

# The State of CHP: Nebraska



The information in this document provides a general overview of the state of CHP in Nebraska, with data on current installations, technical potential, and economics for CHP. For help with questions about specific CHP opportunities in Nebraska, please consult with the [Midwest CHP Technical Assistance Partnership](#).

Installed CHP

CHP Technical Potential

CHP Economics

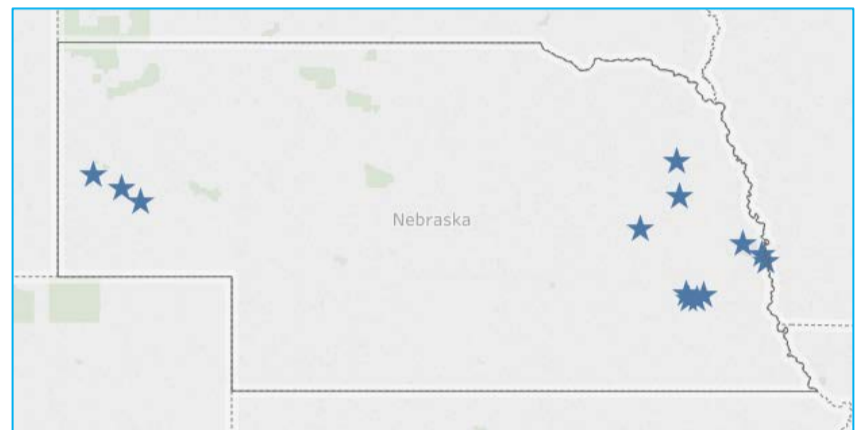
CHP Partners

## Nebraska Installed Base of CHP

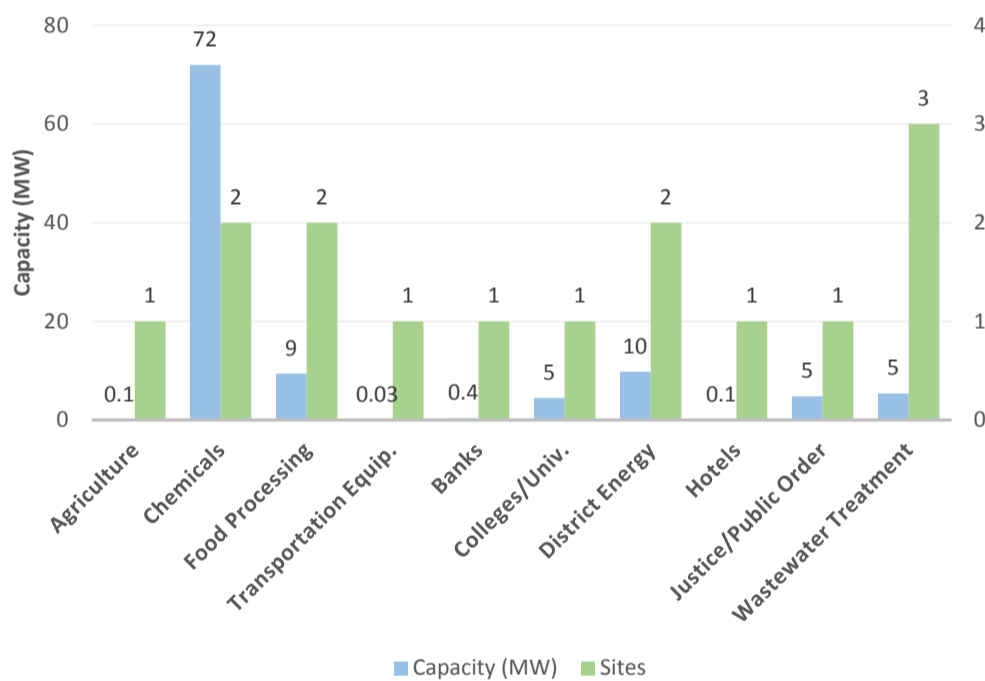
[U.S. DOE Combined Heat and Power Installation Database](#)

Sector	Installations	Capacity (MW)
Industrial	5	81
Commercial/Institutional	9	25
Other	1	0.1
<b>Total</b>	<b>15</b>	<b>107</b>

The Midwest CHP Technical Assistance Partnership has compiled information on certain illustrative CHP projects in Nebraska. You can access these by visiting the Department of Energy's [CHP Project Profiles Database](#).

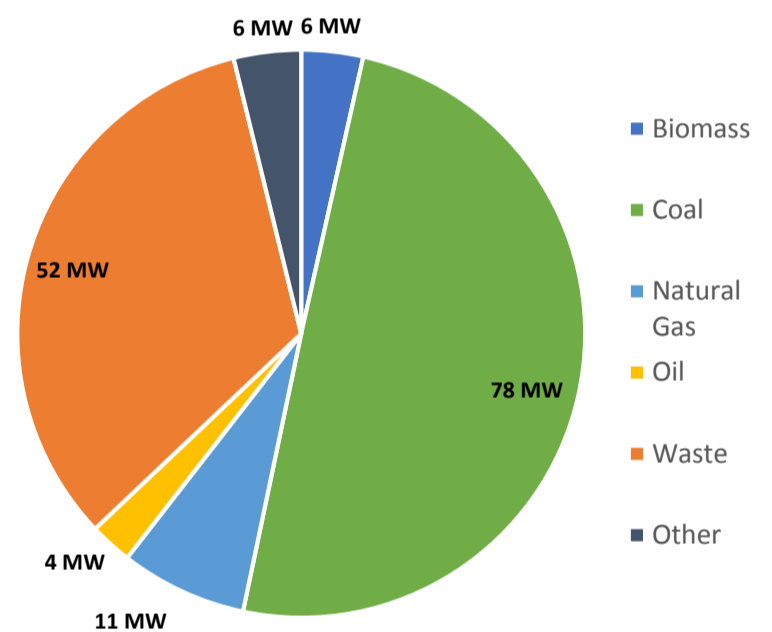


### Nebraska CHP by Application



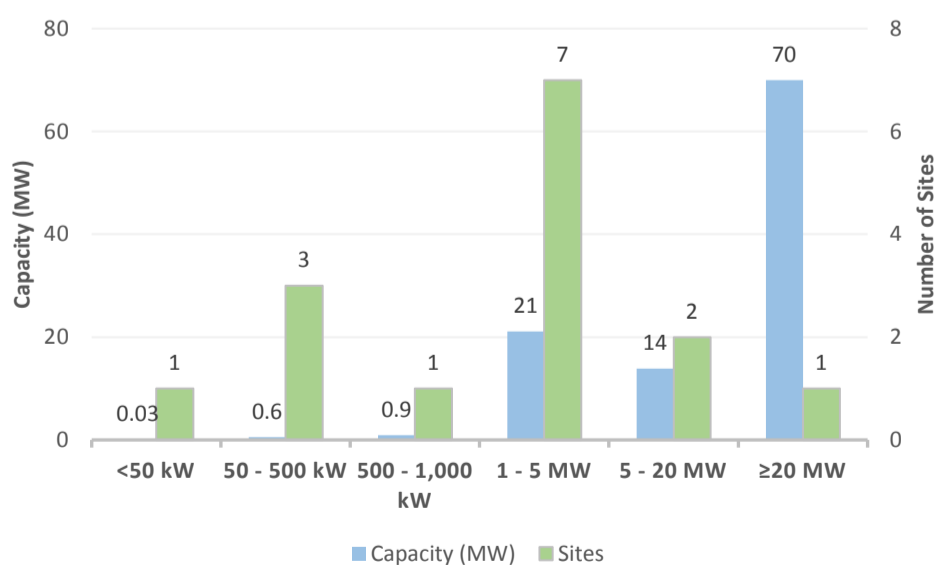
Source: DOE CHP Installation Database (U.S. installations as of Dec. 31, 2016)

### Nebraska CHP Capacity (MW) by Fuel Type



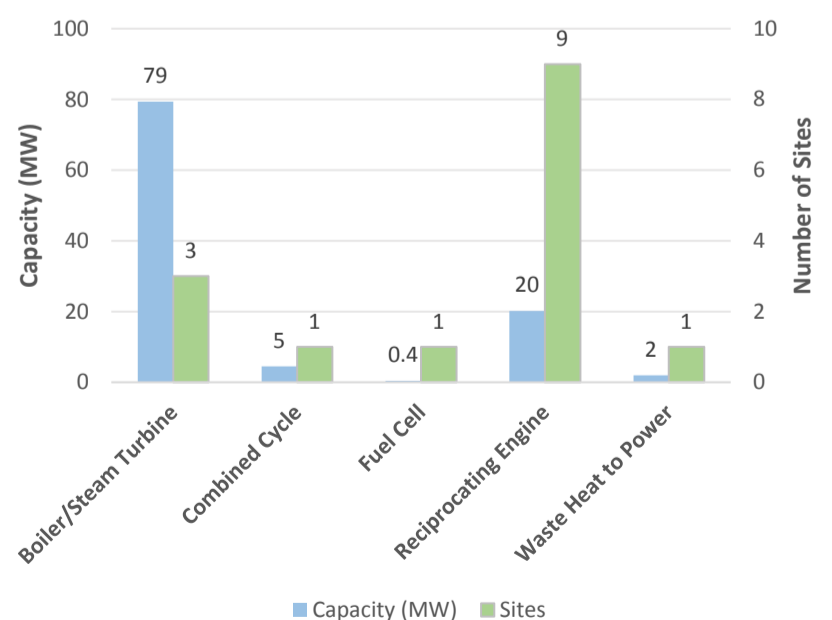
Source: DOE CHP Installation Database (U.S. installations as of Dec. 31, 2016)

### Nebraska CHP by Size Range



Source: DOE CHP Installation Database (U.S. installations as of Dec. 31, 2016)

### Nebraska CHP by Technology



Source: DOE CHP Installation Database (U.S. installations as of Dec. 31, 2016)

**Combined Heat and Power (CHP)** – sometimes referred to as cogeneration – is an efficient and clean approach to generating on-site electric power and useful thermal energy from a single fuel source.



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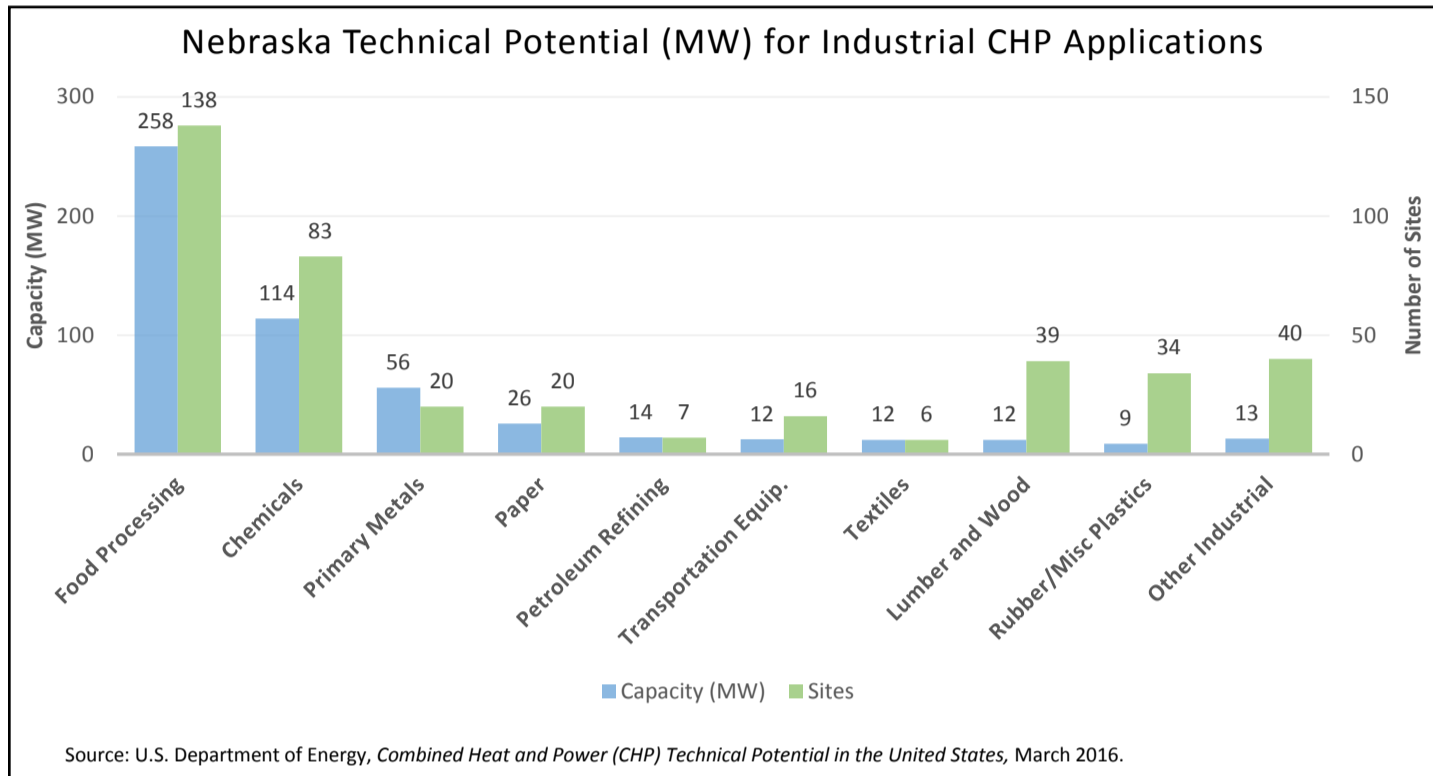
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## Nebraska Technical Potential for New CHP Installations

[U.S. DOE Analysis: Combined Heat and Power \(CHP\) Technical Potential in the United States](#)

Sector	Potential Sites	Potential Capacity (MW)
Industrial	403	527
Commercial/Institutional	1,664	458
<b>Total</b>	<b>2,067</b>	<b>984</b>

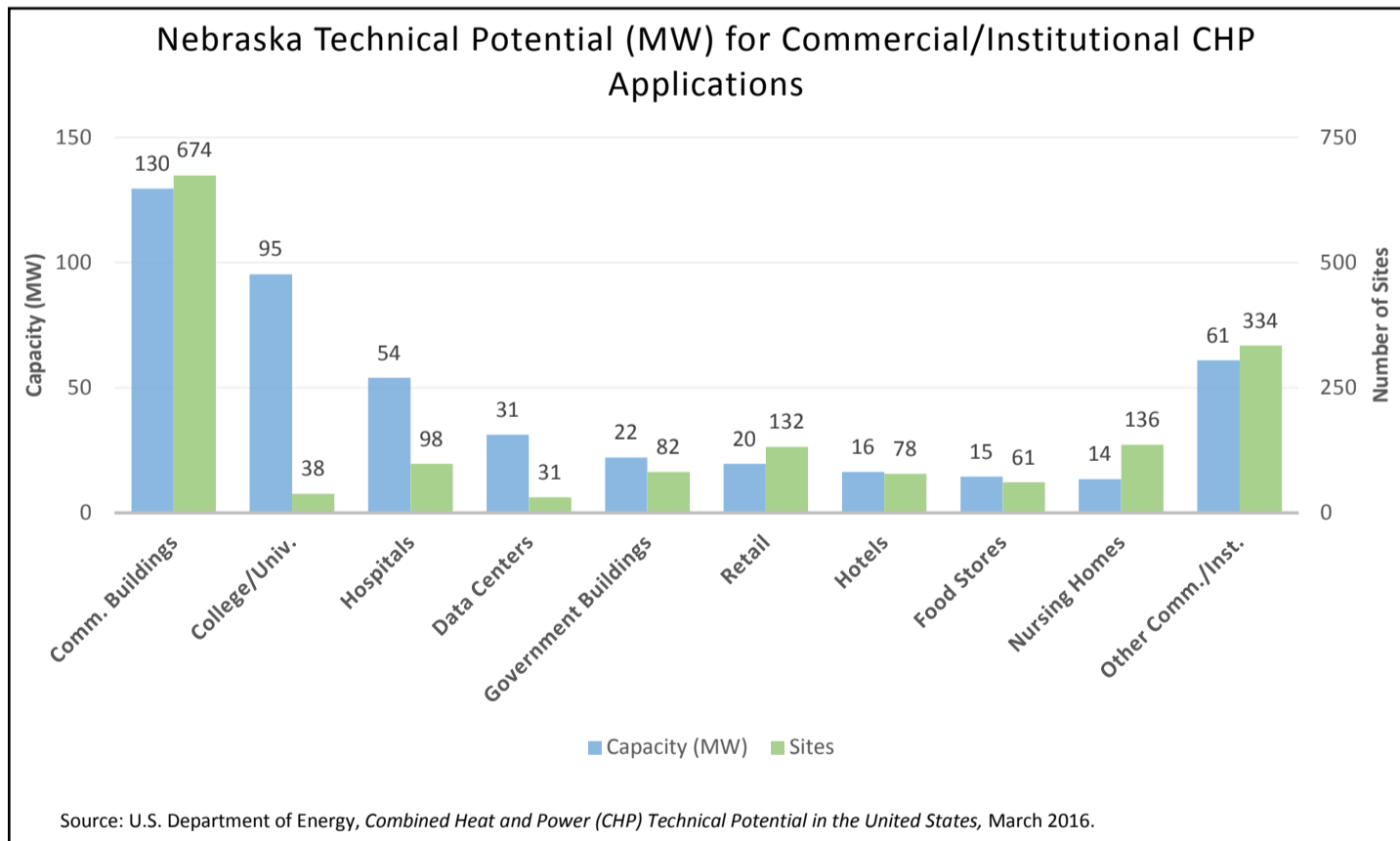


Source: U.S. Department of Energy, *Combined Heat and Power (CHP) Technical Potential in the United States*, March 2016.

### Technical Potential by CHP Size Range for Top Five Industrial Sectors

Application	50-500 kW		0.5 - 1 MW		1 - 5 MW		5 - 20 MW		>20 MW		Total	
	Sites	MW	Sites	MW	Sites	MW	Sites	MW	Sites	MW	Total Sites	Total MW
Food Processing	82	17	14	10	26	56	15	138	1	37	138	258
Chemicals	41	6	6	5	32	81	4	22	0	0	83	114
Primary Metals	11	2	4	3	2	4	2	23	1	24	20	56
Paper	11	3	4	3	4	5	1	15	0	0	20	26
Petroleum Refining	0	0	0	0	7	14	0	0	0	0	7	14
Other Industrial	101	15	21	14	12	21	1	8	0	0	135	59
<b>Total</b>	<b>246</b>	<b>43</b>	<b>49</b>	<b>35</b>	<b>83</b>	<b>181</b>	<b>23</b>	<b>206</b>	<b>2</b>	<b>62</b>	<b>403</b>	<b>527</b>

Source: U.S. Department of Energy, *Combined Heat and Power (CHP) Technical Potential in the United States*, March 2016.



Source: U.S. Department of Energy, *Combined Heat and Power (CHP) Technical Potential in the United States*, March 2016.

### Technical Potential by CHP Size Range for Top Five Commercial/Institutional Sectors

Application	50-500 kW		0.5 - 1 MW		1 - 5 MW		5 - 20 MW		>20 MW		Total	
	Sites	MW	Sites	MW	Sites	MW	Sites	MW	Sites	MW	Total Sites	Total MW
Commercial Buildings	431	22	189	76	54	32	0	0	0	0	674	130
College/Univ.	19	4	4	3	9	22	6	66	0	0	38	95
Hospitals	70	14	7	5	21	36	0	0	0	0	98	54
Data Centers	22	3	3	2	5	10	1	16	0	0	31	31
Government Buildings	73	9	5	4	3	4	1	5	0	0	82	22
Other Comm./Inst.	703	91	31	18	6	10	1	7	0	0	741	125
<b>Total</b>	<b>1,318</b>	<b>142</b>	<b>239</b>	<b>106</b>	<b>98</b>	<b>114</b>	<b>9</b>	<b>95</b>	<b>0</b>	<b>0</b>	<b>1,664</b>	<b>458</b>

Source: U.S. Department of Energy, *Combined Heat and Power (CHP) Technical Potential in the United States*, March 2016.

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## Nebraska CHP Economics

The most important indicators for CHP economics are electricity and gas prices. For most potential CHP installations, natural gas and electricity rates for host facilities will fall within the range of average commercial and industrial prices. Lower energy prices may be possible for large CHP applications.

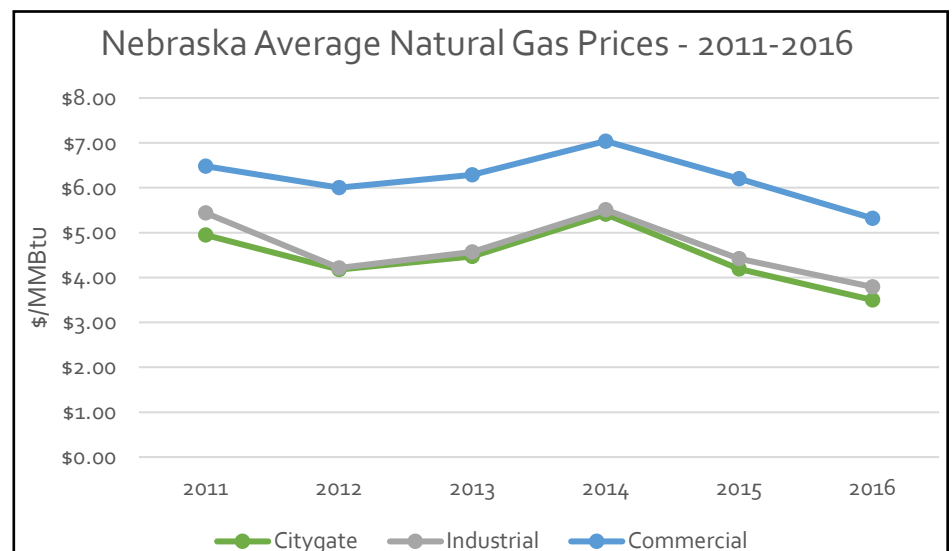
### Nebraska Natural Gas Prices

#### Nebraska Average Gas Prices - 2016

Sector	NE Price (\$/MMBtu)	U.S. Price (\$/MMBtu)
Citygate*	3.50	3.75
Industrial	3.79	3.39
Commercial	5.32	7.22

Source: U.S. Energy Information Administration, "Natural Gas Prices", [https://www.eia.gov/dnav/ng/ng\\_pri\\_sum\\_dcu\\_SNE\\_a.htm](https://www.eia.gov/dnav/ng/ng_pri_sum_dcu_SNE_a.htm)

The EIA industrial natural gas price is a full tariff rate, and most large consumers are purchasing gas commodities from marketers at a lower rate.



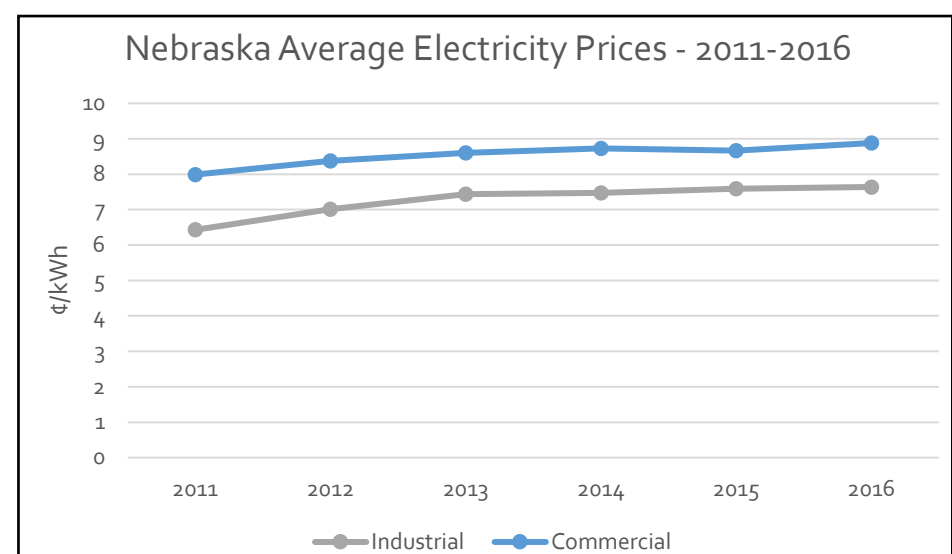
### Nebraska Electricity Prices

#### Nebraska Average Electricity Prices - 2016

Sector	NE Price (¢/kWh)	U.S. Price (¢/kWh)
Industrial	7.64	6.75
Commercial	8.88	10.37

Source: U.S. Energy Information Administration, "Electricity Data Browser", <https://www.eia.gov/electricity/data.cfm>

Electricity rates can vary greatly by utility and facility size range. The rates below from EIA represent general averages; individual facility rates may vary.



#### Nebraska Average Delivered Electricity Prices by Utility

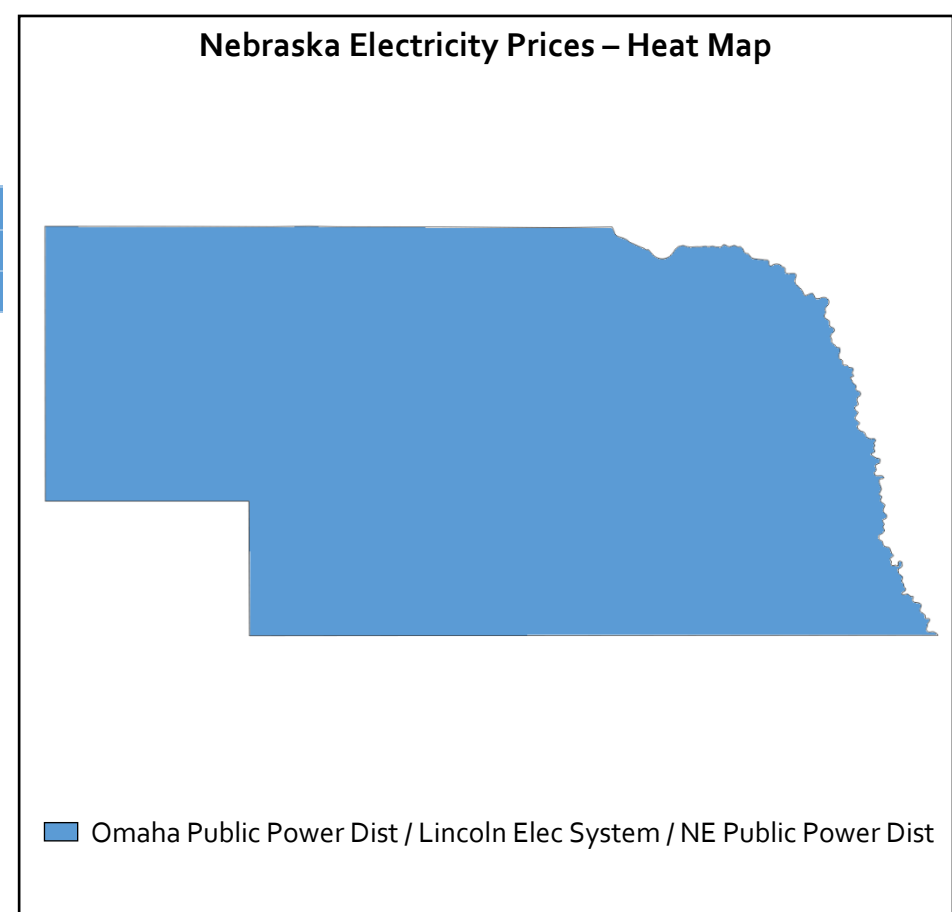
Utility	Industrial Price (¢/kWh)	Commercial Price (¢/kWh)	Average Price** (¢/kWh)
Omaha Public Power Dist.	6.12	8.69	7.40
Lincoln Electric System	6.59	7.50	7.05
NE Public Power District	5.64	8.40	7.02

Source: U.S. Energy Information Administration, "Annual retail price of electricity by utility", <https://www.eia.gov/electricity/data.cfm>

\*Citygate is a point or measuring station at which a distributing gas utility receives gas from a NG pipeline company or transmission system.

\*\*Average of commercial and industrial electricity prices as reported by EIA.

#### Nebraska Electricity Prices – Heat Map



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CHP Technical  
Potential

CHP Economics

CHP Partners

## Department of Energy CHP Partnerships

### Midwest CHP Technical Assistance Partnership



U.S. DEPARTMENT OF ENERGY  
**CHP Technical Assistance Partnerships**  
MIDWEST

Midwest CHP TAP Director: Cliff Haefke  
Phone: 312-355-3476  
Email: [chaefk1@uic.edu](mailto:chaefk1@uic.edu)

### CHP for Resiliency Accelerator

The U.S. DOE is collaborating with a group of cities, states, and utilities who are actively pursuing CHP as a consideration in resiliency planning for critical infrastructure in their jurisdictions. This has included defining resiliency, identifying critical infrastructure, and assessing CHP opportunities. This process is being documented in a Resiliency Planning Tool. For more information: [CHP for Resiliency Accelerator Website](#).

- Currently, there are no CHP for Resiliency Accelerator partners in Nebraska.

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U.S. DEPARTMENT OF ENERGY  
**CHP Technical Assistance Partnerships**