EXHIBIT 4

DIRTY KILOWATTS

America's Most Polluting Power Plants

ENVIRONMENTAL INTEGRITY PROJECT

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About the Environmental Integrity Project

The Environmental Integrity Project (EIP) is a nonpartisan, nonprofit organization dedicated to more effective enforcement of environmental laws and to the prevention of political interference with those laws. EIP is headed by Eric Schaeffer, who directed the U.S. Environmental Protection Agency's Office of Regulatory Enforcement until 2002. EIP's research and reports shed light on how environmental laws affect public health. EIP works closely with communities seeking to enforce those laws.

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Data Limitations

EIP's rankings of the nation's dirtiest power plants are based on company self-reported data obtained through publicly accessible U.S. Environmental Protection Agency and U.S. Department of Energy websites. Occasionally, government data may contain errors, either because information is inaccurately reported or incorrectly transcribed by agencies. EIP is committed to ensuring that the data we present are as accurate as possible, and we will correct any errors that are verifiable.

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Introduction

Nationwide, the power plants that provide electricity to run our homes, businesses, and factories also account for 40 percent of carbon dioxide, roughly two thirds of sulfur dioxide, 22 percent of nitrogen oxides, and roughly a third of all mercury emissions. This report ranks America's dirtiest power plants, based on company-reported data.

While Congress is poised to seriously consider legislation to limit the greenhouse gases that made 2006 the hottest year on record,[1] the electric power industry is racing to build a new fleet of coal-fired power plants that rely on conventional combustion technologies that would only accelerate global warming. Once utility companies secure their air pollution permits, we can expect them to argue that these new plants should be "grandfathered," or exempt from any pending limits on greenhouse gases.

We've been through this before. When the original Clean Air Act was passed in 1970, the electric utility industry persuaded Congress to not impose strict pollution controls on old power plants, because they would soon be replaced by newer state-of-the-art facilities. Yet despite the industry's promises, many of the nation's oldest and dirtiest power plants continue to operate today.

Power plants are major contributors to global warming, emitting billions of tons of carbon dioxide (CO2) each year. In addition, power plants emit millions of tons of sulfur dioxide (SO2) and nitrogen oxides (NOx), pollutants that trigger asthma attacks and contribute to lung and heart disease, and cause smog and haze in cities and national parks. And, power plants emit dangerous toxins like mercury, a neurotoxin especially harmful to children and developing fetuses.

Data from the U.S. Environmental Protection Agency (EPA) and the Department of Energy's Energy Information Administration (EIA) show that a disproportionate share of emissions comes from a handful of old plants that have been slow to install modern pollution controls, or which operate inefficiently. This report ranks the top fifty power plant polluters for sulfur dioxide, nitrogen oxides, carbon dioxide, and mercury, according to:

- *Emission rate*, which measures the amount of pollution per megawatt-hour of electricity generated, and
- *Total* annual amount of each pollutant emitted, which measures the gross impact on public health and the environment.

A complete listing of all 378 of the nation's largest plants ranked for this report is included as Appendix A.

Some electric power companies have made long-term commitments to clean up their plants, either to settle legal actions or in anticipation of future regulation. Many companies are making business decisions to upgrade pollution controls, as prices of pollution credits, or "allowances," under federal cap-and-trade programs, continue to rise. EPA's Clean Air Interstate Rule (CAIR) sets emissions caps for sulfur dioxide and nitrogen oxides in eastern states, but the pollution reductions will not be realized until well beyond 2015. Unfortunately, not all power companies are committed to cleaning up their dirtiest plants, choosing instead to buy their way out of emissions caps.

Pollution controls that dramatically reduce emissions of conventional pollutants, like sulfur dioxide and mercury, are widely available and already being used at some plants. Carbon dioxide reductions can be realized through efficiency measures and energy conservation, as a start. But, until the public and policymakers hold the electric utility industry to its promised cleanup of the nation's oldest and dirtiest power plants, Americans will continue to bear unnecessary health and environmental costs.

Top 50

Power Plant

CO2 Polluters

Table 1, *Top 50 Dirtiest Power Plants for CO2*, ranks the 50 power plants with the highest *emission rates*, expressed as pounds of carbon dioxide per megawatt-hour of electricity generation. Table 2, *Top 50 Polluting Power Plants for CO2*, ranks the top 50 emitters, by *total* tons emitted, without regard to how much electricity the plants generated. All rankings include only those facilities that produced at least 2 million MWh of electricity in 2006.

Emission Rate Highlights

- The disparity among all 378 plants that generated more than 2 million MWh in 2006 is not as wide as for other (regulated) pollutants. In other words, generally speaking, coal-fired power plants are equally inefficient when it comes to CO2. Thus, of 378 plants ranked, the top 50 plants accounted for 13.7 percent of emissions and generated 11.7 percent of electricity.

- Nevada Power's Reid Gardner plant topped the list, with an emission rate of more than 3,500 pounds per megawatt-hour.

- Large lignite-burning power plants in North Dakota and Texas rank among the worst CO2 polluters based on emission rate. Lignite is low grade fuel, abundant in places like Texas and North Dakota; lignite's comparatively low BTU (heat) value means more CO2 for the electricity it generates.

Total Tons Highlights

Because CO2 pollution is not yet federally regulated, power plants do not control emissions. All 378 plants ranked, on average, emit roughly a ton of carbon dioxide for every megawatt-hour of electricity they produce, and, as one would expect, the largest fossil fuel fired plants emit the most CO2.

Nine Plants Make Both Lists

- Plants in Texas (TXU's Martin Lake and Monticello), Montana (Colstrip), Minnesota (Sherburne County), Wyoming (Laramie River), Indiana (Schahfer), Florida (Big Bend), Nebraska (Gerald Gentleman), and North Dakota (Coal Creek), rank in the top 50 for both emissions rate and overall tons of CO2.

Increased Efficiency Will Reduce Environmental Impacts

Carbon dioxide, one of several greenhouse gases that contributes to climate change, is released into the atmosphere when fossil fuels (oil, natural gas, and coal), wood, and solid waste are burned. Power plants are responsible for about 40 percent of all man-made CO2 emissions in the nation,[5]

and unlike emissions of SO2 and NOx, the electric power industry's CO2 emissions are projected to steadily rise.

Power plant CO2 emissions are directly linked to the efficiency with which fossil fuels are converted into electricity, and coal-fired power plants are inherently inefficient. A typical power plant converts only about a third of the energy contained in coal into electricity, while the remainder is emitted as waste heat.[6] In fact, coal-fired power plant efficiency has remained largely unchanged since the mid 1960's.

A sound national policy aimed at addressing climate change must hold the electric power industry to the promise it made more than a generation ago: it is time to permanently retire the relative fraction of the nation's dirtiest electricity generating units. Next, smarter building codes, and funding low-cost conservation efforts – such as weatherization of low-income homes, purchase and installation of more efficient home and business appliances – will reduce demand and yield greenhouse gas benefits.

If any new coal plants are built, they must be required to dramatically reduce carbon dioxide emissions from current levels. Carbon capture and sequestration (removing and storing the carbon either before or after the fuel is burned) and storing the carbon underground in perpetuity has promise, but has yet to be demonstrated as technically and economically feasible.[7] In the meantime, most efficiency improvements – and lower CO2 emissions – can be achieved through currently available and economically viable technologies. For example, combined-cycle generators and combined heat and power systems capture and use "waste heat" to produce additional electricity; new "ultra-supercritical" designs for steam boilers, new materials, and gas turbines (instead of steam), which withstand higher temperatures and pressures, can improve power plant efficiency; and blending cleaner fuels with coal, such as natural gas and biomass, can further curb overall carbon dioxide emissions and double fossil-fuel-fired plants' thermal efficiency, up to 60 percent.[8]

Table 1. Top 50 Dirtiest Power Plants for CO_2 By Emission Rate - lbs CO_2/MWh (2006)

Rank	Facility Name	Facility Owner	State	CO2 (Tons)	CO2 Rank (Tons)	Net Generation (MWh)	Emission Rates
1	Reid Gardner	Nevada Power	NV	5,166,573.18	152	2,899,640.00	3,563.60
2	Sherburne	Northern States	MN	18,003,647.95	13	12,872,776.00	2,797.17
3	Warrick	Alcoa	IN	6,092,055.94	133	4,457,515.00	2,733.39
4	Wabash River	PSI Energy Inc	IN	5,708,663.78	140	4,250,856.00	2,685.89
5	Dave Johnston	PacifiCorp	WY	7,708,347.93	102	5,776,835.00	2,668.71
6	San Miguel	San Miguel	TX	3,901,767.83	198	2,937,194.00	2,656.80
7	Coal Creek	Great River	ND	11,094,477.64	50	8,403,311.00	2,640.50
8	Weston	Wisconsin Public	WI	4,421,567.29	180	3,415,522.00	2,589.10
9	Elmer Smith	Owensboro	KY	2,846,614.59	253	2,205,772.00	2,581.06
10	Eddystone	Exelon	PA	3,720,279.47	209	2,886,159.00	2,578.01
11	Coyote	Otter Tail	ND	3,658,089.28	211	2,844,480.00	2,572.06
12	Lawrence	Westar Energy	KS	4,181,451.56	188	3,257,371.00	2,567.38
13	Centralia	TransAlta	WA	7,974,563.74	94	6,214,950.00	2,566.25
14	Springerville	Tucson Electric	AZ	7,373,041.51	107	5,801,431.00	2,541.80
15	F B Culley	S. Indiana Gas	IN	2,946,368.23	248	2,326,502.00	2,532.87
16	Pulliam	Wisconsin Public	WI	2,988,738.14	246	2,362,947.00	2,529.67
17	Sandow	TXU Generation	TX	4,901,916.53	159	3,878,580.00	2,527.69
18	R D Morrow	S. Mississippi El Pwr	MS	3,328,669.06	227	2,636,912.00	2,524.67
19	J T Deely	San Antonio	TX	6,915,214.35	116	5,502,734.00	2,513.37
20	Coleman	Western KY	KY	3,404,056.90	225	2,712,034.00	2,510.33
21	Big Bend	Tampa Electric	FL	11,760,766.40	45	9,422,708.00	2,496.26
22	Havana	Dynegy Midwest	IL	3,018,603.20	244	2,427,926.00	2,486.57
23	Elrama	Orion Power	PA	2,671,697.98	264	2,151,894.00	2,483.11
24	Grand River	Grand River Dam	OK	7,625,549.35	105	6,151,201.00	2,479.37
25	Huntley Power	NRG Huntley	NY	3,301,283.04	228	2,666,529.00	2,476.09
26	Colstrip	PP&L Montana	MT	18,240,485.45	12	14,764,749.00	2,470.82
27	Charles Lowman	Alabama Electric	AL	4,730,394.10	165	3,834,124.00	2,467.52
28	Leland Olds	Basin Electric	ND	4,808,205.20	163	3,904,544.00	2,462.88
29	Big Brown	TXU	TX	10,942,645.32	55	8,911,676.00	2,455.80
30	Red Hills	Choctaw	MS	3,921,216.15	197	3,201,074.00	2,449.94
31	R M Schahfer	Northern Indiana	IN	11,850,737.46	44	9,675,831.00	2,449.55
32	Bay Shore	FirstEnergy	OH	5,393,977.32	147	4,407,217.00	2,447.79
33	Antelope Valley	Basin Electric	ND	8,696,067.31	81	7,106,993.00	2,447.19
34	Bailly	Northern Indiana	IN	2,622,285.45	268	2,144,456.00	2,445.64
35	J R Whiting	Consumers.	MI	2,905,548.93	250	2,378,504.00	2,443.17
36	Montrose	Kansas City	MO	3,803,833.46	205	3,114,207.00	2,442.89
37	Monticello	TXU	TX	18,268,348.39	11	14,961,282.00	2,442.08
38	Wyodak	PacifiCorp	WY	2,872,883.11	252	2,353,507.00	2,441.36
39	Apache Station	Arizona Electric	AZ	3,452,791.33	222	2,843,773.00	2,428.32
40	Hayden	Pb Service of Colorado	CO	4,252,581.02	186	3,502,621.00	2,428.23
41	Pleasant Prairie	Wisconsin	WI	9,078,101.87	75	7,523,070.00	2,413.40
42	Milton R Young	Minnkota Power	ND	5,862,979.09	136	4,861,874.00	2,411.82
43	Powerton	MW Generations	IL	9,140,630.61	71	7,642,897.00	2,391.93
44	Martin Lake	TXU	TX	21,301,393.26	5	17,821,177.00	2,390.57
45	Presque Isle	Wisconsin Electric	MI	3,984,921.53	194	3,334,963.00	2,389.78
46	Laramie River	Basin Electric	WY	15,248,625.94	25	12,777,567.00	2,386.78
47	Ottumwa	Interstate Power	IA	4,714,087.93	166	3,952,075.00	2,385.63
48	Big Stone	Otter Tail	SD	3,784,491.54	207	3,174,012.00	2,384.67
49	Edgewater (4050)	Wisconsin Power	WI	5,103,545.06	154	4,281,210.00	2,384.16
50	Gerald Gentleman	Nebraska Public	NE	11,192,809.15	48	9,422,664.00	2,375.72
Total				**340,887,590.85 tons**		**272,359,846 MWh**	

Table 2. Top 50 Polluting Power Plants for CO_2 By Tons CO_2 (2006)

Rank (Tons)	Facility Name	Facility Owner	State	CO2 Tons	Rank (lbs/MWh)
1	Scherer	Southern/Georgia Power	GA	25,298,498.73	118
2	James H Miller Jr.	Southern/Alabama Power	AL	23,466,022.08	126
3	Bowen	Georgia Power	GA	22,756,191.48	201
4	Gibson	PSI Energy	IN	21,447,979.54	232
5	Martin Lake	TXU	TX	21,301,393.26	44
6	W A Parish	NRG Energy	TX	21,076,082.00	166
7	Rockport	American Electric Power	IN	20,181,544.90	208
8	Navajo	Salt River Project	AZ	20,071,580.51	75
9	Cumberland	Tennessee Valley	TN	19,049,067.53	194
10	John E Amos	Appalachian Power	WV	18,798,260.98	240
11	Monticello	TXU	TX	18,268,348.39	37
12	Colstrip	PP&L Montana	MT	18,240,485.45	26
13	Sherburne County	Northern States Power	MN	18,003,647.95	2
14	Labadie	Ameren- Union Electric	MO	17,458,154.23	236
15	Monroe	Detroit Edison	MI	17,401,929.08	223
16	Bruce Mansfield	First Energy Company	PA	17,375,622.88	243
17	Gen J M Gavin	Ohio Power	OH	16,997,448.75	189
18	Four Corners	Arizona Public Service	NM	16,395,797.19	186
19	Jeffrey Energy	Westar Energy	KS	16,239,424.98	84
20	Intermountain	Los Angeles (City of)	UT	16,035,530.05	104
21	Crystal River	Progress Energy Florida	FL	16,026,757.78	268
22	Jim Bridger	Pacificorp	WY	15,884,734.06	152
23	W H Sammis	FirstEnergy Generation	OH	15,761,761.88	199
24	Paradise	Tennessee Valley	KY	15,497,610.30	145
25	Laramie River	Basin Electric Power	WY	15,248,625.94	46
26	Roxboro	Progress Energy	NC	15,201,898.73	200
27	Big Cajun 2	Louisiana Generating	LA	14,620,639.45	82
28	Belews Creek	Duke Energy Corp	NC	14,034,728.65	252
29	Conemaugh	Reliant Energy NE	PA	13,991,063.97	215
30	J M Stuart	Dayton Power & Light	OH	13,710,852.60	242
31	Wansley (6052)	Southern/Georgia Power	GA	13,612,837.50	134
32	Harrison Power	Allegheny Energy	WV	13,450,027.47	219
33	Baldwin Energy	Dynegy Midwest	IL	13,250,175.41	159
34	Limestone	NRG Texas	TX	13,055,769.41	184
35	San Juan	Public Service Co of NM	NM	13,054,091.35	160
36	Ghent	Kentucky Utilities Co	KY	12,933,317.73	150
37	Petersburg	Indianapolis Power & Light	IN	12,826,618.08	77
38	Independence	Entergy Arkansas	AR	12,485,093.55	67
39	Mount Storm	Dominion Virginia Power	WV	12,464,709.03	154
40	Barry	Southern/Alabama Power	AL	12,449,918.39	259
41	E C Gaston	Southern/Alabama Power	AL	12,345,694.83	124
42	Keystone	Reliant Energy NE	PA	12,271,116.40	226
43	Homer City	Midwest Generations	PA	11,970,801.97	218
44	R M Schahfer	Northern Indiana	IN	11,850,737.46	31
45	Big Bend	Tampa Electric Company	FL	11,760,766.40	21
46	Marshall	Duke Energy Corp	NC	11,425,787.60	257
47	Craig	Tri-State G & T Assn Inc	CO	11,322,684.57	66
48	Gerald Gentleman	Nebraska Public Power	NE	11,192,809.15	50
49	Sam Seymour	Lower CO River	TX	11,191,253.23	96
50	Coal Creek	Great River Energy	ND	11,094,477.64	7
Total				**781,850,370.49 tons**	

Top 50

Power Plant

NOx Polluters

Table 5, *Top 50 Dirtiest Power Plants for NOx,* ranks the 50 plants with the highest *emission rates,* expressed as pounds of nitrogen oxides per megawatt-hour. Table 6, *Top 50 Polluting Power Plants for NOx,* ranks the top 50 emitters, by *total* tons emitted, without regard to how much electricity the plant generated. Rankings only include those plants that generated at least 2 million MWh of electricity in 2006.

Emission Rate Highlights

- The top 50 plants had an average emission rate of 5.47 pounds of NOx per megawatt-hour, more than double the 2.57 lbs/MWh average for all 378 of the nation's largest power plants.

- Of the 378 plants, the top 50 accounted for 25 percent of all NOx emissions but only 11.7 percent of net electric generation.

- Northern Indiana's Bailly plant claimed the top spot, with more than 9 pounds of NOx for every megawatt-hour. As in previous years, Minnkota's Milton Young (North Dakota) and Otter Tail Power's Big Stone (South Dakota) also topped the list, with each plant reporting just over 9 pounds of NOx per megawatt-hour.

- Many plants in the top 50 are in states with less stringent NOx emission limits because they do not fall under the "NOx SIP call," a federal rule designed to reduce summertime ozone in many eastern U.S. states. (NOx is a precursor to ground-level ozone.) This shows, not surprisingly, that electric utilities do not reduce NOx emissions unless they are required by law to do so.

Total Tons Highlights

- Of the 378 plants ranked, the top 50 accounted for 41.5 percent of NOx emissions, and only 28.7 percent of net generation.

- Arizona Public Service Company's Four Corners (New Mexico), and TVA's Paradise (Kentucky) plants topped the list, emitting 44,658 tons and 43,022 tons, respectively.

Health and Environmental Effects

Electric utilities account for about 22 percent of all NOx emissions in the U.S.[15] Ground-level ozone, which is especially harmful to children and people with respiratory problems such as asthma, is formed when NOx and volatile organic compounds (VOCs) react in sunlight. NOx also reacts with ammonia, moisture, and other compounds to form fine particle pollution, which damages lung tissue and is linked to premature death. Small particles penetrate deeply into sensitive parts of the lungs and can cause or worsen respiratory disease such as emphysema and bronchitis, and aggravate heart disease.

NOx also increases nitrogen loading in water bodies, especially in sensitive coastal estuaries. Too much nitrogen accelerates eutrophication, which leads to oxygen depletion and kills fish. According to EPA, NOx emissions are one of the largest sources of nitrogen pollution in the Chesapeake Bay.[16]

NOx Controls: SCR and SNCR

Selective catalytic reduction (SCR), which uses a catalyst bed to reduce NOx to nitrogen and water, can cut NOx emissions by more than 90 percent. Selective non-catalytic reduction (SNCR), which reduces NOx to nitrogen and water using a reducing agent (typically ammonia or urea), achieves up to 75 percent NOx removal. According to the White House Office of Management and Budget, the public health benefit of reducing power plant NOx emissions amounts to $1,300 per ton, considering *only* the benefits of reduced mortality from fine particle pollution linked to heart and lung disease. This government estimate does not even account for the added benefits of reducing acid rain, crop damage, and visibility impairments, which have not been monetized.

Large coal plants equipped with NOx controls demonstrate that cleaner power is achievable. For example, TexasGenco's (formerly Reliant) W.A. Parish plant in Texas, has steadily lowered its NOx emissions and become one of the lowest emitting coal plants for NOx, through a combination of low NOx design features and SCR controls.[17] Ameren's Labadie plant in Missouri, has achieved one of the lowest NOx emission rates in the nation, slightly above one pound of NOx per megawatt-hour, without use of an SCR, using low NOx burners and other technologies.[18]

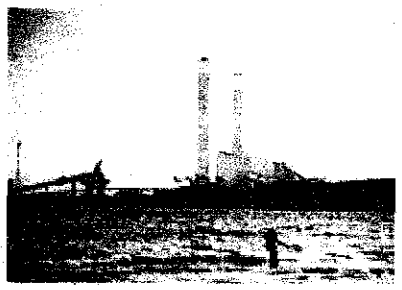
Driven by federal regulations aimed at further reducing summertime ozone, power plants are steadily lowering NOx emissions. Kansas City Power and Light's La Cygne plant, for example, expects that selective catalytic reduction, which was scheduled to be operational before the 2007 ozone season, will yield significant reductions.

Table 5. Top 50 Dirtiest Power Plants for NOx By Emission Rate – lbs NOx/MWh (2006)

Rank (lbs/MWh)	Facility Name	Facility Owner	State	NOx Tons	Rank (Tons)	Net Generation	Emission Rates
1	Bailly	Northern Indiana Pub Serv	IN	10,355.17	107	2,144,456.00	9.66
2	Big Stone	Otter Tail Power Co	SD	14,681.04	67	3,174,012.00	9.25
3	Milton R Young	Minnkota Power Coop Inc	ND	21,923.53	27	4,861,874.00	9.02
4	Coyote	Otter Tail Power Co	ND	11,291.32	99	2,844,480.00	7.94
5	New Madrid	Associated Electric Coop	MO	28,757.11	13	7,659,009.00	7.51
6	La Cygne	Kansas City Power & Light	KS	33,511.51	8	9,390,258.00	7.14
7	Pulliam	Wisconsin Public Service	WI	8,162.86	132	2,362,947.00	6.91
8	Black Dog	Northern States	MN	7,107.72	155	2,089,284.00	6.80
9	Powerton	Midwest Generations	IL	25,539.79	20	7,642,897.00	6.68
10	Big Bend	Tampa Electric Company	FL	30,713.94	11	9,422,708.00	6.52
11	Watson Electric	Mississippi Power Co	MS	15,683.30	57	4,878,069.00	6.43
12	Elmer Smith	Owensboro Municipal Utilities	KY	7,044.59	156	2,205,772.00	6.39
13	Kammer	Ohio Power Co	WV	10,798.12	104	3,455,847.00	6.25
14	Sibley	Aquila, Inc.	MO	9,134.68	123	3,047,029.00	6.00
15	R D Morrow	South Mississippi El Pwr	MS	7,896.33	137	2,636,912.00	5.99
16	Reid Gardner	Nevada Power Co	NV	8,643.12	127	2,899,640.00	5.96
17	Paradise	Tennessee Valley Authority	KY	43,022.35	2	14,537,458.00	5.92
18	Elrama	Orion Power Midwest LP	PA	6,295.93	173	2,151,894.00	5.85
19	Naughton	PacifiCorp	WY	14,168.09	72	4,929,916.00	5.75
20	Dave Johnston	PacifiCorp	WY	16,457.13	53	5,776,835.00	5.70
21	Charles R Lowman	Alabama Electric Coop Inc	AL	10,881.15	103	3,834,124.00	5.68
22	Four Corners	Arizona Public Service	NM	44,648.57	1	15,969,176.00	5.59
23	State Line	State Line Energy LLC	IN	7,288.09	152	2,696,781.00	5.41
24	Apache Station	Arizona Electric Pwr Coop Inc	AZ	7,593.13	142	2,843,773.00	5.34
25	Allen	Tennessee Valley Authority	TN	13,287.66	80	5,301,265.00	5.01
26	Boardman	Portland General Electric Co	OR	5,917.94	184	2,373,754.00	4.99
27	Hudson	PSEG Fossil LLC	NJ	7,459.41	146	3,023,550.00	4.93
28	Kyger Creek	Ohio Valley Electric Corp	OH	17,862.62	44	7,340,708.00	4.87
29	Leland Olds	Basin Electric Power Coop	ND	9,428.71	118	3,904,544.00	4.83
30	Grand River Dam	Grand River Dam Authority	OK	14,782.58	62	6,151,201.00	4.81
31	Jefferies	South Carolina Pub Service	SC	5,283.89	197	2,199,016.00	4.81
32	Cape Canaveral	Progress Energy Florida	FL	4,847.56	207	2,025,417.00	4.79
33	Seminole (136)	Seminole Electric Coop Inc	FL	22,719.01	24	9,495,696.00	4.79
34	Muskingum River	AEP- Ohio Power Co	OH	17,950.82	43	7,503,925.00	4.78
35	Johnsonville	Tennessee Valley Authority	TN	18,201.57	42	7,657,037.00	4.75
36	Clifty Creek	Indiana-Kentucky Electric	IN	21,661.70	29	9,128,635.00	4.75
37	Warrick	Alcoa	IN	10,363.73	106	4,457,515.00	4.65
38	St. Johns	JEA	FL	21,698.01	28	9,343,278.00	4.64
39	Dolet Hills	Central Louisiana	LA	10,890.92	102	4,715,236.00	4.62
40	L V Sutton	Progress Energy Carolinas	NC	6,345.04	170	2,767,637.00	4.59
41	Colstrip	PP&L Montana	MT	32,868.55	9	14,764,749.00	4.45
42	Anclote	Progress Energy Florida	FL	6,502.32	168	2,940,530.00	4.42
43	Chalk Point	Mirant Chalk Point	MD	10,354.86	108	4,691,534.00	4.41
44	San Juan	Pub Serv. Co of NM	NM	27,503.07	18	12,466,870.00	4.41
45	Kincaid Station	Dominion Energy	IL	11,811.55	96	5,375,239.00	4.39
46	Hayden	Public Service of CO	CO	7,691.35	139	3,502,621.00	4.39
47	Michigan City	Northern Indiana	IN	6,231.87	175	2,852,261.00	4.37
48	Presque Isle	Wisconsin Electric	MI	7,274.20	153	3,334,963.00	4.36
49	Coronado	Salt River Proj	AZ	12,754.20	87	5,888,365.00	4.33
50	Mitchell (WV)	Ohio Power Co	WV	16,396.77	55	7,609,049.00	4.31
Total				**749,688.48 tons**		**274,269,746 MWh**	

Table 6. Top 50 Polluting Power Plants for NOx
By Tons NOx (2006)

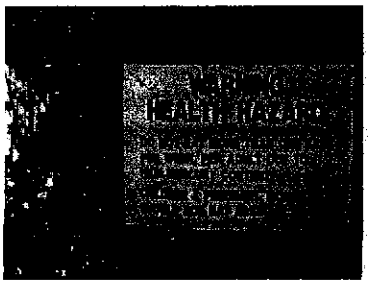
Rank (Tons)	Facility Name	Facility Owner	State	NOx Tons	Rank (lbs/MWh)
1	Four Corners	Arizona Public Service	NM	44,648.57	22
2	Paradise	Tennessee Valley	KY	43,022.35	17
3	Crystal River	Progress Energy Florida Inc.	FL	35,411.89	130
4	Navajo	Salt River Proj Ag I & P Dist	AZ	34,743.80	67
5	Cumberland	Tennessee Valley Authority	TN	34,359.77	95
6	Gen J M Gavin	Ohio Power	OH	33,960.37	62
7	John E Amos	Appalachian Power Co	WV	33,946.88	118
8	La Cygne	Kansas City Power & Light	KS	33,511.51	6
9	Colstrip	PP&L Montana	MT	32,868.55	41
10	Monroe	Detroit Edison	MI	31,808.64	106
11	Big Bend	Tampa Electric Company	FL	30,713.94	10
12	Intermountain	Los Angeles (City of)	UT	28,911.01	65
13	New Madrid	Associated Electric Coop Inc	MO	28,757.11	5
14	Bowen	Georgia Power Co	GA	28,636.08	184
15	Gibson	PSI Energy, Inc	IN	28,532.85	183
16	Rockport	Indiana Michigan Power	IN	28,124.04	165
17	Jim Bridger	Pacificorp	WY	28,053.82	90
18	San Juan	Public Service Co of NM	NM	27,503.07	44
19	Bruce Mansfield	Pennsylvania Power	PA	25,724.63	166
20	Powerton	Midwest Generations	IL	25,539.79	9
21	J M Stuart	Dayton Power & Light	OH	25,518.95	113
22	Sherburne County	Northern States Power	MN	25,459.35	68
23	Conemaugh	Reliant Engy NE	PA	23,369.36	127
24	Seminole (136)	Seminole Electric Coop Inc	FL	22,719.01	33
25	Jeffrey Energy	Westar Energy	KS	22,647.96	132
26	Mount Storm Power	Virginia Electric & Power	WV	22,463.70	84
27	Milton R Young	Minnkota Power Coop Inc	ND	21,923.53	3
28	St. Johns River	JEA	FL	21,698.01	38
29	Clifty Creek	Indiana-Kentucky Electric	IN	21,661.70	36
30	James H Miller Jr	Southern/ Alabama Power	AL	21,237.10	224
31	Belews Creek	Duke Energy Group	NC	21,179.50	170
32	Harrison	Allegheny Energy Supply	WV	21,154.23	138
33	Harllee Branch	Georgia Power Co	GA	20,960.64	61
34	Roxboro	Progress Energy Carolinas	NC	20,940.61	164
35	W H Sammis	FirstEnergy Generation	OH	20,591.84	176
36	Hatfields Ferry	Allegheny Energy Supply	PA	20,055.61	51
37	E C Gaston	Southern/AL Power Company	AL	19,838.52	111
38	Laramie River	Basin Electric Power	WY	19,781.16	137
39	Hunter	PacifiCorp	UT	18,828.93	83
40	Northeastern	Public Service Co of Oklahoma	OK	18,353.16	91
41	Shawnee	Tennessee Valley	KY	18,216.35	81
42	Johnsonville	Tennessee Valley	TN	18,201.57	35
43	Muskingum River	AEP- Ohio Power Co	OH	17,950.82	34
44	Kyger Creek	Ohio Valley Electric Corp	OH	17,862.62	28
45	Conesville	Columbus Southern Power	OH	17,860.71	69
46	Gerald Gentleman	Nebraska Public Power	NE	17,646.52	89
47	Scherer	Southern/Georgia Power	GA	17,364.70	249
48	Widows Creek	Tennessee Valley Authority	AL	17,183.64	103
49	Cardinal	Cardinal Operating Co.	OH	17,159.86	145
50	Craig	Tri-State G & T Assn Inc	CO	17,081.03	108
Total				**1,245,689.36 tons**	



Top 50

Power Plant

Mercury Polluters



EPA's Toxics Release Inventory (TRI) tracks mercury emissions for 486 electric generating facilities in 2005, the latest year for which data is publicly available. These plants reported 48.3 tons of mercury released into the atmosphere in 2005.

Table 7, *Top 50 Dirtiest Power Plants for Mercury, emission rates*, expressed as pounds of mercury per million megawatt-hours (MMWh). Table 8, *Top 50 Polluting Power Plants for Mercury,* ranks the top 50 emitters, by total pounds emitted, without regard to how much electricity the plant generated. Rankings include only power plants listed in EPA's TRI database that generated at least 2 million megawatt-hours of electricity in 2005.

Emission Rate Highlights

- For all plants ranked for mercury, the top 50 plants with the highest emission rates together emitted 16 tons of mercury – a third of all power plant mercury pollution – but generated less than 18 percent of the electricity.

- For the third year in a row, American Electric Power's Pirkey plant (Texas) and Reliant's Shawville plant (Pennsylvania) are the top two dirtiest plants based on mercury emission rates.

Total Pounds Highlights

- The top fifty power plant mercury polluters accounted for almost 21 tons, or 43 percent of the electric power industry's mercury emissions.

- TXU's Martin Lake (Texas) plant ranked number one, with 1,705 pounds of mercury emissions. Southern Company's Scherer plant (Georgia) came in second, emitting 1,662 pounds. Southern Company and TXU also shared the third place spot, reporting 1,595 pounds of mercury emissions from these companies' Miller (Alabama) and Monticello (Texas) plants.

Twenty-Three Plants Make Both "Top 50" Lists

Twenty-three plants in __ states ranked in the top 50 for both emission rate and total pounds emitted. These plants represent the "worst of the worst" in terms of mercury pollution, because they not only emit large quantities of the neurotoxin, but also put out more mercury per unit of electricity they produce, as compared to similar plants.

Plants Ranked in Top 50 for Emission Rate and Total Pounds Hg
2005

State	Power Plants
Alabama	Gorgas, Gaston, Miller, Greene County
Arizona	Coronado
Georgia	Scherer
Indiana	Rockport
Kansas	La Cygne
Louisiana	Big Cajun 2
Minnesota	Sherburne
North Dakota	Coal Creek, Milton R. Young
Ohio	Conesville, Cardinal
Pennsylvania	Shawville, Keystone
Texas	Pirkey, Big Brown, Sandow, Martin Lake, Monticello, Limestone
Wisconsin	Pleasant Prairie

- Two Texas power plants, TXU's Big Brown and American Electric Power's Pirkey, rank in the top 10 for both emission rate and total pounds.

Health Effects

Coal-fired power plants are the single largest source of mercury air pollution, accounting for roughly 40 percent of all mercury emissions nationwide.[19] Mercury is a highly toxic metal that, once released into the atmosphere, settles in lakes and rivers, where it moves up the food chain to humans. The Centers for Disease Control has found that roughly 10 percent of American women carry mercury concentrations at levels considered to put a fetus at risk of neurological damage.[20]

Mercury Removal

Activated carbon injection, which is commercially available and has been tested through the Department of Energy's Clean Coal Power Initiative, can achieve mercury reductions of 90 percent (and better when coupled with a fabric filter for particulate control) on both bituminous and sub-bituminous coals. In addition, mercury can be significantly reduced as a "co-benefit" of controls for other pollutants, such as fabric filters, SO_2 scrubbers, and selective catalytic reduction

Even though mercury removal is achievable, EPA has backed away from strict power plant mercury regulation, opting instead to implement a lax cap-and-trade scheme which would allow power plants to either reduce their own mercury pollution or buy credits from other plants. That rule is being challenged in court by sixteen states and several environmental groups and Indian Tribes. According to a recently commissioned study by the National Wildlife Federation, under EPA's cap-and-trade scheme, power plant mercury emissions would decline to roughly 24 tons in 2020 – significantly higher than EPA's so-called cap of 15 tons by 2018. The reason is that some power plants are expected to make early reductions in the first phase of the plan, and bank those pollution allowances for use in later years. Because electric power companies will use banked allowances when the final cap of 15 tons goes into effect, that level of emissions will likely will not be met until 2026 or beyond.[21]

Table 7. Top 50 Dirtiest Power Plants for Mercury (Hg) By Emission Rate – lbs Hg/million MWh (2005)

Rank	Facility	Owner	State	Hg(lbs)	Rank: Hg (lbs)	Net Generation (2005)	Rate
1	H.W. Pirkey	American Electric Power	TX	1142.00	8	4,993,706	228.69
2	Shawville Station	Reliant Energy	PA	691.00	28	3,199,780	215.95
3	Armstrong Power Station	Allegheny Energy Inc	PA	331.00	92	2,014,300	164.33
4	Hatfield Power Station	Allegheny Energy Inc	PA	454.00	56	2,889,720	157.11
5	Greene County Steam Plant	Alabama Power Co.	AL	606.60	34	3,912,748	155.03
6	Big Brown	TXU	TX	1196.00	6	8,549,082	139.9
7	Montrose	Kansas City Power	MO	444.30	59	3,342,902	132.91
8	Gorgas Steam Plant	Alabama Power Co.	AL	1004.10	12	7,910,063	126.94
9	Ottumwa Generating Station	IES Utilities Inc	IA	404.10	67	3,240,977	124.68
10	Twin Oaks	Twin Oak Power	TX	309.08	103	2,490,416	124.11
11	Holcomb Unit 1	Sunflower Power Electric	KS	327.20	94	2,684,906	121.87
12	Sandow Steam	TXU	TX	524.00	41	4,303,896	121.75
13	Monticello Steam	TXU	TX	1595.00	4	14,807,478	107.72
14	Keystone Power Plant	Reliant Energy	PA	1370.00	5	13,488,615	101.57
15	Conesville Plant	American Electric Power	OH	984.00	13	9,716,702	101.27
16	Pleasant Prairie	Wisc. Electric Pwr. Co.	WI	834.60	22	8,459,985	98.65
17	Coal Creek Station	Great River Energy	ND	858.50	20	8,708,890	98.58
18	Otter Tail Corp	Otter Tail Power Co.	ND	300.00	108	3,046,318	98.48
19	Milton R. Young Station	Minnkota Power Coop Inc	ND	502.00	46	5,117,830	98.09
20	Coronado	Salt River Project	AZ	582.00	35	6,070,915	95.87
21	Gaston Steam Plant	Alabama Power Company	AL	1077.40	11	11,273,347	95.57
22	San Miguel	TXU	TX	271.00	118	2,850,653	95.07
23	Martin Lake	TXU	TX	1705.00	1	18,250,189	93.42
24	Lacygne Generating Station	Great Plains Energy	KS	826.10	23	9,038,866	91.39
25	Avon Lake Power Plant	Reliant Energy	OH	321.88	96	3,542,468	90.86
26	Limestone Electric	NRG	TX	1089.20	10	12,759,023	85.37
27	R.D. Morrow Sr.	S. Mississippi El Pwr Assn	MS	211.40	152	2,551,303	82.86
28	Boardman Plant	Portland General Electric	OR	281.30	112	3,465,193	81.18
29	Springerville	Tuscon Electric Power	AZ	428.70	62	5,577,373	76.86
30	Big Cajun 2	NRG	LA	891.00	18	11,634,870	76.58
31	Ameren Meramec	Ameren – UE	MO	435.30	60	5,691,990	76.48
32	Miller Steam Plant	Alabama Power Co.	AL	1595.30	3	21,328,867	74.8
33	Dickerson	Mirant	MD	270.00	121	3,619,103	74.6
34	Gibbons Creek	Texas Municipal	TX	265.00	124	3,595,378	73.71
35	State Line Generating	State Line Energy	IN	200.00	157	2,749,201	72.75
36	Cardinal Plant	American Electric Power	OH	826.00	24	11,372,176	72.63
37	Leland Olds Station	Basin Electric	ND	340.00	89	4,816,732	70.59
38	Northern States	Norther States Power	MN	958.40	15	13,584,052	70.55
39	Scherer Steam Electric	Georgia Power	GA	1662.20	2	24,093,772	68.99
40	Columbia Energy Center	Alliant Energy	WI	460.21	55	6,699,039	68.7
41	George Neal South	Mid American Energy Co.	IA	260.00	127	3,953,550	65.76
42	Huntley	NRG Huntley Operations	NY	167.00	171	2,539,715	65.76
43	Rockport Plant	American Electric Power	IN	1179.00	7	17,942,286	65.71
44	Dominion Kincaid	Kincaid Generation	IL	400.00	70	6,138,622	65.16
45	Nebraska City Station	Omaha Public	NE	300.00	107	4,623,168	64.89
46	Antelope Valley Station	Basin Electric	ND	410.00	66	6,437,295	63.69
47	Michigan City	Northern Indiana Pub. Serv.	IN	162.00	173	2,545,676	63.64
48	Hugo	Western Farmers	OK	191.44	160	3,019,097	63.41
49	Newton Power Station	Ameren Energy	IL	462.60	54	7,297,242	63.39
50	George Neal North	Mid American Energy Co.	IA	400.00	69	6,325,167	63.24
Total				**32,507 lbs**		**358,264,642 MWh**	

Table 8. Top 50 Polluting Power Plants for Mercury (Hg)
By Pounds Hg (2005)

Rank (lbs)	Facility	Owner	State	Hg(lbs)	Rank (lbs/MMwh)
1	Martin Lake	TXU Generation Co LP	TX	1705.00	25
2	Scherer Steam	Georgia Power	GA	1662.20	42
3	Miller Steam Plant	Alabama Power Co.	AL	1595.30	35
4	Monticello	TXU	TX	1595.00	15
5	Keystone Power Plant	Reliant Energy	PA	1370.00	16
6	Big Brown	TXU Generation Co LP	TX	1196.00	6
7	Rockport Plant	American Electric Power	IN	1179.00	46
8	H.W. Pirkey	American Electric Power	TX	1142.00	1
9	Amerenue Labadie	Ameren-UE	MO	1129.90	61
10	Limestone	Texas Genco II, LP	TX	1089.20	28
11	Gaston Steam Plant	Alabama Power Co.	AL	1077.40	23
12	Gorgas Steam Plant	Alabama Power Co.	AL	1004.10	9
13	Conesville Plant	American Electric Power	OH	984.00	17
14	Bowen Steam	Georgia Power Co	GA	966.90	120
15	Northern States Power Co.	Northern States Power Co	MN	958.40	41
16	W.A. Parish	Texas Genco II, LP	TX	957.00	98
17	Colstrip Steam Electric Station	PP&L Montana LLC	MT	920.00	69
18	Big Cajun 2	Louisiana Generating Plant	LA	891.00	33
19	Barry Steam Plant	Alabama Power Co.	AL	880.60	62
20	Coal Creek Station	Great River Energy	ND	858.50	19
21	Amos Plant	American Electric Power	WV	837.00	116
22	Pleasant Prairie Power Plant	Wisconsin Electric Power Co	WI	834.60	18
23	Lacygne Generating Station	Great Plains Energy	KS	826.10	26
24	Cardinal Plant	American Electric Power	OH	826.00	39
25	J.M. Stuart Station	Dayton Power & Light Co	OH	790.00	73
26	Monroe Power Plant	Detroit Edison Co.	MI	780.00	128
27	Jeffrey Energy Center	Westar Energy Inc.	KS	757.40	87
28	Shawville Station	Reliant Energy	PA	691.00	2
29	San Juan Generating Station	Public Service Co. of NM	NM	683.00	72
30	Roxboro Steam Electric Plant	Carolina Power and Light Co.	NC	670.00	111
31	Laramie River Station	Basin Electric Power Cooperative	WY	650.00	88
32	Brandon Shores & Wagner Complex	Constellation Power Source	MD	640.00	32
33	EME Homer City G	EME Homer City	PA	633.87	104
34	Greene County Steam Plant	Alabama Power Co.	AL	606.60	5
35	Coronado Generating Station	Salt River Project	AZ	582.00	22
36	White Bluff Generating Plant	Arkansaw Power	AR	581.40	56
37	Gibson Generating Station	Duke Energy Corp	IN	577.00	211
38	Four Corners	Public Service Co of NM	NM	562.70	162
39	Crystal River Energy Complex	Progress Energy	FL	550.00	213
40	Amerenue Rush Island Power Plant	Ameren-UE	MO	535.10	63
41	Sandow Steam Electric Station	TXU Generation Co LP	TX	524.00	13
42	Kammer/Mitchell Plants	American Electric Power	WV	511.30	8
43	OW Sommers/JT Deely/JK Spruce	San Antonio (City of)	TX	509.30	14
44	Gavin Plant	American Electric Power	OH	507.00	206
45	R.M. Schafer Generating Station	N. Indiana Public Service Co.	IN	505.00	102
46	Milton R. Young Station	Minnkota Power Coop Inc	ND	502.00	21
47	Edison International Powerton	Midwest Generations EME LLC	IL	501.78	76
48	IPL Petersburg	Indianapolis Power and Light Co.	IN	500.30	119
49	Conemaugh Power Plant	Reliant Energy	PA	500.00	145
50	Paradise Fossil Plant	U.S. TVA	KY	490.00	169
Total				**41,826 lbs**	

Data Sources and Methodology

The rankings in this report present a snapshot based on the most current publicly available data — 2006 data for SO2, CO2, and NOx, and 2005 data for mercury — from two federal agencies. The report ranks only large power plants (i.e. generating at least 2 million megawatt-hours) that reported emissions in EPA's Emission Tracking System. For SO2, CO2, and NOx, we ranked 378 plants, and for mercury, we ranked roughly 274 plants. These plants account for most of the electric generation from the 1,000-plus power plants tracked by EPA. The vast majority of these large power plants are coal-fired.

Net electric generation and plant ownership data is drawn from the Energy Information Administration (EIA) within the Department of Energy, and can be publicly accessed at http://www.eia.doe.gov/. Net electric generation data was obtained from the EIA's "Power Plant Reports," specifically Forms EIA-906/920. These databases collect the fuel consumption, electric generation, and fuel stocks of all power plants in the United States with a generating capacity of one megawatt and greater. EIA tracks data for combined heat and power plants (typically industrial cogenerators, such as paper mills and refineries), while Form EIA-906 collects data from all-electric power plants. There are approximately 3,000 plants that file the Form EIA-906 annually.

Sulfur dioxide, carbon dioxide, and nitrogen oxides emissions data are from EPA's Acid Rain Program Emissions Tracking System (ETS). The database is a publicly accessible repository for SO2, CO2, and NOx data from the utility industry, and includes more than 1,000 power plants regulated under the Acid Rain Program and the NOx SIP Call. Additional information on these programs and ETS can be found on EPA's Clean Air Markets web page at http://www.epa.gov/airmarkets/.

Mercury data is derived from EPA's Toxics Release Inventory (TRI); the most current TRI data is for 2005.

All data is self-reported to these agencies by the utility industry.

Top 50 Rankings are for Large Plants — 2 million MWh or Greater

According to EIA, roughly 50 percent of all the electricity generated in the U.S. comes from coal-fired generation; nuclear generation contributed 20 percent; natural gas generated almost 18 percent; hydro-power provided close to 7 percent; petroleum accounted for 3 percent; and the remainder came from renewables (biomass, geothermal, solar, and wind) and other miscellaneous energy sources.[22]

Approximately 1,000 power plants throughout the United States report emissions to EPA's Acid Rain Program. These plants generate roughly 2.5 billion megawatt-hours of electricity, almost two-thirds of all the electricity generated in the United States.

EPA's Acid Rain Program tracks emissions from plants of varying size, from the largest facilities like the Scherer Plant in Georgia, which generated more than 23 million MWh, to small facilities that generated less than 1,000 megawatt-hours. The rankings in this report include only the 378 largest power plants listed in EPA's Emission Tracking System database for which 2006 emissions

and net generation data is publicly available. For this report, we defined "large plants" as those that generated at least 2 million MWh in 2006 (year 2005 data is used for mercury).

Taken together, these 378 plants represent about a third of all power plants tracked in EPA's inventory, but they account for almost 90 percent of the electricity generated by the plants in EPA's inventory, and approximately half of total U.S. electric generation.

Appendix B lists the 378 plants by state, and also includes the primary fuel reported by each utility to EIA.

Data Limitations

Industry-reported emissions and net generation data may contain errors and omissions, either because information is inaccurately reported by power companies or incorrectly transcribed by agencies. EIP is committed to ensuring that the data we present are as accurate as possible, and we will correct any errors that are verifiable.

To assure that the data relied upon in this report is as accurate as possible, we compared emissions and generation data against prior year reports in order to identify potential inconsistencies. We also cross-referenced EIA and EPA databases using each plant's federal identification ("ORISPL") number, because plant names may differ slightly among various government databases. Finally, tracking company names and plant ownership within the utility industry is always challenging, and we have used our best efforts to update plant ownership information in each of the Top 50 ranking tables, based on company websites and other publicly available electric utility information.