

Lifetime emissions reductions by state: air-source heat pump vs. gas furnace

State	Result		Key Inputs				Gas CO2 emissions per MMBtu delivered heat					Electricity CO2 emissions per MMBtu delivered heat			
	2024 Purchase - Heat pump vs. gas emissions		City for COP evaluation	State	Heating season-weighted COP	Electricity region - emissions intensity	Levelized LRMER, 2024-2040 (lb/MWh)	Delivered heat (MMBtu)	Gas AFUE	Gas delivered (MMBtu)	Gas emissions factor (lbs CO2 per MMBtu)	Lbs CO2 emitted	Delivered heat (MWh)	Electric Energy Delivered (MWh)	Lbs CO2 Emitted
AL	-52.7%		Birmingham	AL		3.11 AL	659.4	1	90%	1.11	117	130.0	0.29	0.093	61
AR	-56.5%		Little Rock	AR		3.11 MISO/SPP	606.9	1	90%	1.11	117	130.0	0.29	0.093	57
AZ	-80.1%		Phoenix	AZ		3.6 AZ	320.5	1	90%	1.11	117	130.0	0.29	0.081	26
CA	-93.2%		Los Angeles	CA		3.71 CA ISO	113.3	1	90%	1.11	117	130.0	0.29	0.078	9
CO	-65.6%		Denver	CO		2.45 CO	357.6	1	95%	1.05	117	123.2	0.29	0.118	42
CT	-50.7%		Bridgeport	CT		2.7 ISO NE	565.7	1	95%	1.05	117	123.2	0.29	0.107	61
DC	-69.7%		Washington, DC	DC		3.19 PJM	433.9	1	90%	1.11	117	130.0	0.29	0.091	39
DE	-48.6%		Wilmington	DE		3.19 PJM	695.8	1	95%	1.05	117	123.2	0.29	0.091	63
FL	-72.7%		Jacksonville	FL		3.58 FL	438.7	1	90%	1.11	117	130.0	0.29	0.081	36
GA	-53.0%		Atlanta	GA		3.11 GA	655.2	1	90%	1.11	117	130.0	0.29	0.093	61
IA	-73.4%		Des Moines	IA		2.7 MISO	305.3	1	95%	1.05	117	123.2	0.29	0.107	33
ID	-61.3%		Boise	ID		2.4 ID	394.6	1	95%	1.05	117	123.2	0.29	0.121	48
IL	-50.8%		Chicago	IL		2.7 MISO	564.2	1	95%	1.05	117	123.2	0.29	0.107	61
IN	-36.4%		Indianapolis	IN		2.7 MISO	729.3	1	95%	1.05	117	123.2	0.29	0.107	78
KS	-76.9%		Wichita	KS		3.19 SPP	312.6	1	95%	1.05	117	123.2	0.29	0.091	28
KY	-42.3%		Louisville	KY		3.19 KY/PJM	781.8	1	95%	1.05	117	123.2	0.29	0.091	71
LA	-56.2%		New Orleans	LA		3.58 MISO	703.3	1	90%	1.11	117	130.0	0.29	0.081	57
MA	-63.3%		Boston	MA		2.7 ISO NE	420.9	1	95%	1.05	117	123.2	0.29	0.107	45
MD	-61.8%		Baltimore	MD		3.19 PJM	517.2	1	95%	1.05	117	123.2	0.29	0.091	47
ME	-66.4%		Portland	ME		2.24 ISO NE	319.2	1	95%	1.05	117	123.2	0.29	0.129	41
MI	-34.8%		Detroit	MI		2.7 MISO	747.1	1	95%	1.05	117	123.2	0.29	0.107	80
MN	-71.5%		Minneapolis	MN		2.24 MISO	271.2	1	95%	1.05	117	123.2	0.29	0.129	35
MO	-68.9%		Kansas City	MO		3.19 MISO/SPP	421.5	1	95%	1.05	117	123.2	0.29	0.091	38
MS	-48.2%		Jackson	MS		3.11 MISO	722.0	1	90%	1.11	117	130.0	0.29	0.093	67
MT	-60.8%		Billings	MT		2.4 MT	399.3	1	95%	1.05	117	123.2	0.29	0.121	48
NC	-75.4%		Charlotte	NC		3.11 NC	343.3	1	90%	1.11	117	130.0	0.29	0.093	32
ND	-65.4%		Fargo	ND		2.09 MISO/SPP	306.9	1	95%	1.05	117	123.2	0.29	0.139	43
NE	-72.7%		Omaha	NE		2.7 SPP	312.8	1	95%	1.05	117	123.2	0.29	0.107	34
NH	-41.0%		Manchester	NH		2.7 ISO NE	676.2	1	95%	1.05	117	123.2	0.29	0.107	73
NJ	-58.7%		Newark	NJ		3.19 PJM	560.0	1	95%	1.05	117	123.2	0.29	0.091	51
NM	-80.8%		Albuquerque	NM		3 NM	245.2	1	95%	1.05	117	123.2	0.29	0.097	24
NV	-81.6%		Las Vegas	NV		3.71 NV	290.6	1	95%	1.05	117	123.2	0.29	0.078	23
NY	-82.8%		New York City	NY		2.7 NYISO	197.1	1	95%	1.05	117	123.2	0.29	0.107	21
OH	-36.4%		Columbus	OH		2.7 PJM	729.1	1	95%	1.05	117	123.2	0.29	0.107	78
OK	-74.2%		Oklahoma City	OK		3.11 SPP	359.8	1	90%	1.11	117	130.0	0.29	0.093	34
OR	-84.2%		Portland	OR		3.06 OR	216.3	1	90%	1.11	117	130.0	0.29	0.095	20
PA	-47.7%		Philadelphia	PA		3.19 PJM	708.1	1	95%	1.05	117	123.2	0.29	0.091	64
RI	-78.2%		Providence	RI		2.7 ISO NE	249.6	1	95%	1.05	117	123.2	0.29	0.107	27
SC	-61.1%		Charleston	SC		3.11 SC	541.9	1	90%	1.11	117	130.0	0.29	0.093	51
SD	-65.7%		Sioux Falls	SD		2.24 SPP	325.8	1	95%	1.05	117	123.2	0.29	0.129	42
TN	-45.1%		Nashville	TN		3.19 TN	784.8	1	90%	1.11	117	130.0	0.29	0.091	71
TX	-85.8%		Houston	TX		3.58 TX	228.6	1	90%	1.11	117	130.0	0.29	0.081	19
UT	-61.7%		Salt Lake City	UT		2.45 UT	398.4	1	95%	1.05	117	123.2	0.29	0.118	47
VA	-69.7%		Virginia Beach	VA		3.19 PJM	433.9	1	90%	1.11	117	130.0	0.29	0.091	39
VT	-70.5%		Burlington	VT		2.24 ISO NE	280.6	1	95%	1.05	117	123.2	0.29	0.129	36
WA	-90.6%		Seattle	WA		3.06 WA	122.6	1	95%	1.05	117	123.2	0.29	0.095	12
WI	-44.5%		Milwaukee	WI		2.24 MISO	528.0	1	95%	1.05	117	123.2	0.29	0.129	68
WV	-48.8%		Charleston	WV		3.19 PJM	731.7	1	90%	1.11	117	130.0	0.29	0.091	67
WY	-58.7%		Cheyenne	WY		2.4 WY	421.1	1	95%	1.05	117	123.2	0.29	0.121	51

Day 1 emissions reductions by state: air-source heat pump vs. gas furnace

State	Result		Key Inputs				Gas CO2 emissions per MMBtu delivered heat					Electricity CO2 emissions per MMBtu delivered heat			
	2024 Purchase - Heat pump vs. gas emissions		City for COP evaluation	State	Heating season-weighted COP	Electricity region - for emissions intensity	Levelized LRMER, 2024 (lb/MWh)	Delivered heat (MMBtu)	Gas AFUE	Gas delivered (MMBtu)	Gas emissions factor (lbs CO2 per MMBtu)	Lbs CO2 emitted	Delivered heat (MWh)	Electric Energy Delivered (MWh)	Lbs CO2 Emitted
AL	-40.4%		Birmingham	AL		3.11 AL	830.47282	1	90%	1.11	117	130.0	0.29	0.093	77
AR	-25.1%		Little Rock	AR		3.11 MISO/SPP	1044.3	1	90%	1.11	117	130.0	0.29	0.093	97
AZ	-54.3%		Phoenix	AZ		3.6 AZ	737.7	1	90%	1.11	117	130.0	0.29	0.081	59
CA	-72.4%		Los Angeles	CA		3.71 CA ISO	459.0	1	90%	1.11	117	130.0	0.29	0.078	36
CO	-17.1%		Denver	CO		2.45 CO	862.4	1	95%	1.05	117	123.2	0.29	0.118	102
CT	-26.6%		Bridgeport	CT		2.7 ISO NE	841.3	1	95%	1.05	117	123.2	0.29	0.107	90
DC	-39.3%		Washington, DC	DC		3.19 PJM	867.5	1	90%	1.11	117	130.0	0.29	0.091	79
DE	-30.9%		Wilmington	DE		3.19 PJM	936.7	1	95%	1.05	117	123.2	0.29	0.091	85
FL	-60.0%		Jacksonville	FL		3.58 FL	641.5	1	90%	1.11	117	130.0	0.29	0.081	52
GA	-41.2%		Atlanta	GA		3.11 GA	819.9	1	90%	1.11	117	130.0	0.29	0.093	76
IA	-44.8%		Des Moines	IA		2.7 MISO	632.7	1	95%	1.05	117	123.2	0.29	0.107	68
ID	-19.7%		Boise	ID		2.4 ID	818.6	1	95%	1.05	117	123.2	0.29	0.121	99
IL	-16.0%		Chicago	IL		2.7 MISO	962.7	1	95%	1.05	117	123.2	0.29	0.107	103
IN	-12.8%		Indianapolis	IN		2.7 MISO	1000.0	1	95%	1.05	117	123.2	0.29	0.107	107
KS	-42.4%		Wichita	KS		3.19 SPP	780.4	1	95%	1.05	117	123.2	0.29	0.091	71
KY	-39.4%		Louisville	KY		3.19 KY/PJM	821.0	1	95%	1.05	117	123.2	0.29	0.091	75
LA	-31.0%		New Orleans	LA		3.58 MISO	1107.4	1	90%	1.11	117	130.0	0.29	0.081	90
MA	-25.5%		Boston	MA		2.7 ISO NE	854.5	1	95%	1.05	117	123.2	0.29	0.107	92
MD	-33.3%		Baltimore	MD		3.19 PJM	903.0	1	95%	1.05	117	123.2	0.29	0.091	82
ME	-34.5%		Portland	ME		2.24 ISO NE	622.8	1	95%	1.05	117	123.2	0.29	0.129	81
MI	-16.5%		Detroit	MI		2.7 MISO	957.2	1	95%	1.05	117	123.2	0.29	0.107	103
MN	-33.9%		Minneapolis	MN		2.24 MISO	629.2	1	95%	1.05	117	123.2	0.29	0.129	81
MO	-34.9%		Kansas City	MO		3.19 MISO/SPP	881.8	1	95%	1.05	117	123.2	0.29	0.091	80
MS	-25.8%		Jackson	MS		3.11 MISO	1034.6	1	90%	1.11	117	130.0	0.29	0.093	96
MT	-19.5%		Billings	MT		2.4 MT	821.0	1	95%	1.05	117	123.2	0.29	0.121	99
NC	-40.6%		Charlotte	NC		3.11 NC	827.6	1	90%	1.11	117	130.0	0.29	0.093	77
ND	-28.3%		Fargo	ND		2.09 MISO/SPP	636.0	1	95%	1.05	117	123.2	0.29	0.139	88
NE	-43.6%		Omaha	NE		2.7 SPP	647.3	1	95%	1.05	117	123.2	0.29	0.107	70
NH	-20.5%		Manchester	NH		2.7 ISO NE	911.2	1	95%	1.05	117	123.2	0.29	0.107	98
NJ	-33.2%		Newark	NJ		3.19 PJM	904.5	1	95%	1.05	117	123.2	0.29	0.091	82
NM	-41.5%		Albuquerque	NM		3 NM	745.6	1	95%	1.05	117	123.2	0.29	0.097	72
NV	-54.0%		Las Vegas	NV		3.71 NV	724.7	1	95%	1.05	117	123.2	0.29	0.078	57
NY	-40.9%		New York City	NY		2.7 NYISO	677.5	1	95%	1.05	117	123.2	0.29	0.107	73
OH	-13.2%		Columbus	OH		2.7 PJM	995.6	1	95%	1.05	117	123.2	0.29	0.107	107
OK	-36.4%		Oklahoma City	OK		3.11 SPP	887.1	1	90%	1.11	117	130.0	0.29	0.093	83
OR	-40.7%		Portland	OR		3.06 OR	813.1	1	90%	1.11	117	130.0	0.29	0.095	77
PA	-29.7%		Philadelphia	PA		3.19 PJM	952.2	1	95%	1.05	117	123.2	0.29	0.091	87
RI	-26.8%		Providence	RI		2.7 ISO NE	839.7	1	95%	1.05	117	123.2	0.29	0.107	90
SC	-40.1%		Charleston	SC		3.11 SC	834.7	1	90%	1.11	117	130.0	0.29	0.093	78
SD	-29.6%		Sioux Falls	SD		2.24 SPP	669.8	1	95%	1.05	117	123.2	0.29	0.129	87
TN	-43.4%		Nashville	TN		3.19 TN	810.0	1	90%	1.11	117	130.0	0.29	0.091	74
TX	-57.1%		Houston	TX		3.58 TX	688.9	1	90%	1.11	117	130.0	0.29	0.081	56
UT	-21.0%		Salt Lake City	UT		2.45 UT	822.1	1	95%	1.05	117	123.2	0.29	0.118	97
VA	-39.3%		Virginia Beach	VA		3.19 PJM	867.5	1	90%	1.11	117	130.0	0.29	0.091	79
VT	-51.9%		Burlington	VT		2.24 ISO NE	457.2	1	95%	1.05	117	123.2	0.29	0.129	59
WA	-52.0%		Seattle	WA		3.06 WA	623.9	1	95%	1.05	117	123.2	0.29	0.095	59
WI	-12.5%		Milwaukee	WI		2.24 MISO	832.7	1	95%	1.05	117	123.2	0.29	0.129	108
WV	-29.9%		Charleston	WV		3.19 PJM	1002.9	1	90%	1.11	117	130.0	0.29	0.091	91
WY	-15.3%		Cheyenne	WY		2.4 WY	863.5	1	95%	1.05	117	123.2	0.29	0.121	104

State abbreviation	State annual CO2 total output emission rate, 2016 (lb/MWh)	State annual CO2 total output emission rate, 2016 (kg/MWh)	State annual CO2 total output emission rate, 2021 (lb/MWh)	State annual CO2 total output emission rate, 2021 (kg/MWh)	% drop in emissions intensity, 2016-2021
AL	912.917	414.0213152	750.8	340.4988662	-18%
AZ	932.225	422.7777778	724.809	328.7115646	-22%
AR	1,115.65	505.9637188	1086.931	492.939229	-3%
CA	452.541	205.2340136	479.005	217.2358277	6%
CO	1,468.37	665.9287982	1216.915	551.8888889	-17%
CT	498.467	226.0621315	515.143	233.6249433	3%
DE	887.415	402.4557823	867.498	393.4231293	-2%
FL	1,024.21	464.4920635	834.138	378.2938776	-19%
GA	1,001.75	454.3102041	758.082	343.8013605	-24%
ID	188.695	85.57596372	271.34	123.0566893	44%
IL	811.318	367.9446712	653.049	296.1673469	-20%
IN	1,812.70	822.0875283	1632.59	740.4036281	-10%
IA	997.858	452.5433107	768.928	348.7201814	-23%
KS	1,195.55	542.200907	838.186	380.1297052	-30%
KY	1,954.30	886.3043084	1727.086	783.2589569	-12%
LA	878.85	398.5714286	826.042	374.6222222	-6%
ME	336.964	152.8181406	301.041	136.5265306	-11%
MD	1,012.68	459.2662132	698.189	316.6390023	-31%
MA	821.327	372.4839002	851.43	386.1360544	4%
MI	1,099.85	498.8	1003.757	455.2185941	-9%
MN	1,012.67	459.260771	825.973	374.5909297	-18%
MS	940.716	426.6285714	833.952	378.2095238	-11%
MO	1,687.74	765.415873	1636.06	741.9773243	-3%
MT	1,251.02	567.3569161	1045.024	473.9337868	-16%
NE	1,281.15	581.0217687	1124.84	510.1315193	-12%
NV	769.912	349.1664399	715.075	324.2970522	-7%
NH	310.564	140.8453515	304.042	137.8875283	-2%
NJ	557.822	252.9804989	480.917	218.1029478	-14%
NM	1,572.79	713.2816327	1134.307	514.4249433	-28%
NY	464.02	210.4399093	455.345	206.5056689	-2%

NC	867.441	393.3972789	669.484	303.6208617	-23%
ND	1,663.75	754.5369615	1340.686	608.0208617	-19%
OH	1,465.96	664.8344671	1208.18	547.9274376	-18%
OK	1,043.72	473.3405896	753.545	341.7437642	-28%
OR	305.891	138.7260771	325.804	147.7569161	7%
PA	855.444	387.9564626	726.431	329.4471655	-15%
RI	870.822	394.9306122	832.723	377.6521542	-4%
SC	629.428	285.4548753	567.026	257.1546485	-10%
SD	513.316	232.7963719	302.919	137.3782313	-41%
TN	992.271	450.0095238	698.276	316.678458	-30%
TX	1,049.53	475.9759637	856.438	388.4072562	-18%
UT	1,627.37	738.0371882	1560.502	707.7106576	-4%
VT	56.89	25.80045351	36.045	16.34693878	-37%
VA	813.802	369.0712018	599.211	271.7510204	-26%
WA	186.844	84.73650794	201.827	91.53151927	8%
WV	1,975.76	896.0349206	1944.146	881.6988662	-2%
WI	1,388.88	629.877551	1267.122	574.6585034	-9%
WY	2,026.26	918.9387755	1833.918	831.7088435	-9%

15-year lifetime emissions reductions by state: heat pump water heater vs. gas boiler

State	Result		Key Inputs				Gas CO2 emissions per MMBtu delivered heat					Electricity CO2 emissions per MMBtu delivered heat		
	2024 Purchase - Heat pump vs. gas emissions	City for COP evaluation	State	Heating Uniform Energy Factor	Electricity region - for emissions intensity	Levelized LRMER, 2024-2040 (lb/MWh)	Delivered water heat (MMBtu)	Gas UEF	Gas delivered (MMBtu)	Gas emissions factor (lbs CO2 per MMBtu)	Lbs CO2 emitted	Delivered water heat (MWh)	Electric Energy Delivered (MWh)	Lbs CO2 Emitted
AL	-50.9%	Birmingham	AL	3.33	AL	659.4	1	100%	1.00	117	117.0	0.29	0.087	57
AR	-54.8%	Little Rock	AR	3.33	MISO/SPP	606.9	1	100%	1.00	117	117.0	0.29	0.087	53
AZ	-75.9%	Phoenix	AZ	3.3	AZ	320.5	1	100%	1.00	117	117.0	0.29	0.088	28
CA	-90.6%	Los Angeles	CA	2.99	CA ISO	113.3	1	100%	1.00	117	117.0	0.29	0.097	11
CO	-70.9%	Denver	CO	3.05	CO	357.6	1	100%	1.00	117	117.0	0.29	0.095	34
CT	-54.0%	Bridgeport	CT	3.05	ISO NE	565.7	1	100%	1.00	117	117.0	0.29	0.095	54
DC	-65.4%	Washington, DC	DC	3.11	PJM	433.9	1	100%	1.00	117	117.0	0.29	0.093	40
DE	-44.5%	Wilmington	DE	3.11	PJM	695.8	1	100%	1.00	117	117.0	0.29	0.093	65
FL	-65.7%	Jacksonville	FL	3.17	FL	438.7	1	100%	1.00	117	117.0	0.29	0.091	40
GA	-51.2%	Atlanta	GA	3.33	GA	655.2	1	100%	1.00	117	117.0	0.29	0.087	57
IA	-75.2%	Des Moines	IA	3.05	MISO	305.3	1	100%	1.00	117	117.0	0.29	0.095	29
ID	-67.9%	Boise	ID	3.05	ID	394.6	1	100%	1.00	117	117.0	0.29	0.095	38
IL	-54.2%	Chicago	IL	3.05	MISO	564.2	1	100%	1.00	117	117.0	0.29	0.095	54
IN	-40.7%	Indianapolis	IN	3.05	MISO	729.3	1	100%	1.00	117	117.0	0.29	0.095	69
KS	-75.1%	Wichita	KS	3.11	SPP	312.6	1	100%	1.00	117	117.0	0.29	0.093	29
KY	-40.2%	Louisville	KY	3.24	KY/PJM	781.8	1	100%	1.00	117	117.0	0.29	0.090	70
LA	-48.3%	New Orleans	LA	3.37	MISO	703.3	1	100%	1.00	117	117.0	0.29	0.086	61
MA	-65.8%	Boston	MA	3.05	ISO NE	420.9	1	100%	1.00	117	117.0	0.29	0.095	40
MD	-58.8%	Baltimore	MD	3.11	PJM	517.2	1	100%	1.00	117	117.0	0.29	0.093	48
ME	-73.5%	Portland	ME	2.99	ISO NE	319.2	1	100%	1.00	117	117.0	0.29	0.097	31
MI	-39.3%	Detroit	MI	3.05	MISO	747.1	1	100%	1.00	117	117.0	0.29	0.095	71
MN	-77.5%	Minneapolis	MN	2.99	MISO	271.2	1	100%	1.00	117	117.0	0.29	0.097	26
MO	-66.4%	Kansas City	MO	3.11	MISO/SPP	421.5	1	100%	1.00	117	117.0	0.29	0.093	39
MS	-46.3%	Jackson	MS	3.33	MISO	722.0	1	100%	1.00	117	117.0	0.29	0.087	63
MT	-66.9%	Billings	MT	2.99	MT	399.3	1	100%	1.00	117	117.0	0.29	0.097	39
NC	-74.5%	Charlotte	NC	3.33	NC	343.3	1	100%	1.00	117	117.0	0.29	0.087	30
ND	-74.6%	Fargo	ND	2.99	MISO/SPP	306.9	1	100%	1.00	117	117.0	0.29	0.097	30
NE	-74.6%	Omaha	NE	3.05	SPP	312.8	1	100%	1.00	117	117.0	0.29	0.095	30
NH	-45.1%	Manchester	NH	3.05	ISO NE	676.2	1	100%	1.00	117	117.0	0.29	0.095	64
NJ	-55.4%	Newark	NJ	3.11	PJM	560.0	1	100%	1.00	117	117.0	0.29	0.093	52
NM	-81.5%	Albuquerque	NM	3.29	NM	245.2	1	100%	1.00	117	117.0	0.29	0.088	22
NV	-75.9%	Las Vegas	NV	2.99	NV	290.6	1	100%	1.00	117	117.0	0.29	0.097	28
NY	-84.3%	New York City	NY	3.11	NYISO	197.1	1	100%	1.00	117	117.0	0.29	0.093	18
OH	-40.8%	Columbus	OH	3.05	PJM	729.1	1	100%	1.00	117	117.0	0.29	0.095	69
OK	-70.8%	Oklahoma City	OK	3.05	SPP	359.8	1	100%	1.00	117	117.0	0.29	0.095	34
OR	-81.6%	Portland	OR	2.92	OR	216.3	1	100%	1.00	117	117.0	0.29	0.099	21
PA	-43.6%	Philadelphia	PA	3.11	PJM	708.1	1	100%	1.00	117	117.0	0.29	0.093	66
RI	-79.7%	Providence	RI	3.05	ISO NE	249.6	1	100%	1.00	117	117.0	0.29	0.095	24
SC	-59.7%	Charleston	SC	3.33	SC	541.9	1	100%	1.00	117	117.0	0.29	0.087	47
SD	-73.0%	Sioux Falls	SD	2.99	SPP	325.8	1	100%	1.00	117	117.0	0.29	0.097	32
TN	-40.0%	Nashville	TN	3.24	TN	784.8	1	100%	1.00	117	117.0	0.29	0.090	70
TX	-83.2%	Houston	TX	3.37	TX	228.6	1	100%	1.00	117	117.0	0.29	0.086	20
UT	-67.6%	Salt Lake City	UT	3.05	UT	398.4	1	100%	1.00	117	117.0	0.29	0.095	38
VA	-65.4%	Virginia Beach	VA	3.11	PJM	433.9	1	100%	1.00	117	117.0	0.29	0.093	40
VT	-76.7%	Burlington	VT	2.99	ISO NE	280.6	1	100%	1.00	117	117.0	0.29	0.097	27
WA	-89.6%	Seattle	WA	2.92	WA	122.6	1	100%	1.00	117	117.0	0.29	0.099	12
WI	-56.2%	Milwaukee	WI	2.99	MISO	528.0	1	100%	1.00	117	117.0	0.29	0.097	51
WV	-41.7%	Charleston	WV	3.11	PJM	731.7	1	100%	1.00	117	117.0	0.29	0.093	68
WY	-65.1%	Cheyenne	WY	2.99	WY	421.1	1	100%	1.00	117	117.0	0.29	0.097	41