



DELTA

September 7th, 2022

Members of the House City, County, and Local Affairs Committee:

Thank you for inviting me to address your committee today on the topic of “The Environmental Impacts of Solar Power”. I appreciate the opportunity.

Due largely to the wise actions of the Arkansas General Assembly and careful stewardship of the Arkansas Public Service Commission, Arkansas is enjoying a boom in solar power generation and installation. Our state’s major utilities and many of our electric cooperatives have invested in solar. Residential ratepayers and businesses are saving significant sums of money on their electric bills by going solar, as are municipal and county governments, Arkansas school districts, water utilities, and other entities entrusted with taxpayer funds. In addition, we are seeing jobs in the solar industry grow across our state—creating payrolls that benefit Arkansas families and generate state and local tax revenues.

The economic benefits of solar energy in Arkansas are coupled with environmental benefits, as well. Deploying solar energy means cleaner air to breathe, healthier waterways in which to fish, and more resilient forests in which to hunt here in The Natural State. That also means healthier Arkansans with lower rates of asthma, heart disease, and early death.

Audubon Delta’s mission is “to conserve and restore natural ecosystems, focusing on birds, other wildlife, and their habitats for the benefit of humanity and the earth's biological diversity.” Supporting renewable energy like solar fits directly into our mission. We are proud that the General Assembly has taken great steps in that direction, and we look forward to working with you to do even more in the future.

Many thanks,

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Electricity

State Electricity Profiles

Data for 2020 | Release date: November 4, 2021 | Next release date: December 2022

Arkansas Electricity Profile 2020

Table 1. 2020 Summary statistics (Arkansas)

Item	Value	Rank
Primary energy source		Natural gas
Net summer capacity (megawatts)	14,835	30
Electric utilities	13,457	21
IPP & CHP	1,378	44
Net generation (megawatthours)	54,641,259	29
Electric utilities	48,634,848	18
IPP & CHP	6,006,411	38
Emissions		
Sulfur dioxide (short tons)	32,170	15
Nitrogen oxide (short tons)	17,459	29
Carbon dioxide (thousand metric tons)	23,469	26
Sulfur dioxide (lbs/MWh)	1.2	10
Nitrogen oxide (lbs/MWh)	0.6	28
Carbon dioxide (lbs/MWh)	945	21
Total retail sales (megawatthours)	45,851,003	31
Full service provider sales	45,851,003	27
Energy-only provider sales	0	0
Direct use (megawatthours)	863,245	26
Average retail price (cents/kWh)	8.32	46

Sources: U.S. Energy Information Administration, Form EIA-860, Annual Electric Generator Report, U.S. Energy Information Administration, Form EIA-861, Annual Electric Power Industry Report, U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report and predecessor forms.

Table 7. Electric power industry emissions estimates, 1990 through 2020

Arkansas

Emission type	Year 2020	Year 2019	Year 2018	Year 2017	Year 2016	Year 2015	Year 2014	Year 2013	Year 2012
Sulfur dioxide (short tons)									
Coal	22,569	39,794	52,217	48,483	47,385	46,481	75,942	74,612	77,622
Natural gas	50	76	56	41	44	37	24	32	43
Other	9,476	12,812	12,918	12,945	12,336	12,879	13,514	14,092	14,749
Petroleum	75	65	46	46	64	121	48	75	24
Total	32,170	52,747	65,237	61,515	59,829	59,518	89,528	88,811	92,438
Nitrogen oxide (short tons)									
Coal	10,909	16,034	20,844	26,500	25,343	22,554	37,871	35,833	32,775
Natural gas	3,383	3,537	3,620	2,922	3,487	3,349	2,739	3,603	3,683
Other	3,150	4,447	4,403	4,725	4,894	5,676	6,418	6,437	5,686
Petroleum	17	21	18	19	28	49	20	23	16
Total	17,459	24,039	28,885	34,166	33,752	31,628	47,048	45,896	42,160
Carbon dioxide (thousand metric tons)									
Coal	15,517	23,063	29,328	25,709	23,643	21,776	32,637	31,564	28,634
Natural gas	7,897	9,389	8,969	7,557	8,024	6,702	4,579	5,682	7,478
Other	16	16	17	13	16	35	41	64	94
Petroleum	40	45	36	43	43	74	32	36	29
Total	23,469	32,514	38,349	33,322	31,726	28,587	37,289	37,346	36,234
Total emission rate (lbs/MWh)									
Sulfur dioxide	1.2	1.6	1.9	2.0	2.0	2.1	2.9	2.9	2.8
Nitrogen oxide	0.6	0.7	0.8	1.1	1.1	1.1	1.5	1.5	1.3
Carbon dioxide	945	1,110	1,241	1,206	1,155	1,132	1,332	1,362	1,226

Source: Calculations made by the Electric Power Systems and Reliability Team; Office of Electricity, Renewables, and Uranium Statistics; U.S. Energy Information Administration.

Year 2011	Year 2010	Year 2009	Year 2008	Year 2007	Year 2006	Year 2005	Year 2004	Year 2003	Year 2002	Year 2001	Year 2000
73,584	67,035	68,209	73,160	71,833	72,868	65,726	78,479	71,176	70,031	74,549	76,060
31	33	28	23	20	22	26	21	32	23	11	21
14,765	14,428	14,271	12,842	17,828	16,729	40,089	14,015	13,802	13,377	12,994	14,426
199	139	528	446	606	736	922	3,546	2,148	1,056	4,826	2,452
88,579	81,635	83,036	86,471	90,286	90,355	106,763	96,059	87,160	84,488	92,379	92,959
36,700	36,554	33,050	37,070	36,988	34,629	35,422	40,270	41,189	40,941	45,554	45,230
3,169	2,785	2,455	2,266	1,771	1,823	1,955	2,387	7,118	4,280	4,438	10,648
5,667	5,256	5,246	5,225	6,202	5,501	11,014	5,233	5,215	4,589	4,263	5,797
35	38	116	81	237	186	294	905	466	229	1,150	1,477
45,571	44,633	40,867	44,642	45,199	42,139	48,686	48,796	53,986	50,043	55,409	63,154
29,509	28,163	25,221	26,545	26,193	24,403	23,412	25,615	23,969	24,302	25,872	25,397
6,269	5,722	5,034	3,972	3,929	4,239	3,042	2,666	3,433	2,858	1,863	3,433
97	88	80	68	66	75	45	2	0	0	0	0
51	45	92	68	128	214	277	560	265	209	751	233
35,926	34,018	30,427	30,653	30,316	28,931	26,775	28,844	27,667	27,369	28,486	29,064
2.9	2.7	2.9	3.1	3.3	3.5	4.5	3.7	3.5	3.5	3.9	4.2
1.5	1.5	1.4	1.6	1.7	1.6	2.0	1.9	2.1	2.1	2.3	2.9
1,289	1,227	1,165	1,225	1,222	1,220	1,232	1,222	1,208	1,265	1,328	1,457

Year 1999	Year 1998	Year 1997	Year 1996	Year 1995	Year 1994	Year 1993	Year 1992	Year 1991	Year 1990
78,823	77,315	86,718	97,033	84,291	72,229	66,566	70,208	70,953	73,346
21	18	18	15	67	17	17	18	17	17
14,521	14,073	15,053	14,789	13,747	13,948	14,315	12,726	12,592	11,750
1,188	1,087	285	847	968	268	110	223	246	279
94,551	92,493	102,074	112,681	99,076	86,462	81,007	83,176	83,808	85,390
44,830	41,861	41,521	48,814	39,926	101,298	92,187	110,964	111,342	108,863
10,169	10,390	8,402	7,868	10,351	7,523	6,705	8,184	7,854	8,085
5,434	5,599	5,627	5,902	5,722	4,181	4,413	3,774	3,377	3,541
1,662	1,189	514	1,629	392	93	74	58	89	101
62,095	59,041	56,063	64,212	56,393	113,096	103,379	122,981	122,663	120,589
25,390	24,215	23,491	24,651	22,493	21,028	18,984	20,997	20,610	20,351
3,917	3,897	3,047	3,415	3,226	2,945	2,623	3,108	3,009	2,978
0	10	21	57	65	94	74	17	19	16
185	196	71	133	97	81	72	43	61	81
29,491	28,319	26,630	28,255	25,880	24,148	21,754	24,164	23,698	23,426
4.1	4.1	4.5	4.9	4.7	4.1	4.0	4.2	4.1	4.4
2.7	2.6	2.5	2.8	2.7	5.4	5.1	6.2	6.0	6.2
1,394	1,364	1,296	1,350	1,357	1,264	1,182	1,338	1,283	1,318