switchboard.nrdc.org/blogs/jwalke/epas_mercury_and_air_toxics_st.html.)
- 4 Polluter Watch. <http://www.polluterwatch.com/jeffrey-holmstead>.
- 5 ACCCE. <http://www.cleancoalusa.org/about-us/members>.
- 6 American Coalition for Clean Coal Electricity (ACCCE). See <http://www.americaspower.org/press-room> for multiple relevant public statements.
- 7 See <http://midwestozonegroup.com/membercomp.html>.
- 8 See <http://www.energyfutureholdings.com/about/businesses/default.aspx>.
- 9 See Petition for Review filed by Big Brown Lignite Company, LLC, Big Brown Paper Company, LLC, Luminant Big Brown Mining Company, LLC, Luminant Energy Company, LLC, Luminant Generation Company, LLC, Luminant Holding Company, LLC, Luminant Mining Company, LLC, Oak Grove Management Company, LLC and Sandow Power Company, LLC in 11-1315 (D.C. Cir. Sept. 12, 2011) (Consolidated on Sept. 13, 2011 with *EME Homer City Generation, L.P. v. EPA*, No. 11-1302 (D.C. Cir. filed Aug. 23, 2011)).
- 10 *Bloomberg News*. <http://www.bloomberg.com/news/2011-09-12/energy-future-units-sue-to-block-epa-interstate-air-pollution-regulations.html>.
- 11 US EPA, accessed 3/21/12, <http://www.epa.gov/airtransport/>.
- 12 *EME Homer City Generation, L.P. v. EPA*, No. 11-1302 (D.C. Cir. filed Aug. 23, 2011) (See No. 11-1362, petition for review filed by Midwest Ozone Group of which Luminant is a member (<http://midwestozonegroup.com/membercomp.html>). Filed on Oct. 5, 2011 in the Court of Appeals for the D.C. Circuit consolidated with 11-1302 on Oct. 12, 2011 no. 1334791). See also http://www.eenews.net/assets/2012/02/09/document_pm_02.pdf.
- 13 See http://www.luminant.com/plants/pdf/OakGrove_Facts.pdf.
- 14 See Petition for Review of Oak Grove Management Company, LLC, in No. 12-1187 (D.C. Cir. Apr. 16, 2012) (Consolidated with *White Stallion Energy Ctr. v. EPA*, No. 12-110 (D.C. Cir. filed Feb. 16, 2012) on Apr. 19, 2012).
- 15 *White Stallion Energy Ctr. v. EPA*, No. 12-110 (D.C. Cir. filed Feb. 16, 2012) (See No. 12-1172, petition for review filed by Midwest Ozone Group of which Luminant, as a member of ACCCE, is a member. Filed on April 12, 2012 in the Court of Appeals for the D.C. Circuit consolidated with 12-1100 on April 19, 2012, no. 1369559).
- 16 U.S. EPA, <http://www.epa.gov/mats/health.html>.

FIRSTENERGY

EFFORTS BY UTILITY COMPANIES TO BLOCK OR DELAY EPA STANDARDS

LOBBYING EXPENDITURES

FirstEnergy spent over \$5.5 million lobbying Congress in 2010-2012, including (but not limited to) advocacy on proposals to delay implementation of the Cross-State Air Pollution Standard, as well as proposals to delay limits on industrial carbon pollution, deny EPA's authority to develop carbon pollution standards, delay setting of standards for carbon pollution and prohibit funding for EPA to implement carbon pollution standards.¹

ACCCE MEMBERSHIP

FirstEnergy is a member of the American Coalition for Clean Coal Electricity (ACCCE).² ACCCE is one of the most prominent voices against EPA strengthening standards on power plant pollution and opposes EPA setting limits on carbon pollution.³

MOG MEMBERSHIP

FirstEnergy and ACCCE are also members of the Midwest Ozone Group (MOG), which is a collective of power companies that has sued EPA to void both its Mercury and Air Toxics Standards for power plants and its Cross-State Air Pollution rule.⁴

GOING TO COURT TO BLOCK CLEAN AIR STANDARDS

FirstEnergy is a member of the Midwest Ozone Group (MOG). MOG has joined other petitioners in a lawsuit to nullify the Cross-State Air Pollution standards (CSAPR).⁵ CSAPR is estimated to save as many as 34,000 lives per year and prevent hundreds of thousands of asthma attacks by reducing the amount of smog-forming and soot pollution from power plants that crosses state lines.⁶

FirstEnergy has individually filed a lawsuit to strike down EPA's Mercury and Air Toxics Standards for power plants (MATS).⁷ MOG has also filed a lawsuit to void EPA's Mercury and Air Toxics Standards for power plants.⁸ MATS sets the first-ever national limits for mercury and other toxic pollutants from power plants, and is imperative for protecting the health of thousands of Americans. MATS is estimated to prevent as many as 11,000 premature deaths from air pollution and avoid as many as 130,000 asthma attacks every year.⁹ FirstEnergy's lawsuit under its own name, and MOG's lawsuit, both seek to undo these standards.

Estimated Death and Disease Attributable to First Energy's 2011 Pollution				
State	Premature Deaths	Asthma Attacks and Exacerbation	ER and Hospital Admissions	Work Loss and Reduced Activity Days
Pennsylvania	133 – 341	1,629	156	90,333
Ohio	74 – 189	1,096	125	56,863
New York	72 – 185	1,166	102	62,790
New Jersey	38 – 97	646	55	32,693
Virginia	36 – 92	682	69	36,425
Maryland	32 – 81	572	57	29,761
Michigan	20 – 52	357	39	18,036
Massachusetts	16 – 42	253	23	14,040
West Virginia	15 – 40	197	22	11,558
North Carolina	15 – 39	272	28	13,747
Connecticut	13 – 33	205	18	10,752
Indiana	8 – 20	146	16	6,940
Illinois	8 – 20	149	16	7,454
Kentucky	6 – 15	95	10	5,061
Delaware	5 – 12	74	8	4,003
Wisconsin	4 – 11	73	8	3,982
Tennessee	4 – 11	60	6	3,331
Total	530 – 1362	8,171	809	435,190

Note: Estimates of premature deaths are presented as a range, reflecting two different risk factors employed by US EPA to estimate premature deaths. The lower estimates are based on Pope et al., 2002, and the higher estimates based on Laden et al. 2006. See the methodology for more information on the two approaches. Asthma exacerbation indicates coughs, shortness of breath and wheezing. ER and Hospital admissions include estimates of visits needed to treat respiratory and cardiopulmonary symptoms.

States with fewer than ten deaths are not included in this table, but health impacts in those states are included in the totals.

Estimated Health Costs Due to First Energy's 2011 Pollution (All costs reported in \$1,000s)				
State	Premature Deaths	Asthma Attacks and Exacerbation	ER and Hospital Admissions	Work Loss and Reduced Activity Days
Pennsylvania	\$973,000 – \$2,492,000	\$85	\$2,327	\$5,833
Ohio	\$538,000 – \$1,379,000	\$57	\$1,178	\$3,693
New York	\$526,000 – \$1,351,000	\$61	\$1,403	\$4,146
New Jersey	\$276,000 – \$708,000	\$34	\$736	\$2,227
Virginia	\$261,000 – \$670,000	\$35	\$667	\$2,425
Maryland	\$231,000 – \$594,000	\$30	\$567	\$1,995
Michigan	\$147,000 – \$379,000	\$19	\$344	\$1,203
Massachusetts	\$119,000 – \$305,000	\$13	\$318	\$943
West Virginia	\$113,000 – \$289,000	\$10	\$251	\$725
North Carolina	\$112,000 – \$287,000	\$14	\$263	\$877
Connecticut	\$95,000 – \$242,000	\$11	\$254	\$731
Indiana	\$58,000 – \$148,000	\$8	\$133	\$449
Illinois	\$57,000 – \$146,000	\$8	\$137	\$496
Kentucky	\$43,000 – \$110,000	\$5	\$97	\$321
Delaware	\$35,000 – \$89,000	\$4	\$81	\$263
Wisconsin	\$33,000 – \$84,000	\$4	\$79	\$258
Tennessee	\$30,000 – \$78,000	\$3	\$68	\$211
Total	\$3,881,000 – \$9,951,000	\$425	\$9,478	\$28,568

States with fewer than ten deaths are not included in this table, but health impacts in those states are included in the totals. The estimated economic costs of health impacts presented here adhere to standards and methods used by the US EPA in calculating health benefits of pollution standards. The estimated health costs are based on either the cost of services that must be provided (for example, the average cost of an emergency room visit to treat a severe asthma attack) or an estimate of the value of avoiding a particular risk (such as mortality.)

1 U.S. Senate, Lobbying Disclosure Act Database. Queried by client name, filing year (2010, 2011 and 2012), and issue area (clean air and water, environment/superfund). Note that because disclosure requirements are limited, it isn't possible to determine exactly how much a company spent specifically on any given activity, and lobbying totals may include expenditures on activities other than opposing clean air standards. However, only expenditure reports which list activity relating to air standards and EPA authority were included in lobbying amounts reported here. Available at: <http://soprweb.senate.gov/index.cfm?event=selectfields> (Accessed May 3, 2012).

2 ACCCE. <http://www.cleancoalusa.org/about-us/members>.

3 American Coalition for Clean Coal Electricity (ACCCE). See <http://www.americaspower.org/press-room> for multiple relevant public statements.

4 See <http://midwestozonegroup.com/membercomp.html>.

5 *EME Homer City Generation, L.P. v. EPA*, No. 11-1302 (D.C. Cir. filed Aug. 23, 2011) (See No. 11-1362, petition for review filed by Midwest Ozone Group of which FirstEnergy is a member. Filed on Oct. 5, 2011 in the Court of Appeals for the D.C. Circuit consolidated with 11-1302 on Oct. 12, 2011 no. 1334791).

6 US EPA, accessed 3/21/12, <http://www.epa.gov/airtransport/>.

7 See Petition for Review filed by FirstEnergy Generation Corp. in No. 12-1192 (D.C. Cir. Apr. 16, 2012) (Consolidated with *White Stallion Energy Ctr. v. EPA*, No. 12-110 (D.C. Cir. filed Feb. 16, 2012) on May 30, 2012).

8 See Petition for review filed by Midwest Ozone Group, of which FirstEnergy is a member, No. 12-1172 (D.C. Cir. Apr. 12, 2012) (Consolidated with *White Stallion Energy Ctr. v. EPA*, No. 12-110 (D.C. Cir. filed Feb. 16, 2012) on April 19, 2012).

9 U.S. EPA, <http://www.epa.gov/mats/health.html>.

GENON

EFFORTS BY UTILITY COMPANIES TO BLOCK OR DELAY EPA STANDARDS

LOBBYING EXPENDITURES

GenOn spent over \$1 million lobbying Congress in 2010-2012, including (but not limited to) advocacy to delay EPA from setting carbon pollution standards and advocacy to prohibit the EPA from setting carbon pollution standards under the Clean Air Act. In addition, GenOn lobbied on the MATS.¹

GOING TO COURT TO BLOCK CLEAN AIR STANDARDS

GenOn has sued EPA to overturn the agency's Cross-State Air Pollution Rule (CSAPR).² CSAPR is estimated to save as many as 34,000 lives per year and prevent hundreds of thousands of asthma attacks by reducing the amount of smog-forming and soot pollution from power plants that crosses state lines.³

Estimated Death and Disease Attributable to GenOn's 2011 Pollution				
State	Premature Deaths	Asthma Attacks and Exacerbation	ER and Hospital Admissions	Work Loss and Reduced Activity Days
Pennsylvania	84 – 215	1,058	100	58,171
New York	61 – 155	1,010	87	54,032
New Jersey	36 – 93	629	53	31,771
Ohio	34 – 87	508	58	26,322
Maryland	22 – 58	409	41	21,188
Virginia	20 – 52	398	40	21,155
Massachusetts	14 – 37	224	20	12,430
Connecticut	13 – 33	207	18	10,845
Michigan	11 – 27	186	20	9,407
North Carolina	8 – 21	145	15	7,375
West Virginia	6 – 16	78	9	4,567
Indiana	4 – 11	81	9	3,842
Illinois	4 – 11	85	9	4,221
Delaware	4 – 10	59	6	3,229
Total	352 – 904	5,543	534	294,341

Note: Estimates of premature deaths are presented as a range, reflecting two different risk factors employed by US EPA to estimate premature deaths. The lower estimates are based on Pope et al., 2002, and the higher estimates based on Laden et al. 2006. See the methodology for more information on the two approaches. Asthma exacerbation indicates coughs, shortness of breath and wheezing. ER and Hospital admissions include estimates of visits needed to treat respiratory and cardiopulmonary symptoms.

States with fewer than ten deaths are not included in this table, but health impacts in those states are included in the totals.

Estimated Health Costs Due to GenOn's 2011 Pollution (All costs reported in \$1,000s)				
State	Premature Deaths	Asthma Attacks and Exacerbation	ER and Hospital Admissions	Work Loss and Reduced Activity Days
Pennsylvania	\$612,000 – \$1,569,000	\$55	\$1,476	\$3,770
New York	\$442,000 – \$1,136,000	\$53	\$1,195	\$3,590
New Jersey	\$266,000 – \$682,000	\$33	\$713	\$2,168
Ohio	\$247,000 – \$634,000	\$26	\$546	\$1,706
Maryland	\$164,000 – \$421,000	\$21	\$401	\$1,421
Virginia	\$149,000 – \$382,000	\$21	\$384	\$1,412
Massachusetts	\$105,000 – \$270,000	\$12	\$282	\$834
Connecticut	\$95,000 – \$244,000	\$11	\$257	\$738
Michigan	\$77,000 – \$198,000	\$10	\$180	\$627
North Carolina	\$61,000 – \$156,000	\$8	\$142	\$470
West Virginia	\$45,000 – \$116,000	\$4	\$100	\$287
Indiana	\$32,000 – \$83,000	\$4	\$74	\$249
Illinois	\$32,000 – \$82,000	\$4	\$77	\$281
Delaware	\$28,000 – \$72,000	\$3	\$65	\$212
Total	\$2,575,000 – \$6,614,000	\$288	\$6,431	\$19,427

States with fewer than ten deaths are not included in this table, but health impacts in those states are included in the totals. The estimated economic costs of health impacts presented here adhere to standards and methods used by the US EPA in calculating health benefits of pollution standards. The estimated health costs are based on either the cost of services that must be provided (for example, the average cost of an emergency room visit to treat a severe asthma attack) or an estimate of the value of avoiding a particular risk (such as mortality.)

1 U.S. Senate, Lobbying Disclosure Act Database. Queried by client name, filing year (2010, 2011 and 2012), and issue area (clean air and water, environment/superfund). Note that because disclosure requirements are limited, it isn't possible to determine exactly how much a company spent specifically on any given activity, and lobbying totals may include expenditures on activities other than opposing clean air standards. However, only expenditure reports which list activity relating to air standards and EPA authority were included in lobbying amounts reported here. Available at: <http://soprweb.senate.gov/index.cfm?event=selectfields> (Accessed May 3, 2012).

2 See Petition for Review filed by GenOn Energy Inc. in No. 11-1323 (D.C. Cir. Sept. 13, 2011) (Consolidated with *EME Homer City Generation, L.P. v. EPA*, No. 11-1302 (D.C. Cir. filed Aug. 23, 2011) on Sept. 14, 2011). See also http://www.eenews.net/assets/2012/02/09/document_pm_02.pdf.

3 US EPA, accessed 3/21/12, <http://www.epa.gov/airtransport/>.

PPL

EFFORTS BY UTILITY COMPANIES TO BLOCK OR DELAY EPA STANDARDS

LOBBYING EXPENDITURES

PPL spent over \$1.9 million lobbying Congress in 2010-2012, including (but not limited to) advocacy on proposals to disapprove the CSAPR and delay compliance schedules on CSAPR and MATS, as well as delay EPA from setting carbon pollution standards, deny the EPA authority to set carbon pollution standards, and prohibit funding for EPA to implement carbon pollution standards.¹

ACCCE MEMBERSHIP

PPL, through its subsidiaries LG&E and KU Energy, is a member of the American Coalition for Clean Coal Electricity (ACCCE).² ACCCE is one of the most prominent voices against EPA strengthening standards on power plant pollution and opposes EPA setting limits on carbon pollution.³

MOG MEMBERSHIP

PPL subsidiaries LG&E and KU Energy, and ACCCE are members of the Midwest Ozone Group (MOG).⁴ MOG is a collective of power companies that has sued EPA to void both its Mercury and Air Toxics Standards for power plants and its Cross-State Air Pollution rule.⁵

GOING TO COURT TO BLOCK CLEAN AIR STANDARDS

PPL, through its subsidiaries LG&E and KU Energy,⁶ has joined with other power companies and filed a lawsuit challenging EPA's Cross-State Air Pollution Rule (CSAPR).⁷ The standard would save as many as 34,000 lives per year and prevent hundreds of thousands of asthma attacks, as well as deliver a number of other health benefits, by reducing the amount of smog-forming and soot pollution from power plants.⁸

LG&E and KU Energy, subsidiaries of PPL, are both individual members of both MOG and ACCCE. MOG has also filed a lawsuit to strike down EPA's Mercury and Air Toxics Standards for power plants (MATS).⁹ MATS sets the first-ever national limits for mercury and other toxic pollutants from power plants, and is imperative for protecting the health of thousands of Americans. MATS is estimated to prevent as many as 11,000 premature deaths from air pollution and avoid as many as 130,000 asthma attacks every year.¹⁰ MOG's lawsuit seeks to undo these standards.

Estimated Death and Disease Attributable to PPL's 2011 Pollution				
State	Premature Deaths	Asthma Attacks and Exacerbation	ER and Hospital Admissions	Work Loss and Reduced Activity Days
Pennsylvania	61 – 157	787	74	43,015
Ohio	47 – 121	757	85	38,877
New York	40 – 103	654	57	35,176
Kentucky	28 – 71	462	47	24,489
New Jersey	25 – 64	429	36	21,731
Indiana	18 – 47	329	36	15,986
Virginia	18 – 46	320	33	17,195
Maryland	16 – 41	281	28	14,600
Tennessee	16 – 40	236	25	12,912
Michigan	15 – 39	270	29	13,597
North Carolina	14 – 36	236	24	12,044
Georgia	9 – 23	192	19	9,549
Massachusetts	9 – 23	141	13	7,792
Illinois	9 – 22	153	17	7,776
Connecticut	8 – 20	121	11	6,341
West Virginia	7 – 18	85	10	4,943
Alabama	6 – 14	86	9	4,465
South Carolina	5 – 14	85	9	4,378
Florida	4 – 10	51	6	2,778
Total	384 – 979	6,131	612	322,131

Note: Estimates of premature deaths are presented as a range, reflecting two different risk factors employed by US EPA to estimate premature deaths. The lower estimates are based on Pope et al., 2002, and the higher estimates based on Laden et al. 2006. See the methodology for more information on the two approaches. Asthma exacerbation indicates coughs, shortness of breath and wheezing. ER and Hospital admissions include estimates of visits needed to treat respiratory and cardiopulmonary symptoms.

States with fewer than ten deaths are not included in this table, but health impacts in those states are included in the totals.

Estimated Health Costs Due to PPL's 2011 Pollution (All costs reported in \$1,000s)				
State	Premature Deaths	Asthma Attacks and Exacerbation	ER and Hospital Admissions	Work Loss and Reduced Activity Days
Pennsylvania	\$447,000 – \$1,145,000	\$41	\$1,081	\$2,793
Ohio	\$343,000 – \$880,000	\$39	\$768	\$2,530
New York	\$292,000 – \$749,000	\$34	\$782	\$2,329
Kentucky	\$202,000 – \$518,000	\$24	\$468	\$1,558
New Jersey	\$184,000 – \$471,000	\$22	\$489	\$1,480
Indiana	\$133,000 – \$341,000	\$17	\$306	\$1,033
Virginia	\$132,000 – \$338,000	\$17	\$324	\$1,134
Maryland	\$115,000 – \$296,000	\$15	\$278	\$977
Tennessee	\$115,000 – \$295,000	\$12	\$260	\$819
Michigan	\$110,000 – \$283,000	\$14	\$257	\$907
North Carolina	\$102,000 – \$261,000	\$12	\$240	\$767
Georgia	\$66,000 – \$170,000	\$10	\$160	\$620
Massachusetts	\$66,000 – \$169,000	\$7	\$176	\$523
Illinois	\$63,000 – \$161,000	\$8	\$147	\$513
Connecticut	\$56,000 – \$143,000	\$6	\$150	\$431
West Virginia	\$51,000 – \$132,000	\$4	\$111	\$310
Alabama	\$41,000 – \$104,000	\$4	\$91	\$284
South Carolina	\$39,000 – \$100,000	\$4	\$88	\$278
Florida	\$27,000 – \$70,000	\$3	\$66	\$177
Total	\$2,789,000 – \$7,159,000	\$319	\$6,738	\$21,043

States with fewer than ten deaths are not included in this table, but health impacts in those states are included in the totals. The estimated economic costs of health impacts presented here adhere to standards and methods used by the US EPA in calculating health benefits of pollution standards. The estimated health costs are based on either the cost of services that must be provided (for example, the average cost of an emergency room visit to treat a severe asthma attack) or an estimate of the value of avoiding a particular risk (such as mortality.)

1 U.S. Senate, Lobbying Disclosure Act Database. Queried by client name, filing year (2010, 2011 and 2012), and issue area (clean air and water, environment/superfund). Note that because disclosure requirements are limited, it isn't possible to determine exactly how much a company spent specifically on any given activity, and lobbying totals may include expenditures on activities other than opposing clean air standards. However, only expenditure reports which list activity relating to air standards and EPA authority were included in lobbying amounts reported here. Available at: <http://soprweb.senate.gov/index.cfm?event=selectfields> (Accessed May 3, 2012).

2 See American Coalition for Clean Coal Electricity, Members available at <http://www.cleancolusa.org/about-us/members>.

3 American Coalition for Clean Coal Electricity (ACCCE). See <http://www.americaspower.org/press-room> for multiple relevant public statements.

4 See <http://midwestozonegroup.com/membercomp.html>.

5 See <http://midwestozonegroup.com/membercomp.html>.

6 See <http://www.lge-ku.com/about.asp>.

7 *EME Homer City Generation, L.P. v. EPA*, No. 11-1302 (D.C. Cir. filed Aug. 23, 2011) (See No. 11-1362, petition for review filed by Midwest Ozone Group of which LG&E and KU are members (<http://midwestozonegroup.com/membercomp.html>). Filed on Oct. 5, 2011 in the Court of Appeals for the D.C. Circuit consolidated with 11-1302 on Oct. 12, 2011 no. 1334791). See also http://www.eenews.net/assets/2012/02/09/document_pm_02.pdf.

8 US EPA, accessed 3/21/12, <http://www.epa.gov/airtransport/>.

9 *White Stallion Energy Ctr. v. EPA*, No. 12-110 (D.C. Cir. filed Feb. 16, 2012) (See No. 12-1172, petition for review filed by Midwest Ozone Group of which LG&E and KU Energy are members. Filed on April 12, 2012 in the Court of Appeals for the D.C. Circuit consolidated with 12-1100 on April 19, 2012, no. 1369559).

10 U.S. EPA, <http://www.epa.gov/mats/health.html>.

SOUTHERN COMPANY

EFFORTS BY UTILITY COMPANIES TO BLOCK OR DELAY EPA STANDARDS

LOBBYING EXPENDITURES, CONTRIBUTIONS, AND MEMBERSHIPS

Southern Company spent over \$17.5 million lobbying Congress in 2010-2012, including (but not limited to) advocacy on proposals to disapprove the CSAPR and delay compliance schedules on CSAPR and MATS, as well as to delay the EPA from setting carbon pollution standards, deny EPA authority to set carbon pollution standards, and prohibit funding for EPA to implement carbon pollution standards.¹

Southern Company is a member of the Electric Reliability Coordinating Council (ERCC), a coal utility front group run out of Bracewell & Giuliani's office by lobbyist Scott Segal.²

Southern Company made payments of \$50,000 or more in 2011 to each of the following trade associations and coalitions engaged in lobbying-related activities:³

- American Coalition for Clean Coal Electricity
- National Association of Manufacturers
- U.S. Chamber of Commerce

TESTIMONY AGAINST CLEAN AIR STANDARDS

Southern Company testified in opposition to the Mercury and Air Toxics Standards for Power Plants at a April 15, 2011 Energy & Commerce Subcommittee on Energy & Power hearing on Recent EPA Rulemakings Relating to Boilers, Cement Manufacturing Plants, and Utilities.⁴ Southern Company pressed EPA to slow down its implementation of court-ordered rules targeting toxic air pollution, and warned that a three-year time frame (the time frame that's required by law) to upgrade or shut down the dirtiest plants would be too costly.⁵

ACCCE MEMBERSHIP

Southern Company is a member of the American Coalition for Clean Coal Electricity (ACCCE).⁶ ACCCE is one of the most prominent voices against EPA strengthening standards on power plant pollution and opposes EPA setting limits on carbon pollution.⁷ ACCCE is a member of the Midwest Ozone Group (MOG), which is a collective of power companies that has sued EPA to void both its Mercury and Air Toxics Standards for power plants and its Cross-State Air Pollution rule.⁸

GOING TO COURT TO BLOCK CLEAN AIR STANDARDS

Southern Company has filed a lawsuit challenging EPA's Cross-State Air Pollution Rule (CSAPR).⁹

The standard would save as many as 34,000 lives per year and prevent hundreds of thousands of asthma attacks, as well as deliver a number of other health benefits, by reducing the amount of smog-forming and soot pollution from power plants.¹⁰ Southern has also sued EPA over these life-saving standards jointly with other power companies as a member of ACCCE, which is a member of the Midwest Ozone Group (MOG).¹¹

Southern Company is also a member of ACCCE which is a member of MOG. MOG has filed a lawsuit to strike down EPA's Mercury and Air Toxics Standards for power plants (MATS).¹² MATS sets the first-ever national limits for mercury and other toxic pollutants from power plants, and is imperative for protecting the health of thousands of Americans. MATS is estimated to prevent as many as 11,000 premature deaths from air pollution and avoid as many as 130,000 asthma attacks every year.¹³ Southern's lawsuit under its own name, and MOG's lawsuit, both seek to undo these standards.

Estimated Death and Disease Attributable to Southern Company's 2011 Pollution				
State	Premature Deaths	Asthma Attacks and Exacerbation	ER and Hospital Admissions	Work Loss and Reduced Activity Days
Georgia	111 – 286	2,399	231	119,066
Alabama	62 – 160	956	98	49,347
Tennessee	48 – 122	712	75	38,784
North Carolina	45 – 115	751	78	38,384
Florida	36 – 93	502	57	27,555
South Carolina	32 – 83	518	53	26,575
Ohio	30 – 78	486	55	25,002
Mississippi	21 – 54	361	35	17,275
Kentucky	21 – 53	332	34	17,635
Virginia	21 – 53	324	34	17,684
Pennsylvania	20 – 52	249	24	13,776
Illinois	16 – 42	281	31	14,429
Indiana	15 – 40	279	30	13,496
Texas	12 – 32	271	26	13,076
Michigan	12 – 30	208	23	10,485
Missouri	11 – 28	170	19	8,867
New York	11 – 27	168	15	9,079
Louisiana	10 – 27	187	18	9,095
Arkansas	8 – 21	120	13	5,944
West Virginia	7 – 18	82	9	4,749
Maryland	6 – 16	112	11	5,839
New Jersey	5 – 14	92	8	4,663
Wisconsin	4 – 11	68	8	3,705
Total	580 – 1,497	9,888	1,012	508,390

Note: Estimates of premature deaths are presented as a range, reflecting two different risk factors employed by US EPA to estimate premature deaths. The lower estimates are based on Pope et al., 2002, and the higher estimates based on Laden et al. 2006. See the methodology for more information on the two approaches. Asthma exacerbation indicates coughs, shortness of breath and wheezing. ER and Hospital admissions include estimates of visits needed to treat respiratory and cardiopulmonary symptoms.

States with fewer than ten deaths are not included in this table, but health impacts in those states are included in the totals.

Estimated Health Costs Due to Southern Company's 2011 Pollution (All costs reported in \$1,000s)				
State	Premature Deaths	Asthma Attacks and Exacerbation	ER and Hospital Admissions	Work Loss and Reduced Activity Days
Georgia	\$810,000 – \$2,087,000	\$125	\$1,973	\$7,748
Alabama	\$452,000 – \$1,164,000	\$50	\$1,004	\$3,131
Tennessee	\$347,000 – \$892,000	\$37	\$782	\$2,463
North Carolina	\$327,000 – \$840,000	\$39	\$772	\$2,446
Florida	\$266,000 – \$682,000	\$26	\$645	\$1,751
South Carolina	\$236,000 – \$607,000	\$27	\$536	\$1,686
Ohio	\$222,000 – \$569,000	\$25	\$496	\$1,625
Mississippi	\$154,000 – \$396,000	\$19	\$336	\$1,079
Kentucky	\$152,000 – \$390,000	\$17	\$346	\$1,114
Virginia	\$151,000 – \$386,000	\$17	\$351	\$1,147
Pennsylvania	\$149,000 – \$380,000	\$13	\$355	\$890
Illinois	\$120,000 – \$309,000	\$15	\$280	\$946
Indiana	\$113,000 – \$290,000	\$15	\$259	\$872
Texas	\$89,000 – \$230,000	\$14	\$228	\$846
Michigan	\$85,000 – \$218,000	\$11	\$198	\$697
Missouri	\$80,000 – \$205,000	\$9	\$177	\$564
New York	\$78,000 – \$199,000	\$9	\$205	\$598
Louisiana	\$76,000 – \$197,000	\$10	\$171	\$577
Arkansas	\$59,000 – \$152,000	\$6	\$128	\$370
West Virginia	\$50,000 – \$129,000	\$4	\$107	\$298
Maryland	\$45,000 – \$116,000	\$6	\$111	\$391
New Jersey	\$40,000 – \$102,000	\$5	\$106	\$317
Wisconsin	\$30,000 – \$77,000	\$4	\$73	\$240
Total	\$4,248,000 – \$10,919,000	\$514	\$9,927	\$32,700

States with fewer than ten deaths are not included in this table, but health impacts in those states are included in the totals. The estimated economic costs of health impacts presented here adhere to standards and methods used by the US EPA in calculating health benefits of pollution standards. The estimated health costs are based on either the cost of services that must be provided (for example, the average cost of an emergency room visit to treat a severe asthma attack) or an estimate of the value of avoiding a particular risk (such as mortality.)

- 1 U.S. Senate, Lobbying Disclosure Act Database. Queried by client name, filing year (2010, 2011 and 2012), and issue area (clean air and water, environment/superfund). Note that because disclosure requirements are limited, it isn't possible to determine exactly how much a company spent specifically on any given activity, and lobbying totals may include expenditures on activities other than opposing clean air standards. However, only expenditure reports which list activity relating to air standards and EPA authority were included in lobbying amounts reported here. Available at: <http://soprweb.senate.gov/index.cfm?event=selectfields> (Accessed May 3, 2012).
- 2 Verbal communication from Scott Segal to NRDC's John Walke. (http://switchboard.nrdc.org/blogs/jwalke/epas_mercury_and_air_toxics_st.html.)
- 3 Southern Company. Political Contributions. http://investor.southerncompany.com/political_contributions.cfm.
- 4 Hearing before the House Energy & Commerce Committee. April 15, 2011. http://republicans.energycommerce.house.gov/Media/file/Hearings/Energy/041511_2/Fanning.pdf.
- 5 "Southern Co. CEO protests 'war on coal' and says nuclear projects are on track." E&E ClimateWire (subscription only.) April 14, 2011. <http://www.eenews.net/climatewire/2011/04/14/archive/2?terms=tom+fanning>.
- 6 See American Coalition for Clean Coal Electricity, Members available at <http://www.cleancoalusa.org/about-us/members>.
- 7 American Coalition for Clean Coal Electricity (ACCCE). See <http://www.americaspower.org/press-room> for multiple relevant public statements.
- 8 See <http://midwestozonegroup.com/membercomp.html>.
- 9 See Petition for Review filed by Alabama Power Company, Georgia Power Company, Gulf Power Company, Mississippi Power Company, Southern Company Services, Inc. and Southern Power Company in No. 11-1389 (D.C. Cir. Oct. 7, 2011) (Consolidated on Oct. 12, 2011 with *EME Homer City Generation, L.P. v. EPA*, No. 11-1302 (D.C. Cir. filed Aug. 23, 2011)).
- 10 US EPA, accessed 3/21/12, <http://www.epa.gov/airtransport/>.
- 11 *EME Homer City Generation, L.P. v. EPA*, No. 11-1302 (D.C. Cir. filed Aug. 23, 2011) (See No. 11-1362, petition for review filed by Midwest Ozone Group of which Southern is a member (<http://midwestozonegroup.com/membercomp.html>). Filed on Oct. 5, 2011 in the Court of Appeals for the D.C. Circuit consolidated with 11-1302 on Oct. 12, 2011 no. 1334791). See also http://www.eenews.net/assets/2012/02/09/document_pm_02.pdf.
- 12 *White Stallion Energy Ctr. v. EPA*, No. 12-110 (D.C. Cir. filed Feb. 16, 2012) (See No. 12-1172, petition for review filed by Midwest Ozone Group of which ACCCE is a member. Filed on April 12, 2012 in the Court of Appeals for the D.C. Circuit consolidated with 12-1100 on April 19, 2012, no. 1369559).
- 13 U.S. EPA, <http://www.epa.gov/mats/health.html>.

SOLUTIONS

Fortunately, utility companies have access to a host of cost-effective solutions that can dramatically reduce and even avoid dangerous pollution. A smart investment strategy starts with cost-effective energy efficiency—helping homeowners and businesses lower energy bills by upgrading heating and cooling equipment, improving building insulation and providing incentives for high efficiency windows, appliances and equipment whenever doing so is cheaper than generating and delivering electricity. These investments improve quality of life for utility customers, and energy savings of 30 percent to 50 percent or more provide a welcome shot in the arm to local economies while creating thousands of local jobs that can never be outsourced. Lowering demand makes it more cost-effective to replace aging coal plants with new, cleaner sources of energy and install readily available modern emission controls for the plants that remain economic.

Some of these companies have proven they can do the right thing on energy efficiency or renewable energy:

- Under AEP-Ohio's 2012-2014 energy efficiency plan, the company will invest almost \$300 million in innovative energy efficiency programs to help people and businesses save energy and money.
- Similarly, DTE recently proposed and gained conditional approval for a plan to invest \$300 million over four years in energy saving measures to benefit their customers in Michigan. In 2010 DTE substantially exceeded the mandatory standards for saving energy.¹
- Following an ownership transfer in 2008, EFH shelved plans to build eight coal-fired power plants, increased significantly its energy efficiency and renewable energy investments, and developed an award-winning shareholder-financed program to provide energy efficiency and related services to low-income communities.

However, even these companies are pursuing a contradictory strategy of using legislative lobbying and legal maneuvering to impede or prevent EPA from setting stronger health-protective standards for pollution from power plants. It is time for these utility companies to invest more of their revenues in reducing air pollution, rather than investing in efforts that prevent or delay the EPA from doing its job and undercut clean air—and our health.

1 Michigan Public Service Commission Docket U-16671. <http://efile.mpsc.state.mi.us/efile/docs/16671/0007.pdf>

APPENDIX: METHODOLOGY FOR ESTIMATING THE HEALTH IMPACTS OF POWER PLANTS

Impact estimates are based on 2011 emissions of sulfur dioxide and nitrogen oxide from each coal unit obtained from the Environmental Protection Agency's (EPA) Continuous Emissions Monitoring System (CEMS) database, and based on modeled emissions of direct fine particulate matter, or PM 2.5. Sulfur dioxide and nitrogen oxides both contribute to the secondary formation of PM 2.5 in the atmosphere in addition to directly emitted PM 2.5.¹ Using the models and methodologies detailed below, health impacts related to total PM 2.5 pollution from power plants can be reasonably estimated.

The emissions data were fed into a modeling program developed by Abt Associates designed to provide the EPA with estimates of health impacts from power plants. The model employs a well-established and extensively peer-reviewed methodology, using the same fundamental process as that is used by EPA, which has been approved by both the EPA's Science Advisory Board and the National Academy of Sciences (NAS).² It calculates the distance pollution from each source can be expected to travel and the dispersion the pollutants will undergo based on local meteorology to provide an estimate of the pollution concentrations in each state that the modeled plant is responsible for.

Documented health impacts—increased death rates (premature mortality), and a range of other air pollution-related diseases—calculated based on the concentration of each pollutant in each location and on the population density. There are a large number of published health studies that estimate the additional risk of mortality due to long-term exposure to PM2.5, each with various advantages and limitations. EPA's recent Regulatory Impact Assessments of health benefits from the Mercury and Air Toxics standard, the Cross-State Air Pollution standard and the Carbon Pollution Standard for New Power Plants rely upon two studies as the anchors for what can be interpreted as low- and high-range estimates of the health impacts of particulates—the American Cancer Society or ACS study (Pope et al., 1995; Pope et al., 2002; Pope et al., 2004, Krewski et al., 2009) and the Harvard “Six-Cities Study” (Dockery et al., 1993; Laden et al., 2006). The advantages of the ACS study include its larger sample size, longer exposure interval, and inclusion of more locations. The advantages of the “Six-Cities Study” include that it reflects more up-to-date science and is cited by many of the experts whose views EPA has sought in its efforts to characterize the health benefits of reducing particulate pre-cursors.³

Accordingly, this analysis provides low- and high-range estimates of mortality, with the low-range estimate based on the ACS study (Pope et al., 2002, whose results were validated by Krewski et al., 2009) and the high-range estimate based on the Harvard Six-Cities Study (Laden et al. 2006).

The analysis took care to account for every factor possible in order to ensure the accuracy of the health impacts estimates, including examining public records to determine whether any plants had been shut down or had been upgraded with new pollution control systems which would change the amount of pollution a plant emits. In those cases, we adjusted the pollution levels for the company accordingly. The adjustments were made for the following plants:

- AEP's John E Amos plant in West Virginia completed a new scrubber in 2011⁴
- Ameren's Sioux plant in Missouri completed a new scrubber in 2011⁵
- Ameren's Meredosia plant in Illinois shut down at the end of 2011⁶
- Southern Company completed a scrubber on Unit 1 of its James H Miller plant Alabama in 2011⁷
- Southern Company completed a scrubber on Unit 3 of its Scherer plant in Georgia in 2011, which it co-owns with Oglethorpe Power⁸
- Southern Company retired the two coal-fired units at its McDonough plant in September 2011 and February 2012, respectively⁹

The economic costs of health impacts are calculated based on either the cost of services that must be provided (for example, the average cost of an emergency room visit to treat a severe asthma attack) or an estimate of the value of avoiding a particular risk (such as mortality.) A detailed table of the cost factors used in this analysis can be found on page 20 of the Abt Technical Support Document.¹⁰

As with any modeling exercise, it is important to acknowledge that the results reported here are estimates and as such the actual outcomes may be higher or lower. However, we believe the results are an accurate depiction of health outcomes based on the information that is publicly available about each company's pollution levels and widely-accepted methods for estimating pollution dispersion, concentration and potential to harm public health. For a full discussion of the limitations and uncertainties inherent in the model, see Abt's Technical Support Document.¹¹

- 1 Volatile organic compounds and other compounds containing nitrogen such as ammonia can also form secondary PM 2.5; however, these were not included here as their contributions were expected to be minor.
- 2 For more information on the model see “Technical Support Document for the Power plant Impact Estimator Software Tool” (http://www.catf.us/resources/publications/files/Abt-Technical_Support_Document_for_the_Powerplant_Impact_Estimator_Software_Tool.pdf).
- 3 For full discussions of the approaches in question see: Pages 5-24 through 5-29 of the RIA for the Mercury and Air Toxics Standard (<http://www.epa.gov/mats/pdfs/20111221MATSfinalRIA.pdf>), pages 97-100 of the RIA for the Cross-State Air Pollution Standard (<http://www.epa.gov/airtransport/pdfs/FinalRIA.pdf>) and pages 5-25 through 5-30 of the RIA for the Carbon Pollution Standard for New Power Plants (<http://www.epa.gov/ttnecas1/regdata/RIAs/egughgnspproposalria0326.pdf>).
- 4 <https://www.appalachianpower.com/info/news/viewRelease.aspx?releaseID=1001>.
- 5 http://www.hitachipowersystems.us/products/environmental_products/fgd/index.html.
- 6 <http://ameren.mediaroom.com/index.php?s=43&item=981>.
- 7 <http://www.alabamapower.com/environment/air.asp>.
- 8 <http://www.georgiapower.com/news/citizen/201102/>.
- 9 <http://southerncompany.mediaroom.com/index.php?s=43&item=2550>.
- 10 For full explanation of the methods and sources of estimates of economic costs associated with each health effect, see Abt’s “Technical Support Document for the Power plant Impact Estimator Software Tool”, pages 84-95.
- 11 Ibid.