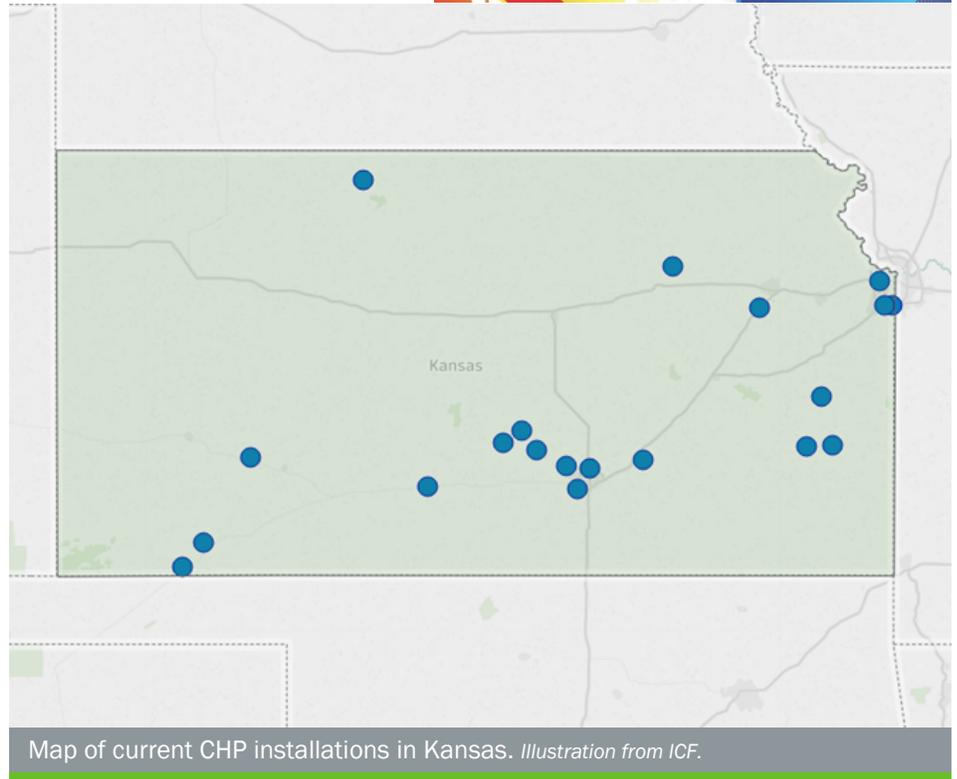


The State of CHP: Kansas



Combined heat and power (CHP) – also 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. The information in this document provides a general overview of the state of CHP in Kansas, with data on current installations, technical potential, and economics for CHP.



Kansas: Installed CHP

U.S. DOE Combined Heat and Power Installation Database

The DOE CHP Installation Database is a data collection effort sponsored by the U.S. Department of Energy. The database contains a comprehensive listing of combined heat and power installations throughout the country, including those in Kansas, and can be accessed by visiting energy.gov/chp-installs.

CHP Project Profiles

The Central CHP TAP has compiled information on certain illustrative CHP projects in Kansas. You can access these by visiting the Department of Energy’s CHP Project Profiles Database at energy.gov/chp-projects.

Central CHP Technical Assistance Partnership

For assistance with questions about specific CHP opportunities in Kansas, please consult with the Central CHP TAP by visiting cchptap.org or contacting the CHP TAP director.

Kansas Existing CHP

Sector	Sites	Capacity (MW)
Industrial	16	179
Commercial/Institutional	4	6
Other	0	0
Total	20	185

Central CHP TAP Director

Cliff Haefke

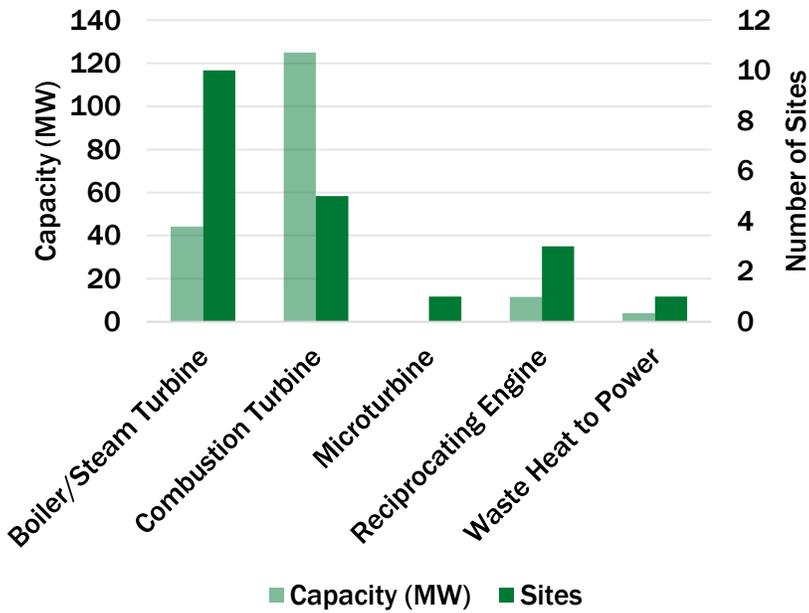
- University of Illinois at Chicago
- chaefk1@uic.edu
- 312-355-3476

CENTRAL

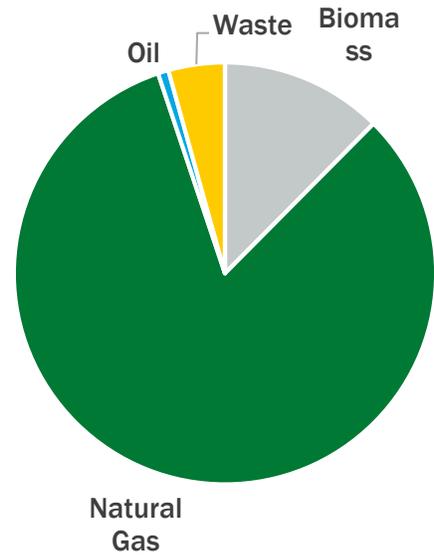


**CHP
TECHNICAL ASSISTANCE
PARTNERSHIPS**

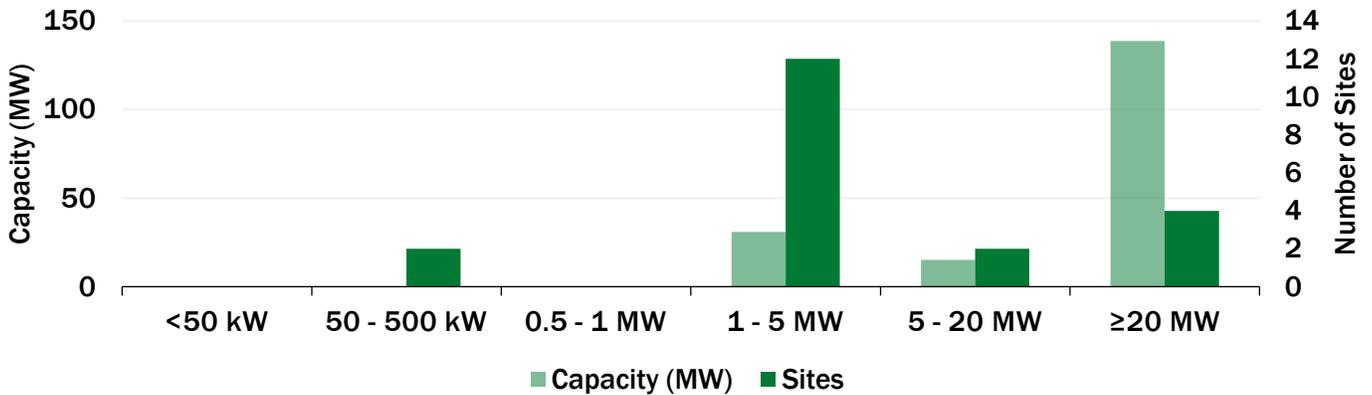
Kansas CHP by Technology



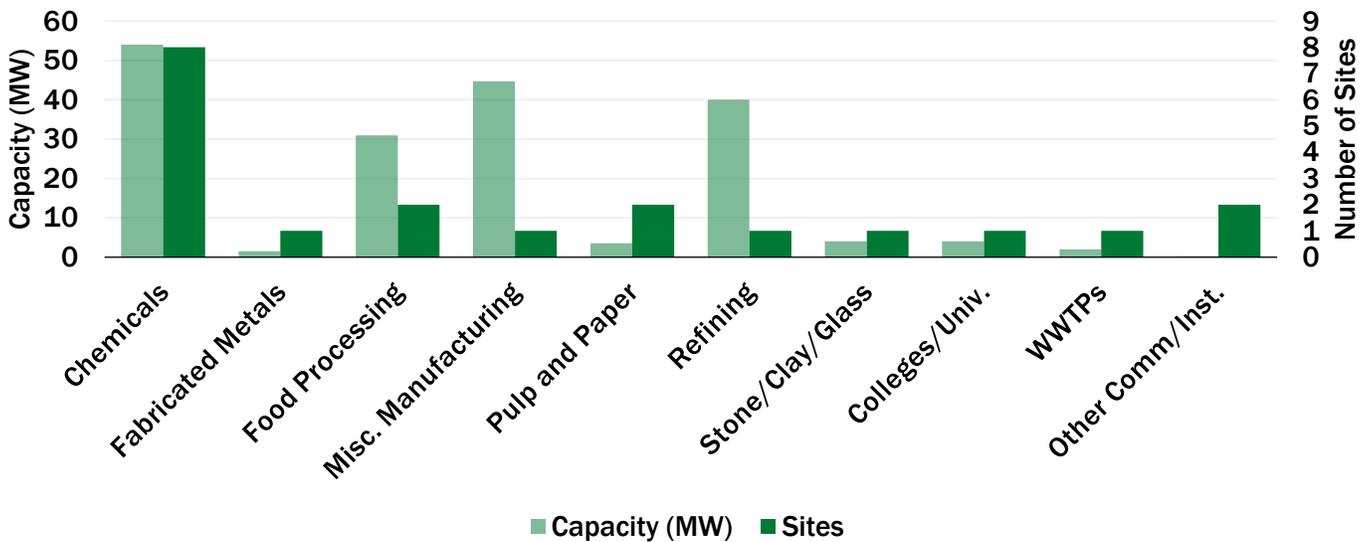
Kansas CHP Capacity (MW) by Fuel



Kansas CHP by Size Range



Kansas CHP by Application



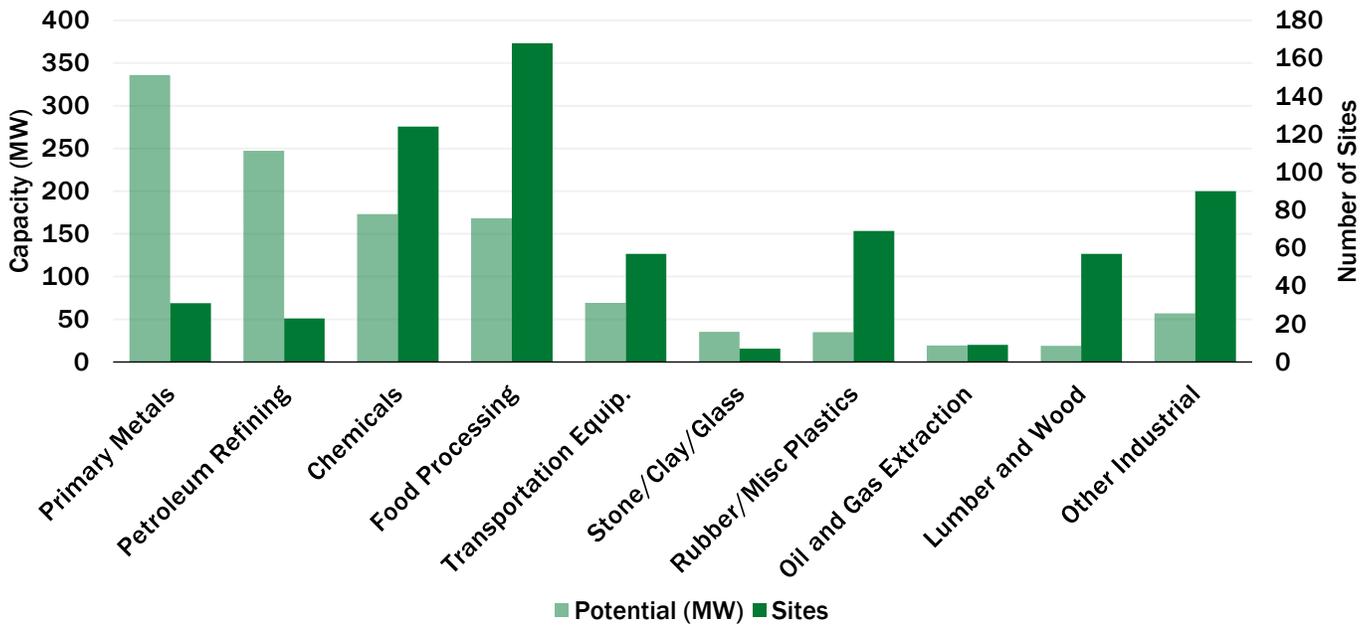
Kansas: Technical Potential for New CHP Installations

The “Combined Heat and Power (CHP) Technical Potential in the United States” market analysis report provides data on the technical potential in industrial facilities and commercial buildings for “topping cycle” CHP, waste heat to power (WHP) CHP, and district energy CHP in the U.S. This report can be accessed at energy.gov/chp-potential.

Kansas CHP Technical Potential

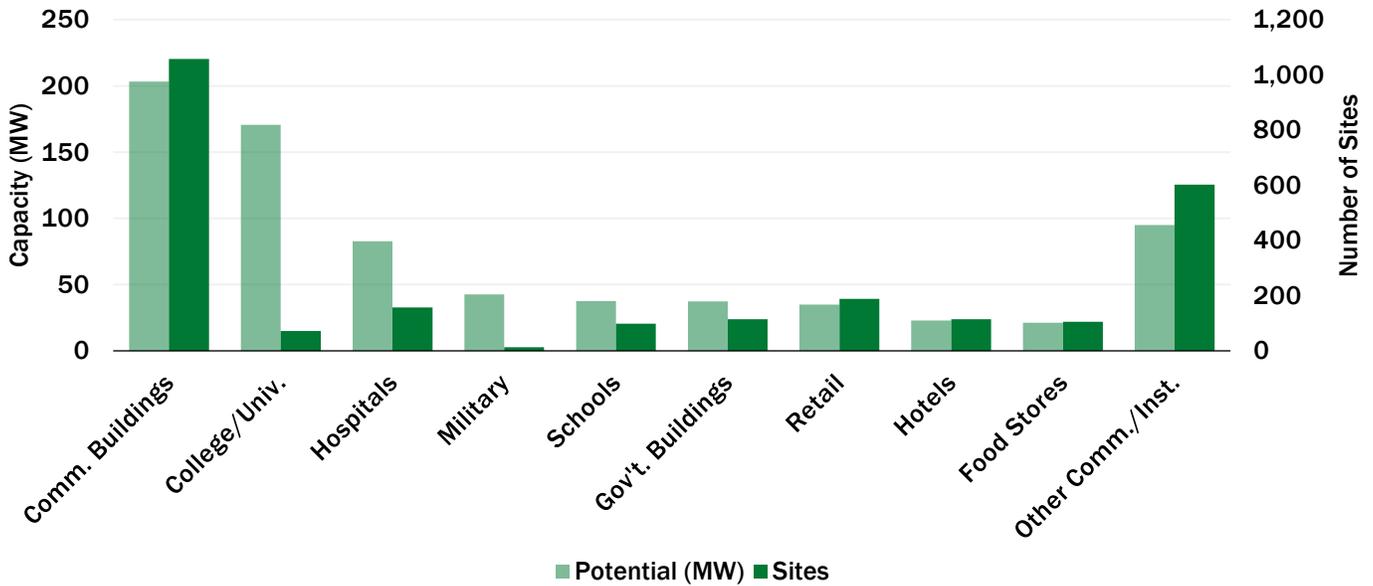
Sector	Potential Sites	Potential MW
Industrial	635	1,160
Commercial/Institutional	2,523	749
Total	3,158	1,909

Kansas Technical Potential (MW) for Industrial CHP Applications



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
Primary Metals	3	0.4	2	1	5	8	17	219	4	107	31	336
Petroleum Refining	1	0	5	3	9	22	4	51	4	171	23	247
Chemicals	71	14	14	10	28	60	11	89	0	0	124	173
Food Processing	107	23	17	12	39	80	5	53	0	0	168	168
Transportation Equip.	42	6	6	4	4	9	5	50	0	0	57	69
Other Industrial	181	33	18	12	25	61	8	59	0	0	232	166
Total	405	77	62	43	110	240	50	522	8	278	635	1,160

Kansas Technical Potential (MW) for Commercial/Institutional CHP Applications



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	677	34	296	118	85	51	0	0	0	0	1,058	203
College/Univ.	35	6	12	8	15	36	9	87	1	33	72	171
Hospitals	117	28	20	13	19	36	1	6	0	0	157	83
Military	7	1	1	1	2	6	3	35	0	0	13	43
Schools	73	20	26	17	0	0	0	0	0	0	99	38
Other Comm./Inst.	1,045	127	58	37	18	32	3	17	0	0	1,124	212
Total	1,954	216	413	194	139	161	16	144	1	33	2,523	749

Department of Energy CHP Accelerators

Packaged CHP Accelerator

Standardized packaged CHP systems can reduce risk for both CHP users and suppliers by reducing design errors, limiting uncertainty about performance, shortening project development time, and reducing overall costs. Accelerator partners will validate the installation, performance, and economic and resiliency benefits of packaged CHP systems, evaluate the integration of new technologies and packaged CHP, and identify R&D challenges. For more information, visit <https://betterbuildingsinitiative.energy.gov/accelerators/packaged-chp>

CHP for Resiliency Accelerator

The U.S. DOE collaborated with cities, states, utilities, and other stakeholders who are actively pursuing CHP as a consideration in resiliency planning for critical infrastructure in their jurisdictions. This included defining resiliency, identifying critical infrastructure, and assessing CHP opportunities. This process was documented in the DG for Resilience Planning Guide and the CHP for Resilience Screening Tool. For more information, visit <https://betterbuildingsinitiative.energy.gov/accelerators/combined-heat-and-power-resiliency>

Kansas: 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.

Kansas Natural Gas Prices

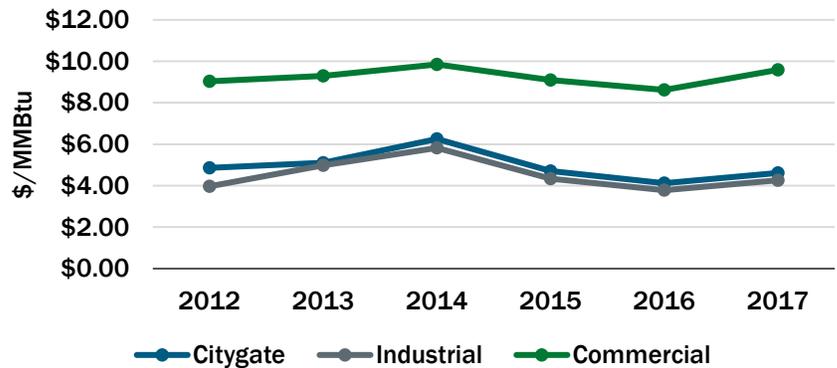
The EIA industrial natural gas price is a full tariff rate, and most large consumers are purchasing gas commodities from marketers at a lower rate.

Kansas Average Gas Prices (\$/MMBtu) - 2017

Sector	KS Price	U.S. Price
Citygate*	4.62	4.26
Industrial	4.26	4.20
Commercial	9.59	8.08

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

Kansas Average Natural Gas Prices



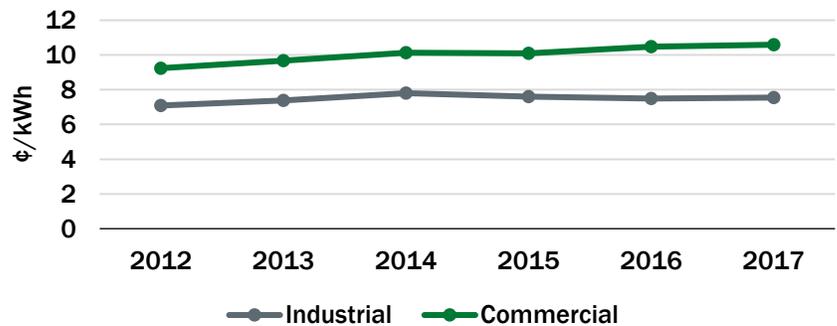
Kansas Electricity Prices

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

Kansas Average Electricity Prices (¢/kWh) - 2017

Sector	KS Price	U.S. Price
Industrial	7.54	6.88
Commercial	10.59	10.66

Kansas Average Electricity Prices



Kansas Average Delivered Electricity Prices by Utility

Utility	Industrial Price (¢/kWh)	Commercial Price (¢/kWh)	Average Price (¢/kWh)
Electric coops – average	12.49	13.39	12.94
Prairie Land Elec Coop	10.01	12.21	11.11
Kansas City Power & Light	9.89	10.73	10.31
Municipal systems – average	8.85	11.07	9.96
City of Kansas City	8.55	10.58	9.57
Westar Energy	8.08	10.02	9.05
Evergny	7.09	10.04	8.57

