



# Pennsylvania's Dirtiest Power Plants

The outsized impact power production has on our planet

## Powering our economy is warming our planet

Electricity powers all aspects of our lives, but the way it is generated is accelerating climate change. There are still more than [3,400](#) fossil-fuel fired power plants operating in the United States today, and electricity production is Pennsylvania's [largest source](#) of global warming pollution. However, a small number of dirty power plants have an outsized impact on our planet. That is why we are calling on EPA and Congress to take aggressive action to limit global warming pollution from power plants.

## The top 10 dirtiest power plants in Pennsylvania have an outsized impact on our planet

Pennsylvania is home to 2 of the top 100 most polluting power plants in the U.S. The dirtiest power plants contribute a huge amount of planet-warming emissions relative to the electricity they generate. In 2020, Pennsylvania's top 10 most climate-polluting plants were responsible for 51.3% of carbon dioxide equivalent emissions from the power sector despite only generating 28.3% of total electricity. The total emissions of Pennsylvania's top 10 power plants are 37 million metric tons, which is equivalent to 8 million cars on the road for a year.

All 10 facilities are powered by fossil fuels: 4 primarily coal-fired plants and 6 primarily methane gas-fired plants. When fossil fuels are burned for electricity production, they release greenhouse gases into the atmosphere, including carbon dioxide, methane, and nitrous oxide, which speeds up global warming.

The average operating coal plant in America is [45 years old](#) and many of these plants are also outdated and inefficient. To keep up with today's energy demands and to meet our climate goals, it is beyond time to get power plant pollution under control.

## Pennsylvania's 10 Dirtiest Power Plants

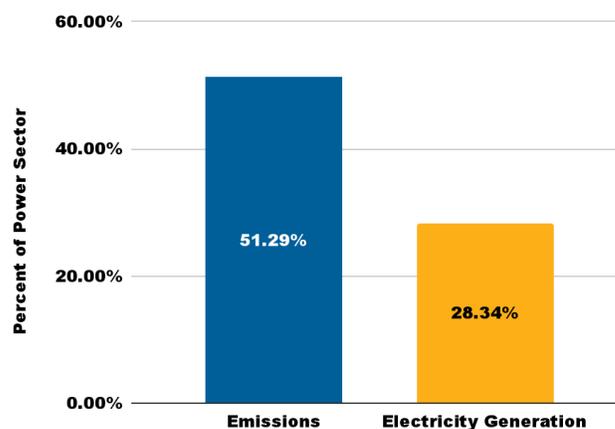


Figure 1: The 10 dirtiest power plants contribute significantly to power sector emissions relative to electricity generation, 2020

## Cleaning up power plant pollution

To rein in dirty power pollution, we have to set strong regulations. We can learn from state and regional policies that have been successful in the past decade at controlling climate damaging pollution.

The [Regional Greenhouse Gas Initiative](#) has helped reduce carbon dioxide (CO<sub>2</sub>) pollution from power plants in the Northeast and Mid-Atlantic by placing a cap on CO<sub>2</sub> emissions. From 2005 to 2017, power plant CO<sub>2</sub> pollution fell by 60% in the nine states that participated in that period.

Many states also have renewable electricity standards in place, which require an increasing percentage of power to be produced from renewable sources. However, to tackle the dirtiest power plants across the country, we need to enact stronger climate policies on the federal level.



PennEnvironment Research & Policy Center

[www.PennEnvironmentCenter.org](http://www.PennEnvironmentCenter.org)

PennPIRG Education Fund

[www.PennPIRGEdFund.org](http://www.PennPIRGEdFund.org)

Photo Credit: cwizner via Pixabay, Public domain



Figure 2: The Top 10 Dirtiest Power Plants in Pennsylvania, 2020

Rank	Plant Name	County	Primary fuel	2020 Carbon Dioxide Equivalent Emissions (Million Metric Tons)
1	Keystone	Armstrong	Coal	7.26
2	Conemaugh	Indiana	Coal	7.18
3	York Energy Center	York	Gas	3.49
4	Lackawanna Energy Center	Lackawanna	Gas	3.34
5	Homer City	Indiana	Coal	3.19
6	Fairless Energy Center	Bucks	Gas	2.93
7	CPV Fairview, LLC	Cambria	Gas	2.52
8	Hunterstown Combined Cycle	Adams	Gas	2.51
9	Seward	Indiana	Coal	2.48
10	Bethlehem Power Plant	Northampton	Gas	2.45

## Our climate can't wait

Every year, the impacts of climate change are more pronounced. The last seven years have been the [seven "hottest in recorded history"](#). Warming temperatures and intensifying drought will cause [wildfire seasons to start earlier and last longer](#). And climbing ocean temperatures are [increasing the frequency of extreme hurricanes](#).

The [International Panel on Climate Change](#) has stated that greenhouse gas emissions must peak no later than 2025 to avoid the worst impacts of climate change. This will require both putting strong controls on our dirtiest energy sources and rapidly ramping up clean energy deployment across the power sector.

## Methane gas is not the answer

In the past decade, more and more coal plants have been decommissioned to be replaced with methane gas as the advent of fracking unleashed a glut of cheap gas fuel. For years, methane gas was marketed as a green "bridge fuel" between coal and renewables. However, while burning methane gas [releases less carbon dioxide](#) than coal per kilowatt of electricity produced, that is only part of methane's climate impact.

Methane gas is an extremely potent greenhouse gas that has [83 times the warming potential of carbon dioxide in a 20 year timescale and 30 times the warming potential in a 100 year timescale](#). Methane leaks also occur during both the extraction and distribution processes.

These methane leaks frequently occur unchecked and are severely underreported. According to a recent [International Energy Agency](#) study, methane emissions are 70% higher than reported by government officials.

Once built, methane gas plants are meant to last for decades, locking in our dependence on fossil fuels and accelerating climate change. Clean energy sources like solar and wind are already ready to be deployed at scale and are now often just as cheap. We need to replace aging, dirty fossil fuel-fired plants with these renewable energy sources to achieve necessary greenhouse gas reductions and protect our climate.

## Policy recommendations

It is going to take action at all levels of government to get power plant pollution under control. To act at the speed that scientists say is necessary to maintain a livable planet, we need to both put strong limits on existing fossil-fuel fired plants and accelerate the transition to renewable energy.

- The EPA should enact the strongest possible limits on carbon dioxide pollution from new and existing power plants.
- Congress should pass a climate package that includes extending and expanding clean energy tax credits.
- States, cities, and counties should commit to achieving 100% renewable energy for their communities.



**Morgan Folger**

Director

Destination: Zero Carbon Campaign

(267) 609-6810 | mfolger@environmentamerica.org



## Appendix 1: Top 100 Dirtiest Power Plants in the United States, 2020

This table includes the top 100 power plants with the most carbon dioxide-equivalent emissions in the U.S. Data for this ranking comes from the Environmental Protection Agency's (EPA) eGRID 2020 dataset, downloaded on May 17, 2022. Included with the emissions rankings are the plant name, plant operator, and a comparison in millions of passenger vehicles using the EPA's greenhouse gas equivalencies calculator. Data for the planned retirements comes from the Energy Information Administration's (EIA) Electric Power Monthly, downloaded data for planned retirements on May 23, 2022. Data for retirements as of the release of this factsheet comes from the EIA's Electric Power Monthly, both current issue and past issues covering retirements from Jan 2020 - Mar 2023, downloaded on May 23, 2022.

A single asterisk (\*) by the plant name indicates the plant has been partially or fully retired by the release of this factsheet, and a double asterisk (\*\*) by the plant name indicates the plant will be partially or fully retired by the end of 2025.

Rank	State	Plant Name	Operator Name	County	Primary Fuel	2020 Carbon Dioxide Equivalent Emissions (Million Metric Tons)	Emissions Equivalent in Passenger Vehicles
1	AL	James H Miller Jr	Alabama Power Co	Jefferson	COAL	17.22	3,710,404
2	MO	Labadie	Union Electric Co - (MO)	Franklin	COAL	15.72	3,386,779
3	OH	Gen J M Gavin	Ohio Power Co	Gallia	COAL	13.77	2,967,935
4	TX	Martin Lake	Oncor Electric Delivery Company LLC	Rusk	COAL	13.53	2,914,601
5	TX	Oak Grove	Oncor Electric Delivery Company LLC	Robertson	COAL	13.11	2,823,849
6	MI	Monroe	ITC Transmission	Monroe	COAL	13.05	2,812,886
7	IL	Prairie State Generating Station	Ameren Illinois Company	St Clair	COAL	11.86	2,556,064
8	IN	Gibson	Duke Energy Indiana Inc	Gibson	COAL	11.40	2,455,387
9	WY	Jim Bridger	PacifiCorp	Sweetwater	COAL	11.22	2,418,008
10	TX	W A Parish	CenterPoint Energy	Fort Bend	COAL	10.40	2,241,289
11	WV	John E Amos	Appalachian Power Co	Putnam	COAL	10.23	2,203,511
12	WV	Harrison Power Station	West Penn Power Company	Harrison	COAL	9.82	2,116,678
13	KY	Ghent	Kentucky Utilities Co	Carroll	COAL	9.65	2,078,834
14	TN	Cumberland	Tennessee Valley Authority	Stewart	COAL	9.50	2,047,247
15	TX	Sam Seymour	Lower Colorado River Authority	Fayette	COAL	9.37	2,018,295
16	WY	Laramie River	Basin Electric Power Coop	Platte	COAL	9.34	2,013,220
17	OH	Cardinal	Ohio Power Co	Jefferson	COAL	9.23	1,988,319
18	MN	Sherburne County**	Northern States Power Co - Minnesota	Sherburne	COAL	8.64	1,861,997
19	MT	Colstrip	NorthWestern Energy LLC - (MT)	Rosebud	COAL	8.34	1,797,115
20	AZ	Springerville Generating Station	Tucson Electric Power Co	Apache	COAL	8.02	1,728,838
21	NE	Nebraska City Station	Omaha Public Power District	Otoe	COAL	8.02	1,727,243
22	UT	Hunter	PacifiCorp	Emery	COAL	7.97	1,717,218
23	GA	Bowen	Georgia Power Co	Bartow	COAL	7.93	1,708,916
24	ND	Coal Creek	Great River Energy	McLean	COAL	7.85	1,691,596
25	FL	Crystal River	Duke Energy Florida, Inc	Citrus	COAL	7.79	1,679,216

## Appendix 1 (cont.)

Rank	State	Plant Name	Operator Name	County	Primary Fuel	2020 Carbon Dioxide Equivalent Emissions (Million Metric Tons)	Emissions Equivalent in Passenger Vehicles
26	KY	Trimble County	Louisville Gas & Electric Co	Trimble	COAL	7.75	1,670,828
27	CO	Craig**	Tri-State G & T Assn, Inc	Moffat	COAL	7.71	1,660,446
28	NM	Four Corners Steam Elec Station	Arizona Public Service Co	San Juan	COAL	7.52	1,620,399
29	KS	Jeffrey Energy Center	Eergy	Pottawatomie	COAL	7.45	1,605,079
30	PA	Keystone	Pennsylvania Electric Co	Armstrong	COAL	7.26	1,563,824
31	PA	Conemaugh	Pennsylvania Electric Co	Indiana	COAL	7.18	1,546,568
32	WI	Elm Road Generating Station	American Transmission Co	Milwaukee	COAL	7.07	1,524,354
33	FL	West County Energy Center	Florida Power & Light Co	Palm Beach	GAS	7.03	1,515,714
34	GA	Jack McDonough	Georgia Power Co	Cobb	GAS	6.89	1,484,096
35	MO	Rush Island**	Union Electric Co - (MO)	Jefferson	COAL	6.87	1,479,946
36	GA	Scherer	Georgia Power Co	Monroe	COAL	6.86	1,477,597
37	MI	J H Campbell**	ITC Transmission	Ottawa	COAL	6.79	1,462,723
38	MO	Thomas Hill Energy Center	Associated Electric Coop, Inc	Randolph	COAL	6.74	1,453,110
39	NE	Gerald Gentleman Station	Nebraska Public Power District	Lincoln	COAL	6.68	1,439,218
40	SC	Cross	South Carolina Public Service Authority	Berkeley	COAL	6.66	1,435,299
41	IN	IPL - Petersburg Generating Station**	Indianapolis Power & Light Co	Pike	COAL	6.58	1,417,363
42	FL	Seminole (136)**	Seminole Electric Cooperative Inc	Putnam	COAL	6.41	1,380,897
43	KY	Mill Creek	Louisville Gas & Electric Co	Jefferson	COAL	6.40	1,378,745
44	OH	Miami Fort Power Station	Duke Energy Ohio Inc	Hamilton	COAL	6.39	1,377,282
45	KY	H L Spurlock	East Kentucky Power Coop, Inc	Mason	COAL	6.33	1,363,987
46	KS	La Cygne	Eergy	Linn	COAL	6.32	1,361,849
47	UT	Intermountain**	Intermountain Power Agency	Millard	COAL	6.30	1,358,268
48	MO	Iatan	Eergy	Platte	COAL	6.30	1,357,918
49	ND	Antelope Valley	Basin Electric Power Coop	Mercer	COAL	6.29	1,354,642
50	AL	Barry	Alabama Power Co	Mobile	COAL	6.23	1,343,236

## Appendix 1 (cont.)

Rank	State	Plant Name	Operator Name	County	Primary Fuel	2020 Carbon Dioxide Equivalent Emissions (Million Metric Tons)	Emissions Equivalent in Passenger Vehicles
51	TX	Limestone	CenterPoint Energy	Limestone	COAL	6.13	1,320,518
52	WA	Centralia**	Bonneville Power Administration	Lewis	COAL	5.84	1,258,494
53	MS	Daniel Electric Generating Plant	Mississippi Power Co	Jackson	COAL	5.83	1,255,749
54	TX	J K Spruce	City of San Antonio - (TX)	Bexar	COAL	5.79	1,248,569
55	NM	San Juan**	Public Service Co of NM	San Juan	COAL	5.71	1,230,464
56	WI	Columbia**	American Transmission Co	Columbia	COAL	5.68	1,223,378
57	MO	New Madrid Power Plant	Associated Electric Coop, Inc	New Madrid	COAL	5.67	1,221,502
58	NC	Marshall	Duke Energy Carolinas, LLC	Catawba	COAL	5.58	1,203,044
59	NC	Roxboro	Duke Energy Progress - (NC)	Person	COAL	5.20	1,119,823
60	OH	W H Sammis**	American Transmission Systems Inc	Jefferson	COAL	5.17	1,113,370
61	OH	W H Zimmer Generating Station*	Duke Energy Ohio Inc	Clermont	COAL	5.12	1,103,202
62	ND	Milton R Young	Minnkota Power Coop, Inc	Oliver	COAL	5.10	1,099,405
63	LA	Brame Energy Center	Cleco Power LLC	Rapides	OIL	5.10	1,098,064
64	WV	Mountaineer (1301)	Appalachian Power Co	Mason	COAL	5.03	1,083,509
65	WY	Dave Johnston	PacifiCorp	Converse	COAL	4.93	1,062,908
66	IN	Alcoa Allowance Management Inc	Southern Indiana Gas & Elec Co	Warrick	COAL	4.91	1,057,697
67	OH	Kyger Creek	Ohio Valley Electric Corp	Gallia	COAL	4.84	1,041,922
68	WV	Pleasants Power Station**	West Penn Power Company	Pleasants	COAL	4.80	1,034,093
69	WV	Fort Martin Power Station	Monongahela Power Co	Monongalia	COAL	4.74	1,020,323
70	IA	Walter Scott Jr. Energy Center	MidAmerican Energy Co	Pottawattamie	COAL	4.73	1,020,103
71	AL	Plant H. Allen Franklin	Georgia Power Co	Lee	GAS	4.72	1,016,607
72	WV	Mount Storm Power Station	Virginia Electric & Power Co	Grant	COAL	4.70	1,012,831
73	IN	Clifty Creek	Indiana-Kentucky Electric Corp	Jefferson	COAL	4.59	989,352
74	MN	Boswell Energy Center	ALLETE, Inc.	Itasca	COAL	4.59	989,304
75	MI	Belle River	ITC Transmission	St Clair	COAL	4.59	988,360

## Appendix 1 (cont.)

Rank	State	Plant Name	Operator Name	County	Primary Fuel	2020 Carbon Dioxide Equivalent Emissions (Million Metric Tons)	Emissions Equivalent in Passenger Vehicles
76	TX	Sandy Creek Energy Station	Oncor Electric Delivery Company LLC	McLennan	COAL	4.52	973,471
77	UT	Huntington	PacifiCorp	Emery	COAL	4.49	967,158
78	CO	Comanche (470)**	Public Service Co of Colorado	Pueblo	COAL	4.47	962,283
79	AZ	Gila River Power Station	Arizona Public Service Co	Maricopa	GAS	4.46	961,653
80	FL	Hines Energy Complex	Duke Energy Florida, Inc	Polk	GAS	4.46	959,984
81	FL	Curtis H. Stanton Energy Center**	Orlando Utilities Comm	Orange	COAL	4.45	958,076
82	NC	Belews Creek	Duke Energy Carolinas, LLC	Stokes	COAL	4.43	954,206
83	AR	White Bluff	Entergy Arkansas Inc	Jefferson	COAL	4.41	949,765
84	LA	Ninemile Point	Entergy Louisiana LLC	Jefferson	GAS	4.40	948,240
85	WV	Longview Power	Monongahela Power Co	Monongalia	COAL	4.35	936,937
86	KY	Shawnee	Tennessee Valley Authority	McCracken	COAL	4.30	926,984
87	FL	Martin	Florida Power & Light Co	Martin	GAS	4.24	913,796
88	FL	Northside	JEA	Duval	GAS	4.21	906,295
89	NC	Cliffside	Duke Energy Carolinas, LLC	Cleveland	COAL	4.20	904,866
90	IN	Cayuga	Duke Energy Indiana Inc	Vermillion	COAL	4.14	891,961
91	IL	Baldwin Energy Complex**	Ameren Illinois Company	Randolph	COAL	4.08	879,981
92	IL	Joppa Steam**	Ameren Illinois Company	Massac	COAL	4.06	875,797
93	TX	Forney Power Plant	Oncor Electric Delivery Company LLC	Kaufman	GAS	4.05	872,765
94	FL	Manatee	Florida Power & Light Co	Manatee	GAS	4.04	870,840
95	IN	Rockport	Indiana Michigan Power Co	Spencer	COAL	4.02	865,498
96	AZ	Cholla*	Arizona Public Service Co	Navajo	COAL	3.82	822,075
97	VA	Greensville County Power Station	Virginia Electric & Power Co	Greensville	GAS	3.80	819,820
98	OH	Hanging Rock Power Company LLC	Ohio Power Co	Lawrence	GAS	3.80	819,336
99	AR	Union Power Station	Entergy Arkansas Inc	Union	GAS	3.79	815,747
100	VA	Brunswick County Power Station	Virginia Electric & Power Co	Brunswick	GAS	3.76	809,167