

National Electric Rate Study

Ranking of typical
residential, commercial
and industrial electric bills

2017 Study



1040 O Street, P.O. Box 80869
Lincoln, NE 68501-0869

p: 402.475.4211
www.les.com

Lincoln Electric System

2017 National Rate Study Summary

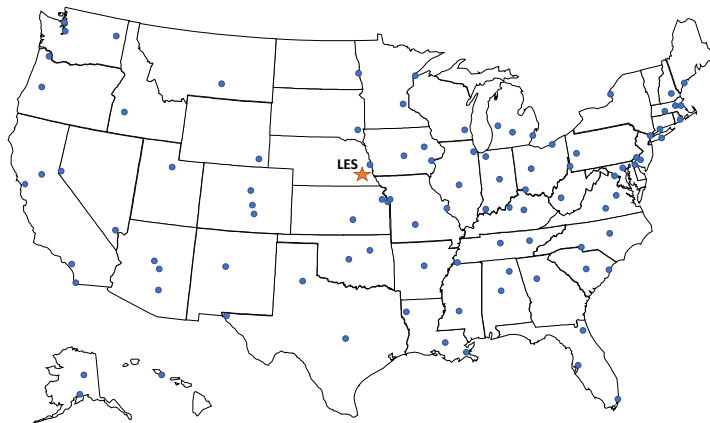
The Lincoln Electric System National Rate Study is a comprehensive report of electric rates across the country. The purpose of the study is to provide a typical bill comparison for both LES and our customers, monitor and benchmark the affordability of electric bills, and serves as a complement to the Regional Electric Utility Bill Comparison.

In 2017, Lincoln ranked 16th nationally overall, decreasing three spots from 13th. A large part of this change can be attributed to short-term rate decreases in the commercial and industrial sectors due to low natural gas prices, driven in large part by the mild 2016 – 2017 winter. A number of utilities employ fuel-related charges and riders that can change quarterly or annually based on the cost of fuel. These riders serve as pass-through charges that go directly to the customer's bill. LES employs a rate stabilization fund to manage these short-term fuel price fluctuations rather than using an adjustable fuel rider.

In the residential sector, Lincoln's rank improved three spots from 13th to 10th lowest.

Fact Summary:

- **The National Electric Rate Study** ranks residential, commercial and industrial electric rates of 100 cities across the nation. (1= Lowest Bill, 100 = Highest Bill)
- **Rates used are those approved** to be in effect January 1, 2017, including seasonal differences.
- **Lincoln Electric System (LES)** bills are calculated with rates that went into effect January 1, 2017 and include surcharges and other non-sales tax charges (if known).
- **Bills for investor-owned utilities** were collected from Edison Electric Institute's 2017 Typical Winter Bills report. Bills for municipal/public power utilities were calculated using each respective utility's published rate tariffs. Average bills are calculated using rates from a 12-month period to include seasonal rates. All bill data applies to one month of service.



2017 National Rate Study Summary

- **Lincoln ranks 16th overall**, 10th in residential and 17th in commercial and industrial combined. LES ranks in the top ten in 6 of 12 categories. Lincoln was 13th overall last year.
- **Overall, there are more electric rate increases (52 percent) than decreases (44 percent).** Of the public power utilities, 63 percent reported increases, and 17 percent reported decreases. Of the investor-owned utilities, 49 percent reported increases, and 51 percent reported decreases.
- **Looking at the real price of electricity** (rates after adjustment for inflation), Lincoln's real price decreased by -0.7 percent.
- **LES residential customers** using 1,000 kWh pay \$96.48, which is 28 percent less than the study average of \$134.59, while LES industrial customers using 1,000 kW and 400,000 kWh pay \$31,060, 21 percent less than the study average of \$39,071.
- **Regionally, LES' annual bills are the second lowest.** Only Des Moines, ranked 6th lowest nationally, has a lower regional ranking than Lincoln. The region includes the following eight cities:
 - Colorado Springs, Colorado
 - Des Moines, Iowa
 - Kansas City, Kansas
 - Wichita, Kansas
 - Minneapolis, Minnesota
 - Kansas City, Missouri
 - Lincoln, Nebraska
 - Omaha, Nebraska

2017 National Rate Study Contents

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2017 National Rate Study Detail

Lincoln Electric System has ranked U.S. cities (served by Municipal/Public Power or Investor-owned Utilities) from the lowest (number 1) to the highest (number 100) based on average monthly electric bills by various categories of typical usage for residential, commercial, and industrial rates in effect January 1, 2017. Average bills are calculated using rates from the 12-month period to include seasonal rates. All bill data applies to one month of service.

Kilowatt-Hour Usages Ranked

The kilowatt-hour (kWh) usage levels used in the ranking of average residential bills were:

- 500 kWh
- 1,000 kWh

The average commercial bills were stratified by kilowatt (kW) and kilowatt-hour (kWh). The categories used in the ranking are as follows:

- 40 kW and 10,000 kWh (35% Load Factor)
- 40 kW and 14,000 kWh (49% Load Factor)
- 500 kW and 150,000 kWh (42% Load Factor)
- 500 kW and 180,000 kWh (50% Load Factor)

The average industrial bills were stratified by kilowatt (kW) and kilowatt-hour (kWh). The categories used in the ranking are as follows:

- 75 kW and 15,000 kWh (28% Load Factor)
- 75 kW and 30,000 kWh (56% Load Factor)
- 75 kW and 50,000 kWh (93% Load Factor)
- 1,000 kW and 200,000 kWh (28% Load Factor)
- 1,000 kW and 400,000 kWh (56% Load Factor)
- 1,000 kW and 650,000 kWh (90% Load Factor)

2017 National Rate Study Detail

The following list of utilities were added or removed in 2016. This was both to replace some of the utilities removed from the sample due to utility consolidation and to update the report for a better balance of cities.

Cities Added to Rate Study in 2016

Amarillo, TX
Charleston, WV
Sacramento, CA
Myrtle Beach, SC
Fairbanks, AK

Cities Removed From Rate Study in 2016

Mobile, AL
New Haven, CT
Waterbury, CT
Columbus, GA
Savannah, GA
Rockford, IL
Saint Paul, MN
Greensboro, NC
Paterson, NJ
Dallas, TX
Norfolk, VA

Source of Rate Data

LES obtained the majority of the data for investor-owned utilities from the Rate Regulation Department of the Edison Electric Institute (EEI) publication, *Typical Bills and Average Rates Report, Winter 2017*, bills as of January 1, 2017. The data for municipal/public power utilities and investor-owned utilities not included in the EEI publication was obtained by modeling each utility's typical bills from their published rate schedules. We performed no additional procedures to verify either the data obtained from the municipal/public power utilities survey or the EEI publication.

Detailed results of the rankings and utilities included can be found in the Schedules section of the report.

Table 1
2017 National Rate Study

LES Ranking as compared to surveyed cities

<u>Category</u>	<u>Survey Rank</u>		
	<u>2017</u>	<u>2016</u>	<u>Change</u>
Residential			
1. 500 kWh	14	16	2
2. 1,000 kWh	10	9	-1
Residential Survey Rank	10	13	3
Commercial and Industrial			
3. 40 kW and 10,000 kWh (35% Load Factor)	3	3	0
4. 40 kW and 14,000 kWh (49% Load Factor)	10	8	-2
5. 500 kW and 150,000 kWh (42% Load Factor)	45	38	-7
6. 500 kW and 180,000 kWh (50% Load Factor)	33	28	-5
7. 75 kW and 15,000 kWh (28% Load Factor)	1	1	0
8. 75 kW and 30,000 kWh (56% Load Factor)	8	6	-2
9. 75 kW and 50,000 kWh (93% Load Factor)	3	3	0
10. 1,000 kW and 200,000 kWh (28% Load Factor)	56	54	-2
11. 1,000 kW and 400,000 kWh (56% Load Factor)	28	21	-7
12. 1,000 kW and 650,000 kWh (90% Load Factor)	15	8	-7
Commercial and Industrial Survey Rank:	17	13	-4
Overall Survey Rank:	16	13	-3

Notes:

- Ranks are from 1 (lowest rank) to 100 (highest rank)
- Positive change indicates an improvement in rank

Table 2
2017 National Rate Study

Highest and Lowest Overall Ranks

Overall Survey Rank	City (2016 Rank)	Average Bill Difference from 2016
1	Oklahoma City, OK (3)	-6%
2	Tulsa, OK (1)	1%
3	Tacoma, WA (2)	0%
4	Baton Rouge, LA (10)	-8%
5	Boise, ID (4)	2%
6	Des Moines, IA (5)	1%
7	Amarillo, TX (6)	1%
8	Davenport, IA (7)	1%
9	Charlotte, NC (11)	-3%
10	Reno, NV (18)	-6%

Overall Survey Rank	City (2016 Rank)	Average Bill Difference from 2016
91	Manchester, NH (86)	11%
92	Bridgeport, CT (91)	1%
93	Cambridge, MA (96)	-5%
94	Lansing, MI (93)	0%
95	Boston, MA (98)	-4%
96	San Francisco, CA (95)	4%
97	Fairbanks, AK (92)	13%
98	Anchorage, AK (89)	21%
99	San Diego, CA (99)	4%
100	Honolulu, HI (100)	5%

Table 3
2017 National Rate Study

Major Rate Changes - Increases

- No single driver explains the top 10 bill increases, with reasons ranging from general rate increases, temporary raising of funds for rate stabilization accounts, the addition of new riders, and the rebound effect from utilities that had fuel cost decreases in the prior year rebalancing in the current year

City	Average Bill Difference from 2016	Overall Rank		Average Bill Differences from 2016	
		2017	2016	Residential	Commercial and Industrial
New Orleans, LA	28%	53	13	24%	29%
Anchorage, AK	21%	98	89	21%	21%
Seattle, WA	17%	22	9	32%	14%
Buffalo, NY	17%	15	8	3%	19%
Denver, CO	16%	45	20	14%	17%
Gary, IN	14%	78	66	21%	12%
Fairbanks, AK	13%	97	92	11%	14%
Kansas City, MO	12%	69	54	5%	13%
El Paso, TX	12%	62	40	21%	10%
Minneapolis, MN	11%	67	53	9%	12%

Major Rate Changes - Decreases

- The top 10 bill decreases are driven in large part by fuel cost adjustments in the wake of a mild winter

City	Average Bill Difference from 2016	Overall Rank		Average Bill Differences from 2016	
		2017	2016	Residential	Commercial and Industrial
Wilmington, DE	-17%	30	70	-3%	-20%
Cleveland, OH	-13%	35	63	-13%	-13%
New York City, NY	-13%	89	97	-10%	-14%
Philadelphia, PA	-13%	37	61	1%	-15%
Erie, PA	-11%	34	56	-4%	-12%
Jackson, MS	-9%	14	22	-7%	-9%
Baton Rouge, LA	-8%	4	10	-7%	-9%
Pawtucket, RI	-8%	88	94	2%	-11%
Pueblo, CO	-8%	82	83	-6%	-8%
Austin, TX	-7%	27	46	2%	-9%

Table 4
2017 National Rate Study

10 Lowest and Highest Bills

Residential: 500 kWh

10 Lowest Bills				10 Highest Bills			
Rank	City	Bill	Change	Rank	City	Bill	Change
1	Tulsa, OK	\$45.32	1.2%	91	Springfield, MA	\$105.63	-4.7%
2	Baton Rouge, LA	\$45.82	-6.2%	92	Boston, MA	\$109.47	0.1%
3	Seattle, WA	\$47.07	35.8%	93	Anchorage, AK	\$109.94	20.5%
4	Austin, TX	\$47.33	4.6%	94	Cambridge, MA	\$110.98	-1.8%
5	Tacoma, WA	\$47.57	0.0%	95	New York City, NY	\$115.23	-9.4%
6	Spokane, WA	\$48.13	7.3%	96	Fairbanks, AK	\$117.28	10.7%
7	Shreveport, LA	\$50.48	-2.5%	97	Los Angeles, CA	\$117.48	5.5%
8	Miami, FL	\$51.77	0.4%	98	San Diego, CA	\$121.46	5.3%
9	Springfield, MO	\$51.90	0.0%	99	Bridgeport, CT	\$125.73	3.9%
10	Boise, ID	\$52.04	3.1%	100	Honolulu, HI	\$135.39	4.7%

Residential: 1,000 kWh

10 Lowest Bills				10 Highest Bills			
Rank	City	Bill	Change	Rank	City	Bill	Change
1	Tacoma, WA	\$84.65	0.0%	91	Springfield, MA	\$209.26	-4.7%
2	Baton Rouge, LA	\$85.29	-6.8%	92	Boston, MA	\$212.49	0.1%
3	Oklahoma City, OK	\$91.62	-3.1%	93	Anchorage, AK	\$213.33	21.3%
4	Tulsa, OK	\$91.79	2.7%	94	New York City, NY	\$213.83	-10.1%
5	Jackson, MS	\$92.28	-7.6%	95	Cambridge, MA	\$215.07	-1.8%
6	Spokane, WA	\$92.59	10.7%	96	Fairbanks, AK	\$217.06	11.7%
7	Springfield, MO	\$92.92	0.0%	97	Bridgeport, CT	\$241.79	7.6%
8	Shreveport, LA	\$93.21	-2.7%	98	San Francisco, CA	\$257.36	2.6%
9	Miami, FL	\$95.43	0.1%	99	Honolulu, HI	\$264.54	4.8%
10	Lincoln, NE	\$96.48	3.1%	100	San Diego, CA	\$324.18	4.0%

Commercial: 40 kW and 10,000 kWh

10 Lowest Bills				10 Highest Bills			
Rank	City	Bill	Change	Rank	City	Bill	Change
1	Oklahoma City, OK	\$767	-4.7%	91	Manchester, NH	\$1,876	10.5%
2	Boise, ID	\$768	1.9%	92	Pawtucket, RI	\$1,958	-9.5%
3	Lincoln, NE	\$774	0.2%	93	Lansing, MI	\$1,962	0.0%
4	Tacoma, WA	\$790	0.0%	94	New York City, NY	\$1,985	-12.8%
5	Baton Rouge, LA	\$802	-7.4%	95	Fairbanks, AK	\$2,005	12.8%
6	Omaha, NE	\$804	-7.7%	96	Boston, MA	\$2,044	-6.5%
7	Tulsa, OK	\$816	1.5%	97	San Francisco, CA	\$2,129	3.6%
8	Seattle, WA	\$845	18.0%	98	Anchorage, AK	\$2,233	22.3%
9	Reno, NV	\$848	-5.7%	99	Honolulu, HI	\$2,501	4.1%
10	Des Moines, IA	\$855	1.0%	100	San Diego, CA	\$2,557	4.9%

Commercial: 40 kW and 14,000 kWh

10 Lowest Bills				10 Highest Bills			
Rank	City	Bill	Change	Rank	City	Bill	Change
1	Oklahoma City, OK	\$903	-5.5%	91	Bridgeport, CT	\$2,360	-1.1%
2	Boise, ID	\$977	2.1%	92	Manchester, NH	\$2,380	10.8%
3	Baton Rouge, LA	\$1,001	-8.6%	93	Lansing, MI	\$2,512	0.0%
4	Amarillo, TX	\$1,012	-1.2%	94	Boston, MA	\$2,549	-6.8%
5	Reno, NV	\$1,021	-6.5%	95	Pawtucket, RI	\$2,553	-10.6%
6	Raleigh, NC	\$1,054	-5.5%	96	San Francisco, CA	\$2,715	3.6%
7	Des Moines, IA	\$1,054	0.7%	97	Anchorage, AK	\$2,735	20.7%
8	Davenport, IA	\$1,055	0.7%	98	Fairbanks, AK	\$2,799	12.8%
9	Charlotte, NC	\$1,055	-3.4%	99	San Diego, CA	\$2,931	4.2%
10	Lincoln, NE	\$1,057	-0.1%	100	Honolulu, HI	\$3,272	4.4%

Table 4
2017 National Rate Study

Commercial: 500 kW and 150,000 kWh

10 Lowest Bills				10 Highest Bills			
Rank	City	Bill	Change	Rank	City	Bill	Change
1	Tulsa, OK	\$8,711	0.0%	91	Manchester, NH	\$24,881	11.7%
2	Oklahoma City, OK	\$9,547	-5.7%	92	Springfield, MA	\$25,498	4.2%
3	Des Moines, IA	\$9,733	1.6%	93	Lansing, MI	\$26,626	0.0%
4	Tacoma, WA	\$9,979	0.0%	94	New York City, NY	\$26,656	-13.1%
5	Davenport, IA	\$10,270	0.7%	95	Boston, MA	\$28,683	-2.6%
6	Raleigh, NC	\$10,556	-6.8%	96	Fairbanks, AK	\$29,046	13.3%
7	Baton Rouge, LA	\$10,663	-8.7%	97	San Francisco, CA	\$29,957	3.6%
8	Jackson, MS	\$10,869	-9.4%	98	Anchorage, AK	\$30,542	21.9%
9	Boise, ID	\$10,869	2.0%	99	San Diego, CA	\$32,426	4.6%
10	Buffalo, NY	\$10,955	15.9%	100	Honolulu, HI	\$38,244	5.2%

Commercial: 500 kW and 180,000 kWh

10 Lowest Bills				10 Highest Bills			
Rank	City	Bill	Change	Rank	City	Bill	Change
1	Tulsa, OK	\$9,770	0.5%	91	Manchester, NH	\$28,463	11.7%
2	Oklahoma City, OK	\$10,573	-6.1%	92	Springfield, MA	\$29,006	4.0%
3	Des Moines, IA	\$11,047	1.6%	93	New York City, NY	\$29,371	-13.2%
4	Tacoma, WA	\$11,215	0.0%	94	Lansing, MI	\$30,752	0.0%
5	Davenport, IA	\$11,692	0.5%	95	Boston, MA	\$32,350	-2.4%
6	Raleigh, NC	\$11,767	-7.5%	96	San Francisco, CA	\$33,063	3.9%
7	Buffalo, NY	\$12,150	18.9%	97	Fairbanks, AK	\$33,420	13.9%
8	Baton Rouge, LA	\$12,156	-9.3%	98	Anchorage, AK	\$34,312	20.9%
9	Jackson, MS	\$12,404	-9.8%	99	San Diego, CA	\$35,224	4.2%
10	Boise, ID	\$12,438	2.1%	100	Honolulu, HI	\$43,299	5.5%

Industrial: 75 kW and 15,000 kWh

10 Lowest Bills				10 Highest Bills			
Rank	City	Bill	Change	Rank	City	Bill	Change
1	Lincoln, NE	\$1,127	-0.1%	91	Manchester, NH	\$3,035	10.4%
2	Tulsa, OK	\$1,210	1.6%	92	Lansing, MI	\$3,061	0.0%
3	Tacoma, WA	\$1,230	0.0%	93	Burlington, VT	\$3,062	3.4%
4	Oklahoma City, OK	\$1,241	-4.6%	94	Pueblo, CO	\$3,085	-4.8%
5	Boise, ID	\$1,243	1.5%	95	San Francisco, CA	\$3,321	3.6%
6	Baton Rouge, LA	\$1,271	-6.8%	96	Boston, MA	\$3,537	-6.2%
7	Seattle, WA	\$1,318	11.1%	97	Anchorage, AK	\$3,676	23.8%
8	Charlotte, NC	\$1,363	-1.9%	98	Fairbanks, AK	\$3,699	10.3%
9	Amarillo, TX	\$1,371	-5.1%	99	Honolulu, HI	\$3,873	4.0%
10	Colorado Springs, CO	\$1,377	10.6%	100	San Diego, CA	\$4,341	5.4%

Industrial: 75 kW and 30,000 kWh

10 Lowest Bills				10 Highest Bills			
Rank	City	Bill	Change	Rank	City	Bill	Change
1	Oklahoma City, OK	\$1,754	-6.1%	91	Manchester, NH	\$4,926	11.0%
2	Amarillo, TX	\$1,842	-2.7%	92	Bridgeport, CT	\$5,029	-1.0%
3	Tacoma, WA	\$1,848	0.0%	93	Lansing, MI	\$5,124	0.0%
4	Raleigh, NC	\$1,993	-6.5%	94	Pawtucket, RI	\$5,184	-11.1%
5	Baton Rouge, LA	\$2,013	-9.3%	95	Fairbanks, AK	\$5,389	14.3%
6	Boise, ID	\$2,029	1.8%	96	Boston, MA	\$5,432	-6.9%
7	Tulsa, OK	\$2,041	1.6%	97	San Francisco, CA	\$5,520	3.8%
8	Lincoln, NE	\$2,054	-0.2%	98	Anchorage, AK	\$5,561	20.3%
9	Reno, NV	\$2,066	-6.9%	99	San Diego, CA	\$5,746	3.9%
10	Buffalo, NY	\$2,095	22.2%	100	Honolulu, HI	\$6,765	4.6%

Table 4
2017 National Rate Study

Industrial: 75 kW and 50,000 kWh

10 Lowest Bills				10 Highest Bills			
Rank	City	Bill	Change	Rank	City	Bill	Change
1	Oklahoma City, OK	\$2,438	-7.1%	91	Cambridge, MA	\$7,402	-8.5%
2	Amarillo, TX	\$2,470	-0.9%	92	Manchester, NH	\$7,448	11.4%
3	Lincoln, NE	\$2,661	-0.2%	93	San Diego, CA	\$7,618	2.8%
4	Tacoma, WA	\$2,672	0.0%	94	Fairbanks, AK	\$7,642	17.0%
5	Raleigh, NC	\$2,754	-8.7%	95	Lansing, MI	\$7,874	0.0%
6	Richmond, VA	\$2,815	-6.6%	96	Boston, MA	\$7,959	-7.3%
7	Buffalo, NY	\$2,907	29.3%	97	Anchorage, AK	\$8,075	18.2%
8	Reno, NV	\$2,929	-8.0%	98	Pawtucket, RI	\$8,132	-12.2%
9	Baton Rouge, LA	\$2,967	-10.8%	99	San Francisco, CA	\$8,453	3.8%
10	Charlotte, NC	\$2,994	-2.9%	100	Honolulu, HI	\$10,620	4.9%

Industrial: 1,000 kW and 200,000 kWh

10 Lowest Bills				10 Highest Bills			
Rank	City	Bill	Change	Rank	City	Bill	Change
1	Tulsa, OK	\$13,623	-1.1%	91	Lansing, MI	\$39,383	0.0%
2	Oklahoma City, OK	\$13,817	-6.7%	92	Pueblo, CO	\$39,958	-5.0%
3	Des Moines, IA	\$14,607	1.9%	93	Burlington, VT	\$40,667	3.1%
4	Jackson, MS	\$14,938	-9.3%	94	Bridgeport, CT	\$40,803	7.1%
5	Davenport, IA	\$15,623	1.0%	95	Fairbanks, AK	\$43,481	11.8%
6	Philadelphia, PA	\$15,623	-22.7%	96	Boston, MA	\$44,905	-2.8%
7	Baton Rouge, LA	\$15,781	-7.3%	97	San Francisco, CA	\$47,693	3.1%
8	Tacoma, WA	\$15,788	0.0%	98	Anchorage, AK	\$48,471	24.1%
9	Erie, PA	\$15,951	-14.9%	99	San Diego, CA	\$55,490	5.5%
10	Boise, ID	\$16,207	1.4%	100	Honolulu, HI	\$58,840	4.5%

Industrial: 1,000 kW and 400,000 kWh

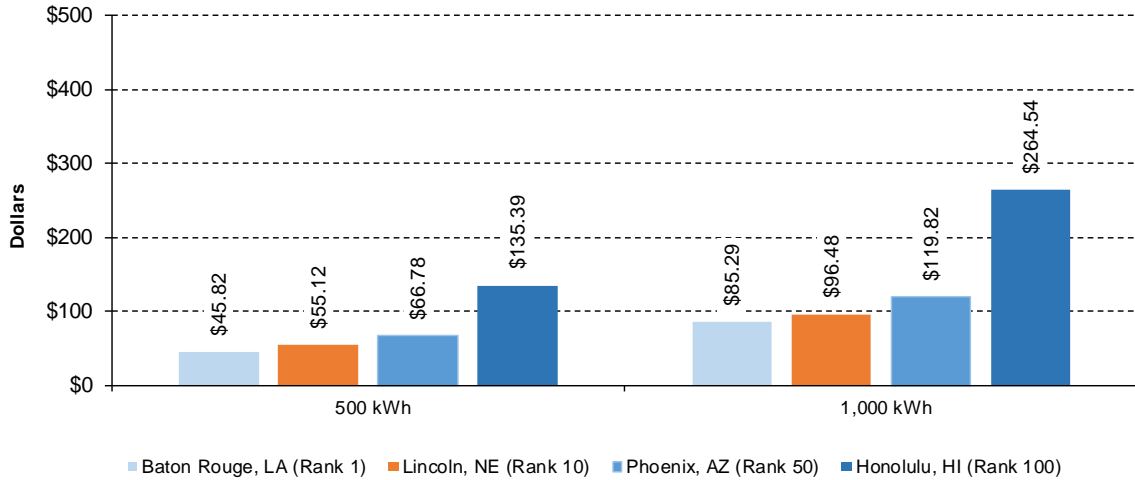
10 Lowest Bills				10 Highest Bills			
Rank	City	Bill	Change	Rank	City	Bill	Change
1	Oklahoma City, OK	\$19,387	-9.3%	91	Manchester, NH	\$61,304	11.8%
2	Tulsa, OK	\$20,677	1.0%	92	Springfield, MA	\$61,988	3.9%
3	Des Moines, IA	\$23,373	1.6%	93	Cambridge, MA	\$62,553	-3.2%
4	Amarillo, TX	\$23,865	2.7%	94	Lansing, MI	\$66,889	0.0%
5	Tacoma, WA	\$24,027	0.0%	95	San Francisco, CA	\$67,325	4.2%
6	Philadelphia, PA	\$24,203	-23.9%	96	Boston, MA	\$69,353	-2.4%
7	Jackson, MS	\$24,919	-10.8%	97	Fairbanks, AK	\$72,642	14.2%
8	Davenport, IA	\$25,105	0.5%	98	Anchorage, AK	\$73,608	20.5%
9	Buffalo, NY	\$25,451	21.1%	99	San Diego, CA	\$74,140	4.0%
10	Boise, ID	\$25,476	1.9%	100	Honolulu, HI	\$92,541	5.8%

Industrial: 1,000 kW and 650,000 kWh

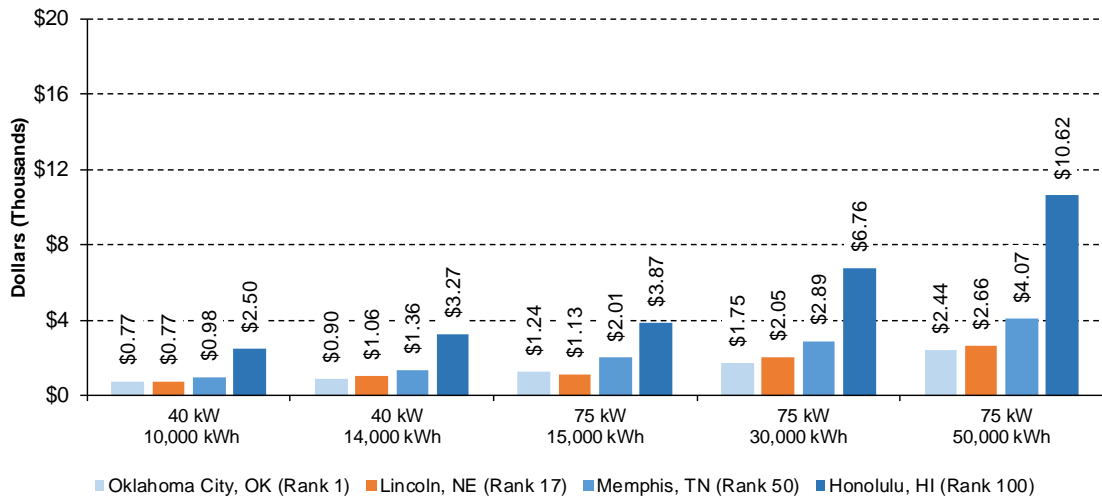
10 Lowest Bills				10 Highest Bills			
Rank	City	Bill	Change	Rank	City	Bill	Change
1	Oklahoma City, OK	\$26,349	-10.9%	91	Manchester, NH	\$90,909	11.8%
2	Tulsa, OK	\$29,494	2.2%	92	Springfield, MA	\$91,218	3.5%
3	Amarillo, TX	\$31,716	3.2%	93	San Francisco, CA	\$91,864	4.9%
4	Jackson, MS	\$32,931	-12.9%	94	Cambridge, MA	\$93,336	-2.8%
5	Little Rock, AR	\$33,103	-10.4%	95	San Diego, CA	\$97,454	2.9%
6	Des Moines, IA	\$33,597	1.4%	96	Boston, MA	\$99,913	-2.1%
7	Richmond, VA	\$34,094	-7.3%	97	Lansing, MI	\$101,273	0.0%
8	Tacoma, WA	\$34,325	0.0%	98	Anchorage, AK	\$105,029	18.4%
9	Philadelphia, PA	\$34,928	-24.6%	99	Fairbanks, AK	\$109,093	15.4%
10	Buffalo, NY	\$35,407	29.0%	100	Honolulu, HI	\$134,668	6.6%

Chart A
2017 National Rate Study

Sample Ranges of Residential Bills



Sample Ranges of Commercial and Industrial Bills



Sample Ranges of Commercial and Industrial Bills

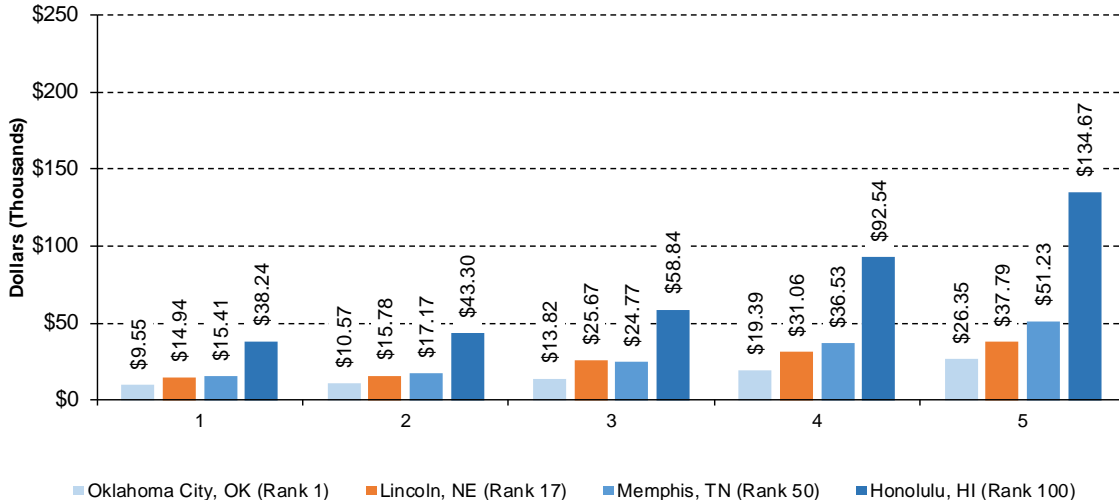
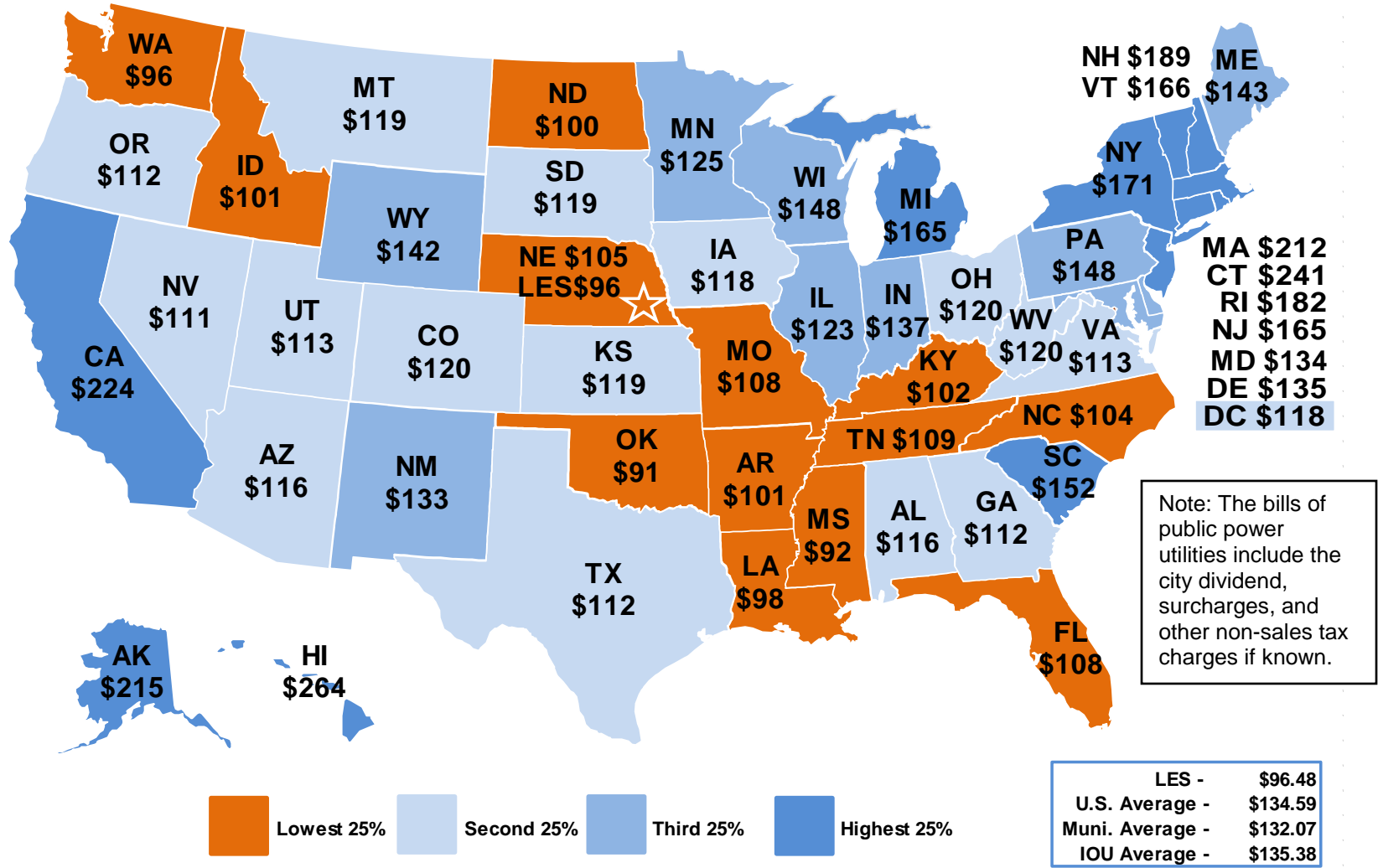


Chart B
2017 National Rate Study

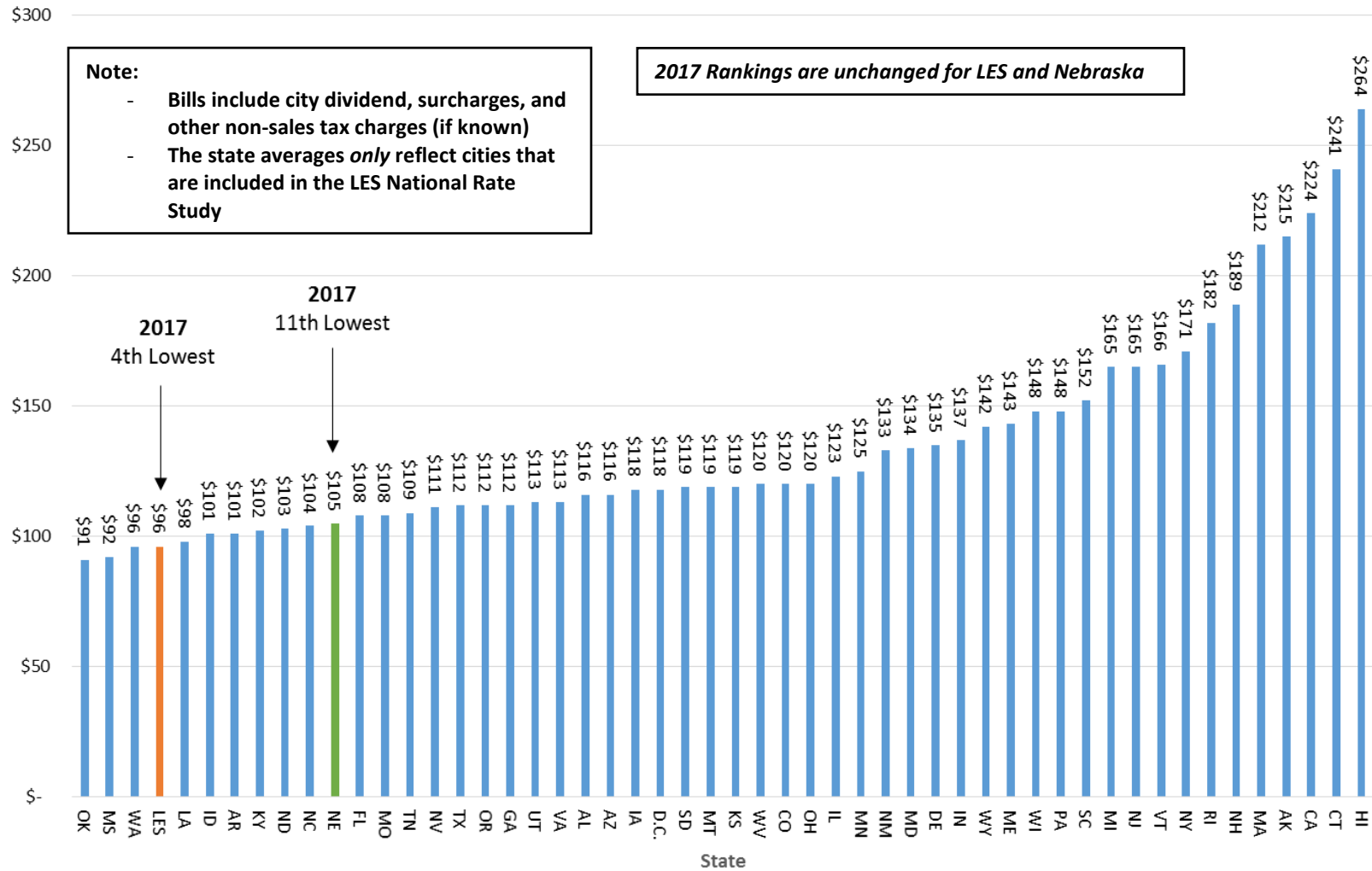
Average Bill per State*: Residential 1,000 kWh



*Note: state averages only reflect cities that are included in the LES National Rate Study

Chart C
2017 National Rate Study

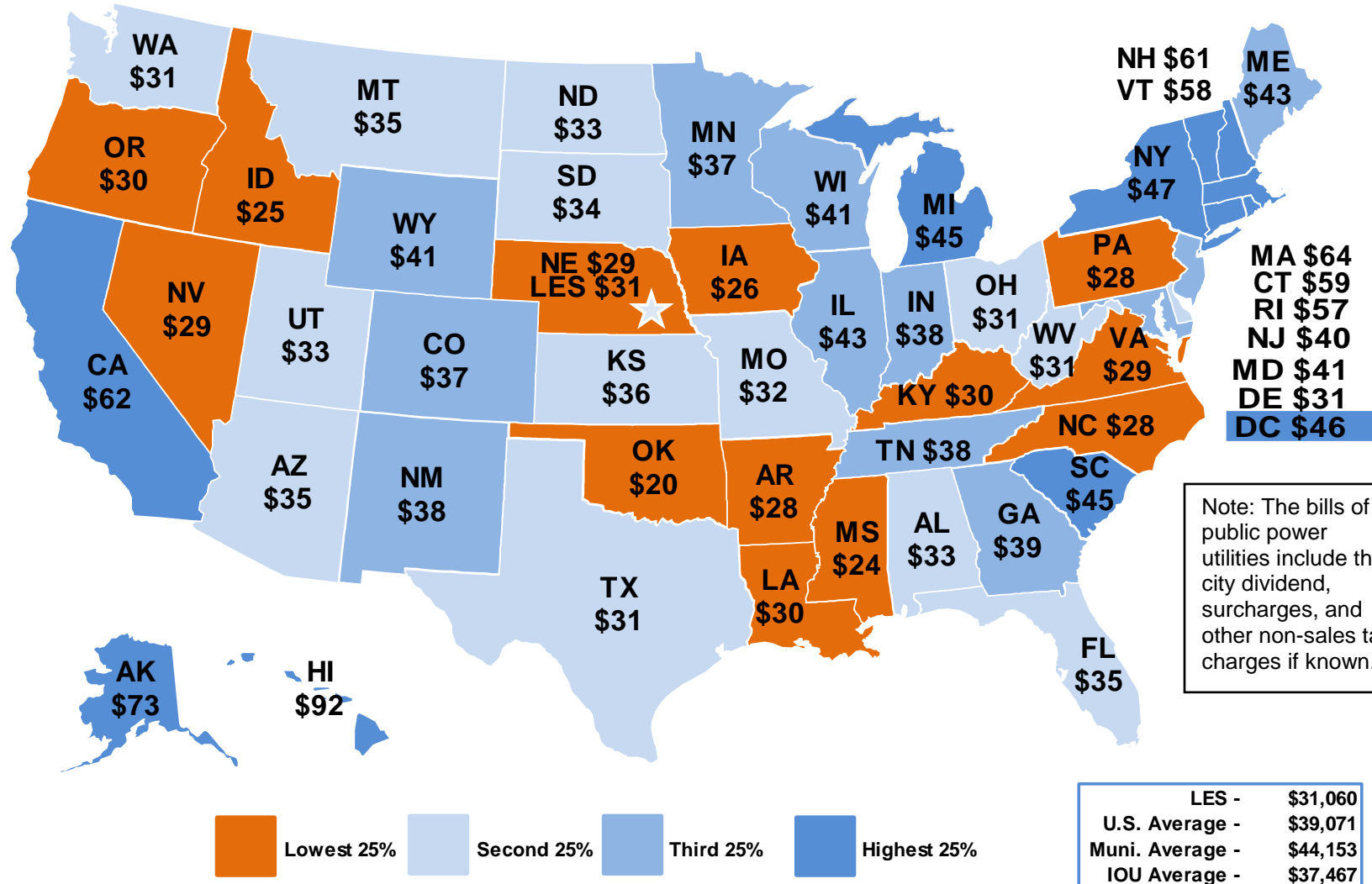
Lowest to Highest Residential Bill Comparison - 1,000 kWh
12-Month Average: January 2017



Note: state averages only reflect cities that are included in the LES National Rate Study

Chart D
2017 National Rate Study

Average Bill per State*: Industrial 1,000 kW and 400,000 kWh (Thousands of \$)

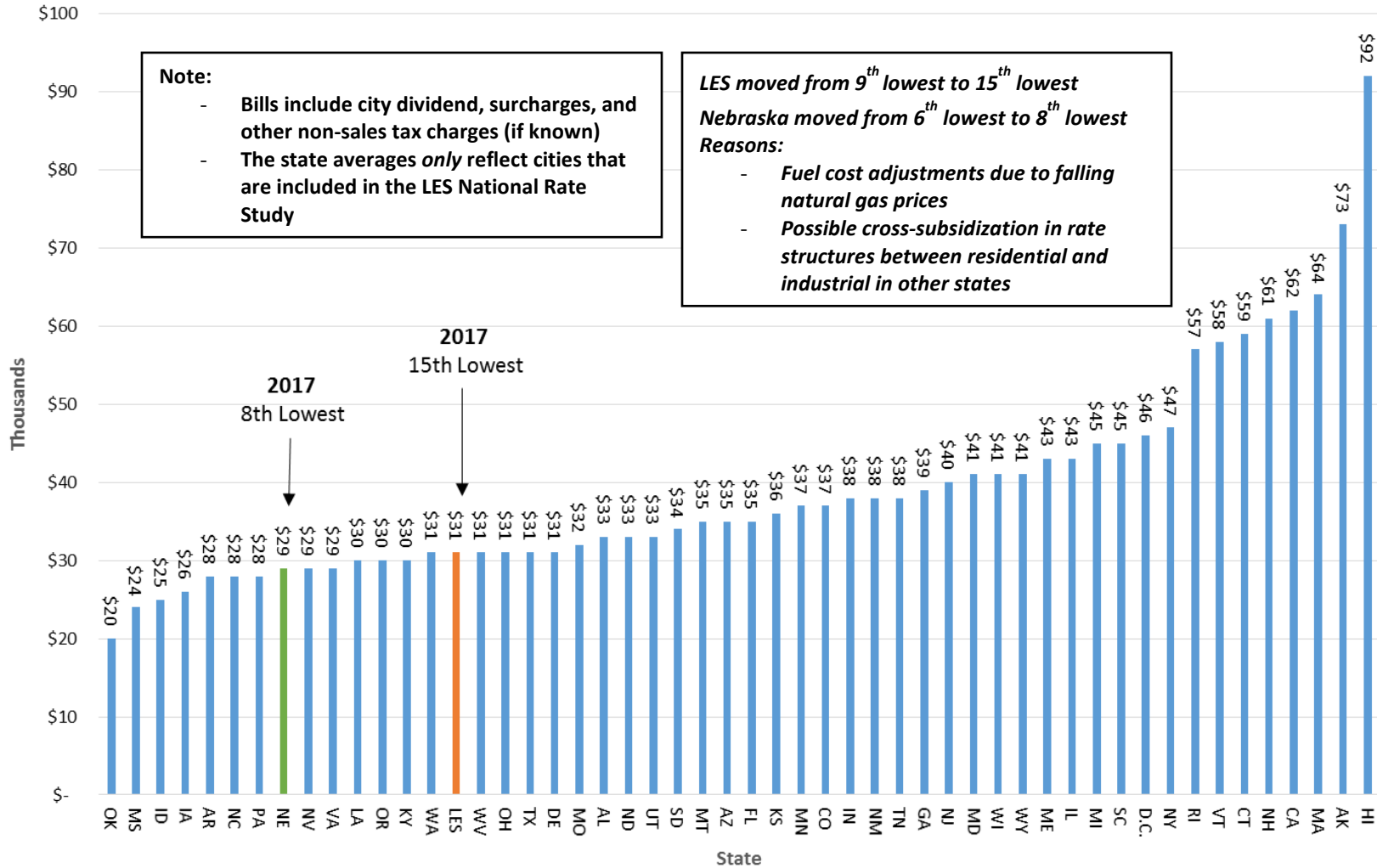


Note: The bills of public power utilities include the city dividend, surcharges, and other non-sales tax charges if known.

*Note: state averages only reflect cities that are included in the LES National Rate Study

Chart E
2017 National Rate Study

Lowest to Highest Industrial Bill Comparison - 1,000 kW & 400,000 kWh
12-Month Average: January 2017



Note:

- Bills include city dividend, surcharges, and other non-sales tax charges (if known)
- The state averages *only* reflect cities that are included in the LES National Rate Study

LES moved from 9th lowest to 15th lowest
Nebraska moved from 6th lowest to 8th lowest

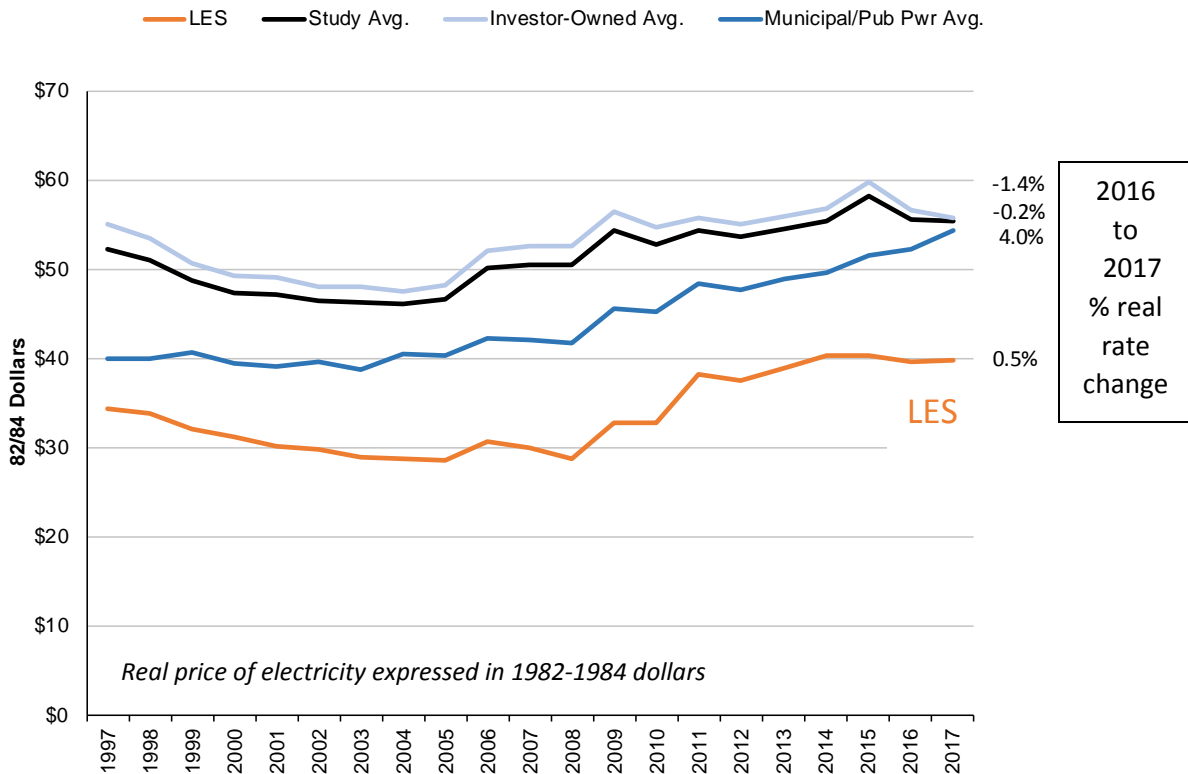
Reasons:

- Fuel cost adjustments due to falling natural gas prices
- Possible cross-subsidization in rate structures between residential and industrial in other states

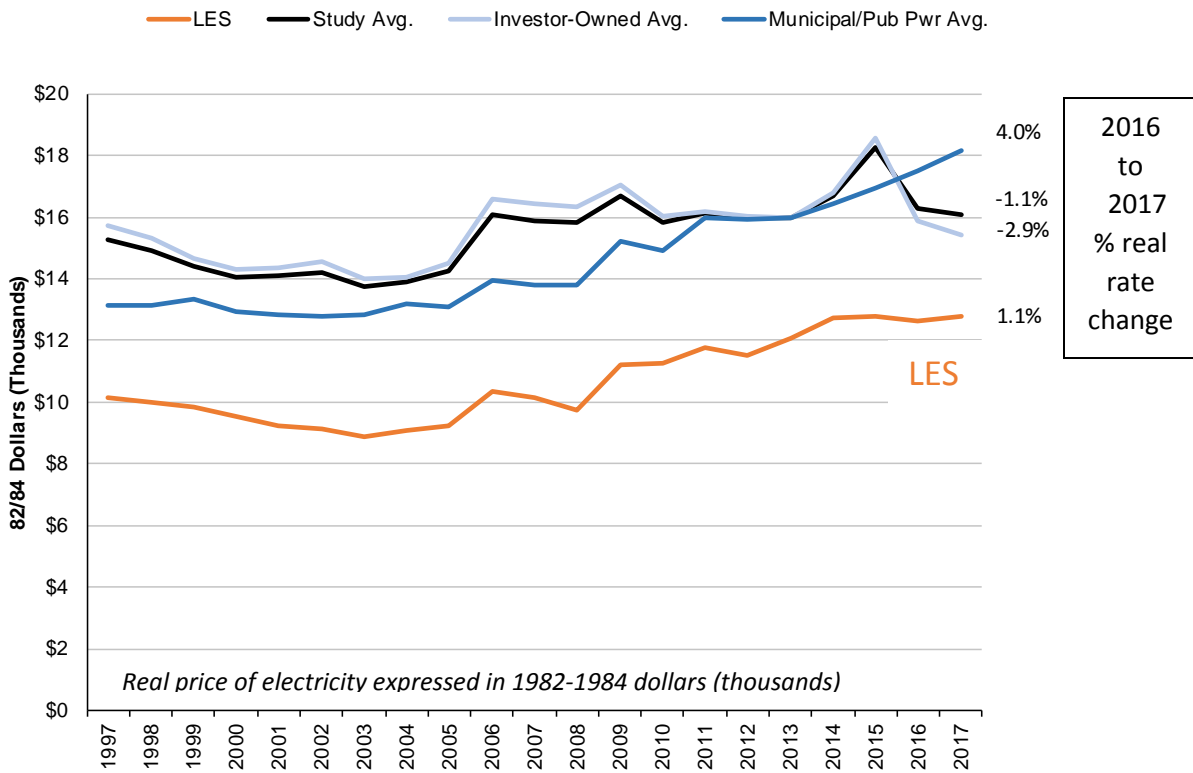
Note: state averages only reflect cities that are included in the LES National Rate Study

Chart F
2017 National Rate Study

Residential Real Price - 1,000 kWh



Industrial Real Price - 1,000 kW and 400,000 kWh



**Average Annual Residential and Commercial Bills
Rates in Effect January 1, 2017
Arranged by State and City**

M - Municipal or Public Power District

I - Investor-owned utility

STATE	CITY	500 kWh	1,000 kWh	40 kW 10,000 kWh	40 kW 14,000 kWh	500 kW 150,000 kWh	500 kW 180,000 kWh
Alabama	Birmingham (I)	\$ 74.53	\$ 132.10	\$ 1,432	\$ 1,819	\$ 19,780	\$ 22,742
	Huntsville (M)	55.00	100.83	1,054	1,470	15,632	17,461
Alaska	Anchorage (M)	109.94	213.33	2,233	2,735	30,542	34,312
	Fairbanks (M)	117.28	217.06	2,005	2,799	29,046	33,420
Arizona	Mesa (M)	67.43	115.10	1,183	1,352	16,339	17,904
	Phoenix (I)	66.78	119.82	1,457	1,693	15,492	16,696
	Tucson (I)	61.48	113.67	1,392	1,896	17,814	19,386
Arkansas	Little Rock (I)	54.91	101.05	887	1,127	12,323	13,443
California	Los Angeles (M)	117.48	174.83	1,706	2,182	23,712	27,341
	Sacramento (M)	79.92	139.83	1,453	1,905	19,559	22,938
	San Diego (I)	121.46	324.18	2,557	2,931	32,426	35,224
	San Francisco (I)	97.13	257.36	2,129	2,715	29,957	33,063
Colorado	Colorado Springs	67.53	120.03	925	1,286	15,866	17,146
	Denver (I)	56.33	111.47	1,262	1,404	16,162	17,224
	Pueblo (I)	84.92	130.62	1,486	1,678	22,076	23,306
Connecticut	Bridgeport (I)	125.73	241.79	1,858	2,360	23,972	27,457
Delaware	Wilmington (I)	74.36	135.25	1,022	1,199	13,331	14,634
District of Columbia	Washington (I)	63.89	118.94	1,327	1,820	20,090	22,900
Florida	Jacksonville (M)	65.87	125.39	1,226	1,714	17,764	19,884
	Miami (I)	51.77	95.43	962	1,166	12,875	14,599
	Tampa (I)	60.87	104.68	1,020	1,229	13,664	15,232
Georgia	Atlanta (I)	60.90	112.36	1,387	1,548	16,037	17,239
Hawaii	Honolulu (I)	135.39	264.54	2,501	3,272	38,244	43,299
Idaho	Boise (I)	52.04	101.05	768	977	10,869	12,438
Illinois	Chicago (I)	67.62	119.09	998	1,277	14,102	16,181
	Springfield (M)	68.04	127.22	1,512	1,965	21,907	24,983
Indiana	Evansville (I)	84.03	157.04	1,267	1,689	14,177	16,049
	Gary (I)	78.23	142.44	1,312	1,696	18,628	21,011
	Indianapolis (I)	70.37	113.27	1,085	1,470	16,182	17,684

National Electric Rate Study

Schedule 1

**Average Annual Residential and Commercial Bills
Rates in Effect January 1, 2017
Arranged by State and City**

M - Municipal or Public Power District

I - Investor-owned utility

STATE	CITY	500 kWh	1,000 kWh	40 kW 10,000 kWh	40 kW 14,000 kWh	500 kW 150,000 kWh	500 kW 180,000 kWh
Iowa	Cedar Rapids (I)	\$ 81.13	\$ 143.38	\$ 1,202	\$ 1,665	\$ 17,396	\$ 20,866
	Davenport (I)	57.08	105.65	855	1,055	10,270	11,692
	Des Moines (I)	57.28	106.06	855	1,054	9,733	11,047
Kansas	Kansas City (M)	63.37	113.45	1,125	1,379	16,339	17,797
	Overland Park (I)	72.44	112.21	1,275	1,550	17,374	18,847
	Wichita (I)	75.12	134.18	1,159	1,506	15,881	17,044
Kentucky	Lexington (I)	55.24	99.18	1,042	1,448	13,408	14,297
	Louisville (I)	58.53	105.28	1,054	1,464	15,670	16,832
Louisiana	Baton Rouge (I)	45.82	85.29	802	1,001	10,663	12,156
	New Orleans (I)	62.89	116.48	1,136	1,481	15,560	17,836
	Shreveport (I)	50.48	93.21	921	1,118	11,927	13,408
Maine	Portland (I)	76.28	143.00	1,344	1,666	18,673	21,108
Maryland	Baltimore (I)	71.17	134.44	1,464	1,684	16,485	19,067
Massachusetts	Boston (I)	109.47	212.49	2,044	2,549	28,683	32,350
	Cambridge (I)	110.98	215.07	1,854	2,354	24,767	28,462
	Springfield (I)	105.63	209.26	1,853	2,331	25,498	29,006
Michigan	Detroit (I)	81.91	164.38	1,244	1,589	15,584	16,854
	Grand Rapids (I)	75.97	149.32	1,397	1,764	15,909	18,947
	Lansing (M)	96.74	182.74	1,962	2,512	26,626	30,752
Minnesota	Duluth (I)	53.14	110.80	1,094	1,428	14,099	16,083
	Minneapolis (I)	74.10	141.18	1,255	1,752	16,940	18,620
Mississippi	Jackson (I)	58.22	92.28	990	1,257	10,869	12,404
Missouri	Kansas City (I)	77.19	129.70	1,278	1,573	17,501	19,573
	Saint Louis (I)	57.95	103.12	939	1,310	12,257	14,037
	Springfield (M)	51.90	92.92	973	1,139	12,970	14,212
Montana	Billings (I)	61.87	119.65	1,219	1,544	16,151	18,537
Nebraska	Lincoln (M)	55.12	96.48	774	1,057	14,941	15,779
	Omaha (M)	68.04	115.18	804	1,124	12,738	14,036

**Average Annual Residential and Commercial Bills
Rates in Effect January 1, 2017
Arranged by State and City**

M - Municipal or Public Power District

I - Investor-owned utility

STATE	CITY	500 kWh	1,000 kWh	40 kW 10,000 kWh	40 kW 14,000 kWh	500 kW 150,000 kWh	500 kW 180,000 kWh
Nevada	Las Vegas (I)	\$ 68.66	\$ 124.56	\$ 981	\$ 1,227	\$ 12,651	\$ 14,289
	Reno (I)	56.60	97.94	848	1,021	11,863	13,100
New Hampshire	Manchester (I)	103.67	189.58	1,876	2,380	24,881	28,463
New Jersey	Newark (I)	82.96	165.37	1,575	1,893	19,495	20,773
New Mexico	Albuquerque (I)	61.68	133.11	1,261	1,759	16,987	18,338
New York	Buffalo (I)	69.03	120.53	899	1,061	10,955	12,150
	Hempstead (M)	94.09	178.94	1,688	2,144	23,990	27,566
	New York City (I)	115.23	213.83	1,985	2,348	26,656	29,371
North Carolina	Charlotte (I)	58.35	103.98	868	1,055	11,463	12,968
	Raleigh (I)	58.57	104.70	866	1,054	10,556	11,767
North Dakota	Fargo (I)	58.81	103.12	1,058	1,289	14,376	16,111
Ohio	Cincinnati (I)	66.23	119.63	1,097	1,297	14,199	15,668
	Cleveland (I)	59.69	115.15	1,181	1,445	13,633	15,482
	Columbus (I)	69.89	126.77	1,063	1,333	14,704	16,716
Oklahoma	Oklahoma City (I)	56.45	91.62	767	903	9,547	10,573
	Tulsa (I)	45.32	91.79	816	1,070	8,711	9,770
Oregon	Eugene (M)	63.36	109.19	980	1,230	13,129	15,000
	Portland (I)	63.97	116.29	1,035	1,337	12,950	14,895
Pennsylvania	Erie (I)	75.06	140.07	1,016	1,321	13,464	15,457
	Philadelphia (I)	81.59	154.73	1,130	1,419	12,191	13,670
	Pittsburgh (I)	83.90	152.12	1,009	1,284	14,344	15,819
Rhode Island	Pawtucket (I)	94.48	182.66	1,958	2,553	22,733	26,463
South Carolina	Columbia (I)	78.85	147.53	1,314	1,826	19,502	21,024
	Myrtle Beach (M)	88.64	156.64	1,377	1,919	23,107	25,394
South Dakota	Sioux Falls (I)	63.96	119.01	1,081	1,338	14,862	16,795
Tennessee	Knoxville (M)	61.51	107.01	1,078	1,500	16,281	18,117
	Memphis (M)	58.85	102.43	977	1,358	15,408	17,172
	Nashville (M)	64.72	117.60	1,240	1,702	17,392	19,437

**Average Annual Residential and Commercial Bills
Rates in Effect January 1, 2017
Arranged by State and City**

M - Municipal or Public Power District

I - Investor-owned utility

STATE	CITY	500 kWh	1,000 kWh	40 kW 10,000 kWh	40 kW 14,000 kWh	500 kW 150,000 kWh	500 kW 180,000 kWh
Texas	Austin (M)	\$ 47.33	\$ 99.82	\$ 1,043	\$ 1,251	\$ 14,471	\$ 15,885
	El Paso (I)	67.84	129.76	1,217	1,481	16,541	18,469
	Amarillo (I)	59.74	109.36	878	1,012	11,531	12,536
Utah	Salt Lake City (I)	55.31	113.74	1,140	1,294	14,503	15,655
Vermont	Burlington (M)	85.53	166.66	1,835	2,199	24,725	27,457
Virginia	Richmond (I)	60.28	111.76	987	1,181	12,991	13,698
	Roanoke (I)	61.35	114.29	1,042	1,260	14,534	15,871
Washington	Seattle (M)	47.07	112.43	845	1,128	12,332	14,458
	Spokane (I)	48.13	92.59	1,229	1,520	14,128	16,313
	Tacoma (M)	47.57	84.65	790	1,098	9,979	11,215
West Virginia	Charleston (I)	67.50	120.93	1,061	1,331	14,750	16,599
	Wheeling (I)	67.50	120.93	1,061	1,331	14,750	16,599
Wisconsin	Madison (I)	86.02	153.04	1,460	1,747	18,518	20,621
	Milwaukee (I)	80.42	144.85	1,311	1,712	17,422	19,335
Wyoming	Cheyenne (I)	77.52	142.03	1,598	1,825	18,316	19,797

**Rankings of Residential and Commercial Bills
Rates in Effect January 1, 2017
Arranged by State and City**

M - Municipal or Public Power District

I - Investor-owned utility

STATE	CITY	75 kW 15,000 kWh	75 kW 30,000 kWh	75 kW 50,000 kWh	1,000 kW 200,000 kWh	1,000 kW 400,000 kWh	1,000 kW 650,000 kWh
Alabama	Birmingham (I)	63	78	82	16	22	34
	Huntsville (M)	78	71	64	52	58	65
Alaska	Anchorage (M)	97	98	97	98	98	98
	Fairbanks (M)	98	95	94	95	97	99
Arizona	Mesa (M)	47	42	43	38	46	41
	Phoenix (I)	77	66	52	58	47	37
	Tucson (I)	87	81	75	72	66	66
Arkansas	Little Rock (I)	18	18	24	21	16	5
California	Los Angeles (M)	83	88	88	84	89	90
	Sacramento (M)	75	82	84	61	82	83
	San Diego (I)	100	99	93	99	99	95
	San Francisco (I)	95	97	99	97	95	93
Colorado	Colorado Springs (M)	10	43	35	70	44	24
	Denver (I)	70	40	29	59	33	18
	Pueblo (I)	94	79	63	92	81	76
Connecticut	Bridgeport (I)	88	92	89	94	88	87
Delaware	Wilmington (I)	33	20	22	41	29	35
District of Columbia	Washington (I)	58	73	80	64	80	81
Florida	Jacksonville (M)	64	69	74	74	76	79
	Miami (I)	24	19	27	36	27	32
	Tampa (I)	30	25	31	39	37	45
Georgia	Atlanta (I)	73	47	34	77	69	52
Hawaii	Honolulu (I)	99	100	100	100	100	100
Idaho	Boise (I)	5	6	12	10	10	13
Illinois	Chicago (I)	22	38	47	20	39	61
	Springfield (M)	82	85	86	82	84	85
Indiana	Evansville (I)	57	76	76	37	49	55
	Gary (I)	67	77	78	73	79	80
	Indianapolis (I)	65	50	45	67	61	56

National Electric Rate Study

Schedule 2

Rankings of Residential and Commercial Bills
Rates in Effect January 1, 2017
Arranged by State and City

M - Municipal or Public Power District

I - Investor-owned utility

STATE	CITY	75 kW 15,000 kWh	75 kW 30,000 kWh	75 kW 50,000 kWh	1,000 kW 200,000 kWh	1,000 kW 400,000 kWh	1,000 kW 650,000 kWh
Iowa	Cedar Rapids (I)	45	24	21	53	36	33
	Davenport (I)	13	12	16	5	8	12
	Des Moines (I)	12	11	15	3	3	6
Kansas	Kansas City (M)	49	48	42	50	60	53
	Overland Park (I)	62	58	61	66	68	64
	Wichita (I)	42	59	72	63	51	39
Kentucky	Lexington (I)	61	27	13	43	18	11
	Louisville (I)	55	34	26	51	34	28
Louisiana	Baton Rouge (I)	6	5	9	7	11	14
	New Orleans (I)	41	56	66	44	63	73
	Shreveport (I)	15	13	18	19	19	22
Maine	Portland (I)	69	72	73	78	77	78
Maryland	Baltimore (I)	68	75	79	54	75	70
Massachusetts	Boston (I)	96	96	96	96	96	96
	Cambridge (I)	90	90	91	87	93	94
	Springfield (I)	84	89	90	90	92	92
Michigan	Detroit (I)	44	57	46	48	53	43
	Grand Rapids (I)	28	61	37	32	55	38
	Lansing (M)	92	93	95	91	94	97
Minnesota	Duluth (I)	38	54	65	33	52	62
	Minneapolis (I)	60	55	51	65	72	74
Mississippi	Jackson (I)	20	23	38	4	7	4
Missouri	Kansas City (I)	66	64	59	83	70	47
	Saint Louis (I)	14	22	25	15	21	27
	Springfield (M)	27	16	14	35	24	26
Montana	Billings (I)	52	65	71	27	54	67
Nebraska	Lincoln (M)	1	8	3	56	28	15
	Omaha (M)	17	15	17	18	20	21

National Electric Rate Study

Schedule 2

**Rankings of Residential and Commercial Bills
Rates in Effect January 1, 2017
Arranged by State and City**

M - Municipal or Public Power District

I - Investor-owned utility

STATE	CITY	75 kW 15,000 kWh	75 kW 30,000 kWh	75 kW 50,000 kWh	1,000 kW 200,000 kWh	1,000 kW 400,000 kWh	1,000 kW 650,000 kWh
Nevada	Las Vegas (I)	23	28	40	29	32	40
	Reno (I)	16	9	8	28	17	17
New Hampshire	Manchester (I)	91	91	92	86	91	91
New Jersey	Newark (I)	80	80	77	80	71	59
New Mexico	Albuquerque (I)	71	63	69	75	65	57
New York	Buffalo (I)	19	10	7	13	9	10
	Hempstead (M)	81	86	87	85	90	89
	New York City (I)	86	84	83	88	85	84
North Carolina	Charlotte (I)	8	14	10	12	14	16
	Raleigh (I)	11	4	5	34	25	23
North Dakota	Fargo (I)	29	32	30	40	40	42
Ohio	Cincinnati (I)	43	33	32	45	38	44
	Cleveland (I)	53	53	56	11	13	30
	Columbus (I)	37	41	49	31	43	54
Oklahoma	Oklahoma City (I)	4	1	1	2	1	1
	Tulsa (I)	2	7	11	1	2	2
Oregon	Eugene (M)	21	26	39	24	23	31
	Portland (I)	25	44	53	17	35	51
Pennsylvania	Erie (I)	46	39	44	9	12	29
	Philadelphia (I)	48	51	55	6	6	9
	Pittsburgh (I)	31	45	54	47	42	46
Rhode Island	Pawtucket (I)	89	94	98	81	86	88
South Carolina	Columbia (I)	51	74	68	62	62	58
	Myrtle Beach (M)	85	83	81	89	83	82
South Dakota	Sioux Falls (I)	32	37	36	42	50	50
Tennessee	Knoxville (M)	72	62	60	60	64	69
	Memphis (M)	54	49	48	55	57	63
	Nashville (M)	74	67	67	69	74	77

National Electric Rate Study

Schedule 2

Rankings of Residential and Commercial Bills
Rates in Effect January 1, 2017
Arranged by State and City

M - Municipal or Public Power District
I - Investor-owned utility

STATE	CITY	75 kW 15,000 kWh	75 kW 30,000 kWh	75 kW 50,000 kWh	1,000 kW 200,000 kWh	1,000 kW 400,000 kWh	1,000 kW 650,000 kWh
Texas	Austin (M)	39	29	33	49	41	48
	El Paso (I)	56	52	50	71	59	49
	Amarillo (I)	9	2	2	14	4	3
Utah	Salt Lake City (I)	50	30	23	57	45	36
Vermont	Burlington (M)	93	87	85	93	87	86
Virginia	Richmond (I)	34	17	6	46	15	7
	Roanoke (I)	26	31	28	23	26	25
Washington	Seattle (M)	7	21	41	22	56	72
	Spokane (I)	40	46	57	30	48	60
	Tacoma (M)	3	3	4	8	5	8
West Virginia	Charleston (I)	35	35	19	25	30	19
	Wheeling (I)	35	35	19	25	30	19
Wisconsin	Madison (I)	76	70	70	76	78	75
	Milwaukee (I)	59	60	62	68	67	71
Wyoming	Cheyenne (I)	79	68	58	79	73	68

National Electric Rate Study

Schedule 3

**Average Annual Industrial Bills
Rates in Effect January 1, 2017
Arranged by State and City**

M - Municipal or Public Power District

I - Investor-owned utility

STATE	CITY	75 kW 15,000 kWh	75 kW 30,000 kWh	75 kW 50,000 kWh	1,000 kW 200,000 kWh	1,000 kW 400,000 kWh	1,000 kW 650,000 kWh
Alabama	Birmingham (I)	\$ 2,136	\$ 3,674	\$ 5,626	\$ 18,123	\$ 29,476	\$ 42,157
	Huntsville (M)	2,485	3,399	4,619	24,465	36,657	51,897
Alaska	Anchorage (M)	3,676	5,561	8,075	48,471	73,608	105,029
	Fairbanks (M)	3,699	5,389	7,642	43,481	72,642	109,093
Arizona	Mesa (M)	1,878	2,731	3,853	22,056	33,746	44,342
	Phoenix (I)	2,473	3,215	4,205	25,750	33,778	43,812
	Tucson (I)	2,918	3,899	5,207	28,335	38,818	51,921
Arkansas	Little Rock (I)	1,440	2,340	3,286	19,230	28,285	33,103
California	Los Angeles (M)	2,728	4,512	6,889	35,251	59,447	89,692
	Sacramento (M)	2,280	3,974	6,232	26,338	48,589	76,403
	San Diego (I)	4,341	5,746	7,618	55,490	74,140	97,454
	San Francisco (I)	3,321	5,520	8,453	47,693	67,325	91,864
Colorado	Colorado Springs (M)	1,377	2,731	3,625	28,018	33,691	40,097
	Denver (I)	2,196	2,727	3,435	25,897	31,631	39,038
	Pueblo (I)	3,085	3,700	4,520	39,958	48,157	58,405
Connecticut	Bridgeport (I)	2,939	5,029	7,053	40,803	59,281	82,378
Delaware	Wilmington (I)	1,698	2,364	3,253	22,266	31,112	42,170
District of Columbia	Washington (I)	2,046	3,559	5,577	27,001	46,141	69,640
Florida	Jacksonville (M)	2,151	3,376	5,010	28,746	42,880	60,546
	Miami (I)	1,594	2,356	3,371	21,795	30,961	42,017
	Tampa (I)	1,687	2,471	3,516	22,067	32,520	45,587
Georgia	Atlanta (I)	2,271	2,868	3,586	30,842	39,340	48,765
Hawaii	Honolulu (I)	3,873	6,765	10,620	58,840	92,541	134,668
Idaho	Boise (I)	1,243	2,029	3,077	16,207	25,476	37,062
Illinois	Chicago (I)	1,578	2,625	4,020	19,174	33,367	50,685
	Springfield (M)	2,713	4,251	6,301	33,332	53,837	79,469
Indiana	Evansville (I)	2,016	3,597	5,229	21,967	34,443	50,038
	Gary (I)	2,174	3,616	5,537	28,395	44,285	64,146
	Indianapolis (I)	2,154	2,905	3,907	27,236	37,926	50,180

Schedules

National Electric Rate Study

Schedule 3

**Average Annual Industrial Bills
Rates in Effect January 1, 2017
Arranged by State and City**

M - Municipal or Public Power District**I - Investor-owned utility**

STATE	CITY	75 kW 15,000 kWh	75 kW 30,000 kWh	75 kW 50,000 kWh	1,000 kW 200,000 kWh	1,000 kW 400,000 kWh	1,000 kW 650,000 kWh
Iowa	Cedar Rapids (I)	\$ 1,876	\$ 2,458	\$ 3,234	\$ 24,576	\$ 32,338	\$ 42,040
	Davenport (I)	1,398	2,147	3,087	15,623	25,105	36,224
	Des Moines (I)	1,398	2,146	3,085	14,607	23,373	33,597
Kansas	Kansas City (M)	1,927	2,871	3,843	24,214	36,794	48,944
	Overland Park (I)	2,088	3,107	4,391	27,095	39,181	51,456
	Wichita (I)	1,806	3,107	4,842	26,940	34,525	44,006
Kentucky	Lexington (I)	2,070	2,502	3,078	22,749	28,475	35,633
	Louisville (I)	2,009	2,586	3,354	24,414	31,663	40,724
Louisiana	Baton Rouge (I)	1,271	2,013	2,967	15,781	25,539	37,257
	New Orleans (I)	1,802	3,095	4,653	23,190	38,365	56,205
	Shreveport (I)	1,419	2,159	3,147	18,914	28,708	39,807
Maine	Portland (I)	2,194	3,400	5,008	30,879	43,203	58,607
Maryland	Baltimore (I)	2,187	3,587	5,577	24,680	41,398	53,904
Massachusetts	Boston (I)	3,537	5,432	7,959	44,905	69,353	99,913
	Cambridge (I)	3,031	4,904	7,402	37,927	62,553	93,336
	Springfield (I)	2,898	4,690	7,078	38,604	61,988	91,218
Michigan	Detroit (I)	1,847	3,099	3,941	24,135	34,696	45,157
	Grand Rapids (I)	1,637	3,156	3,702	20,972	35,068	43,816
	Lansing (M)	3,061	5,124	7,874	39,383	66,889	101,273
Minnesota	Duluth (I)	1,728	2,979	4,649	21,043	34,621	51,158
	Minneapolis (I)	2,064	3,067	4,087	27,002	40,463	57,289
Mississippi	Jackson (I)	1,511	2,455	3,714	14,938	24,919	32,931
Missouri	Kansas City (I)	2,165	3,190	4,335	33,680	39,918	46,147
	Saint Louis (I)	1,403	2,394	3,324	17,590	28,959	40,344
	Springfield (M)	1,633	2,254	3,082	21,500	29,780	40,130
Montana	Billings (I)	1,975	3,194	4,818	20,468	35,021	53,211
Nebraska	Lincoln (M)	1,127	2,054	2,661	25,672	31,060	37,794
	Omaha (M)	1,426	2,252	3,117	18,771	28,791	39,389

National Electric Rate Study

Schedule 3

**Average Annual Industrial Bills
Rates in Effect January 1, 2017
Arranged by State and City**

M - Municipal or Public Power District

I - Investor-owned utility

STATE	CITY	75 kW 15,000 kWh	75 kW 30,000 kWh	75 kW 50,000 kWh	1,000 kW 200,000 kWh	1,000 kW 400,000 kWh	1,000 kW 650,000 kWh
Nevada	Las Vegas (I)	\$ 1,589	\$ 2,514	\$ 3,748	\$ 20,691	\$ 31,137	\$ 44,193
	Reno (I)	1,419	2,066	2,929	20,477	28,471	38,465
New Hampshire	Manchester (I)	3,035	4,926	7,448	37,616	61,304	90,909
New Jersey	Newark (I)	2,651	3,845	5,435	32,010	40,205	50,449
New Mexico	Albuquerque (I)	2,216	3,182	4,794	29,300	38,776	50,431
New York	Buffalo (I)	1,486	2,095	2,907	17,487	25,451	35,407
	Hempstead (M)	2,691	4,403	6,685	35,738	59,581	89,384
	New York City (I)	2,917	4,250	6,028	38,504	56,280	78,500
North Carolina	Charlotte (I)	1,363	2,218	2,994	17,372	27,827	38,184
	Raleigh (I)	1,382	1,993	2,754	21,126	30,104	39,847
North Dakota	Fargo (I)	1,683	2,534	3,459	22,122	33,469	45,027
Ohio	Cincinnati (I)	1,813	2,556	3,523	23,319	33,225	45,316
	Cleveland (I)	1,981	2,971	4,290	16,769	27,741	41,456
	Columbus (I)	1,723	2,729	4,070	20,952	33,664	49,514
Oklahoma	Oklahoma City (I)	1,241	1,754	2,438	13,817	19,387	26,349
	Tulsa (I)	1,210	2,041	3,004	13,623	20,677	29,494
Oregon	Eugene (M)	1,552	2,487	3,735	19,868	29,570	41,698
	Portland (I)	1,619	2,752	4,263	18,767	31,735	47,945
Pennsylvania	Erie (I)	1,878	2,725	3,857	15,951	27,255	41,386
	Philadelphia (I)	1,913	2,931	4,288	15,623	24,203	34,928
	Pittsburgh (I)	1,687	2,798	4,279	23,772	33,604	45,893
Rhode Island	Pawtucket (I)	2,973	5,184	8,132	33,068	57,940	89,029
South Carolina	Columbia (I)	1,954	3,565	4,669	26,881	38,054	50,444
	Myrtle Beach (M)	2,904	4,063	5,608	38,564	53,812	72,873
South Dakota	Sioux Falls (I)	1,691	2,607	3,676	22,272	34,487	47,851
Tennessee	Knoxville (M)	2,239	3,157	4,380	26,142	38,380	53,678
	Memphis (M)	2,007	2,889	4,065	24,775	36,535	51,235
	Nashville (M)	2,271	3,294	4,657	27,762	41,395	58,437

National Electric Rate Study

Schedule 3

Average Annual Industrial Bills
Rates in Effect January 1, 2017
Arranged by State and City

M - Municipal or Public Power District
I - Investor-owned utility

STATE	CITY	75 kW 15,000 kWh	75 kW 30,000 kWh	75 kW 50,000 kWh	1,000 kW 200,000 kWh	1,000 kW 400,000 kWh	1,000 kW 650,000 kWh
Texas	Austin (M)	\$ 1,738	\$ 2,515	\$ 3,552	\$ 24,154	\$ 33,586	\$ 46,438
	El Paso (I)	2,010	2,961	4,075	28,068	36,701	47,493
	Amarillo (I)	1,371	1,842	2,470	17,585	23,865	31,716
Utah	Salt Lake City (I)	1,940	2,516	3,284	25,694	33,740	43,798
Vermont	Burlington (M)	3,062	4,428	6,249	40,667	58,749	81,352
Virginia	Richmond (I)	1,702	2,321	2,815	23,501	28,209	34,094
	Roanoke (I)	1,623	2,519	3,411	19,865	30,959	40,107
Washington	Seattle (M)	1,318	2,381	3,798	19,356	35,616	55,942
	Spokane (I)	1,743	2,836	4,293	20,770	34,217	50,557
	Tacoma (M)	1,230	1,848	2,672	15,788	24,027	34,325
West Virginia	Charleston (I)	1,717	2,597	3,232	20,162	31,121	39,287
	Wheeling (I)	1,717	2,597	3,232	20,162	31,121	39,287
Wisconsin	Madison (I)	2,304	3,380	4,814	29,583	43,605	58,069
	Milwaukee (I)	2,052	3,121	4,396	27,328	39,155	53,940
Wyoming	Cheyenne (I)	2,577	3,317	4,305	31,459	41,333	53,676

National Electric Rate Study

Schedule 4

**Rankings of Industrial Bills
Rates in Effect January 1, 2017
Arranged by State and City**

M - Municipal or Public Power District

I - Investor-owned utility

STATE	CITY	500 kWh	1,000 kWh	40 kW 10,000 kWh	40 kW 14,000 kWh	500 kW 150,000 kWh	500 kW 180,000 kWh
Alabama	Birmingham (I)	65	63	76	76	80	79
	Huntsville (M)	13	14	36	51	50	54
Alaska	Anchorage (M)	93	93	98	97	98	98
	Fairbanks (M)	96	96	95	98	96	97
Arizona	Mesa (M)	49	40	53	41	60	58
	Phoenix (I)	48	51	78	67	47	44
	Tucson (I)	35	37	74	81	72	68
Arkansas	Little Rock (I)	12	15	15	16	17	15
California	Los Angeles (M)	97	86	86	86	86	86
	Sacramento (M)	74	68	77	82	79	81
	San Diego (I)	98	100	100	99	99	99
	San Francisco (I)	89	98	97	96	97	96
Colorado	Colorado Springs (M)	52	52	18	30	52	50
	Denver (I)	17	30	63	44	57	52
	Pueblo (I)	82	62	81	64	83	82
Connecticut	Bridgeport (I)	99	97	90	91	87	87
Delaware	Wilmington (I)	64	67	31	21	26	25
District of Columbia	Washington (I)	42	46	70	77	81	80
Florida	Jacksonville (M)	46	57	57	71	71	72
	Miami (I)	8	9	20	19	21	24
	Tampa (I)	32	21	30	23	30	28
Georgia	Atlanta (I)	33	33	73	58	55	53
Hawaii	Honolulu (I)	100	99	99	100	100	100
Idaho	Boise (I)	10	15	2	2	9	10
Illinois	Chicago (I)	53	48	27	28	32	40
	Springfield (M)	56	59	82	84	82	83
Indiana	Evansville (I)	81	82	64	66	34	37
	Gary (I)	72	72	68	68	75	76
	Indianapolis (I)	60	35	44	50	58	55

National Electric Rate Study

Schedule 4

**Rankings of Industrial Bills
Rates in Effect January 1, 2017
Arranged by State and City**

M - Municipal or Public Power District

I - Investor-owned utility

STATE	CITY	500 kWh	1,000 kWh	40 kW 10,000 kWh	40 kW 14,000 kWh	500 kW 150,000 kWh	500 kW 180,000 kWh
Iowa	Cedar Rapids (I)	76	74	54	62	68	75
	Davenport (I)	20	24	11	8	5	5
	Des Moines (I)	21	25	10	7	3	3
Kansas	Kansas City (M)	41	36	47	43	61	56
	Overland Park (I)	62	32	65	59	66	64
	Wichita (I)	67	65	51	55	53	49
Kentucky	Lexington (I)	15	12	33	48	27	22
	Louisville (I)	25	23	37	49	51	47
Louisiana	Baton Rouge (I)	2	2	5	3	7	8
	New Orleans (I)	39	44	49	53	48	57
	Shreveport (I)	7	8	17	14	14	14
Maine	Portland (I)	69	73	71	63	76	78
Maryland	Baltimore (I)	61	66	80	65	62	66
Massachusetts	Boston (I)	92	92	96	94	95	95
	Cambridge (I)	94	95	89	90	90	90
	Springfield (I)	91	91	88	88	92	92
Michigan	Detroit (I)	78	83	60	61	49	48
	Grand Rapids (I)	68	77	75	75	54	65
	Lansing (M)	88	89	93	93	93	94
Minnesota	Duluth (I)	11	29	45	46	31	38
	Minneapolis (I)	63	70	61	73	64	63
Mississippi	Jackson (I)	23	5	26	26	8	9
Missouri	Kansas City (I)	70	60	66	60	70	70
	Saint Louis (I)	22	18	19	34	16	19
	Springfield (M)	9	7	21	18	23	20
Montana	Billings (I)	38	50	56	57	56	62
Nebraska	Lincoln (M)	14	10	3	10	45	33
	Omaha (M)	55	42	6	15	20	18

National Electric Rate Study

Schedule 4

**Rankings of Industrial Bills
Rates in Effect January 1, 2017
Arranged by State and City**

M - Municipal or Public Power District

I - Investor-owned utility

STATE	CITY	500 kWh	1,000 kWh	40 kW 10,000 kWh	40 kW 14,000 kWh	500 kW 150,000 kWh	500 kW 180,000 kWh
Nevada	Las Vegas (I)	57	56	24	22	19	21
	Reno (I)	19	11	9	5	13	13
New Hampshire	Manchester (I)	90	90	91	92	91	91
New Jersey	Newark (I)	79	84	83	80	77	74
New Mexico	Albuquerque (I)	37	64	62	74	65	60
New York	Buffalo (I)	58	53	16	11	10	7
	Hempstead (M)	86	87	85	85	88	89
	New York City (I)	95	94	94	89	94	93
North Carolina	Charlotte (I)	24	20	13	9	11	12
	Raleigh (I)	26	22	12	6	6	6
North Dakota	Fargo (I)	27	18	38	31	37	39
Ohio	Cincinnati (I)	47	49	46	33	35	32
	Cleveland (I)	29	41	52	47	29	30
	Columbus (I)	59	58	41	38	41	45
Oklahoma	Oklahoma City (I)	18	3	1	1	2	2
	Tulsa (I)	1	4	7	12	1	1
Oregon	Eugene (M)	40	27	23	24	25	27
	Portland (I)	44	43	32	39	22	26
Pennsylvania	Erie (I)	66	69	29	35	28	29
	Philadelphia (I)	77	80	48	45	15	16
	Pittsburgh (I)	80	78	28	29	36	34
Rhode Island	Pawtucket (I)	87	88	92	95	84	85
South Carolina	Columbia (I)	73	76	69	79	78	77
	Myrtle Beach (M)	85	81	72	83	85	84
South Dakota	Sioux Falls (I)	43	47	43	40	44	46
Tennessee	Knoxville (M)	36	26	42	54	59	59
	Memphis (M)	28	17	22	42	46	51
	Nashville (M)	45	45	59	69	67	69

National Electric Rate Study

Schedule 4

Rankings of Industrial Bills
Rates in Effect January 1, 2017
Arranged by State and City

M - Municipal or Public Power District

I - Investor-owned utility

STATE	CITY	500 kWh	1,000 kWh	40 kW 10,000 kWh	40 kW 14,000 kWh	500 kW 150,000 kWh	500 kW 180,000 kWh
Texas	Austin (M)	4	13	35	25	38	36
	El Paso (I)	54	61	55	52	63	61
	Amarillo (I)	30	28	14	4	12	11
Utah	Salt Lake City (I)	16	38	50	32	39	31
Vermont	Burlington (M)	83	85	87	87	89	88
Virginia	Richmond (I)	31	31	25	20	24	17
	Roanoke (I)	34	39	33	27	40	35
Washington	Seattle (M)	3	34	8	17	18	23
	Spokane (I)	6	6	58	56	33	41
	Tacoma (M)	5	1	4	13	4	4
West Virginia	Charleston (I)	50	54	39	36	42	42
	Wheeling (I)	50	54	39	36	42	42
Wisconsin	Madison (I)	84	79	79	72	74	73
	Milwaukee (I)	75	75	67	70	69	67
Wyoming	Cheyenne (I)	71	71	84	78	73	71

**National Electric Rate Study
Index to Utilities in the Study**

Schedule 5

M - Municipal or Public Power District

I - Investor-owned utility

STATE	CITY	Name of Utility	Utility Type
Alabama	Birmingham	Alabama Power Company	I
	Huntsville	City of Huntsville - (AL)	M
Alaska	Anchorage	Municipal Light & Power	M
	Fairbanks	Golden Valley Elec Assn Inc	M
Arizona	Mesa	Salt River Project	M
	Phoenix	Arizona Public Service Company	I
	Tucson	Tucson Electric Power Company	I
Arkansas	Little Rock	Entergy Arkansas, Inc.	I
California	Los Angeles	Los Angeles Department of Water & Power	M
	Sacramento	Sacramento Municipal Util Dist	M
	San Diego	San Diego Gas & Electric Company	I
	San Francisco	Pacific Gas & Electric Company	I
Colorado	Colorado Springs	City of Colorado Springs - (CO)	M
	Denver	Public Service Company of Colorado	I
	Pueblo	Black Hills/Colorado Electric (formerly Aquila Networks-WPE)	I
Connecticut	Bridgeport	United Illuminating Company	I
Delaware	Wilmington	Delmarva Power	I
District of Columbia	Washington	Potomac Electric Power Company	I
Florida	Jacksonville	JEA	M
	Miami	Florida Power & Light Company	I
	Tampa	Tampa Electric Company	I
Georgia	Atlanta	Georgia Power Company	I
Hawaii	Honolulu	Hawaiian Electric Company	I
Idaho	Boise	Idaho Power Company	I
Illinois	Chicago	Commonwealth Edison Company	I
	Springfield	City Water, Light & Power	M
Indiana	Evansville	Southern Indiana Gas & Electric Company	I
	Gary	Northern Indiana Public Service Company	I
	Indianapolis	Indianapolis Power & Light Company	I
Iowa	Cedar Rapids	Interstate Power & Light	I
	Davenport	MidAmerican Energy - East System	I
	Des Moines	MidAmerican Energy Co	I
Kansas	Kansas City	Kansas City Board of Public Utilities	M
	Overland Park	Kansas City Power & Light Company	I
	Wichita	Westar Energy Inc	I
Kentucky	Lexington	Kentucky Utilities Company	I
	Louisville	Louisville Gas & Electric Company	I
Louisiana	Baton Rouge	Entergy Gulf States, Inc.	I
	New Orleans	Entergy New Orleans, Inc.	I
	Shreveport	Southwestern Electric Power Company	I
Maine	Portland	Central Maine Power Co	I
Maryland	Baltimore	Baltimore Gas & Electric Company	I
Massachusetts	Boston	Boston Edison Company	I
	Cambridge	Cambridge Electric Company	I
	Springfield	Western Massachusetts Electric Company	I
Michigan	Detroit	DTE Electric Company	I
	Grand Rapids	Consumers Energy	I
	Lansing	Lansing Board of Water & Light	M
Minnesota	Duluth	Minnesota Power Company	I
	Minneapolis	Northern States Power Co - Minnesota	I
Mississippi	Jackson	Entergy Mississippi, Inc.	I
Missouri	Kansas City	Kansas City Power & Light Co	I
	Saint Louis	AmerenUE	I
	Springfield	City Utilities of Springfield - (MO)	M

**National Electric Rate Study
Index to Utilities in the Study**

Schedule 5

M - Municipal or Public Power District

I - Investor-owned utility

STATE	CITY	Name of Utility	Utility Type
Montana	Billings	NorthWestern Energy (formerly Montana Power)	I
Nebraska	Lincoln	Lincoln Electric System	M
	Omaha	Omaha Public Power District	M
Nevada	Las Vegas	Nevada Power Company - NV Energy	I
	Reno	Sierra Pacific Power Company - NV Energy	I
New Hampshire	Manchester	Public Service Company of New Hampshire	I
New Jersey	Newark	Public Service Electric & Gas Company	I
New Mexico	Albuquerque	Public Service Company of New Mexico	I
New York	Buffalo	National Grid (Niagara Mohawk Power Corporation)	I
	Hempstead	PSEG Long Island	M
	New York City	Consolidated Edison Company of New York	I
North Carolina	Charlotte	Duke Energy Carolinas	I
	Raleigh	Duke Energy Progress, Inc.	I
North Dakota	Fargo	Northern States Power Company (MN)	I
Ohio	Cincinnati	Duke Energy Ohio	I
	Cleveland	Cleveland Electric Illuminating Company	I
	Columbus	AEP (Columbus Southern Power Rate Area)	I
Oklahoma	Oklahoma City	OG&E Electric Services	I
	Tulsa	Public Service Company of Oklahoma	I
Oregon	Eugene	Eugene Water & Electric Board	M
	Portland	Portland General Electric Company	I
Pennsylvania	Erie	Pennsylvania Electric Company	I
	Philadelphia	PECO Energy	I
	Pittsburgh	Duquesne Light Company	I
Rhode Island	Pawtucket	Narragansett Electric Company	I
South Carolina	Columbia	South Carolina Electric & Gas Company	I
	Myrtle Beach	Santee Cooper	M
South Dakota	Sioux Falls	Northern States Power Company (MN)	I
Tennessee	Knoxville	Knoxville Utilities Board	M
	Memphis	Memphis Light, Gas and Water	M
	Nashville	Nashville Electric Service	M
Texas	Austin	Austin Energy	M
	El Paso	El Paso Electric Company	I
	Amarillo	Southwestern Public Service	I
Utah	Salt Lake City	PacifiCorp	I
Vermont	Burlington	City of Burlington Electric - (VT)	M
Virginia	Richmond	Dominion Virginia Power	I
	Roanoke	AEP (Appalachian Power Rate Area), Virginia	I
Washington	Seattle	City of Seattle - (WA)	M
	Spokane	Avista Corp.	I
	Tacoma	Tacoma Public Utilities	M
West Virginia	Charleston	AEP (Appalachian Power Rate Area)	I
	Wheeling	AEP (Wheeling Power Rate Area)	I
Wisconsin	Madison	Madison Gas & Electric Company	I
	Milwaukee	We Energies (formerly Wisconsin Electric)	I
Wyoming	Cheyenne	Cheyenne Light, Fuel & Power Company	I

**National Electric Rate Study
Overall Ranks**

Schedule 6

Study Rank	City	State	Average Bill Difference 2016 to 2017
1	Oklahoma City	OK	-6%
2	Tulsa	OK	1%
3	Tacoma	WA	0%
4	Baton Rouge	LA	-8%
5	Boise	ID	2%
6	Des Moines	IA	1%
7	Amarillo	TX	1%
8	Davenport	IA	1%
9	Charlotte	NC	-3%
10	Reno	NV	-6%
11	Shreveport	LA	-3%
12	Raleigh	NC	-5%
13	Little Rock	AR	-3%
14	Jackson	MS	-9%
15	Buffalo	NY	17%
16	Lincoln	NE	2%
17	Springfield	MO	0%
18	Saint Louis	MO	-6%
19	Omaha	NE	0%
20	Miami	FL	-1%
21	Richmond	VA	-4%
22	Seattle	WA	17%
23	Lexington	KY	-3%
24	Eugene	OR	0%
25	Roanoke	VA	-1%
26	Tampa	FL	-3%
27	Austin	TX	-7%
28	Las Vegas	NV	0%
29	Fargo	ND	0%
30	Wilmington	DE	-17%
31	Wheeling	WV	5%
32	Charleston	WV	5%
33	Portland	OR	3%
34	Erie	PA	-11%
35	Cleveland	OH	-13%
36	Salt Lake City	UT	-1%
37	Philadelphia	PA	-13%
38	Chicago	IL	-2%
39	Louisville	KY	-5%
40	Cincinnati	OH	-4%

**National Electric Rate Study
Overall Ranks**

Schedule 6

Study Rank	City	State	Average Bill Difference 2016 to 2017
41	Colorado Springs	CO	7%
42	Spokane	WA	1%
43	Duluth	MN	7%
44	Sioux Falls	SD	5%
45	Denver	CO	16%
46	Memphis	TN	3%
47	Columbus	OH	-4%
48	Pittsburgh	PA	-5%
49	Mesa	AZ	-1%
50	Kansas City	KS	1%
51	Huntsville	AL	11%
52	Cedar Rapids	IA	5%
53	New Orleans	LA	28%
54	Indianapolis	IN	11%
55	Billings	MT	4%
56	Atlanta	GA	-4%
57	Knoxville	TN	5%
58	Grand Rapids	MI	-1%
59	Wichita	KS	-4%
60	Detroit	MI	8%
61	Phoenix	AZ	-2%
62	El Paso	TX	12%
63	Evansville	IN	3%
64	Overland Park	KS	1%
65	Birmingham	AL	5%
66	Albuquerque	NM	7%
67	Minneapolis	MN	11%
68	Nashville	TN	5%
69	Kansas City	MO	12%
70	Jacksonville	FL	-4%
71	Milwaukee	WI	-1%
72	Tucson	AZ	-2%
73	Baltimore	MD	-2%
74	Columbia	SC	-2%
75	Washington	D.C.	1%
76	Cheyenne	WY	-5%
77	Portland	ME	2%
78	Gary	IN	14%
79	Madison	WI	1%
80	Newark	NJ	0%

**National Electric Rate Study
Overall Ranks**

Schedule 6

Study Rank	City	State	Average Bill Difference 2016 to 2017
81	Sacramento	CA	3%
82	Pueblo	CO	-8%
83	Springfield	IL	6%
84	Myrtle Beach	SC	0%
85	Hempstead	NY	2%
86	Los Angeles	CA	8%
87	Burlington	VT	3%
88	Pawtucket	RI	-8%
89	New York City	NY	-13%
90	Springfield	MA	2%
91	Manchester	NH	11%
92	Bridgeport	CT	1%
93	Cambridge	MA	-5%
94	Lansing	MI	0%
95	Boston	MA	-4%
96	San Francisco	CA	4%
97	Fairbanks	AK	13%
98	Anchorage	AK	21%
99	San Diego	CA	4%
100	Honolulu	HI	5%