

Dirty Kilowatts

America's Most Polluting Power Plants



July 2006

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 was founded 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 data from the U.S. Environmental Protection Agency and the U.S. Department of Energy. Additional data are from Argus Media's Scrubber Report 2006. Occasionally, government and commercial data may contain errors, 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.

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Introduction

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.

Power plants provide electricity for our homes, businesses, and factories. But they also foul America's air with dangerous pollution. Each year, power plants emit millions of tons of sulfur dioxide (SO₂) and nitrogen oxides (NO_x), pollutants that trigger asthma attacks and contribute to lung and heart disease. Power plants are also major contributors to global warming, emitting billions of tons of carbon dioxide (CO₂) each year. And, power plants emit dangerous toxins like mercury, a neurotoxin especially harmful to children and developing fetuses.

Nationwide, power plants account for roughly two thirds of all SO₂, 22 percent of NO_x, 40 percent of CO₂, and roughly a third of all mercury emissions.

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.

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 are widely available, and already being used at many plants. 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.

Highlights

In 2005, EPA tracked just under 1,200 fossil-fired power plants of varying sizes through its Acid Rain Program. According to EPA data, emissions of sulfur dioxide from these facilities have settled at around 10 million tons a year. Carbon dioxide emissions from these power plants creeps upward. And emissions of nitrogen oxides are slowly declining. Mercury data is tracked in a separate database for toxics, and while 2005 mercury data are not yet publicly available, power plant mercury emissions remain steady at roughly 48 tons per year.

Power Plant Emissions (2002-2005)				
	2002	2003	2004	2005
SO₂ tons:	10.20 M	10.60 M	10.26 M	10.22 M
CO₂ tons:	2.424 B	2.466 B	2.478 B	2.540 B
NO_x tons:	4.47 M	4.17 M	3.76 M	3.63 M

Source: EPA Acid Rain Program Emissions Tracking System (all plants)

Scorecard: Who's the Dirtiest of them All?

This report ranks each of the just under 400 power plants for which both the most recent EPA emissions data *and* Energy Information Administration (EIA) electric generation data are publicly available. Based on these two sources, the report ranks each plant based on emission rates, or pounds of pollutant for each megawatt-hour (or million megawatt-hours, in the case of mercury) the plant produced.

When it comes to ranking the “dirtiest” power plant, there is no way to reasonably compare a ton of one pollutant to a ton of another – mercury is so dangerous that it is measured in pounds – so a single composite ranking is somewhat subjective. This year, in an attempt to provide another measure, beyond the usual rankings, we assigned each power plant a single “score,” based on the sum of its emission rate ranking for each of the four pollutants. A plant with a low score, relative to all other plants, could be considered dirtier than a plant with a high score.

Table 1 presents the top 50 dirtiest plants based on their composite score. Basin Electric's Leland Olds plant in North Dakota ranks 35th for sulfur dioxide, 19th for carbon dioxide, 24th for nitrogen oxides, and 37th for mercury emission rates. Therefore, the plant's combined score is: 35 + 19 + 24 + 37 = 115, identifying it as the most significant emitter using this composite measure.

Table 1. Top 50 Dirtiest Power Plants, Composite Score

Score Rank	Facility	Operator	STATE	SO2 2005 Lbs/MWh Ranking	CO2 2005 lbs/MWh Ranking	2005 NOx lbs/MWh Ranking	Hg 2004 Lbs/MMWh Ranking	Score Rank sum
1	Leland Olds	Basin Electric Power Coop	ND	35	19	24	37	115
2	Milton R Young	Minnkota	ND	95	42	3	16	156
3	Coyote	Otter Tail	ND	122	13	6	31	172
4	R D Morrow	South Mississippi El Pwr	MS	123	44	23	27	217
5	Shawville	Reliant	PA	8	160	65	2	235
6	E C Gaston	Southern/Alabama Power	AL	23	136	57	24	240
7	Riverside	Northern States Power	MN	101	15	1	129	246
8	Greene County	Southern/Alabama Power	AL	21	126	104	6	257
9	Dolet Hills	Central Louisiana Electric	LA	112	17	26	103	258
10	L V Sutton	Progress Energy	NC	70	85	27	77	259
11	Michigan City	Northern Indiana PSC	IN	74	65	90	39	268
12	Hudson	PSEG	NJ	25	1	7	236	269
13	Big Stone	Otter Tail	SD	153	49	2	66	270
14	Conesville	Columbus Southern	OH	24	182	61	11	278
15	Pulliam	Wisconsin PSC	WI	114	11	10	154	289
16	Charles R Lowman	Alabama Electric Coop	AL	135	34	25	98	292
17	Ottumwa	IES Utilities	IA	155	52	85	9	301
18	Kenneth C Coleman	Western Kentucky Energy	KY	1	48	116	143	308
18	Cooper	East Kentucky Power Coop	KY	20	213	50	25	308
20	Hayfields Ferry	Allegheny Energy	PA	5	174	76	55	310
21	Big Brown	TXU	TX	29	23	257	3	312
22	Dave Johnston	PacifiCorp	WY	161	16	31	108	316
23	George Neal North	MidAmerican	IA	145	74	56	51	326
24	Jeffrey Energy Center	Westar Energy	KS	121	46	67	94	328
25	North Omaha	Omaha Public Pwr Dist	NE	113	73	120	23	329
26	Armstrong	Allegheny Energy	PA	7	191	127	5	330
27	Avon Lake	Orion Power Holdings	OH	16	199	99	20	334
28	Gorgas	Southern/Alabama Pwr Co	AL	28	157	146	10	341
29	Sadow No 4	TXU	TX	83	28	229	7	347
29	GRDA	Grand River Dam Authority	OK	202	22	49	74	347
31	C R Huntley	NRG	NY	63	7	145	137	352
31	R M Schahfer	Northern Indiana PSC	IN	147	20	157	28	352
33	San Miguel	San Miguel Electric Coop	TX	127	6	204	18	355
34	Indian River	Indian River Operations	DE	91	125	87	56	359
35	Wabash River	PSI Energy	IN	9	89	105	157	360
36	Mercer	PSEG	NJ	84	38	20	221	363
36	Kincaid	Kincaid Generation	IL	196	78	46	43	363
38	D B Wilson	Western Kentucky Energy	KY	172	26	109	59	366
39	Wyodak	PacifiCorp	WY	194	14	112	48	368
40	Johnsonville	TVA	TN	38	119	51	162	370
41	State Line Energy	State Line Energy	IN	193	115	35	34	377
42	Nebraska City	Omaha Public Power District	NE	148	149	64	22	383
43	Walter C Beckjord	Cinergy (Duke Power); CG&E	OH	32	185	89	78	384

Table 1. Top 50 Dirtiest Power Plants, Composite Score

Score Rank	Facility	Operator	STATE	SO2 2005 Lbs/MWh Ranking	CO2 2005 lbs/MWh Ranking	2005 NOx lbs/MWh Ranking	Hg 2004 Lbs/MMWh Ranking	Score Rank sum
44	Coffeen	Ameren Energy Generating	IL	42	53	74	218	387
45	R Gallagher	PSI Energy	IN	2	134	113	141	390
45	Presque Isle	Wisconsin Electric Power Co	MI	97	45	54	194	390
47	White Bluff	Arkansas Power & Light Co	AR	151	59	124	57	391
48	Antelope Valley	Basin Electric Power Coop	ND	229	24	96	45	394
49	Paradise	TVA	KY	82	172	32	112	398
50	Council Bluffs	MidAmerican Energy	IA	191	120	47	41	399

Sulfur Dioxide: Good News and Bad News

Emissions of sulfur dioxide from power plants have remained steady over the past three years. Tables 3 and 4 identify the top fifty emitters by emission rate and total tons released to the environment. The 50 dirtiest power plants based on emission rate are responsible for nearly 38 percent of sulfur dioxide emissions, but generate just over 13 percent of electricity. The 50 dirtiest plants in terms of total tons emitted are responsible for nearly half of all SO₂ emissions, but generate only 26 percent of electricity. So, a handful of old, dirty power plants continue to generate a disproportionate amount of SO₂ pollution.

The good news is that thirty-six years after the Clean Air Act was passed, power plants are finally starting to clean up their sulfur dioxide pollution, thanks to a combination of factors including enforcement actions, tough state laws, and reductions anticipated from EPA’s Clean Air Interstate Rule (CAIR), a rule designed to cap SO₂ and NO_x emissions in states east of the Mississippi.¹

CAIR establishes a two-phase cap for SO₂, culminating in 2.5 million tons in eastern states in 2015. However, due to early reductions and banking of credits for use in later years, the SO₂ cap is unlikely to be met until well beyond 2015. Nonetheless, power companies are beginning to install scrubbers that will reduce sulfur dioxide by as much as 90 percent at some of the dirtiest facilities. For example, roughly half of the top fifty highest SO₂ emitters in terms of total tons are expected to have scrubbers in operation by 2010.

Carbon Dioxide: Emissions Creep Upward

Not surprisingly, given the absence of any federal standards, carbon dioxide emissions from power plants continue to creep upward, rising about 2.5 percent between 2004 and 2005. Tables 5 and 6 compare the top 50 power plants in terms of both emission rates and total tons of CO₂ released per year. About two-thirds of the heat energy that is consumed at a typical coal-fired power plant is wasted, and that inefficiency contributes directly to high CO₂ emissions from these facilities. As Table 5 illustrates, actual emission rates do not vary much from plant to plant.

A wave of new coal-fired plants are being permitted and built across the country. The Department of Energy predicts that emissions from electric generating plants will increase nearly 40 percent by 2025, driven in part by the addition of these new coal-fired plants.

Nitrogen Oxides: Slow but Steady Progress in Most Eastern States

Nitrogen oxides emissions dropped slightly in 2005, but are expected to decline still further in eastern states over the next five years. Rules to limit the interstate transport of NO_x during the summer ozone season were adopted in the late nineties (the “NO_x SIP Call”), and emission ceilings have been ratcheted steadily downward by law. Also, the CAIR rule moves the Acid Rain (Phase 1) NO_x cap forward a year, to 2009, and sets a 1.3 million ton cap in 2015. In addition, tough new state standards like the Maryland Healthy Air Act should lead to additional reductions in year-round NO_x emissions.

Unfortunately, this trend is not apparent in western states where neither CAIR nor ozone transport rules apply. Not surprisingly, many plants with high NO_x emission are located in these states, and in states not included in the NO_x “SIP Call,” such as North Dakota, Minnesota, and Florida.

Mercury: Emissions Levels Remain Steady

Power plant mercury emissions remain steady as compared to previous years. This report ranks only large power plants – those that generated at least 2 million MWh in 2004 – however, taken together, all of the roughly 400 plants that are tracked in EPA’s Toxics Release Inventory reported just over 47 tons of mercury.

Many plants are installing scrubbers to control sulfur dioxide, and mercury emissions should decline as a co-benefit of SO₂ controls at these plants. But, EPA’s new power plant mercury rule is unlikely to have any measurable benefit in the short-term. Power plant mercury emissions are expected to decline to roughly 24 tons in 2020 – significantly higher than EPA’s so-called cap of 15 tons by 2018, as power plants “bank” pollution allowances in the early years of the rule’s implementation. Widespread use of banked allowances means that EPA’s cap of 15 tons will likely not be met until 2026 or beyond.



Table 3, *Top 50 Dirtiest Power Plants for SO₂*, ranks the 50 power plants with the highest *emission rates*, expressed as pounds of sulfur dioxide per megawatt-hour of electricity generation. Table 4 *Top 50 Polluting Power Plants for SO₂*, ranks the top 50 emitters, by *total* tons emitted, without regard to how much electricity the plant generated. All rankings include only those facilities that reported emissions to EPA and produced at least 2 million MWh of electricity in 2005. Table 2 presents information on which of the top 100 emitters, in terms of total tons, have made commitments to install scrubbers and reduce SO₂ by 2010.

Emission Rate Highlights

- The top 50 plants averaged 22.44 pounds of sulfur dioxide per megawatt-hour, compared to only one pound per hour for plants equipped with state of the art scrubbers.
- For the second year in a row, Louisville Gas and Electric's Coleman plant in Kentucky claimed the top spot as the nation's dirtiest power plant, generating just over 40 pounds of sulfur dioxide per megawatt-hour of electricity. Scrubbers planned to be in operation this year should drastically reduce emissions at the plant.²
- Pennsylvania, Ohio, and Indiana have the heaviest concentrations of the dirtiest plants in the nation for SO₂.
- Of all 376 plants ranked, the top 50 plants with the worst emission rates accounted for 37.7 percent of SO₂ emissions, but only 13.5 percent of electric generation.

Total Tons Highlights

- Of all 376 plants ranked, the top fifty plants with the highest overall emissions accounted for approximately half (4.6 million of the nearly 9.3 million tons) of SO₂ emissions, but only 26 percent of electric generation.
- Southern Company's Bowen plant in Georgia led the nation, with just over 186,000 tons – 20,000 tons more than it emitted in 2004. Reliant's Keystone plant in Pennsylvania followed in close second, with over 178,000 tons – 7,000 more tons than it emitted in 2004. Both these plants are expected to install scrubbers by 2010, which should substantially bring down SO₂ emissions.

- Pennsylvania was home to four of the top 10 highest emitters.
- Just five states – Ohio (9), Indiana (7), Georgia (5), Pennsylvania (5), and Texas (4) -- accounted for 30 of the top 50.

The Biggest and the Dirtiest SO2 Polluters

Many of the nation’s dirtiest plants, based on emission rates, are also among the largest polluters, in terms of total tons. The chart below shows the 28 power plants that appear on both of the top 50 lists for SO2.

Plants Ranked in Top 50 for Emission Rate and Total Tons SO2, 2005*	
<u>State</u>	<u>Power Plants</u>
Alabama	Gaston, Gorgas
Georgia	Harlee Branch , Bowen, Yates
Indiana	Cayuga, Gallagher , Warrick³ , Wabash River
Kentucky	Coleman
Maryland	Chalk Point , Morgantown
Ohio	Beckjord , Cardinal, Conesville, Eastlake , Kyger Creek , Miami Fort, Muskingum River
Pennsylvania	Brunner Island, Hatfield’s Ferry, Homer City , Keystone, Montour
Tennessee	Johnsonville
Texas	Big Brown
Virginia	Chesterfield
West Virginia	Fort Martin

***Bold** denotes plants with no plans for scrubber operation on or before 2010, based on EIP analysis of *Argus Scrubber Report*, © Argus Media Inc., January 2006.

Health and Environmental Effects

Power plants, especially those that burn coal, are by far the largest single contributor of SO2 pollution in the United States, accounting for approximately 67 percent of all SO2 emissions nationwide.⁴ Sulfates (from SO2) are major components of the fine particle pollution that plagues many parts of the country, especially communities nearby or directly downwind of coal-fired power plants. Sulfur dioxide also interacts with NOx to form nitric and sulfuric acids, commonly known as acid rain, which damages forests and acidifies soil and waterways.

Harvard School of Public Health studies have shown that SO₂ emissions from power plants significantly harm the cardiovascular and respiratory health of people who live near the plants. According to EPA studies, fine particle pollution from power plants causes more than 20,000 premature deaths a year.

In April 2005, EPA took final action to designate 177 counties and 31 partial counties – home to more than 100 million Americans – as “nonattainment” for health-based fine particle pollution standards.⁵

Scrubbing: A Cleaner Alternative

Scrubbing is a loose term that describes an array of air pollution control devices that rely on a chemical reaction with a sorbent to remove pollutants, including sulfur dioxide, acid gases, and air toxics, from the process gas stream. For SO₂ removal, these devices are usually called flue gas desulfurization (FGD) systems, or simply, scrubbers.

“Wet” scrubbers, which use liquid to trap particles and gases in the exhaust stream, can reduce SO₂ by 90 to 95 percent, and “dry” scrubbers reduce SO₂ in the range of 50 to 90 percent.⁶ According to the White House, scrubbing to eliminate sulfur dioxide is one of the most cost-effective ways to reduce public health risks. Vice President Cheney’s *National Energy Policy Report* found that scrubbers could remove sulfur dioxide for less than \$300 per ton⁷, while the White House Office of Management and Budget (OMB) estimates that every ton of SO₂ removed yields a public health benefit of \$7,300.⁸ This OMB estimate is based *only* on reduced premature death from heart and lung disease, and 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 scrubbers have shown that clean power is achievable. For example, Allegheny Energy’s Conemaugh plant in Pennsylvania and Harrison plant in West Virginia, and Dominion’s Mount Storm plant in West Virginia, all have large coal-fired units equipped with wet limestone scrubbers. These plants are achieving emission rates of approximately one pound per MWh, well below the top 50 plants’ 22 pounds per MWh average.

Scrubbers to be Installed at Many of the Dirtiest Plants

After years of delay, SO₂ emissions should start to decline over the next several years, as a significant number of coal-fired power plants install scrubbers to meet deadlines imposed under federal and state clean air rules, or to resolve enforcement actions brought by EPA and states. This significant investment in the cleanup of the oldest and dirtiest power plants should substantially reduce emissions that are a primary source of the fine particulate matter pollution that triggers asthma attacks, heart disease, and premature death.

Table 2 identifies the top 100 largest sources, measured in tons per year, which together account for two-thirds of the SO₂ emitted by power plants in 2005. Forty-six of the top one hundred sources have either begun construction of a scrubber, or have announced plans to install one by 2010. Twenty of the twenty-five largest sources expect to have a scrubber operating by 2010. This information was obtained from a commercial database that tracks publicly available information regarding planned or required scrubber installations.⁹

Several factors could blunt the impact of these emission reductions. Some of the emission cuts that these new scrubbers will generate will undoubtedly be transferred or sold to other facilities to allow them to pollute at a higher level, which is allowed under the federal cap-and-trade scheme. Further, plants in some states, like Texas and Missouri, are not making the same level of scrubber commitments as plants in other states. Plants that are slow to install scrubbers will likely purchase emission credits from plants that have cleaned up. Some of the plants listed as having made scrubber commitments are not installing scrubbers on all units; instead, their short-term plans involve cleaning up just one or two units at a multi-unit facility. Finally, some scrubber announcements are not strictly enforceable and may not be met on time.

But, the overall momentum toward cleanup is clearly good news, and can be attributed to several factors:

- The deadline for attaining EPA air quality standards to limit exposure to fine particle pollution will take effect in 2010. These standards were established in 1997, and upheld by a unanimous Supreme Court despite fierce opposition from the power industry and business lobby. The sulfur dioxide from power plants is a major contributor to fine particle pollution, and reducing those emissions is a key part of state strategies to achieve the deadlines. It takes an estimated two and a half years to design, install, test and begin operation of a scrubber; plants that have not yet made a commitment are unlikely to have a scrubber in operation by the 2010 deadline for meeting air quality standards that limit fine particle pollution.
- EPA's Clean Air Interstate Rule (CAIR) establishes a ceiling on power plant emissions in most eastern states. Nationwide, the caps established under CAIR are expected to reduce sulfur dioxide by about 3.6 million tons in 2010, and 3.8 million tons in 2015, with more significant reductions in eastern states. The rule allows plants to bank, buy, and sell the right to pollute under these emission ceilings, which will mean that emission reductions under CAIR are not evenly distributed.
- Some states have enacted their own requirements for power plant cleanup. For example, Duke Power expects to have scrubbers operating by 2008 at the Marshall and Belews Creek plants in North Carolina, to comply with the state's Clean Smokestacks Act.
- Some facilities are installing scrubbers to resolve enforcement actions for violation of New Source Review requirements. These include Ohio Edison's Sammis plant in Ohio, and Dominion's Chesterfield facility in Virginia.

Interestingly, a number of large sources of sulfur dioxide have yet to make commitments to install scrubbers by 2010, even where required to do so under state law. For example, Mirant mid-Atlantic has been silent about its cleanup plans for its three Maryland plants (Morgantown, Chalk Point, and Dickerson), even though state law requires a large reduction of sulfur dioxide no later than 2010. Other notorious polluters, like Alcoa's Warrick plant in Indiana, may be banking on their ability to avoid cleanup by purchasing pollution allowances from other states.

**Table 2. SCRUBBERS UNDER CONSTRUCTION OR PLANNED FOR OPERATION BY 2010
AT 100 TOP POLLUTING POWER PLANTS FOR SO2 by tons/yr**

Facility	Owner/Operator	State	2005 SO2 tons/yr	2005 SO2 Emission Rate (lbs/MWh) Rank	2005 SO2 Tons Rank	Scrubber Date (P): Planned (C): Under Construction
Bowen	Southern/Georgia Power	GA	186,470.3	50	1	(P), (C), 2008-2010
Keystone	Reliant	PA	178,767.2	11	2	(P) 2009
Gibson	PSI Energy	IN	154,234.6	68	3	(C) 2006, 2007
Hatfield's Ferry	Allegheny Energy	PA	145,621.2	5	4	(P) 2010
Muskingum River	AEP/Ohio Power Co	OH	134,562.8	4	5	(P) 2010
Homer City	EME Homer City	PA	132,022.8	36	6	
E C Gaston	Southern/Alabama Power	AL	127,658.4	23	7	(C) 2007, 2008
Montour	PPL	PA	127,595.3	14	8	(C) 2008
Cardinal	AEP/Cardinal Operating	OH	115,847.6	34	9	(C) 2008
John E Amos	AEP/Appalachian Power	WV	112,412.3	86	10	(P) 2010
Monroe	Detroit Edison Company	MI	110,305.8	89	11	(P), 2008, 2010
Conesville	Columbus Southern Power	OH	106,628.5	24	12	(P) 2010
W H Sammis	FirstEnergy/Ohio Edison	OH	106,566.1	66	13	(P) 2010
J M Stuart	Dayton Power & Light	OH	106,225.5	62	14	(P) 2008
Brunner Island	PPL	PA	104,601.6	31	15	(P) 2008, 2009
Crystal River	Florida Power	FL	102,653.2	120	16	
Wansley	Southern/Georgia Power	GA	101,546.8	55	17	(P) 2008
Roxboro	Progress Energy	NC	101,444.2	69	18	(P) 2007 - 2009
Marshall	Duke Power	NC	100,540.4	76	19	(C) 2006, 2007
Belews Creek	Duke Power	NC	96,812.7	77	20	(C) 2006, 2007
Big Brown	TXU Generation Co LP	TX	90,827.6	29	21	
Harlee Branch	Georgia Power Co	GA	90,514.2	41	22	
Paradise	TVA	KY	84,401.2	82	23	(C) 2006
Gorgas	Southern/Alabama Pwr Co	AL	84,059.5	28	24	(C) 2008
Warrick ¹⁰	Alcoa	IN	82,961.6	3	25	
Scherer	Georgia Power Co	GA	82,895.6	163	26	
Fort Martin Power Station	Allegheny Energy	WV	82,820.5	19	27	(P) 2010
Monticello	TXU	TX	79,697.8	104	28	
Morgantown	Mirant Mid-Atlantic	MD	79,481.7	15	29	
Chesterfield	Virginia Electric & Power	VA	78,427.8	47	30	(P) 2008, 2010
Cayuga	PSI Energy	IN	77,641.6	17	31	(C) 2008
Miami Fort	Duke Energy/CG&E	OH	77,583.2	33	32	(C) 2008
Martin Lake	TXU	TX	76,630.9	130	33	
Eastlake	FirstEnergy	OH	74,794.6	45	34	
Clifty Creek	Indiana-Kentucky Electric	IN	74,658.7	51	35	
Johnsonville	TVA	TN	74,603.4	38	36	
Kyger Creek	Ohio Valley Electric Corp	OH	72,428.7	39	37	

**Table 2. SCRUBBERS UNDER CONSTRUCTION OR PLANNED FOR OPERATION BY 2010
AT 100 TOP POLLUTING POWER PLANTS FOR SO2 by tons/yr**

Facility	Owner/Operator	State	2005 SO2 tons/yr	2005 SO2 Emission Rate (lbs/MWh) Rank	2005 SO2 Tons Rank	Scrubber Date (P): Planned (C): Under Construction
Jeffrey Energy Center	Westar Energy Inc.	KS	69,563.8	121	38	
Rockport	Indiana Michigan Power Co	IN	67,205.2	152	39	
Walter C Beckjord	Duke Energy/CG&E	OH	66,946.1	32	40	
Wabash River	PSI Energy, Inc	IN	66,774.2	9	41	
Yates	Southern/Georgia Power	GA	66,518.9	37	42	
Chalk Point LLC	Mirant	MD	60,536.7	44	43	
Kenneth C Coleman	Western Kentucky Energy Corp	KY	56,813.0	1	44	(C) 2006
R Gallagher	PSI Energy	IN	56,666.7	2	45	
Kingston	TVA	TN	56,207.8	87	46	(P) 2010
Labadie	Ameren-UE	MO	55,502.4	187	47	
W A Parish	Texas Genco II, LP	TX	55,294.3	198	48	
Mitchell	AEP/Ohio Power Co	WV	53,765.1	56	49	(C) 2008
Barry	Southern/Alabama Power	AL	53,652.9	157	50	
Sioux	Ameren-UE	MO	51,261.5	57	51	
James H Miller Jr	Southern/Alabama Power	AL	50,798.0	216	52	(P) 2008
Ghent	Kentucky Utilities	KY	50,185.7	137	53	(P) 2008
Big Sandy	Kentucky Power	KY	50,098.4	72	54	(P) 2010
Harding Street	Indianapolis Power & Light	IN	49,350.7	10	55	
Leland Olds	Basin Electric Power Coop	ND	48,374.7	35	56	
Pleasants Power Station	Allegheny Energy	WV	47,203.5	105	57	
Shawville	Reliant	PA	46,976.3	8	58	
Tanners Creek	Indiana Michigan Power	IN	46,533.7	40	59	
Greene County	Southern/Alabama Power	AL	45,606.4	21	60	
G G Allen	Duke Power	NC	45,424.3	67	61	(P) 2009
Mountaineer	Appalachian Power	WV	42,981.9	132	62	(C) 2007
E W Brown	Kentucky Utilities	KY	42,870.5	22	63	(P) 2008
Kammer	AEP/Ohio Power	WV	42,574.0	27	64	
Avon Lake	Orion Power Holdings, Inc	OH	42,522.3	16	65	
Big Cajun 2	Louisiana Generating LLC	LA	42,328.0	158	66	
Brandon Shores	Constellation	MD	41,698.6	110	67	(P) 2009
H L Spurlock	East Kentucky Power	KY	41,686.9	85	68	(P) 2010
Mohave	Southern California Edison	NV	41,599.1	139	69	(P) 2008
Coffeen	Ameren Energy	IL	40,949.3	42	70	
J H Campbell	Consumers Energy Co	MI	40,636.9	134	71	
R M Schahfer	Northern Indiana PSC	IN	40,334.7	147	72	
St Clair	Detroit Edison Company	MI	40,238.1	100	73	
Hammond	Southern/Georgia Power	GA	39,548.3	43	74	(P) 2010
Winyah	South Carolina Pub Serv	SC	39,424.0	108	75	(P) 2007, 2008
Philip Sporn	Central Operating Company	WV	39,374.8	59	76	

**Table 2. SCRUBBERS UNDER CONSTRUCTION OR PLANNED FOR OPERATION BY 2010
AT 100 TOP POLLUTING POWER PLANTS FOR SO2 by tons/yr**

Facility	Owner/Operator	State	2005 SO2 tons/yr	2005 SO2 Emission Rate (lbs/MWh) Rank	2005 SO2 Tons Rank	Scrubber Date (P): Planned (C): Under Construction
Colbert	TVA	AL	38,938.6	109	77	(P) 2010
Wateree	South Carolina Elec & Gas	SC	37,774.0	65	78	(P) 2009
Dickerson	Mirant	MD	37,767.9	30	79	
AES Petersburg	Indianapolis Power & Light Co	IN	37,652.9	170	80	
Bull Run	TVA	TN	37,533.7	96	81	(C) 2009
Cheswick Power Plant	Orion Power Holdings, Inc	PA	37,320.1	13	82	(P) 2009
Shawnee	TVA	KY	36,231.2	143	83	
White Bluff	Arkansas Power & Light	AR	34,889.9	151	84	
E D Edwards	Central Illinois Light Co	IL	34,864.8	54	85	
Widows Creek	TVA	AL	34,380.3	160	86	
Merrimack	Public Serv Co of New Hamp	NH	33,767.0	26	87	
Pleasant Prairie	Wisconsin Electric Power	WI	33,655.5	138	88	(C) 2006, 2007
Bruce Mansfield	FirstEnergy/Penn. Pwr Co	PA	33,122.6	232	89	2006 upgrades
C P Crane	Constellation Power	MD	33,031.0	6	90	
Anclote	Florida Power Corp	FL	32,915.3	58	91	
Brayton Point	Dominion Energy	MA	32,518.3	149	92	(P) 2007
Yorktown	Virginia Electric & Power	VA	32,154.6	48	93	
Seminole	Seminole Electric Coop Inc	FL	31,439.2	173	94	
Northeastern	PSC of Oklahoma	OK	30,879.9	184	95	
Armstrong Power Station	Allegheny Energy	PA	30,655.9	7	96	
John Sevier	TVA	TN	30,468.8	81	97	
Chesapeake	Virginia Electric & Power	VA	30,167.8	53	98	
Milton R Young	Minnkota	ND	29,406.7	95	99	
Fayette (Seymour)	LCRA	TX	29,202.1	206	100	(P) 2010

Table 3. Top 50 Dirtiest Power Plants for SO2 By Emission Rate - lbs SO2/MWh (2005)

Rank	Facility	Owner	State	SO2 (tons)	SO2 (tons) Rank	Net Gen (MWh)	Emission Rate lbs/MWh
1	Kenneth C Coleman	Western Kentucky	KY	56,813.0	44	2,796,023	40.64
2	R Gallagher	PSI Energy	IN	56,666.7	45	2,876,904	39.39
3	Warrick	Alcoa	IN	82,961.6	25	4,392,558	37.77
4	Muskingum River	AEP/Ohio Power	OH	134,562.8	5	7,403,428	36.35
5	Hatfield's Ferry	Allegheny Energy	PA	145,621.2	4	8,372,772	34.78
6	C P Crane	Constellation Power	MD	33,031.0	90	2,129,974	31.02
7	Armstrong	Allegheny Energy	PA	30,655.9	96	2,014,300	30.44
8	Shawville	Reliant	PA	46,976.3	58	3,199,780	29.36
9	Wabash River	PSI Energy	IN	66,774.2	41	4,734,518	28.21
10	Harding Street	Indianapolis Power & Light	IN	49,350.7	55	3,537,960	27.90
11	Keystone	Reliant	PA	178,767.2	2	13,488,615	26.51
12	Portland	Reliant	PA	29,105.1	102	2,226,874	26.14
13	Cheswick	Orion Power	PA	37,320.1	82	2,889,720	25.83
14	Montour	PPL Corporation	PA	127,595.3	8	10,399,362	24.54
15	Morgantown	Southern Mirant	MD	79,481.7	29	6,585,217	24.14
16	Avon Lake	Orion Power	OH	42,522.3	65	3,542,468	24.01
17	Cayuga	PSI Energy	IN	77,641.6	31	6,547,154	23.72
18	Jefferies	South Carolina Pub Serv Auth	SC	25,573.9	123	2,168,969	23.58
19	Fort Martin	Allegheny Energy	WV	82,820.5	27	7,060,817	23.46
20	Cooper	East Kentucky Power Coop	KY	23,422.4	133	2,003,931	23.38
21	Greene County	Southern/Alabama Pwr	AL	45,606.4	60	3,912,748	23.31
22	E W Brown	Kentucky Utilities	KY	42,870.5	63	3,683,416	23.28
23	E C Gaston	Southern/Alabama Pwr	AL	127,658.4	7	11,273,347	22.65
24	Conesville	Columbus Southern Power	OH	106,628.5	12	9,716,702	21.95
25	Hudson	PSEG	NJ	23,966.3	129	2,212,239	21.67
26	Merrimack	Public Serv Co of New Hamp	NH	33,767.0	87	3,117,899	21.66
27	Kammer	Ohio Power	WV	42,574.0	64	4,002,679	21.27
28	Gorgas	Southern/Alabama Pwr	AL	84,059.5	24	7,910,063	21.25
29	Big Brown	TXU	TX	90,827.6	21	8,549,082	21.25
30	Dickerson	Southern Mirant	MD	37,767.9	79	3,619,103	20.87
31	Brunner Island	PPL Corporation	PA	104,601.6	15	10,167,210	20.58
32	Walter C Beckjord	Cinergy/Duke Pwr; CG&E	OH	66,946.1	40	6,523,513	20.52
33	Miami Fort	Cinergy/Duke Pwr; CG&E	OH	77,583.2	32	7,567,019	20.51
34	Cardinal	AEP/Cardinal Operating	OH	115,847.6	9	11,372,176	20.37
35	Leland Olds	Basin Electric Power Coop	ND	48,374.7	56	4,816,732	20.09
36	Homer City Station	EME Homer City	PA	132,022.8	6	13,599,227	19.42
37	Yates	Southern/Georgia Pwr	GA	66,518.9	42	6,862,634	19.39
38	Johnsonville	TVA	TN	74,603.4	36	7,746,761	19.26
39	Kyger Creek	Ohio Valley Electric Corp	OH	72,428.7	37	7,657,479	18.92
40	Tanners Creek	Indiana Michigan Power	IN	46,533.7	59	4,998,187	18.62
41	Harlee Branch	Southern/Georgia Pwr	GA	90,514.2	22	9,797,443	18.48
42	Coffeen	Ameren Energy	IL	40,949.3	70	4,450,529	18.40
43	Hammond	Southern/Georgia Pwr	GA	39,548.3	74	4,361,408	18.14
44	Chalk Point	Mirant Energy	MD	60,536.7	43	6,695,488	18.08
45	Eastlake	Cleveland Electric	OH	74,794.6	34	8,380,920	17.85
46	Canadys Steam	South Carolina Elec & Gas	SC	19,557.9	156	2,198,619	17.79

Table 3. Top 50 Dirtiest Power Plants for SO2 By Emission Rate - lbs SO2/MWh (2005)

Rank	Facility	Owner	State	SO2 (tons)	SO2 (tons) Rank	Net Gen (MWh)	Emission Rate lbs/MWh
47	Chesterfield	Virginia Electric & Power	VA	78,427.8	30	9,049,285	17.33
48	Yorktown	Virginia Electric & Power	VA	32,154.6	93	3,833,983	16.77
49	Allen S King	Northern States Power	MN	23,365.9	134	2,796,588	16.71
50	Bowen	Southern/Georgia Pwr	GA	186,470.3	1	22,337,864	16.70
Total				3,495,170 tons		311,581,687 MWh	

Table 4. Top 50 Polluting Power Plants for SO2 By Tons SO2 (2005)

Rank	Facility	Owner	State	SO2 (tons)	Emission Rate (lbs/MWh) Rank
1	Bowen	Southern/Georgia Pwr	GA	186,470.3	50
2	Keystone	Reliant	PA	178,767.2	11
3	Gibson	PSI Energy	IN	154,234.6	68
4	Hatfield's Ferry	Allegheny Energy	PA	145,621.2	5
5	Muskingum River	Ohio Power	OH	134,562.8	4
6	Homer City	EME Homer City	PA	132,022.8	36
7	E C Gaston	Southern/Alabama Pwr	AL	127,658.4	23
8	PPL Montour	PPL Corporation	PA	127,595.3	14
9	Cardinal	AEP/Cardinal Operating Co	OH	115,847.6	34
10	John E Amos	Appalachian Power	WV	112,412.3	86
11	Monroe	Detroit Edison Company	MI	110,305.8	89
12	Conesville	Columbus Southern	OH	106,628.5	24
13	W H Sammis	Ohio Edison	OH	106,566.1	66
14	J M Stuart	Dayton Power & Light	OH	106,225.5	62
15	Brunner Island	PPL Corporation	PA	104,601.6	31
16	Crystal River	Florida Power Corp	FL	102,653.2	120
17	Wansley	Southern/Georgia Pwr	GA	101,546.8	55
18	Roxboro	Progress Energy	NC	101,444.2	69
19	Marshall	Duke Power Co	NC	100,540.4	76
20	Belews Creek	Duke Power Co	NC	96,812.7	77
21	Big Brown	TXU	TX	90,827.6	29
22	Harlee Branch	Southern/Georgia Pwr	GA	90,514.2	41
23	Paradise	TVA	KY	84,401.2	82
24	Gorgas	Southern/Alabama Pwr Co	AL	84,059.5	28
25	Warrick	Alcoa Generating Corp	IN	82,961.6	3
26	Scherer	Southern/Georgia Pwr Co	GA	82,895.6	163
27	Fort Martin	Allegheny Energy	WV	82,820.5	19
28	Monticello	TXU	TX	79,697.8	104
29	Morgantown	Southern Mirant	MD	79,481.7	15
30	Chesterfield	Virginia Electric & Power Co	VA	78,427.8	47
31	Cayuga	PSI Energy	IN	77,641.6	17
32	Miami Fort	Cinergy/Duke Pwr; CG&E Co	OH	77,583.2	33
33	Martin Lake	TXU	TX	76,630.9	130
34	Eastlake	Cleveland Electric Illuminating Co	OH	74,794.6	45
35	Clifty Creek	Indiana-Kentucky Electric Corp	IN	74,658.7	51
36	Johnsonville	TVA	TN	74,603.4	38
37	Kyger Creek	Ohio Valley Electric Corp	OH	72,428.7	39
38	Jeffrey Energy Center	Westar Energy	KS	69,563.8	121
39	Rockport	Indiana Michigan Power	IN	67,205.2	152
40	Walter C Beckjord	Cinergy/Duke Pwr; CG&E	OH	66,946.1	32
41	Wabash River	PSI Energy	IN	66,774.2	9
42	Yates	Southern/Georgia Pwr	GA	66,518.9	37
43	Chalk Point LLC	Mirant	MD	60,536.7	44
44	Kenneth C Coleman	Western Kentucky Energy Corp	KY	56,813.0	1
45	R Gallagher	PSI Energy	IN	56,666.7	2

Table 4. Top 50 Polluting Power Plants for SO2 By Tons SO2 (2005)

Rank	Facility	Owner	State	SO2 (tons)	Emission Rate (lbs/MWh) Rank
46	Kingston	TVA	TN	56,207.8	87
47	Labadie	Ameren-UE	MO	55,502.4	187
48	W A Parish	Texas Genco	TX	55,294.3	198
49	Mitchell	AEP/Ohio Power	WV	53,765.1	56
50	Barry	Southern/Alabama Pwr Co	AL	53,652.9	157
Total				4,602,393 tons	

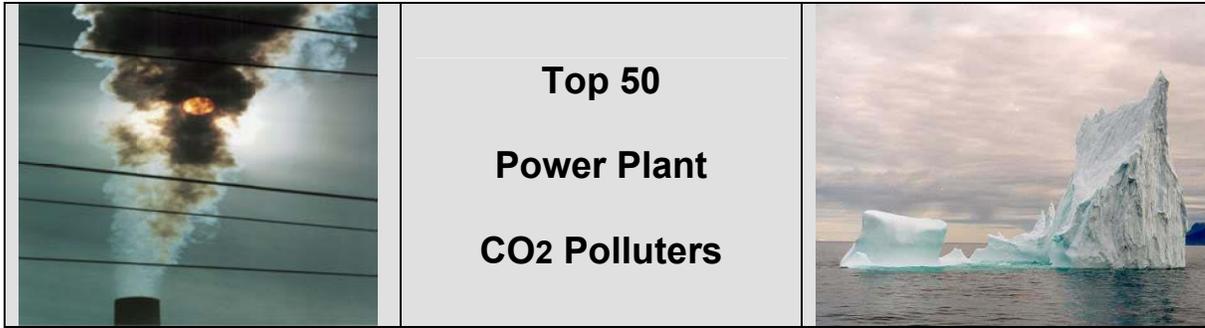


Table 5, *Top 50 Dirtiest Power Plants for CO₂*, ranks the 50 power plants with the highest *emission rates*, expressed as pounds of carbon dioxide per megawatt-hour of electricity generation. Table 6, *Top 50 Polluting Power Plants for CO₂*, ranks the top 50 emitters, by *total tons* emitted, without regard to how much electricity the plants generated. All rankings include only those facilities that produced at least 2 million MWh of electricity in 2005.

Emission Rate Highlights

- The disparity among all 376 plants that generated more than 2 million MWh in 2005 is not as wide as for other (regulated) pollutants. In other words, generally speaking, coal-fired power plants are all equally inefficient when it comes to CO₂.
- PSEG’s Hudson power plant in New Jersey topped the list, with an emission rate of more than 3,500 lbs per megawatt-hour.
- Texas has more plants (6) represented in the top 50 than any other state for CO₂ emission rates. Plants in Indiana (Warrick¹¹), Illinois (Dallman), Connecticut (Bridgeport), and Kansas (Lawrence) are among the top 5 plants with the highest emission rates for CO₂.
- 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; its comparatively low BTU (heat) value means more CO₂ for the electricity it generates.

Total Tons Highlights

Because CO₂ pollution is not federally regulated, power plants do not control emissions. All 376 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.

Four Plants Make Both Lists

- For the second year in a row, Westar’s Jeffrey Energy Center (Kansas) ranked in the top 50 for both emissions *rate* as well as total *tons* of CO₂.

- Plants in Indiana (Schahfer), Minnesota (Sherburne County), and Nebraska (Gerald Gentleman) rank in the top 50 for both emissions rate and overall tons of CO₂.

Increased Efficiency and Carbon Capture 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,¹² and unlike emissions of SO₂ and NO_x, the electric power industry's CO₂ emissions are steadily rising.

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. According to EIA, in a typical power plant, only about a third of the energy contained in coal is converted into electricity, while the remainder is emitted as waste heat.¹³ In fact, coal-fired power plant efficiency has remained largely unchanged since the mid 1960's.

Carbon capture and sequestration (removing and storing the carbon either before or after the fuel is burned) is on the horizon. In the meantime, efficiency improvements – and lower CO₂ emissions – can be achieved through currently available and economically viable technologies that can almost double fossil-fuel-fired plants' thermal efficiency, up to 60 percent.¹⁴ For example, combined-cycle generators and combined heat and power systems capture and use “waste heat” to produce additional electricity. In addition, new “supercritical” designs for steam boilers, new materials, and gas turbines (instead of steam), which withstand higher temperatures and pressures, could significantly improve power plant efficiency and lower CO₂ emissions.

Table 5. Top 50 Dirtiest Power Plants for CO2 By Emission Rate - lbs CO2/MWh (2005)

Rank	Facility Name	Owner	State	CO2 (tons)	CO2 (tons) Rank	Net Gen (MWh)	CO2 Emission Rate (lbs/MWh)
1	Hudson	PSEG	NJ	3,952,160.9	201	2,212,239	3,573.00
2	Warrick	Alcoa	IN	6,578,630.8	128	4,392,558	2,995.35
3	Dallman	Springfield (City of)	IL	2,934,447.7	259	2,084,104	2,816.03
4	Bridgeport	Wisvest-Connecticut	CT	3,140,776.8	249	2,240,332	2,803.85
5	Lawrence	Westar Energy	KS	4,636,792.8	177	3,332,297	2,782.94
6	San Miguel	San Miguel Electric Coop	TX	3,831,531.5	209	2,850,653	2,688.18
7	C R Huntley	NRG	NY	3,395,650.2	235	2,539,715	2,674.04
8	Reid Gardner	Nevada Power Co	NV	5,253,111.4	156	3,933,016	2,671.29
9	Eddystone	Exelon	PA	4,617,888.7	178	3,467,394	2,663.61
10	Weston	Wisconsin Public Service	WI	4,695,698.7	174	3,568,223	2,631.95
11	Pulliam	Wisconsin Public Service	WI	3,286,375.9	244	2,530,717	2,597.19
12	Red Hills	Choctaw Generating	MS	4,115,741.9	194	3,245,973	2,535.91
13	Coyote	Otter Tail Power	ND	3,844,010.5	208	3,046,318	2,523.71
14	Wyodak	PacifiCorp	WY	3,370,620.8	239	2,675,359	2,519.75
15	Riverside	Northern States Power	MN	2,899,388.1	263	2,308,496	2,511.93
16	Dave Johnston	PacifiCorp	WY	7,130,622.3	113	5,684,004	2,509.01
17	Dolet Hills	Central Louisiana Electric	LA	6,063,485.7	139	4,843,480	2,503.77
18	Elmer Smith	Owensboro Mun. Utilities	KY	2,751,995.3	271	2,198,360	2,503.68
19	Leland Olds	Basin Electric Power	ND	6,009,007.0	140	4,816,732	2,495.06
20	R M Schahfer	Northern Indiana PSC	IN	13,179,373.5	35	10,586,729	2,489.79
21	Bailly	Northern Indiana PSC	IN	3,348,175.0	240	2,701,437	2,478.81
22	GRDA	Grand River Dam Auth	OK	8,335,683.5	94	6,732,408	2,476.29
23	Big Brown	TXU	TX	10,573,229.1	57	8,549,082	2,473.54
24	Antelope Valley	Basin Electric Power	ND	7,951,683.9	99	6,437,295	2,470.50
25	Coal Creek	Coop Power Assn	ND	10,713,451.8	56	8,708,890	2,460.35
26	D B Wilson	Western Kentucky	KY	4,182,682.4	191	3,403,628	2,457.78
27	Sherburne County	Northern States Power	MN	16,657,713.3	19	13,584,052	2,452.54
28	Sandow No 4	TXU	TX	5,275,319.5	152	4,303,896	2,451.42
29	Havana	Dynegy Midwest	IL	3,591,755.6	222	2,934,587	2,447.88
30	Hayden	PSC of Colorado	CO	4,468,852.4	181	3,653,932	2,446.05
31	Twin Oaks Power One	Twin Oaks Power	TX	3,042,707.1	254	2,490,416	2,443.53
32	Comanche	PSC of Colorado	CO	5,242,791.2	157	4,296,787	2,440.33
33	Apache Station	Arizona Elec Pwr Coop	AZ	3,507,160.3	230	2,876,049	2,438.87
34	Charles R Lowman	Alabama Electric Coop	AL	4,707,690.1	173	3,865,846	2,435.53
35	J T Deely	San Antonio (City of)	TX	7,182,827.9	112	5,915,821	2,428.35
36	F B Culley	Southern Ind Gas & Elec	IN	3,169,925.8	248	2,616,439	2,423.08
37	Lee	Progress Energy	NC	2,481,319.1	277	2,049,623	2,421.24
38	Mercer	PSEG	NJ	3,376,849.6	238	2,793,764	2,417.42
39	J R Whiting	Consumers Energy	MI	2,810,245.4	268	2,328,238	2,414.05
40	Columbia	Alliant	WI	8,071,268.7	98	6,699,039	2,409.68
41	Pawnee	PSC of Colorado	CO	3,532,021.5	226	2,938,567	2,403.91
42	Milton R Young	Minnkota	ND	6,147,703.6	137	5,117,830	2,402.46
43	Montrose	Kansas City Pwr & Light	MO	4,007,603.5	197	3,342,902	2,397.68
44	R D Morrow	South Mississippi El Pwr	MS	3,055,779.5	252	2,551,303	2,395.47

Table 5. Top 50 Dirtiest Power Plants for CO2 By Emission Rate - lbs CO2/MWh (2005)

Rank	Facility Name	Owner	State	CO2 (tons)	CO2 (tons) Rank	Net Gen (MWh)	CO2 Emission Rate (lbs/MWh)
45	Presque Isle	Wisc Elec Power Co	MI	4,107,719.6	195	3,431,178	2,394.35
46	Jeffrey Energy Center	Westar	KS	18,123,589.6	10	15,145,728	2,393.23
47	Harrington	Southwestern PSo	TX	8,909,676.4	77	7,458,711	2,389.07
48	Kenneth C Coleman	Western Kentucky	KY	3,338,574.2	242	2,796,023	2,388.09
49	Big Stone	Otter Tail Power	SD	3,393,363.6	236	2,846,712	2,384.06
50	Gerald Gentleman	Neb Public Pwr Dist	NE	11,297,844.3	49	9,481,121	2,383.23
Total				280,292,517 tons		224,608,003 MWh	

Table 6. Top 50 Polluting Power Plants for CO2 By Tons CO2 (2005)

CO2 (tons) Rank	Facility Name	Owner	STATE	CO2 (tons)	EPACO2 Emission Rate (lbs/MWh) Rank
1	Scherer	Southern/Georgia Pwr	GA	26,040,793.5	143
2	James H Miller Jr	Southern/Alabama Pwr	AL	22,509,466.8	165
3	Bowen	Southern/Georgia Pwr	GA	22,156,086.2	214
4	Gibson	PSI Energy	IN	21,746,394.3	235
5	Martin Lake	TXU	TX	21,593,119.5	58
6	W A Parish	Texas Genco	TX	20,702,994.0	169
7	Navajo	Salt River Proj Ag I & P Dist	AZ	19,677,240.9	76
8	Colstrip	PP&L Montana	MT	19,219,042.0	57
9	General James M Gavin	Ohio Power	OH	18,842,155.3	221
10	Jeffrey Energy Center	Westar Energy	KS	18,123,589.6	46
11	Monroe	Detroit Edison	MI	18,113,289.7	236
12	John E Amos	Appalachian Power	WV	17,798,214.5	249
13	Monticello	TXU	TX	17,491,541.6	60
14	Rockport	Indiana Michigan Power Co	IN	17,422,315.9	233
15	Crystal River	Florida Power Corp	FL	17,349,807.8	276
16	Bruce Mansfield	Pennsylvania Power	PA	17,290,117.2	248
17	Labadie	Ameren-UE	MO	17,289,637.2	255
18	Cumberland	TVA	TN	16,883,450.0	184
19	Sherburne County	Northern States Power Co	MN	16,657,713.3	27
20	Jim Bridger	PacifiCorp	WY	16,239,775.3	127
21	Four Corners	Arizona Public Service Co	NM	16,015,408.7	190
22	W H Sammis	Ohio Edison Co	OH	15,401,305.9	171
23	Laramie River Station	Basin Electric Power Coop	WY	15,337,812.0	63
24	Intermountain	Los Angeles (City of)	UT	15,182,583.0	110
25	Roxboro	Progress Energy	NC	14,907,671.0	202
26	Paradise	TVA	KY	14,646,094.5	172
27	Belews Creek	Duke Power	NC	14,219,392.5	256
28	Wansley	Southern/Georgia Pwr	GA	13,820,283.3	156
29	J M Stuart	Dayton Power & Light	OH	13,817,921.8	242
30	Barry	Southern/Alabama Pwr	AL	13,716,972.8	251
31	Big Cajun 2	Louisiana Generating	LA	13,690,368.4	64
32	Limestone	Texas Genco	TX	13,486,035.1	163
33	Homer City Station	EME Homer City	PA	13,408,986.7	219
34	Marshall	Duke Power	NC	13,331,274.3	267
35	R M Schahfer	Northern Indiana Pub Serv Co	IN	13,179,373.5	20
36	San Juan	Public Serv Co Of New Mexico	NM	13,097,410.1	170
37	Ghent	Kentucky Utilities Co	KY	13,051,032.5	178
38	AES Petersburg	Indianapolis Power & Light Co	IN	12,980,258.0	101
39	Harrison Power Station	Allegheny Energy	WV	12,961,434.6	224
40	Baldwin Energy Complex	Dynegy Midwest	IL	12,954,432.5	189
41	Keystone	Reliant	PA	12,950,676.6	238
42	Transalta Centralia	Transalta Centralia Generation	WA	12,662,495.9	62
43	Conemaugh	Reliant	PA	12,609,081.9	228

Table 6. Top 50 Polluting Power Plants for CO2 By Tons CO2 (2005)

CO2 (tons) Rank	Facility Name	Owner	STATE	CO2 (tons)	EPACO2 Emission Rate (lbs/MWh) Rank
44	E C Gaston	Southern/Alabama Pwr	AL	12,234,048.4	136
45	Mt Storm	Virginia Electric & Power	WV	12,047,554.9	105
46	Fayette Power Project	Lower Colorado River Authority	TX	11,982,386.4	140
47	Craig	Tri-State G & T Assn	CO	11,588,734.7	81
48	Independence	Arkansas Power & Light	AR	11,504,415.3	80
49	Gerald Gentleman	Nebraska Public Power District	NE	11,297,844.3	50
50	Widows Creek	TVA	AL	11,010,115.4	107
Total				782,240,149 tons	

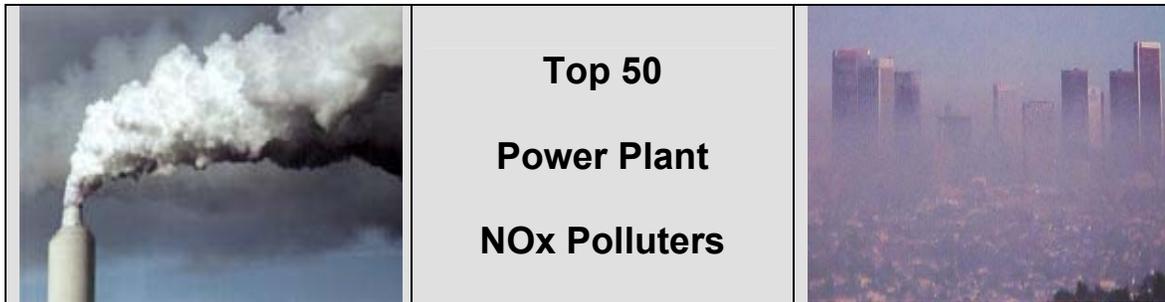


Table 7, *Top 50 Dirtiest Power Plants for NOx*, ranks the 50 plants with the highest *emission rates*, expressed as pounds of nitrogen oxides per megawatt-hour. Table 8, *Top 50 Polluting Power Plants for NOx*, ranks the top 50 emitters, by *total* tons emitted, without regard to how much electricity the plant generated. Rankings only include those plants that generated at least 2 million MWh of electricity in 2005.

Emission Rate Highlights

- The top 50 plants had an average emission rate of 5.8 pounds of NOx per megawatt-hour, more than double the 2.8 lbs/MWh average for all 376 of the nation’s largest power plants.
- Of the 376 plants, the top 50 accounted for 22 percent of all NOx emissions but only 11 percent of net electric generation.
- For the second year running, Northern State’s Riverside plant in Minnesota claimed the top spot, with 11 pounds of NOx for every megawatt-hour. Otter Tail Power’s Big Stone (South Dakota) and Minnkota’s Milton Young (North Dakota) power plants had the second and third highest emission rates, with 9.7 and 9.3 pounds of NOx per megawatt-hour, respectively.
- Many plants in the top 50, including seven out of the top 10, 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 376 plants ranked, the top 50 accounted for 39 percent of NOx emissions, and 29 percent of net generation.
- Arizona Public Service Company’s Four Corners (New Mexico), Florida Power and Light’s Crystal River, and American Electric Power’s Gavin (Ohio) plants topped the list, emitting more than 41,743, 38,754, and 38,704 tons of NOx, respectively.

Health and Environmental Effects

Electric utilities account for 22 percent of all NO_x 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 NO_x and volatile organic compounds (VOCs) react in sunlight. NO_x 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.

NO_x 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, NO_x emissions are one of the largest sources of nitrogen pollution in the Chesapeake Bay.¹⁶

NO_x Controls: SCR and SNCR

Selective catalytic reduction (SCR), which uses a catalyst bed to reduce NO_x to nitrogen and water, can cut NO_x emissions by more than 90 percent. Selective non-catalytic reduction (SNCR), which reduces NO_x to nitrogen and water using a reducing agent (typically ammonia or urea), achieves up to 75 percent NO_x removal. According to the White House Office of Management and Budget, the public health benefit of reducing power plant NO_x 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 NO_x controls demonstrate that cleaner power is achievable. For example, TexasGenco's (formerly Reliant) W.A. Parish plant in Texas, has steadily lowered its NO_x emissions and become one of the lowest emitting coal plants for NO_x, through a combination of low NO_x design features and SCR controls.¹⁷ Ameren's Labadie plant in Missouri, has achieved one of the best NO_x emission rates in the nation, slightly above one pound of NO_x per megawatt-hour, without use of an SCR, using low NO_x burners and other technologies.¹⁸

Driven by federal regulations aimed at further reducing summertime ozone, power plants are steadily lowering NO_x emissions. Kansas City Power and Light's La Cygne plant, for example, will have selective catalytic reduction operational before the 2007 ozone season.

Table 7. Top 50 Dirtiest Power Plants for NOx By Emission Rate - lbs NOx/MWh (2005)

NOx (lbs/MWh) Rank	Facility Name	Owner	STATE	NOx (Tons)	NOx (Tons) Rank	NET GENERATION (MWh)	NOx Emission Rate (lbs/MWh)
1	Riverside	Northern States Power	MN	12,716.0	96	2,308,496	11.02
2	Big Stone	Otter Tail Power	SD	13,813.2	83	2,846,712	9.70
3	Milton R Young	Minnkota Power Coop	ND	23,680.5	23	5,117,830	9.25
4	New Madrid	Associated Electric Coop	MO	32,239.9	10	7,000,958	9.21
5	Bailly	Northern Indiana Pub Serv	IN	12,329.3	100	2,701,437	9.13
6	Coyote	Otter Tail Power	ND	12,259.6	101	3,046,318	8.05
7	Hudson	PSEG	NJ	8,778.0	141	2,212,239	7.94
8	C P Crane	Constellation	MD	8,205.5	151	2,129,974	7.70
9	Allen S King	Northern States Power	MN	10,675.6	118	2,796,588	7.63
10	Pulliam	Wisconsin Public Service Corp	WI	9,234.5	134	2,530,717	7.30
11	Elmer Smith	Owensboro Municipal Utilities	KY	7,707.4	162	2,198,360	7.01
12	Black Dog	Northern States Power	MN	7,737.1	161	2,221,258	6.97
13	La Cygne	Kansas City Power & Light	KS	30,304.0	12	9,038,866	6.71
14	Powerton	Midwest Generations	IL	30,099.7	14	9,469,508	6.36
15	Dallman	Springfield (City of)	IL	6,613.9	189	2,084,104	6.35
16	Sibley	Aquila	MO	9,100.3	135	2,880,026	6.32
17	Jack Watson	Mississippi Power	MS	11,612.9	107	3,773,739	6.15
18	Mitchell	Ohio Power	WV	20,026.4	35	6,931,908	5.78
19	Kammer	Ohio Power	WV	11,516.3	109	4,002,679	5.75
20	Mercer	PSEG	NJ	7,954.7	157	2,793,764	5.69
21	Big Bend	Tampa Electric	FL	23,855.1	22	8,442,299	5.65
22	Naughton	PacifiCorp	WY	14,736.2	69	5,238,417	5.63
23	R D Morrow	South Mississippi El Pwr Assn	MS	7,033.4	172	2,551,303	5.51
24	Leland Olds	Basin Electric Power Coop	ND	13,258.0	87	4,816,732	5.50
25	Charles R Lowman	Alabama Electric Coop	AL	10,632.9	120	3,865,846	5.50
26	Dolet Hills	Central Louisiana Electric	LA	13,110.0	90	4,843,480	5.41
27	L V Sutton	Progress Energy	NC	8,267.6	149	3,085,845	5.36
28	Apache Station	Arizona Electric Pwr Coop	AZ	7,690.6	163	2,876,049	5.35
29	Four Corners	Arizona Public Service	NM	41,743.4	1	15,616,040	5.35
30	Lee	Progress Energy	NC	5,396.7	212	2,049,623	5.27
31	Dave Johnston	PacifiCorp	WY	14,721.2	70	5,684,004	5.18
32	Paradise	TVA	KY	35,878.9	5	13,974,043	5.14
33	Cape Canaveral	Florida Power & Light Co	FL	6,259.5	195	2,472,950	5.06
34	Clifty Creek	Indiana-Kentucky Elec Corp	IN	22,620.9	27	8,981,018	5.04
35	State Line Energy	State Line Energy	IN	6,847.9	180	2,749,201	4.98
36	Warrick	Alcoa	IN	10,879.3	116	4,392,558	4.95
37	Jefferies	South Carolina Pub Serv Auth	SC	5,316.7	213	2,168,969	4.90
38	Seminole	Seminole Electric Coop	FL	23,635.2	24	9,747,230	4.85
39	Allen	TVA	TN	12,490.7	98	5,161,045	4.84
40	Martin Drake	Colorado Springs Utilities	CO	4,944.3	223	2,048,016	4.83
41	Boardman	Portland General Electric	OR	8,353.5	146	3,465,193	4.82
42	Kyger Creek	Ohio Valley Electric	OH	18,438.5	44	7,657,479	4.82
43	Gerald Gentleman	Nebraska Public Power Dist	NE	22,583.7	28	9,481,121	4.76
44	North Valmy	Sierra Pacific Power Company	NV	9,380.7	132	3,952,077	4.75

Table 7. Top 50 Dirtiest Power Plants for NOx By Emission Rate - lbs NOx/MWh (2005)

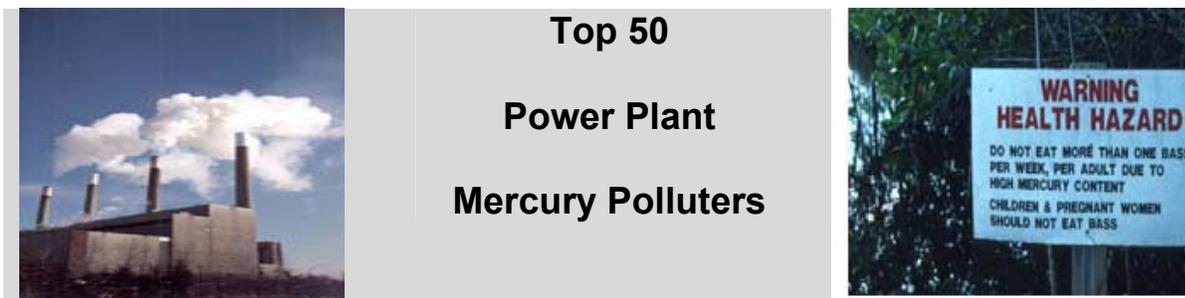
NOx (lbs/MWh) Rank	Facility Name	Owner	STATE	NOx (Tons)	NOx (Tons) Rank	NET GENERATION (MWh)	NOx Emission Rate (lbs/MWh)
45	Coronado	Salt River Proj Ag I & P Dist	AZ	14,147.9	77	6,070,915	4.66
46	Kincaid	Kincaid Generation	IL	14,304.5	75	6,138,622	4.66
47	Council Bluffs	MidAmerican Energy	IA	14,514.8	72	6,244,682	4.65
48	Anclote	Florida Power Corp	FL	9,929.1	127	4,302,160	4.62
49	GRDA	Grand River Dam Authority	OK	15,527.4	64	6,732,408	4.61
50	Cooper	East Kentucky Power Coop	KY	4,614.7	232	2,003,931	4.61
Total				707,718 tons		244,898,737 MWh	

Table 8. Top 50 Polluting Power Plants for NOx By Tons NOx (2005)

NOx (tons) Rank	Facility Name	Owner	State	NOx (Tons)	Emission Rate (lbs/MWh) Rank
1	Four Corners	Arizona Public Service	NM	41,743.4	29
2	Crystal River	Florida Power Corp	FL	38,754.2	130
3	General James M Gavin	Ohio Power	OH	38,704.2	83
4	Colstrip	PP&L	MT	36,894.2	55
5	Paradise	TVA	KY	35,878.9	32
6	Monroe	Detroit Edison	MI	35,394.0	106
7	John E Amos	Appalachian Power	WV	34,619.8	118
8	Navajo	Salt River Proj Ag I & P Dist	AZ	33,221.3	98
9	Jeffrey Energy Center	Westar Energy	KS	32,574.5	67
10	New Madrid	Associated Electric Coop	MO	32,239.9	4
11	Jim Bridger	PacifiCorp	WY	32,170.9	62
12	La Cygne	Kansas City Power & Light	KS	30,304.0	13
13	Gibson	PSI Energy	IN	30,283.8	187
14	Powerton	Midwest Generations	IL	30,099.7	14
15	Cumberland	TVA	TN	27,186.0	141
16	San Juan	Public Serv Co Of New Mexico	NM	26,809.0	66
17	Bowen	Southern/Georgia Pwr	GA	26,246.0	222
18	E C Gaston	Southern/Alabama Pwr	AL	25,372.3	57
19	W H Sammis	Ohio Edison	OH	25,155.7	132
20	Intermountain	Los Angeles (City of)	UT	25,075.2	117
21	J M Stuart	Dayton Power & Light	OH	24,420.7	138
22	Big Bend	Tampa Electric	FL	23,855.1	21
23	Milton R Young	Minnkota Power Coop I	ND	23,680.5	3
24	Seminole	Seminole Electric Coop	FL	23,635.2	38
25	Bruce Mansfield	Pennsylvania Power	PA	23,453.0	209
26	Sherburne County	Northern States Power	MN	22,691.9	139
27	Clifty Creek	Indiana-Kentucky Electric	IN	22,620.9	34
28	Gerald Gentleman	Nebraska Public Power Dist	NE	22,583.7	43
29	Mt Storm	Virginia Electric & Power	WV	22,555.9	73
30	Conesville	Columbus Southern Power	OH	21,158.4	61
31	Rockport	Indiana Michigan Power	IN	21,122.3	220
32	Mohave	Southern California Edison	NV	20,788.1	93
33	Belews Creek	Duke Power	NC	20,419.3	195
34	James H Miller Jr	Southern/Alabama Pwr	AL	20,210.9	246
35	Mitchell	Ohio Power	WV	20,026.4	18
36	Harlee Branch	Southern/Georgia Pwr	GA	19,976.3	81
37	Laramie River Station	Basin Electric Power Coop	WY	19,951.1	161
38	Conemaugh	Reliant	PA	19,663.3	162
39	Roxboro	Progress Energy	NC	19,549.1	196
40	Shawnee	TVA	KY	19,378.6	75
41	Harrison Power Station	Allegheny Energy	WV	19,365.6	170
42	Barry	Southern/Alabama Pwr	AL	19,248.5	198
43	St Johns River	JEA	FL	18,495.2	69

Table 8. Top 50 Polluting Power Plants for NOx By Tons NOx (2005)

NOx (tons) Rank	Facility Name	Owner	State	NOx (Tons)	Emission Rate (lbs/MWh) Rank
44	Kyger Creek	Ohio Valley Electric Corp	OH	18,438.5	42
45	Homer City Station	EME Homer City	PA	18,256.1	190
46	Hunter	PacifiCorp	UT	18,238.5	107
47	Scherer	Southern/Georgia Pwr	GA	18,155.5	263
48	Widows Creek	TVA	AL	18,154.4	114
49	Johnsonville	TVA	TN	17,773.1	51
50	Craig	Tri-State G & T Assn Inc	CO	17,706.7	125
Total				1,254,300 tons	



EPA’s Toxics Release Inventory (TRI) tracks mercury emissions for 492 electric generating facilities. These plants released 47.29 tons of mercury into the air in 2004, the latest year for which data is publicly available.¹⁹

Table 9, *Top 50 Dirtiest Power Plants for Mercury*, ranks the 50 power plants with the highest *emission rates*, expressed as pounds of mercury per million megawatt-hours (MMWh). Table 10, *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 2004.

Emission Rate Highlights

- For all plants ranked for mercury, the top 50 plants with the highest emission rates together emitted 15 tons of mercury, just over 30 percent of all power plant mercury pollution, but generated only about 17 percent of the electricity.
- Plants in Texas and Pennsylvania topped the list for the nation’s highest power plant mercury emission rates. AEP’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 more than 20 tons, or 43 percent of the industry’s mercury emissions, and generated 33 percent of the electricity.
- TXU’s Martin Lake (Texas) plant ranked number one, with 1,744 pounds of mercury emissions. Southern Company’s Miller plant (Alabama) and Scherer plant (Georgia) came in second and third, emitting 1,544 and 1,465 pounds, respectively.

Twenty-Three Plants Make Both Lists

Twenty-three plants in 13 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
2004**

<u>State</u>	<u>Power Plants</u>
Alabama	Gorgas, Gaston, Miller
Arizona	Springerville
Georgia	Scherer
Illinois	Dominion (Kincaid)
Indiana	R.M. Schahfer
Iowa	Ottumwa
Louisiana	Big Cajun 2
Minnesota	Sherburne
North Dakota	Coal Creek
Ohio	Conesville, Cardinal
Pennsylvania	Shawville, Keystone
Texas	Pirkey, Big Brown, Sandow, Martin Lake, Monticello, Limestone
Wisconsin	Pleasant Prairie, Columbia

- 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.²⁰ 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.²¹

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 80 to 90 percent (and better when coupled with a fabric filter for particulate control). In addition, mercury can be significantly reduced as a “co-benefit” of controls for other pollutants, such as fabric filters, electrostatic precipitators, SO₂ 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 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.²²

Table 9. Top 50 Dirtiest Power Plants for Mercury By Emission Rate - lbs Hg/million MWh (2004)

Rank	Facility	Owner	State	Mercury (lbs)	Mercury Pounds Rank	Net Generation (MWh)	Emission Rate (lbs/MMWh)*
1	Pirkey	American Electric Power	TX	1,121	7	5,117,188	219
2	Shawville	Reliant	PA	646	34	3,105,814	208
3	Big Brown	TXU	TX	1,182	6	8,301,841	142
4	Twin Oaks	Twin Oaks Power	TX	298	105	2,342,321	127
5	Armstrong	Allegheny Energy	PA	258	125	2,063,114	125
6	Greene County	Southern/Alabama Pwr	AL	459	59	3,716,867	123
7	Sandow Unit 4	TXU	TX	558	41	4,527,603	123
8	Holcomb	Sunflower Electric Power	KS	316	92	2,596,603	122
9	Ottumwa	Ies Utilities	IA	500	47	4,179,388	120
10	Gorgas	Southern/Alabama Pwr	AL	924	15	7,902,681	117
11	Conesville	American Electric Power	OH	1,016	10	9,022,674	113
12	Keystone	Reliant Energy	PA	1,258	5	12,287,691	102
13	Martin Lake	TXU	TX	1,744	1	17,238,652	101
14	Springerville	Tucson Electric Power	AZ	576	40	5,705,735	101
15	Coal Creek	Great River Energy	ND	837	20	8,475,101	99
16	Milton R. Young	Minnkota	ND	470	52	4,782,502	98
17	Monticello	TXU	TX	1,330	4	14,048,345	95
18	San Miguel	San Miguel Elec Coop	TX	250	130	2,648,725	94
19	Red Hills	Choctaw	MS	300	104	3,204,601	94
20	Avon Lake	Reliant Energy	OH	254	126	2,739,217	93
21	Pleasant Prairie	Wisconsin Electric Power	WI	743	26	8,250,715	90
22	Nebraska City	Omaha Public Pwr Dist	NE	404	67	4,486,887	90
23	North Omaha	Omaha Public Pwr Dist	NE	320	90	3,562,902	90
24	Gaston Steam	Southern/Alabama Pwr	AL	1,025	9	11,753,484	87
25	Cooper	East Kentucky Power	KY	190	160	2,275,198	84
26	Limestone	Reliant Energy	TX	1,087	8	13,016,528	83
27	R. D. Morrow Sr.	South Mississippi El Pwr	MS	210	150	2,538,048	83
28	R.M. Schahfer	Northern Indiana Pub Serv	IN	770	23	9,350,916	82
29	Dickerson	Southern Mirant	MD	267	120	3,260,199	82
30	Miller	Southern/Alabama Pwr	AL	1,544	2	19,500,172	79
31	Coyote	Otter Tail Power	ND	250	129	3,180,023	79
32	Columbia	Alliant Energy	WI	557	42	7,110,046	78
33	Gibbons Creek	Texas Municipal Pwr Agcy	TX	248	131	3,186,786	78
34	State Line	State Line Generating	IN	223	144	2,933,561	76
35	Big Cajun 2	Louisiana Generating LLC	LA	930	14	12,303,810	76
36	Coletto Creek	AEP - Texas Central	TX	167	182	2,225,245	75
37	Leland Olds	Basin Electric Pwr Coop	ND	330	87	4,430,459	74
38	Louisa	Midamerican Energy	IA	320	89	4,772,122	67
39	Michigan City	Northern Ind Pub Servs	IN	181	170	2,704,298	67
40	George Neal South	Midamerican Energy	IA	300	102	4,608,267	65
41	Council Bluffs	Midamerican Energy	IA	360	77	5,603,381	64
42	Cardinal Plant	American Electric Power	OH	689	27	10,794,107	64
43	Dominion	Kincaid Generation LLC	IL	477	50	7,508,665	63
44	Sherburne	Northern States Power	MN	985	11	15,555,955	63

Table 9. Top 50 Dirtiest Power Plants for Mercury By Emission Rate - lbs Hg/million MWh (2004)							
Rank	Facility	Owner	State	Mercury (lbs)	Mercury Pounds Rank	Net Generation (MWh)	Emission Rate (lbs/MMWh)*
45	Antelope Valley	Basin Electric Pwr Co-Op	ND	410	66	6,486,681	63
46	Scherer	Southern/Georgia Pwr	GA	1,465	3	23,261,025	63
47	Cheswick	Orion Power Holdings	PA	199	156	3,174,840	63
48	Wyodak Plant	PacifiCorp	WY	168	181	2,685,120	62
49	John Sevier	TVA	TN	310	98	4,969,293	62
50	Fort Martin	Allegheny Energy	WV	475	51	7,669,503	62
Total				29,900 lbs		337,164,899 MWh	

*Emission rates rounded to nearest pound per million MWh. Decimals not reflected in table.

Table 10. Top 50 Polluting Power Plants for Mercury (Hg) By Pounds Hg (2004)					
Rank	Facility	Owner	State	Hg (Pounds)	Emission Rate Rank
1	Martin Lake Steam	TXU	TX	1,744	13
2	Miller	Southern/Alabama Pwr	AL	1,544	30
3	Scherer	Southern/Georgia Pwr	GA	1,465	47
4	Monticello	TXU	TX	1,330	17
5	Keystone	Reliant Energy	PA	1,258	12
6	Big Brown	TXU	TX	1,182	3
7	Pirkey	American Electric Power	TX	1,121	1
8	Limestone	Reliant Energy	TX	1,087	26
9	Gaston	Southern/Alabama Pwr	AL	1,025	24
10	Conesville	American Electric Power	OH	1,016	11
11	Sherburne	Northern States Power	MN	985	45
12	Bruce Mansfield	Pennsylvania Power	PA	955	80
13	Labadie	Ameren-UE	MO	937	77
14	Big Cajun 2	Louisiana Generating LLC	LA	930	35
15	Gorgas	Southern/Alabama Pwr	AL	924	10
16	W A Parish	Reliant Energy	TX	911	105
17	Colstrip	Colstrip Energy LP	MT	880	63
18	Bowen	Southern/Georgia Pwr	GA	874	133
19	Rockport	American Electric Power	IN	846	91
20	Coal Creek	Great River Energy	ND	837	15
21	J. M. Stuart	Dayton Power & Light	OH	831	62
22	Monroe Power	Detroit Edison	MI	783	106
23	R.M. Schahfer	Northern Indiana Pub Serv	IN	770	28
24	San Juan	PSC of New Mexico	NM	770	55
25	Amos	American Electric Power	WV	745	117
26	Pleasant Prairie	Wisconsin Electric Power	WI	743	21
27	Cardinal	American Electric Power	OH	689	43
28	Jeffrey Energy Center	Westar Energy	KS	682	94
29	Roxboro	Carolina Power & Light	NC	670	119
30	Barry	Southern/Alabama Pwr	AL	666	112
31	Laramie River	Basin Electric Power Co-Op	WY	660	82
32	Homer City	Eme Homer City Generation	PA	658	90
33	Paradise	TVA	KY	650	113
34	Shawville	Reliant Energy	PA	646	2
35	White Bluff	Arkansas Power & Light	AR	630	58
36	Four Corners	Arizona Public Service	NM	625	132
37	Baldwin	Dynegy Midwest Generation	IL	613	110
38	Brandon Shores & Wagner*	Constellation Power	MD	610	80
39	Gibson	Duke Energy	IN	591	209
40	Springerville	Tucson Electric Power	AZ	576	14
41	Sadow Unit 4	TXU	TX	558	7
42	Columbia	Alliant	WI	557	32
43	Kammer & Mitchell*	American Electric Power	WV	547	124
44	Sommers/Deely/Spruce*	San Antonio (City)	TX	534	174
45	Crystal River	Progress Energy	FL	520	173
46	Hatfield's Ferry	Allegheny Energy	PA	516	56

Table 10. Top 50 Polluting Power Plants for Mercury (Hg) By Pounds Hg (2004)					
Rank	Facility	Owner	State	Hg (Pounds)	Emission Rate Rank
47	Ottumwa	City of Ottumwa	IA	500	9
48	Conemaugh	Reliant Energy	PA	500	150
49	W. H. Sammis	Ohio Edison	OH	490	165
50	Dominion	Kincaid Generation	IL	477	44
Total				40,658 lbs	

*Emission rates based on combined net generation of these plants.

Data Sources and Methodology

The rankings in this report present a snapshot based on the most current publicly available data — 2005 data for SO₂, CO₂, and NO_x, and 2004 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 NO_x, we ranked 376 plants, and for mercury, we ranked roughly 400 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 data was obtained from the Department of Energy’s Energy Information Administration (EIA) “Power Plant Reports,” specifically Forms EIA-906 and EIA-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.

This report presents *plant-by-plant* rankings rather than electric utility *company* rankings. For an analysis of the top polluting power companies, see the Natural Resources Defense Council’s *Benchmarking Air Emissions of the 100 Largest Electric Power Producers in the United States — 2002*.²³

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 NO_x data from the utility industry, and includes more than 1,000 power plants regulated under the Acid Rain Program and the NO_x 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 2004. 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/>. 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.²⁴

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 376 largest power plants listed in EPA's emission tracking system database for which 2005 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 2005 (year 2004 data is used for mercury).

Taken together, these 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 376 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.

Endnotes

¹ See, <http://www.epa.gov/CAIR/>.

² *Argus Scrubber Report, Updated for 2006*, © Argus Media Inc. 2005.

³ Alcoa's Warrick plant has one generating unit that is co-owned with another utility. Alcoa reports all of its emissions to EPA, but it only reports the electricity it actually "owns" to EIA. Therefore, emission rates for Alcoa's Warrick plant are slightly inflated. However, EIP has no information on the breakdown of electricity owned by Alcoa, and therefore presents the rankings for this plant based strictly on company self-reported government data.

⁴ U.S. EPA, *Acid Rain Program 2002 Progress Report*, EPA-430-R-03-011, November 2003, available at <http://www.epa.gov/airmarkets/cmprpt/arp02/2002report.pdf>. See also, <http://www.epa.gov/air/urbanair/so2/what1.html>.

⁵ See, <http://www.epa.gov/pmdesignations/documents/Apr05/greenmap.pdf>.

⁶ "Circulating dry scrubber" can get more than 90% removal; "spray dryer" can get 70% - 90% removal; dry sorbent injection (limestone) can get 50% - 70% removal, according to the Institute of Clean Air Companies. See, <http://www.icac.com/>.

⁷ *National Energy Policy Report of the National Energy Policy Development Group*, May, 2001, page 3-4.

⁸ See, *Informed Regulatory Decision – 2004 Draft Report to Congress on the Costs and Benefits of Federal Regulations and Unfunded Mandates on State, Local, and Tribal Entities*, available at: www.whitehouse.gov/omb/inforeg/draft_2004_cbreport.pdf.

⁹ *Argus Scrubber Report, Updated for 2006*, © Argus Media Inc. 2005.

¹⁰ See Note 3, above.

¹¹ See Note 3, above.

¹² According to the EPA's most recent Inventory of U.S. Greenhouse Gas Emissions, electricity generators consume about 34 percent of U.S. fossil fuel energy and emit roughly 40 percent of all CO₂ from fossil fuel combustion. Electricity generators rely on coal for more than half of their total energy requirements, and electric generation accounts for 94 percent of all coal consumed in the United States. *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2004* (April 2006) USEPA #430-R-06-002, p. ES-8, available at: [http://yosemite.epa.gov/oar/globalwarming.nsf/UniqueKeyLookup/RAMR6MBLP4/\\$File/06ES.pdf](http://yosemite.epa.gov/oar/globalwarming.nsf/UniqueKeyLookup/RAMR6MBLP4/$File/06ES.pdf).

¹³ See, "Carbon Dioxide Emissions from the Generation of Electric Power in the United States," July 2000, Department of Energy, Environmental Protection Agency, available at: http://www.eia.doe.gov/cneaf/electricity/page/co2_report/co2report.html.

¹⁴ See, "Controlling Power Plant CO₂ Emissions: A Long Range View," by John Marion and Nsakala ya Nsakala, ALSTOM Power Plant Laboratories, Windsor, CT (U.S. offices), available at: http://www.netl.doe.gov/publications/proceedings/01/carbon_seq/1b2.pdf.

¹⁵ See, <http://www.epa.gov/air/urbanair/nox/what.html>.

¹⁶ See, <http://www.epa.gov/air/urbanair/nox/hlth.html>.

¹⁷ Plant upgrades and retrofits are ongoing. *Power* magazine, "W.A. Parish Electric Generation Station, Thompson, Texas," (July/August 2004) recently described modifications made to the W.A. Parish burners. Units 5 and 6, which have NO_x emission rates below 0.10 lbs/MMBtu, appear to have dual-fuel (gas/coal) burners. Units 7 and 8, which have emissions rates of roughly 0.15 lbs/MMBtu, appear to be 100 percent coal-fired.

¹⁸ See, <http://www.epa.gov/airmarkets/fednox/126noda2/pegasus.pdf>

¹⁹ This number is slightly lower than EPA's often-cited 48 tons per year estimate, due to the Toxics Release Inventory's narrower definition of mercury sources included within the category "Electric Utilities."

²⁰ See, <http://www.epa.gov/mercury/about.htm>.

²¹ *Second National Report on Human Exposure to Environmental Chemicals*, Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Environmental Health, Division of Laboratory Sciences, Atlanta, Georgia, NCEH Pub. No. 02-0716, January 2003; available at: <http://www.cdc.gov/exposurereport/>.

²² *The Impact of Federal Clean Air Rules on Mercury Emissions at U.S. Coal-Fired Power Plants*, July 2006, available at: <http://www.nwf.org/mercury> .

²³ Available at: <http://www.nrdc.org/air/pollution/benchmarking/default.asp>.

²⁴ Energy Information Administration, *Electric Power Monthly for April 2005* (with 2004 year-end data), DOE/EIA-0226 (2005/04), available at: http://www.eia.doe.gov/cneaf/electricity/epm/epm_sum.html

Appendix A: Maps

Distribution of Top 50 Polluting Power Plants for Sulfur Dioxide

- by Tons (2005)
- by Emission Rate – Pounds/MWh (2005)

Distribution of Top 50 Polluting Power Plants for Carbon Dioxide

- by Tons (2005)
- by Emission Rate – Pounds/MWh (2005)

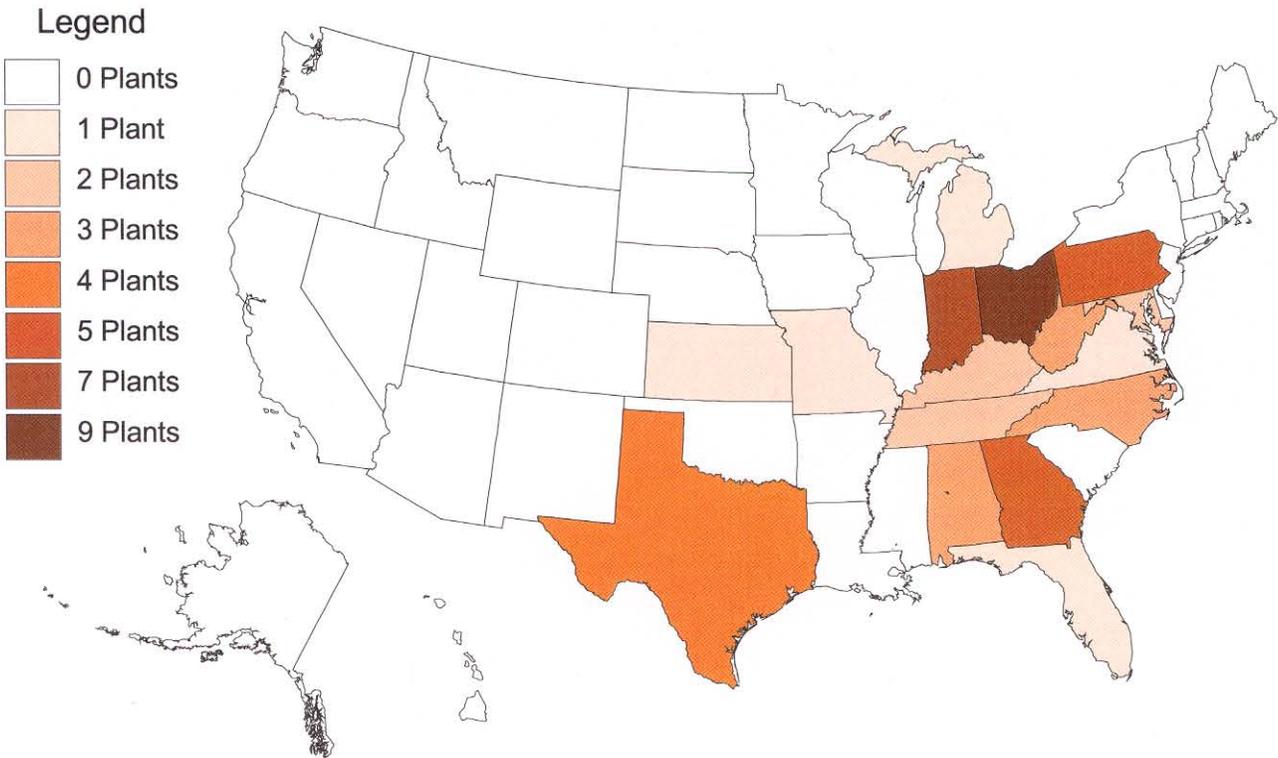
Distribution of Top 50 Polluting Power Plants for Nitrogen Oxides

- by Tons (2005)
- by Emission Rate – Pounds/MWh (2005)

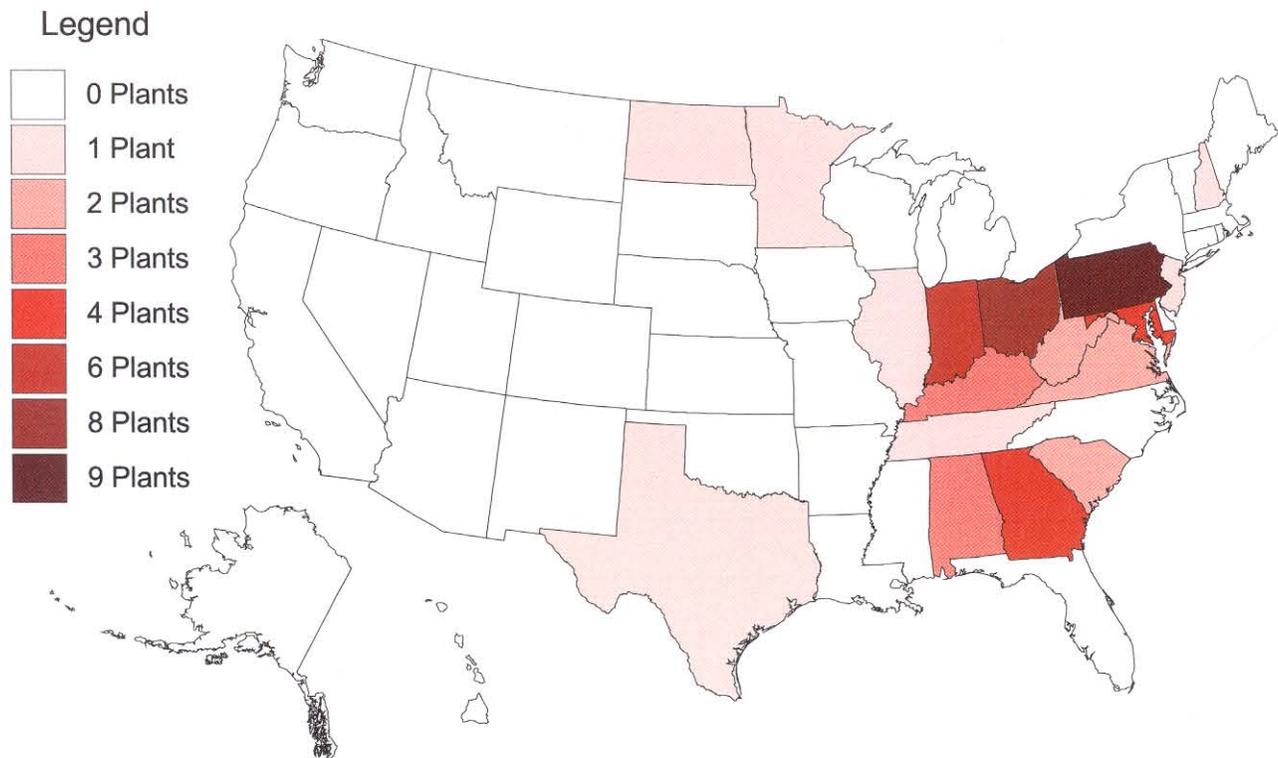
Distribution of Top 50 Polluting Power Plants for Mercury

- by Pounds (2004)
- by Emission Rate – Pounds/MMWh (2004)

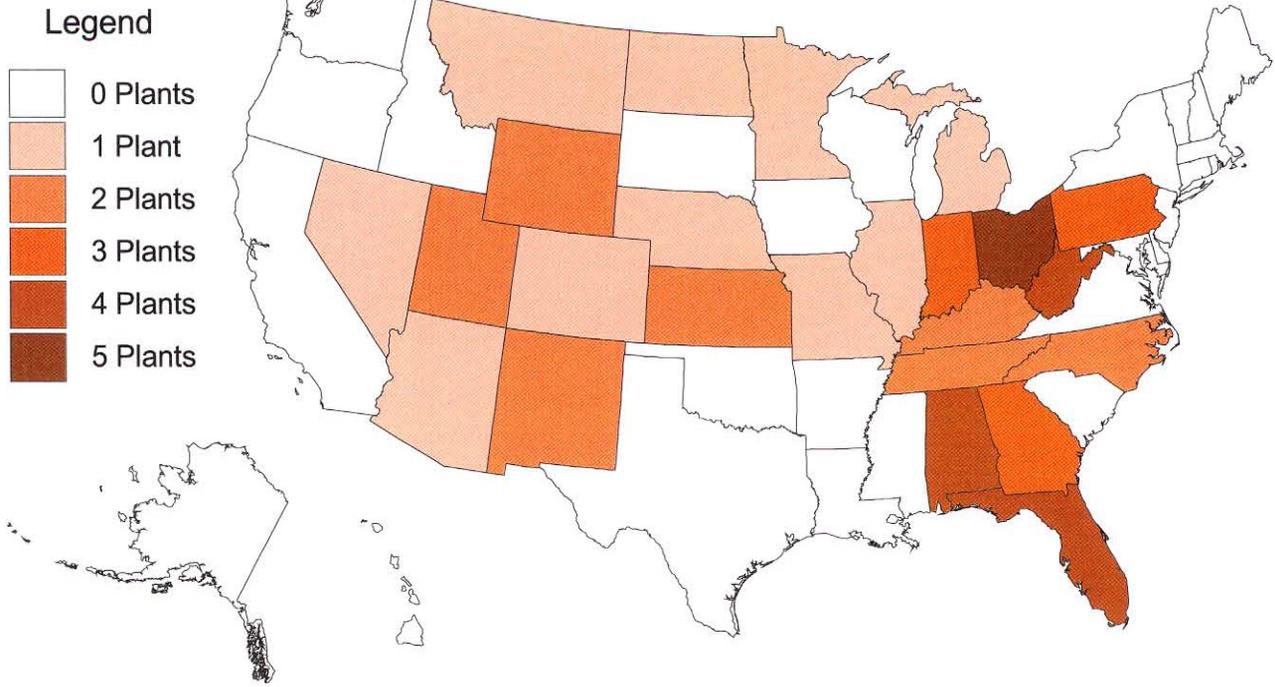
Distribution of Top 50 Polluting Power Plants for Sulfur Dioxide (SO₂) by Tons SO₂ (2005)



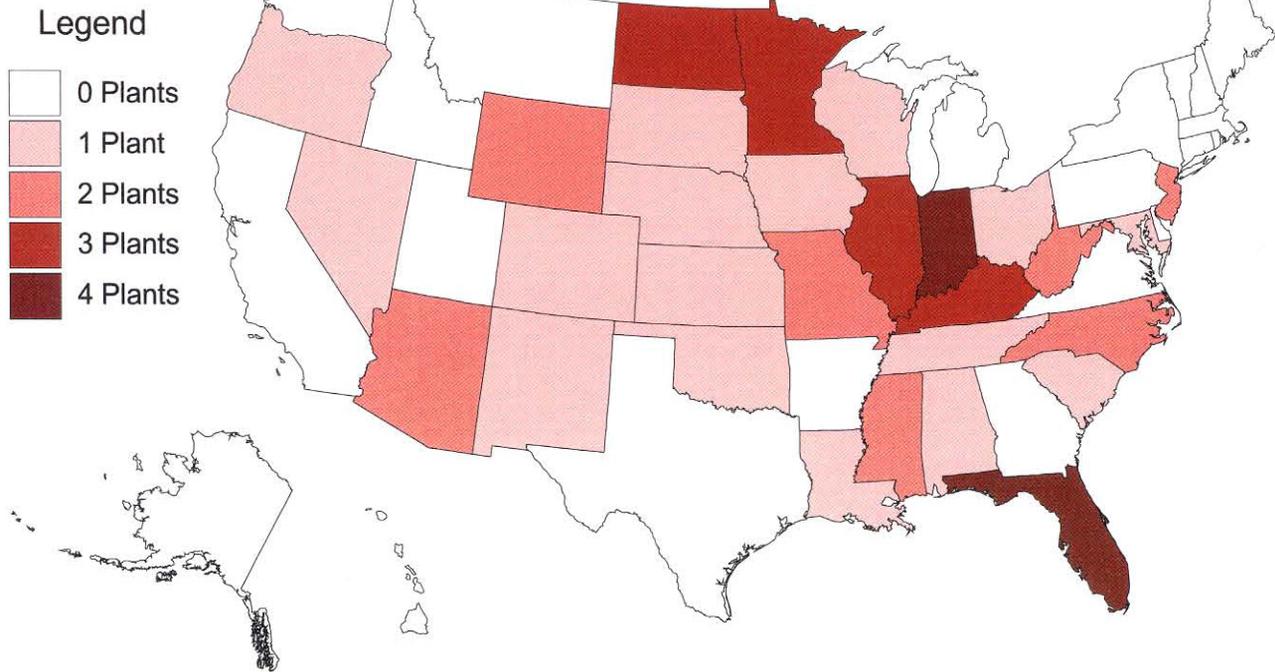
Distribution of Top 50 Polluting Power Plants for Sulfur Dioxide (SO₂) By Emission Rate - Pounds SO₂/million MWh (2005)



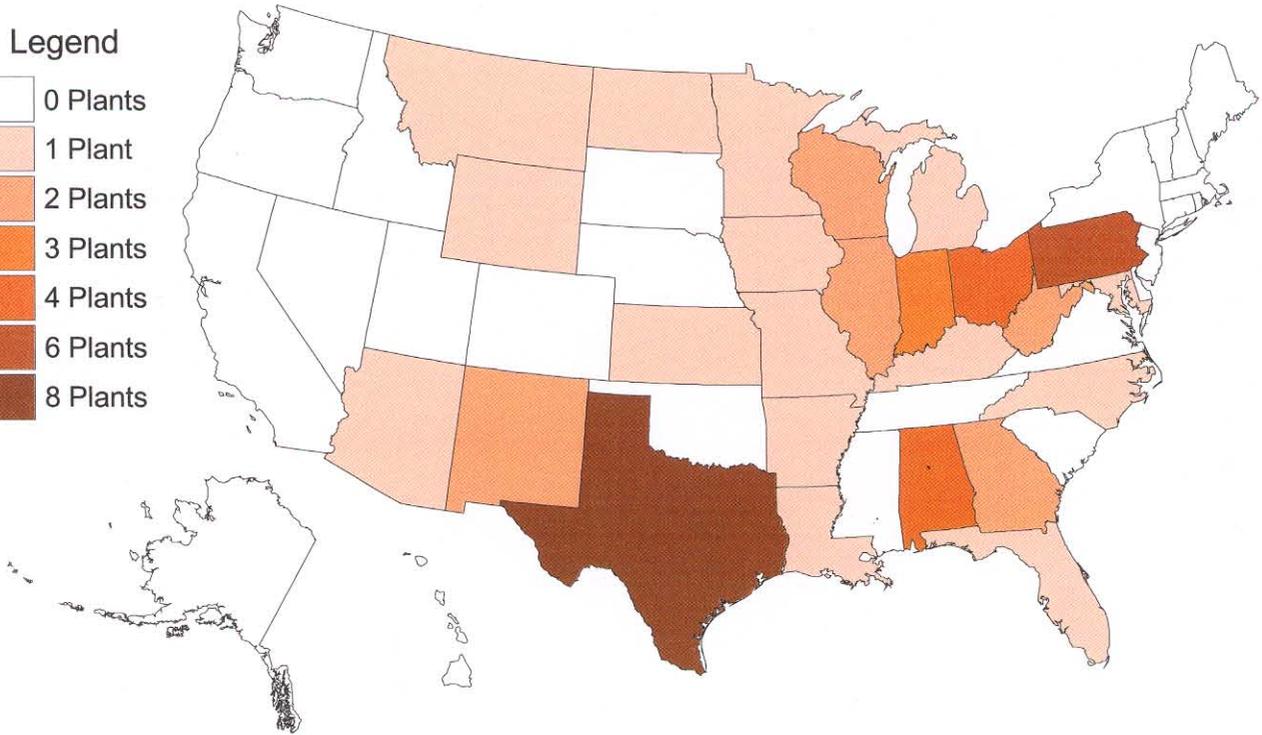
Distribution of Top 50 Polluting Power Plants for Nitrogen Oxides (NOx) By Tons NOx (2005)



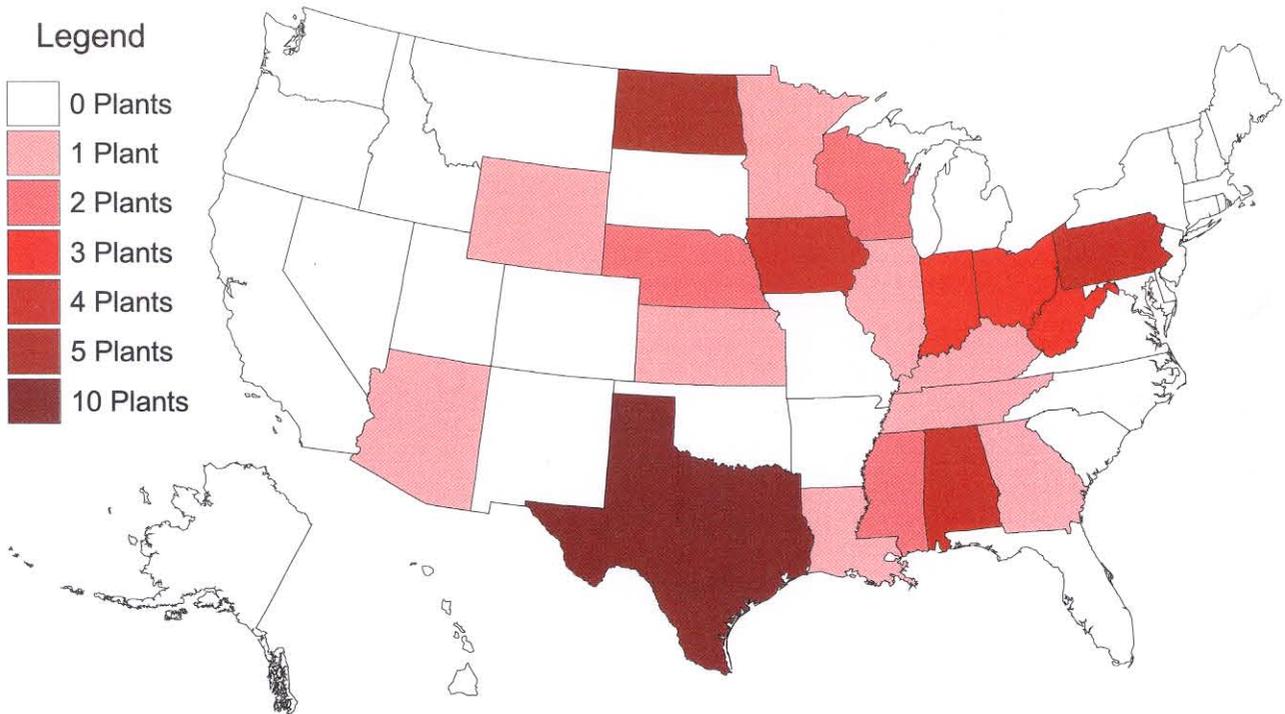
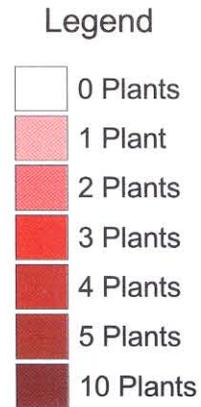
Distribution of Top 50 Dirtiest Power Plants for Nitrogen Oxides (NOx) By Emission Rate - lbs NOx/million MWh (2005)



Distribution of Top 50 Polluting Power Plants for Mercury (Hg) by Pounds Hg (2004)



Distribution of Top 50 Dirtiest Power Plants for Mercury (Hg) By Emission Rate - lbs Hg/million MWh (2004)



Appendix B. All Plants ≥ 2 Million MWh, by State (2005)

Source: Energy Information Administration Form 906/920

Plant Name	State	County Name	Operator Company	Primary Fuel Type	NET GENERATION (megawatthours)
Barry	AL	Mobile	Alabama Power Co	BIT/NG	14,601,276
Charles R Lowman	AL	Washington	Alabama Electric Coop Inc	BIT	3,865,846
Colbert	AL	Colbert	Tennessee Valley Authority	BIT	7,777,383
E C Gaston	AL	Shelby	Alabama Power Co	BIT	11,273,347
Gorgas	AL	Walker	Alabama Power Co	BIT	7,910,063
Greene County	AL	Greene	Alabama Power Co	BIT/NG	3,912,748
James H Miller Jr	AL	Jefferson	Alabama Power Co	SUB	21,328,867
Widows Creek	AL	Jackson	Tennessee Valley Authority	BIT	9,851,670
Flint Creek	AR	Benton	Southwestern Electric Power Co	SUB	3,667,479
Independence	AR	Independence	Arkansas Power & Light Co	SUB	10,041,485
Union Power Station	AR	Union	Union Powers Partners, L.P.	NG	2,900,927
White Bluff	AR	Jefferson	Arkansas Power & Light Co	SUB	9,261,320
Apache Station	AZ	Cochise	Arizona Electric Pwr Coop Inc	SUB/NG	2,876,049
Cholla	AZ	Navajo	Arizona Public Service Co	SUB	7,577,568
Coronado	AZ	Apache	Salt River Proj Ag I & P Dist	BIT	6,070,915
Desert Basin	AZ	Pinal	Salt River Proj Ag I & P Dist	NG	2,446,371
Gila River Power Station	AZ	Maricopa	Gila River Power LP	NG	4,546,967
Mesquite Generating Station	AZ	Maricopa	Mesquite Power LLC	NG	6,724,135
Navajo	AZ	Coconino	Salt River Proj Ag I & P Dist	BIT	17,030,674
Redhawk Generating Facility	AZ	Maricopa	Arizona Public Service Co	NG	3,849,124
Santan	AZ	Maricopa	Salt River Proj Ag I & P Dist	NG	2,078,088
Springerville	AZ	Apache	Tucson Electric Power Company	SUB	5,577,373
West Phoenix	AZ	Maricopa	Arizona Public Service Co	NG	2,299,621
Elk Hills Power LLC	CA	Kern	Elk Hills Power LLC	NG	3,590,648
Haynes Gen Station	CA	Los Angeles	Los Angeles (City of)	NG	3,648,482
High Desert Power Project LLC	CA	Bernardino	High Desert Power Project LLC	NG	3,656,116
La Paloma Generating LLC	CA	Kern	La Paloma Generating Co LLC	NG	4,427,010
Los Medanos Energy Center	CA	Contra Costa	Calpine Corporation	NG	3,594,588
Metcalf Energy Center	CA	Santa Clara	Metcalf Energy, LLC	NG	2,020,895
Moss Landing Power Plant	CA	Monterey	Duke Energy Moss Landing LLC	NG	5,331,135
Sunrise Power LLC	CA	Kern	Sunrise Power Co LLC	NG	3,378,274
Sutter Energy Center	CA	Sutter	Calpine Corp-Sutter	NG	2,429,452
Valley	CA	Los Angeles	Los Angeles (City of)	NG	2,491,349
Cherokee	CO	Adams	Public Service Co of Colorado	BIT	4,995,200
Comanche	CO	Pueblo	Public Service Co of Colorado	SUB	4,296,787
Craig	CO	Moffat	Tri-State G & T Assn Inc	SUB	10,116,196
Fort St Vrain	CO	Weld	Public Service Co of Colorado	NG	4,321,360
Hayden	CO	Routt	Public Service Co of Colorado	BIT	3,653,932
Martin Drake	CO	El Paso	Colorado Springs Utilities	BIT	2,048,016
Pawnee	CO	Morgan	Public Service Co of Colorado	SUB	2,938,567
Rocky Mountain Energy Center	CO	Weld	Rocky Mountain Energy Center	NG	3,155,781
Bridgeport Energy Project	CT	Fairfield	Bridgeport Energy LLC	NG	2,700,010

Appendix B. All Plants ≥ 2 Million MWh, by State (2005)

Source: Energy Information Administration Form 906/920

Plant Name	State	County Name	Operator Company	Primary Fuel Type	NET GENERATION (megawatthours)
Bridgeport Station	CT	Fairfield	Wisvest-Connecticut LLC	SUB/RFO	2,240,332
Lake Road Generating Plant	CT	Windam	Lake Road Generating Company	NG	2,737,453
Milford Power Project	CT	New Haven	Milford Power Co LLC	NG	2,698,766
Indian River Operations	DE	Sussex	Indian River Operations Inc.	BIT/SUB	3,520,311
Anclote	FL	Pasco	Florida Power Corp	RFO/NG	4,302,160
Bayside Power	FL	Hillsborough	Tampa Electric Co	NG	7,460,870
Big Bend	FL	Hillsborough	Tampa Electric Co	BIT	8,442,299
C D McIntosh Jr	FL	Polk	Lakeland (City of)	BIT/NG/PC	3,026,870
Cape Canaveral	FL	Brevard	Florida Power & Light Co	RFO/NG	2,472,950
Crist	FL	Escambia	Gulf Power Company	BIT	5,008,182
Crystal River	FL	Citrus	Florida Power Corp	BIT/NUC	22,237,071
Fort Myers	FL	Lee	Florida Power & Light Co	NG	9,818,556
Hines Energy Complex	FL	Polk	Florida Power Corp	NG	6,071,853
Lansing Smith	FL	Bay	Gulf Power Company	BIT/NG	4,422,449
Lauderdale	FL	Broward	Florida Power & Light Co	NG/DFO	5,423,100
Manatee	FL	Manatee	Florida Power & Light Co	RFO/NG	9,734,789
Martin	FL	Martin	Florida Power & Light Co	NG/RFO	15,108,458
Northside Generating Station	FL	Duval	JEA	PC/RFO/BIT	4,976,838
P L Bartow	FL	Pinellas	Florida Power Corp	RFO/NG/DFO	2,049,294
Port Everglades	FL	Broward	Florida Power & Light Co	RFO/NG	4,355,076
Riviera	FL	Palm Beach	Florida Power & Light Co	RFO	2,121,280
Sanford	FL	Volusia	Florida Power & Light Co	NG/RFO	13,388,803
Seminole	FL	Putnam	Seminole Electric Coop Inc	BIT/PC/SC	9,747,230
St Johns River Power Park	FL	Duval	JEA	BIT/SC/PC	8,697,798
Stanton Energy Center	FL	Orange	Orlando Utilities Commission	BIT/MLG	6,253,086
Stanton Energy Center	FL	Orange	Southern Power	NG	2,786,087
Turkey Point	FL	Dade	Florida Power & Light Co	NUC/RFO/NG	13,024,813
Bowen	GA	Bartow	Georgia Power Co	BIT	22,337,864
Hammond	GA	Floyd	Georgia Power Co	BIT	4,361,408
Harllee Branch	GA	Putnam	Georgia Power Co	BIT	9,797,443
Jack McDonough	GA	Cobb	Georgia Power Co	BIT	3,643,718
Scherer	GA	Monroe	Georgia Power Co	SUB	24,093,772
Wansley	GA	Heard	Georgia Power Co	BIT	12,928,514
Yates	GA	Coweta	Georgia Power Co	BIT/NG	6,862,634
Council Bluffs	IA	Pottawattamie	MidAmerican Energy Company	SUB	6,244,682
George Neal North	IA	Woodbury	MidAmerican Energy Company	SUB	6,325,167
George Neal South	IA	Woodbury	MidAmerican Energy Company	SUB	3,953,550
Louisa	IA	Louisa	MidAmerican Energy Company	SUB	3,795,679
Ottumwa	IA	Wapello	IES Utilities Inc	SUB	3,240,977
Baldwin Energy Complex	IL	Randolph	Dynegy Midwest Generation	SUB	12,618,528
Coffeen	IL	Montgomery	Ameren Energy Generating Co	BIT/SUB	4,450,529
Crawford	IL	Cook	Midwest Generations EME LLC	SUB	2,965,873
Dallman	IL	Sangamon	Springfield (City of)	BIT	2,084,104
E D Edwards	IL	Peoria	Central Illinois Light Co	SUB/BIT	4,393,834

Appendix B. All Plants ≥ 2 Million MWh, by State (2005)

Source: Energy Information Administration Form 906/920

Plant Name	State	County Name	Operator Company	Primary Fuel Type	NET GENERATION (megawatthours)
Havana	IL	Mason	Dynegy Midwest Generation	SUB/BIT/RFO	2,934,587
Joliet 29	IL	Will	Midwest Generations EME LLC	SUB	5,498,462
Joppa Steam	IL	Massac	Electric Energy Inc	SUB	7,881,898
Kincaid Generation LLC	IL	Christian	Kincaid Generation LLC	SUB	6,138,622
Newton	IL	Jasper	Ameren Energy Generating Co	SUB	7,297,242
Powerton	IL	Tazewell	Midwest Generations EME LLC	SUB	9,469,508
Waukegan	IL	Lake	Midwest Generations EME LLC	SUB	4,732,059
Will County	IL	Will	Midwest Generations EME LLC	SUB	5,288,882
Wood River	IL	Madison	Dynegy Midwest Generation	SUB/NG	2,965,398
A B Brown	IN	Posey	Southern Indiana Gas & Elec Co	BIT/NG	3,572,369
AES Petersburg	IN	Pike	Indianapolis Power & Light Co	BIT	11,550,169
Bailly	IN	Porter	Northern Indiana Pub Serv Co	BIT	2,701,437
Cayuga	IN	Vermillion	PSI Energy, Inc	BIT	6,547,154
Clifty Creek	IN	Jefferson	Indiana-Kentucky Electric Corp	SUB	8,981,018
F B Culley	IN	Warrick	Southern Indiana Gas & Elec Co	BIT	2,616,439
Gibson	IN	Gibson	PSI Energy, Inc	BIT	22,442,805
Harding Street	IN	Marion	Indianapolis Power & Light Co	BIT/NG	3,537,960
Merom	IN	Sullivan	Hoosier Energy R E C Inc	BIT	6,773,635
Michigan City	IN	La Porte	Northern Indiana Pub Serv Co	BIT	2,545,676
R Gallagher	IN	Floyd	PSI Energy, Inc	BIT	2,876,904
R M Schahfer	IN	Jasper	Northern Indiana Pub Serv Co	BIT/SUB	10,586,729
Rockport	IN	Spencer	Indiana Michigan Power Co	SUB/BIT	17,942,286
State Line Energy	IN	Lake	State Line Energy, LLC	SUB	2,749,201
Tanners Creek	IN	Dearborn	Indiana Michigan Power Co	BIT	4,998,187
Wabash River	IN	Vigo	PSI Energy, Inc	BIT/NG	4,734,518
Warrick	IN	Warrick	Alcoa Generating Corp	BIT	4,392,558
Holcomb	KS	Finney	Sunflower Elec Power Corp	SUB	2,684,906
Jeffrey Energy Center	KS	Pottawatomie	Westar Energy Inc.	SUB	15,145,728
La Cygne	KS	Linn	Kansas City Power & Light Co	SUB/BIT	9,038,866
Lawrence Energy Center	KS	Douglas	Westar Energy Inc.	SUB	3,332,297
Big Sandy	KY	Lawrence	Kentucky Power Co	BIT	7,345,624
Cane Run	KY	Jefferson	Louisville Gas & Electric Co	BIT	3,680,104
Cooper	KY	Pulaski	East Kentucky Power Coop Inc	BIT	2,003,931
D B Wilson	KY	Ohio	Western Kentucky Energy Corp	PC/SC/BIT	3,403,628
E W Brown	KY	Mercer	Kentucky Utilities Co	BIT/NG	3,683,416
East Bend	KY	Boone	Cincinnati Gas & Electric Co	BIT	3,705,966
Elmer Smith	KY	Daviess	Owensboro Municipal Utilities	BIT	2,198,360
Ghent	KY	Carroll	Kentucky Utilities Co	BIT	12,586,673
H L Spurlock	KY	Mason	East Kentucky Power Coop Inc	BIT	6,994,706
Kenneth C Coleman	KY	Hancock	Western Kentucky Energy Corp	SC/BIT/NG	2,796,023
Mill Creek	KY	Jefferson	Louisville Gas & Electric Co	BIT	10,115,227
Paradise	KY	Muhlenberg	Tennessee Valley Authority	BIT/SUB	13,974,043
R D Green	KY	Webster	Western Kentucky Energy Corp	PC/SC/BIT	3,561,042
Shawnee	KY	Mc Cracken	Tennessee Valley Authority	BIT	9,293,226

Appendix B. All Plants ≥ 2 Million MWh, by State (2005)

Source: Energy Information Administration Form 906/920

Plant Name	State	County Name	Operator Company	Primary Fuel Type	NET GENERATION (megawatthours)
Trimble County	KY	Trimble	Louisville Gas & Electric Co	BIT/NG	4,158,461
Acadia Energy Center	LA	Acadia	Acadia Power Partners	NG	2,634,632
Big Cajun 2	LA	Coupee	Louisiana Generating LLC	SUB	11,634,870
Dolet Hills	LA	De Soto	Central Louisiana Electric Co	LIG	4,843,480
Nine Mile Point	LA	Jefferson	Louisiana Power & Light Co	NG	4,319,006
Perryville Power Station	LA	Ouachita	Louisiana Power & Light Co	NG	2,105,215
Plaquemine Cogeneration Plant	LA	Iberville	Katco Funding LP	NG/OOG	3,818,038
R S Nelson	LA	Calcasieu	Gulf States Utilities Co	SUB/PC/NG	6,069,600
Rodemacher	LA	Rapides	Central Louisiana Electric Co	SUB/NG/RFO	4,216,263
RS Cogen	LA	Calcasieu	RS Cogen	NG	2,941,362
Taft Cogeneration Facility	LA	St Charles	Occidental Chemical Corp	NG/OOG	3,716,264
Brayton Point	MA	Bristol	Dominion Energy Brayton Point	BIT/RFO	8,567,300
Canal	MA	Barnstable	Mirant Canal LLC	RFO	4,903,392
Mystic Generating Station	MA	Middlesex	Boston Generating LLC	NG/RFO	8,379,529
Salem Harbor	MA	Essex	Dominion Energy Salem Harbor LLC	BIT/RFO	2,686,915
Brandon Shores	MD	Anne Arundel	Constellation Power Source Generation	BIT	8,349,218
C P Crane	MD	Baltimore Prince	Constellation Power Source Generation	BIT	2,129,974
Chalk Point LLC	MD	Georges	Mirant Energy Chalk Point LLC Southern Mirant Energy Mid-Atlantic LLC	BIT/RFO/NG	6,695,488
Dickerson	MD	Montgomery	Constellation Power Source Generation	BIT/NG/DFO	3,619,103
Herbert A Wagner	MD	Anne Arundel	Southern Mirant Energy Mid-Atlantic LLC	BIT/RFO	3,603,563
Morgantown Generating Plant	MD	Charles	LLC	SC/DFO	6,585,217
Maine Independence Station	ME	Cumberland	Casco Bay Energy Company LLC	NG	2,655,734
Westbrook Energy Center	ME	Cumberland	Westbrook Energy Center	NG	3,457,627
B C Cobb	MI	Muskegon	Consumers Energy Co	SUB/BIT/NG	2,096,907
Belle River	MI	St Clair	Detroit Edison Company	SUB/NG	8,291,895
Dan E Karn	MI	Bay	Consumers Energy Co	SUB/BIT/NG	4,231,332
J C Weadock	MI	Bay	Consumers Energy Co	SUB/BIT	2,055,707
J H Campbell	MI	Ottawa	Consumers Energy Co	SUB/BIT	9,958,131
J R Whiting	MI	Monroe	Consumers Energy Co	SUB/BIT	2,328,238
Monroe	MI	Monroe	Detroit Edison Company	SUB/BIT	18,710,600
Presque Isle	MI	Marquette	Wisconsin Electric Power Co	BIT/SUB	3,431,178
River Rouge	MI	Wayne	Detroit Edison Company	SUB/BIT	2,939,308
St Clair	MI	St Clair	Detroit Edison Company	SUB/BIT	7,378,682
Trenton Channel	MI	Wayne	Detroit Edison Company	SUB/BIT	4,227,013
Allen S King	MN	Washington	Northern States Power Co	SUB/PC	2,796,588
Black Dog	MN	Dakota	Northern States Power Co	SUB/NG	2,221,258
Clay Boswell	MN	Itasca	ALLETE, Inc.	SUB	7,248,194
Riverside	MN	Hennepin	Northern States Power Co	SUB/PC	2,308,496
Sherburne County	MN	Sherburne	Northern States Power Co	SUB	13,584,052
Hawthorn	MO	Jackson	Kansas City Power & Light Co	SUB/NG	4,115,751

Appendix B. All Plants ≥ 2 Million MWh, by State (2005)

Source: Energy Information Administration Form 906/920

Plant Name	State	County Name	Operator Company	Primary Fuel Type	NET GENERATION (megawatthours)
Iatan	MO	Platte	Kansas City Power & Light Co	SUB	4,899,449
Labadie	MO	Franklin	Ameren-UE	SUB	18,637,375
Meramec	MO	Saint Louis City	Ameren-UE	SUB	5,691,990
Montrose	MO	Henry	Kansas City Power & Light Co	SUB	3,342,902
New Madrid	MO	New Madrid	Associated Electric Coop	SUB	7,000,958
Rush Island	MO	Jefferson	Ameren-UE	SUB	8,922,666
Sibley	MO	Jackson	Aquila, Inc	SUB/BIT	2,880,026
Sioux	MO	St Charles	Ameren-UE	SUB/BIT/PC	6,636,478
Thomas Hill	MO	Randolph	Associated Electric Coop	SUB	7,796,102
Attala Generating LLC	MS	Attala	Central Mississippi Generating	NG	2,595,318
Jack Watson	MS	Harrison	Mississippi Power Co	BIT	3,773,739
R D Morrow	MS	Lamar	South Mississippi El Pwr Assn	BIT	2,551,303
Red Hills Generating Facility	MS	Choctaw	Choctaw Generating LP	LIG	3,245,973
Victor J Daniel Jr	MS	Jackson	Mississippi Power Co	BIT/NG	9,736,181
Colstrip	MT	Rosebud	PP&L Montana LLC	SUB	16,240,783
Asheville	NC	Buncombe	Progress Energy Carolinas, Inc.	BIT/NG/DFO	2,487,381
Belews Creek	NC	Stokes	Duke Power Co	BIT	15,346,420
Cliffside	NC	Cleveland	Duke Power Co	BIT	3,733,245
G G Allen	NC	Gaston	Duke Power Co	BIT	6,415,484
L V Sutton	NC	New Hanover	Progress Energy Carolinas, Inc.	BIT	3,085,845
Lee	NC	Wayne	Progress Energy Carolinas, Inc.	BIT	2,049,623
Marshall	NC	Catawba	Duke Power Co	BIT	15,499,240
Mayo	NC	Person	Progress Energy Carolinas, Inc.	BIT	4,954,320
Richmond	NC	Richmond	Progress Energy Carolinas, Inc.	NG	2,167,402
Roxboro	NC	Person	Progress Energy Carolinas, Inc.	BIT	14,799,903
Antelope Valley	ND	Mercer	Basin Electric Power Coop	LIG	6,437,295
Coal Creek	ND	Mc Lean	Coop Power Assn	LIG	8,708,890
Coyote	ND	Mercer	Otter Tail Power Co	LIG	3,046,318
Leland Olds	ND	Mercer	Basin Electric Power Coop	LIG/SUB	4,816,732
Milton R Young	ND	Oliver	Minnkota Power Coop Inc	LIG	5,117,830
Gerald Gentleman	NE	Lincoln	Nebraska Public Power District	SUB	9,481,121
Nebraska City	NE	Otoe	Omaha Public Power District	SUB	4,623,168
North Omaha	NE	Douglas	Omaha Public Power District	SUB	3,417,417
Granite Ridge Energy	NH	Rockingham	Granite Ridge Energy LLC	NG	4,056,252
Merrimack	NH	Merrimack	Public Serv Co of New Hamp	BIT	3,117,899
Newington Power Facility	NH	Rockingham	Con Edison Energy	NG/DFO	2,634,757
Bergen	NJ	Bergen	PSEG Fossil LLC	NG/KER	2,470,571
Hudson Generating Station	NJ	Hudson	PSEG Fossil LLC	BIT/NG	2,212,239
Linden Cogeneration	NJ	Union	Cogen Technologies	NG/WO	5,581,570
Mercer Generating Station	NJ	Mercer	PSEG Fossil LLC	BIT/NG	2,793,764
Four Corners	NM	San Juan	Arizona Public Service Co	SUB	15,616,040
San Juan	NM	San Juan	Public Serv Co Of New Mexico	SUB	12,462,336
Bighorn Electric Generating Street	NV	Clark	Reliant Energy Bighorn LLC	NG	2,946,536

Appendix B. All Plants ≥ 2 Million MWh, by State (2005)

Source: Energy Information Administration Form 906/920

Plant Name	State	County Name	Operator Company	Primary Fuel Type	NET GENERATION (megawatthours)
Clark	NV	Clark	Nevada Power Co	NG	2,366,296
El Dorado Energy	NV	Clark	Sempra Energy Resources	NG	3,350,510
Mohave	NV	Clark	Southern California Edison Co	BIT	10,536,415
North Valmy	NV	Humboldt	Sierra Pacific Power Company	BIT	3,952,077
Reid Gardner	NV	Clark	Nevada Power Co	BIT	3,933,016
Silverhawk	NV	Clark	Pinnacle West Energy Corp	NG	2,621,599
Astoria Generating Station	NY	Queens	Orion Power New York - NY	RFO/NG	4,740,488
Athens Generating LP	NY	Greene	Athens Generating Company LP	NG	2,825,685
C R Huntley Generating Station	NY	Erie	NRG Huntley Operations, Inc	SUB/BIT	2,539,715
Charles Poletti	NY	Queens	Power Authority of State of NY	NG/RFO	2,400,692
Danskammer Generating Station	NY	Orange	Dynegy Northeast Generating	BIT/RFO/DFO	2,551,253
Dunkirk Generating Station	NY	Chautauqua	NRG Dunkirk Power LLC	SUB/BIT	3,345,526
East River	NY	New York	Consolidated Edison Co of NY	NG/RFO	2,087,967
Northport	NY	Suffolk	Keyspan Energy	RFO/NG	7,423,740
Ravenswood	NY	Queens	KeySpan-Ravenswood Inc	RFO/NG	4,659,073
Roseton Generating Station	NY	Orange	Dynegy Northeast Generating	RFO	3,494,152
Sithe Independence Station	NY	Oswego	Sithe Energies Inc	NG	2,746,267
Somerset LLC	NY	Niagara	AES Somerset	BIT/PC	4,787,594
Avon Lake	OH	Lorain	Orion Power Holdings, Inc	BIT	3,542,468
Bay Shore	OH	Lucas	Toledo Edison Co	SUB/PC	4,163,010
Cardinal	OH	Jefferson	Cardinal Operating Co	BIT	11,372,176
Conesville	OH	Coshocton	Columbus Southern Power Co	BIT	9,716,702
Eastlake	OH	Lake	Cleveland Electric Illuminating Co	BIT	8,380,920
General James M Gavin	OH	Gallia	Ohio Power Co	BIT	19,142,304
J M Stuart	OH	Adams	Dayton Power & Light Co	SC/BIT	14,466,788
Killen Station	OH	Adams	Dayton Power & Light Co	SC/BIT	4,474,956
Kyger Creek	OH	Gallia	Ohio Valley Electric Corp	BIT	7,657,479
Miami Fort	OH	Hamilton	Cincinnati Gas & Electric Co	BIT	7,567,019
Muskingum River	OH	Washington	Ohio Power Co	BIT	7,403,428
W H Sammis	OH	Jefferson	Ohio Edison Co	BIT	14,670,834
W H Zimmer	OH	Clermont	Cincinnati Gas & Electric Co	BIT	10,340,814
Walter C Beckjord	OH	Clermont	Cincinnati Gas & Electric Co	BIT	6,523,513
GRDA	OK	Mayes	Grand River Dam Authority	SUB	6,732,408
Green Country Energy LLC	OK	Tulsa	Green Country Op Services LLC	NG	2,889,638
Hugo	OK	Choctaw	Western Farmers Electric Coop	SUB	3,019,097
Kiamichi Energy Facility	OK	Pittsburg	Kiowa Power Partners LLC	NG	4,169,937
McClain Energy Facility	OK	McClain	Oklahoma Gas & Electric Co	NG	2,815,410
Muskogee	OK	Muskogee	Oklahoma Gas & Electric Co	SUB/NG	10,289,490
Northeastern	OK	Rogers	Public Service Co of Oklahoma	SUB/NG	10,287,091
Seminole	OK	Seminole	Oklahoma Gas & Electric Co	NG	3,080,672
Sooner	OK	Noble	Oklahoma Gas & Electric Co	SUB	7,135,081
Boardman	OR	Morrow	Portland General Electric Co	SUB	3,465,193
Hermiston Generating Plant	OR	Umatilla	Hermiston Generating Co LP	NG	3,535,591
Hermiston Power Project	OR	Umatilla	Hermiston Power Partnership	NG	3,569,997

Appendix B. All Plants ≥ 2 Million MWh, by State (2005)

Source: Energy Information Administration Form 906/920

Plant Name	State	County Name	Operator Company	Primary Fuel Type	NET GENERATION (megawatthours)
Klamath Cogeneration Plant	OR	Klamath	Pacific Klamath Energy Inc	NG	2,008,202
Armstrong Power Station	PA	Armstrong	Allegheny Energy Supply Co LLC	BIT	2,014,300
Bruce Mansfield	PA	Beaver	Pennsylvania Power Co	BIT	18,343,905
Brunner Island	PA	York	PPL Corporation	SC/BIT	10,167,210
Cheswick Power Plant	PA	Allegheny	Orion Power Holdings, Inc Reliant Energy Mid-Atlantic Power	BIT	2,889,720
Conemaugh	PA	Indiana	Holdin	SC/BIT	12,942,074
Eddystone Generating Station	PA	Delaware	Exelon Generation LLC	BIT/RFO/NG	3,467,394
Fairless Energy Center	PA	Bucks	Fairless Energy LLC	NG	2,202,524
Hatfields Ferry Power Station	PA	Greene	Allegheny Energy Supply Co LLC	BIT	8,372,772
Homer City Station	PA	Indiana	EME Homer City Generation LP Reliant Energy Mid-Atlantic Power	BIT	13,599,227
Keystone	PA	Armstrong	Holdin	SC/BIT	13,488,615
Martins Creek	PA	Northampton	PPL Corporation	RFO/BIT/NG	3,249,550
Montour	PA	Montour	PPL Corporation	SC/BIT	10,399,362
Portland	PA	Northampton	Reliant Energy Mid-Atlantic Power Holdin	BIT/DFO	2,226,874
Shawville	PA	Clearfield	Holdin	BIT	3,199,780
Rhode Island State Energy Partners	RI	Providence	FPL Energy Operating Serv Inc	NG	2,320,836
Canadys Steam	SC	Colleton	South Carolina Elec & Gas Co	BIT	2,198,619
Cope	SC	Orangeburg	South Carolina Elec & Gas Co	BIT	2,990,506
Cross	SC	Berkeley	South Carolina Pub Serv Auth	SC/BIT/PC	8,148,937
H B Robinson	SC	Darlington	Progress Energy Carolinas, Inc.	NUC/BIT	6,955,748
Jefferies	SC	Berkeley	South Carolina Pub Serv Auth	BIT/HYC/RFO	2,168,969
John S Rainey	SC	Anderson	South Carolina Pub Serv Auth	NG	2,067,379
Wateree	SC	Richland	South Carolina Elec & Gas Co	BIT	5,190,768
Williams	SC	Berkeley	South Carolina Elec & Gas Co	BIT	4,798,394
Winyah	SC	Georgetown	South Carolina Pub Serv Auth	SC/BIT	7,842,117
Big Stone	SD	Grant	Otter Tail Power Co	SUB	2,846,712
Allen Steam Plant	TN	Shelby	Tennessee Valley Authority	SUB	5,161,045
Bull Run	TN	Anderson	Tennessee Valley Authority	BIT	6,587,568
Cumberland	TN	Stewart	Tennessee Valley Authority	BIT	16,371,958
Gallatin	TN	Sumner	Tennessee Valley Authority	SUB	7,562,045
John Sevier	TN	Hawkins	Tennessee Valley Authority	BIT	4,960,616
Johnsonville	TN	Humphreys	Tennessee Valley Authority	BIT/NG	7,746,761
Kingston	TN	Roane	Tennessee Valley Authority	BIT	9,479,726
Baytown Energy Center	TX	Chambers	Calpine Central LP	NG	4,016,088
Big Brown	TX	Freestone	TXU Generation Co LP	LIG/SUB	8,549,082
Brazos Valley Generating Facility	TX	Fort Bend	Brazos Valley Energy, LP	NG	3,279,060
Cedar Bayou	TX	Chambers	Texas Genco II, LP	NG	2,119,400
Channel Energy Center	TX	Harris	Calpine Channel Energy	NG/OOG	2,622,838
Channelview Cogeneration Plant	TX	Harris	Reliant Energy Channelview LP	NG	5,127,298
CoGen Lyondell	TX	Harris	CoGen Funding LP	NG	3,091,736
Coletto Creek	TX	Goliad	Topaz Power Group LLC	SUB	5,103,360

Appendix B. All Plants ≥ 2 Million MWh, by State (2005)

Source: Energy Information Administration Form 906/920

Plant Name	State	County Name	Operator Company	Primary Fuel Type	NET GENERATION (megawatthours)
Corpus Christi Energy Center	TX	Nueces	Corpus Christi Cogeneration LP	NG	2,241,383
Cottonwood Energy Project	TX	Newton	Cottonwood Energy Co LP	NG	2,633,342
Deer Park Energy Center	TX	Harris	Deer Park Energy Center	NG	5,520,345
Eastman Cogeneration Facility	TX	Harrison	Eastman Cogeneration LP	NG/OOG	2,156,832
ExxonMobil Beaumont Refinery	TX	Jefferson	ExxonMobil Corporation - Beaumont	NG/OOG	2,588,291
Fayette Power Project	TX	Fayette	Lower Colorado River Authority	SUB	11,059,426
Forney Energy Center	TX	Kaufman	FPLE Forney LP	NG	6,715,816
Freestone Power Generation LP	TX	Freestone	Freestone Power Generator LP	NG	4,027,644
Gibbons Creek	TX	Grimes	Texas Municipal Power Agency	SUB	3,595,378
Green Power 2	TX	Galveston	South Houston Green Power LP	NG/OOG	2,841,224
Gregory Power Facility	TX	San Patricio	Gregory Power Partners LP	NG	2,671,097
Guadalupe Generating Station	TX	Guadalupe	Guadalupe Power Partners LP	NG	4,474,832
Harrington	TX	Potter	Southwestern Public Service Co	SUB	7,458,711
Hays Energy Project	TX	Hays	ANP Operations Company - Hays	NG	3,515,113
J K Spruce	TX	Bexar	San Antonio (City of)	SUB/BIT	4,190,501
J T Deely	TX	Bexar	San Antonio (City of)	SUB	5,915,821
Jones	TX	Lubbock	Southwestern Public Service Co	NG	2,318,043
Lamar Power Project	TX	Lamar	Lamar Power Partners LP	NG	3,789,328
Limestone	TX	Limestone	Texas Genco II, LP	LIG/SUB	12,759,023
Lost Pines 1 Power Project	TX	Bastrop	Lower Colorado River Authority	NG	3,287,430
Magic Valley Generating Station	TX	Hidalgo	Calpine Magic Valley	NG	2,976,954
Martin Lake	TX	Rusk	TXU Generation Co LP	LIG/SUB	18,250,189
Midlothian Energy Facility	TX	Ellis	ANP Oper Co	NG	6,712,599
Monticello	TX	Titus	TXU Generation Co LP	SUB/LIG	14,807,478
Mustang Station	TX	Yoakum	Denver City Energy Assoc LP	NG	3,109,718
Odessa Ector Generating Station	TX	Ector	Texas Independent Energy	NG	4,868,981
Oklaunion	TX	Wilbarger	Public Service Co of Oklahoma	SUB	4,346,022
Pasadena Cogeneration	TX	Harris	Pasadena Cogeneration LP	NG	2,907,525
Pirkey	TX	Harrison	Southwestern Electric Power Co	LIG	4,993,706
Rio Nogales Power Project	TX	Guadalupe	Rio Nogales Power Project L P	NG	3,160,572
Sabine	TX	Orange	Gulf States Utilities Co	NG	5,262,435
San Miguel	TX	Atascosa	San Miguel Electric Coop Inc	LIG	2,850,653
Sandow No 4	TX	Milam	TXU Generation Co LP	LIG	4,303,896
SRW Cogen LP	TX	Orange	SRW Cogeneration LP	NG/OTH	2,342,728
Sweeny Cogen Facility	TX	Brazoria	Sweeny Cogeneration LP	NG/OOG	3,412,650
Tenaska Frontier Generation Station	TX	Grimes	Tenaska Frontier Partners Ltd	NG	3,882,129
Tenaska Gateway Generating Station	TX	Rusk	Tenaska Gateway Partners Ltd	NG	3,872,723
Tolk	TX	Lamb	Southwestern Public Service Co	SUB	7,418,825
Twin Oaks Power One	TX	Robertson	Twin Oaks Power, LLP	LIG	2,490,416
W A Parish	TX	Fort Bend	Texas Genco II, LP	SUB/NG	19,688,205
Welsh	TX	Titus	Southwestern Electric Power Co	SUB	9,537,745
Wise County Power LP	TX	Wise	Wise County Power Co LP	NG	3,334,265
Wolf Hollow LP	TX	Hood	AES Wolf Hollow I, LP	NG	2,765,655

Appendix B. All Plants ≥ 2 Million MWh, by State (2005)

Source: Energy Information Administration Form 906/920

Plant Name	State	County Name	Operator Company	Primary Fuel Type	NET GENERATION (megawatthours)
Bonanza	UT	Uintah	Deseret Gen & Trans Coop	BIT	3,716,271
Hunter	UT	Emery	PacifiCorp	BIT	9,742,633
Huntington	UT	Emery	PacifiCorp	BIT	6,381,332
Intermountain Power Project	UT	Millard	Los Angeles (City of)	BIT/SUB	13,664,259
Chesapeake	VA	Chesapeake City	Virginia Electric & Power Co	BIT	3,785,885
Chesterfield	VA	Chesterfield	Virginia Electric & Power Co	BIT/NG/DFO	9,049,285
Clinch River	VA	Russell	Appalachian Power Co	BIT	3,936,589
Clover	VA	Halifax	Virginia Electric & Power Co	BIT	6,386,114
Possum Point	VA	Prince William	Virginia Electric & Power Co	NG/RFO	3,600,737
Yorktown	VA	York	Virginia Electric & Power Co	BIT/RFO	3,833,983
Chehalis Generating Facility	WA	Lincoln	Chehalis Power Generating L.P.	NG	2,240,865
Transalta Centralia Generation	WA	Lewis	Transalta Centralia Generation LLC	SUB/NG	10,739,697
Columbia	WI	Columbia	Alliant Energy Corporation	SUB	6,699,039
Edgewater	WI	Sheboygan	Alliant Energy Corporation	SUB	4,294,686
Genoa	WI	Vernon	Dairyland Power Coop	BIT	2,414,001
John P Madgett	WI	Buffalo	Dairyland Power Coop	SUB	2,511,359
Pleasant Prairie	WI	Kenosha	Wisconsin Electric Power Co	SUB	8,459,985
Pulliam	WI	Brown	Wisconsin Public Service Corp	SUB	2,530,717
South Oak Creek	WI	Milwaukee	Wisconsin Electric Power Co	SUB	5,886,744
Weston	WI	Marathon	Wisconsin Public Service Corp	SUB/NG	3,568,223
Fort Martin Power Station	WV	Monongalia	Allegheny Energy Supply Co LLC	BIT	7,060,817
Harrison Power Station	WV	Harrison	Allegheny Energy Supply Co LLC	BIT	13,212,140
John E Amos	WV	Putnam	Appalachian Power Co	BIT	18,887,395
Kammer	WV	Marshall	Ohio Power Co	BIT	4,002,679
Kanawha River	WV	Kanawha	Appalachian Power Co	BIT	2,066,144
Mitchell	WV	Marshall	Ohio Power Co	BIT	6,931,908
Mountaineer	WV	Mason	Appalachian Power Co	BIT/SUB	10,524,085
Mt Storm	WV	Grant	Virginia Electric & Power Co	BIT	10,763,271
Philip Sporn	WV	Mason	Central Operating Company	BIT	5,153,668
Pleasants Power Station	WV	Pleasants	Allegheny Energy Supply Co LLC	BIT	8,851,063
Dave Johnston	WY	Converse	PacifiCorp	SUB	5,684,004
Jim Bridger	WY	Sweetwater	PacifiCorp	SUB	14,789,516
Laramie River Station	WY	Platte	Basin Electric Power Coop	SUB	13,024,102
Naughton	WY	Lincoln	PacifiCorp	SUB	5,238,417
Wyodak	WY	Campbell	PacifiCorp	SUB	2,675,359