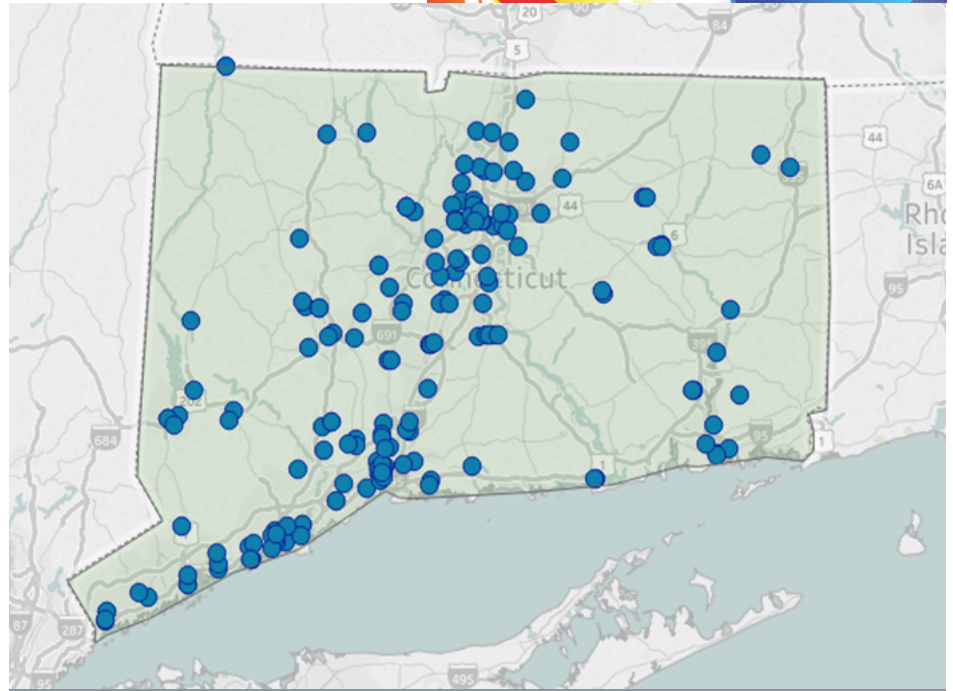


The State of CHP: Connecticut



Map of current CHP installations in Connecticut. Illustration from ICF.

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 Connecticut, with data on current installations, technical potential, and economics for CHP.

Connecticut: 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 Connecticut, and can be accessed by visiting <https://doe.icfwebservices.com/chp>.

CHP Project Profiles

The New England CHP TAP has compiled information on certain CHP projects in Connecticut. You can access these by visiting the Department of Energy’s CHP Project Profiles Database at <https://betterbuildingssolutioncenter.energy.gov/chp/chp-project-profiles-database>.

New England CHP Technical Assistance Partnership

For assistance with questions about specific CHP opportunities in Connecticut, please consult with the New England CHP TAP by visiting nechtap.org or contacting the CHP TAP director.

Connecticut Existing CHP

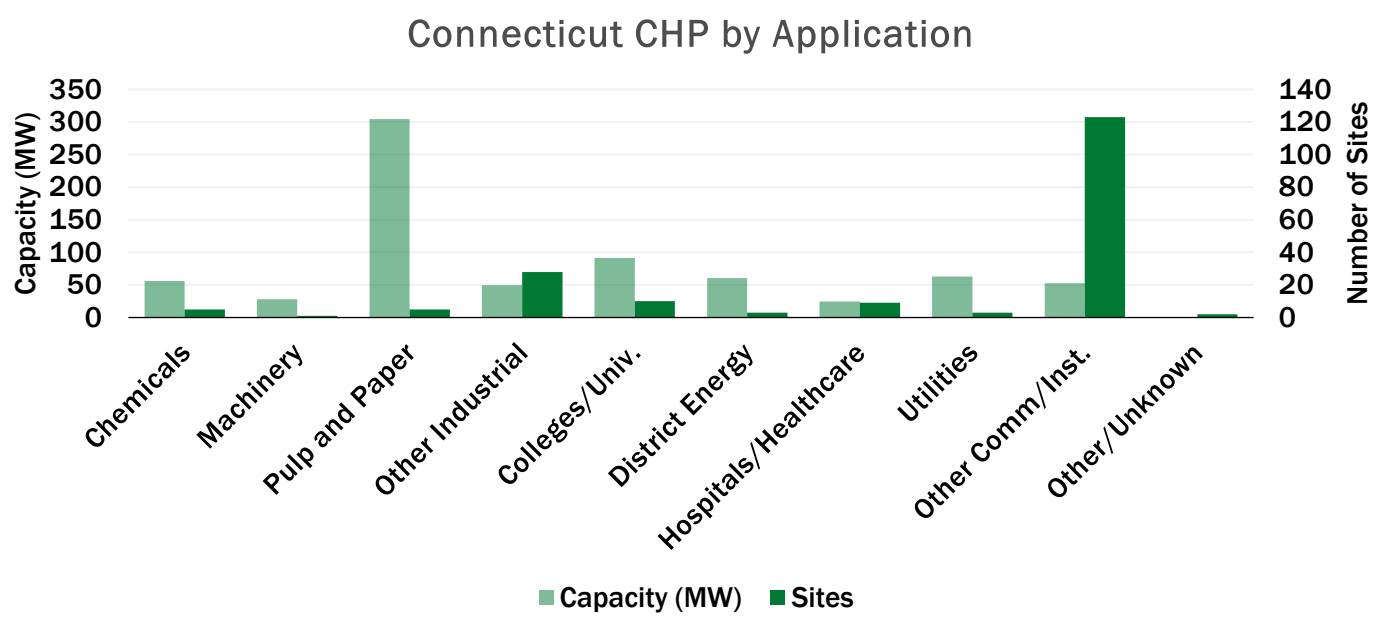
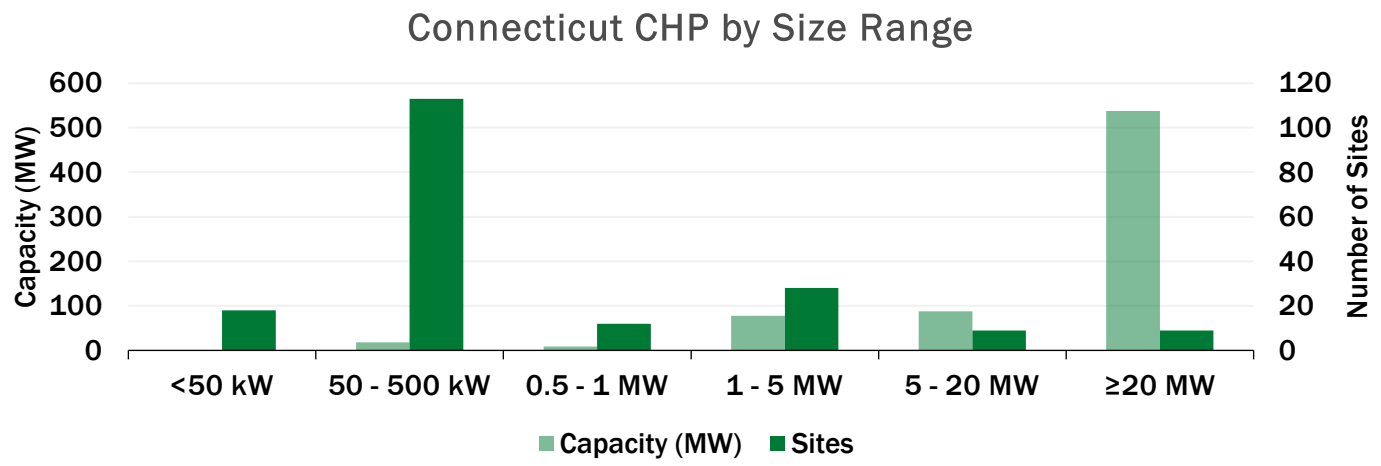
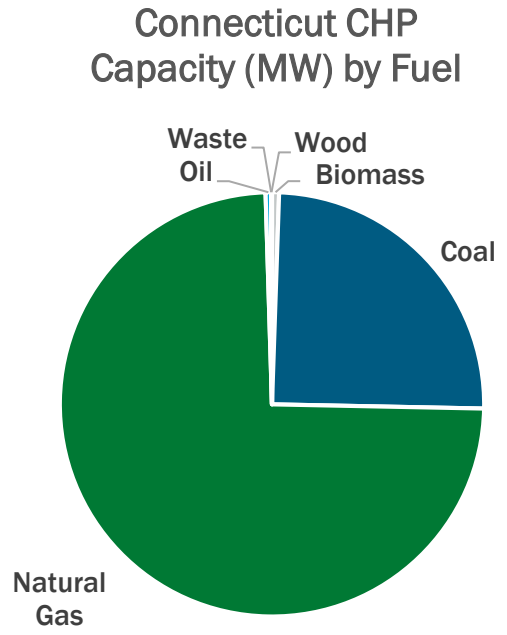
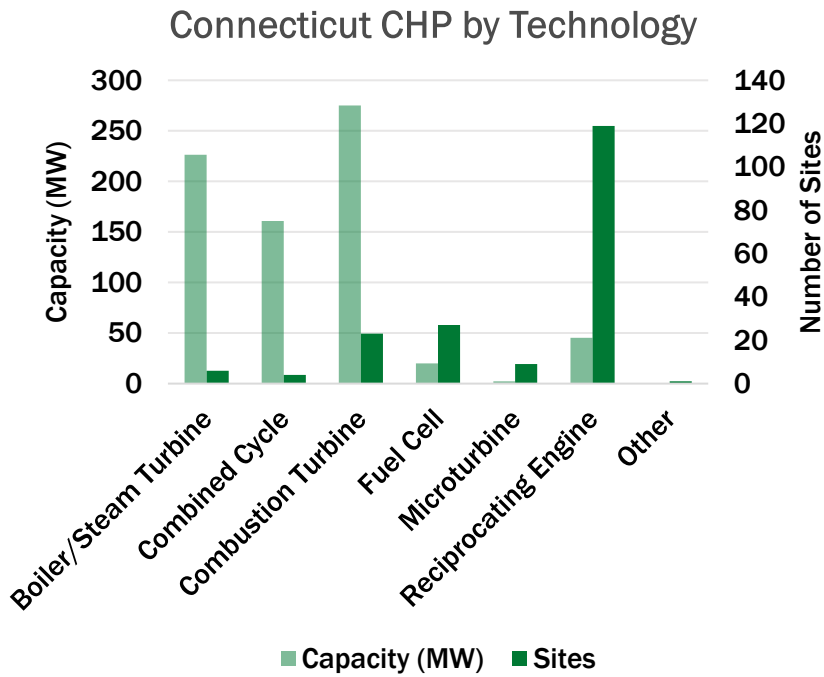
Sector	Sites	Capacity (MW)
Industrial	37	438
Commercial/Institutional	148	292
Other	4	0.3
Total	189	730

New England CHP TAP Director

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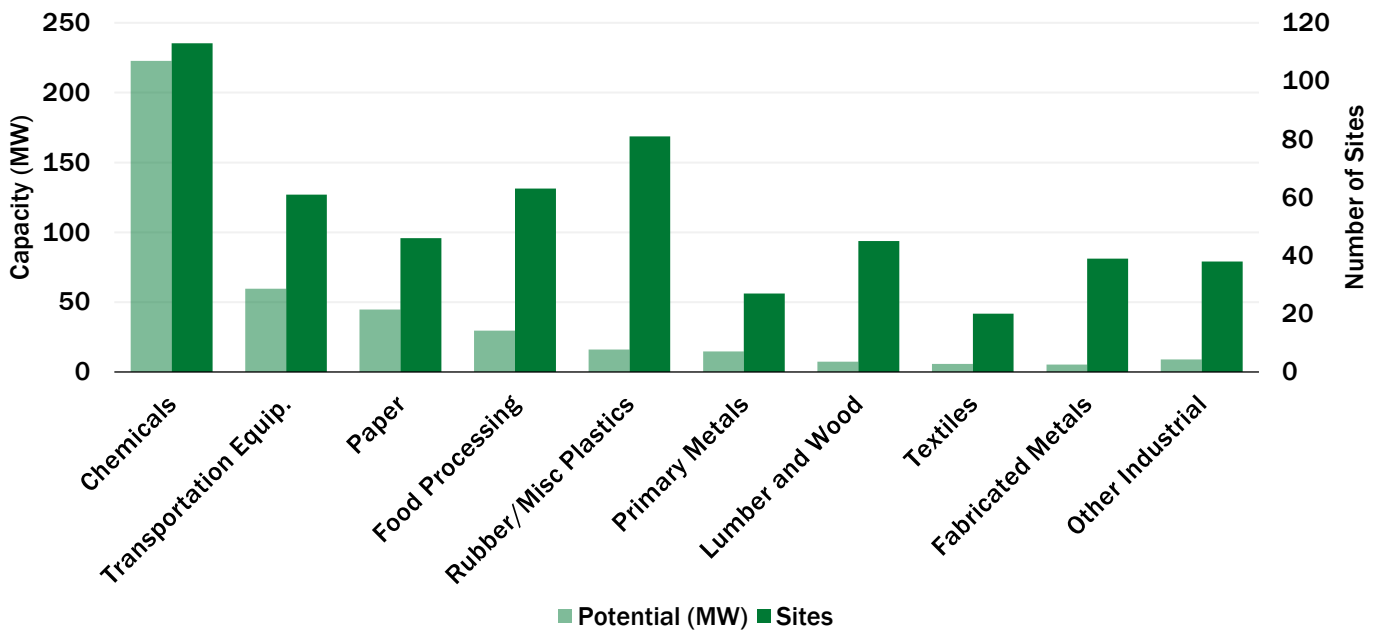
Connecticut: Technical Potential for New CHP Installations

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. Read the report [here](#).

Connecticut CHP Technical Potential

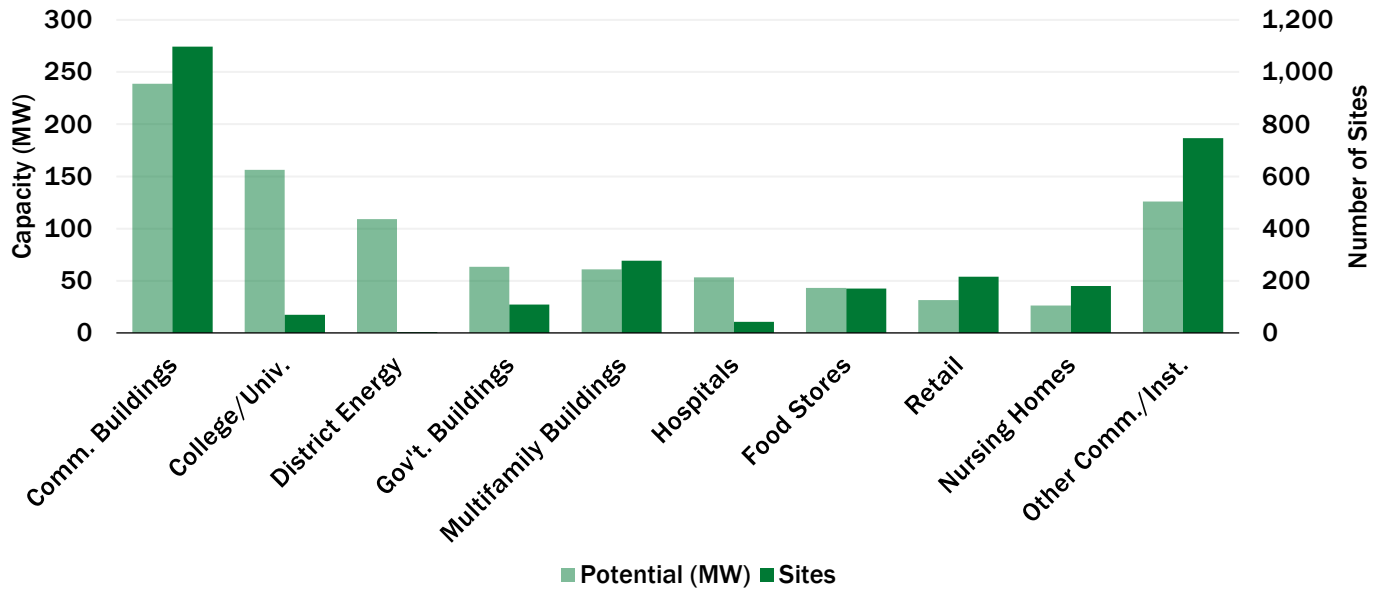
Sector	Potential Sites	Potential MW
Industrial	533	415
Commercial/Institutional	2,907	799
Total	3,440	1,214

Connecticut 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
Chemicals	64	11	17	12	22	44	6	49	4	107	113	223
Transportation Equip.	49	7	5	4	4	12	3	36	0	0	61	60
Paper	28	7	7	5	10	24	1	8	0	0	46	45
Food Processing	50	9	7	5	5	10	1	5	0	0	63	30
Rubber/Misc Plastics	74	10	5	3	2	2	0	0	0	0	81	16
Other Industrial	154	25	6	3	9	14	0	0	0	0	169	42
Total	419	70	47	33	52	106	11	99	4	107	533	415

Connecticut 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	646	32	323	129	129	77	0	0	0	0	1,098	239
College/Univ.	36	6	8	5	14	28	10	89	1	28	69	156
Government Buildings	77	8	16	11	14	24	2	20	0	0	109	63
Multifamily Buildings	195	15	71	35	11	11	0	0	0	0	276	61
Hospitals	14	5	9	7	19	35	1	7	0	0	43	53
Other Comm./Inst.	1,269	174	47	33	38	67	1	7	0	0	1,355	280
Total	2,223	235	465	213	207	211	13	116	3	133	2,910	908

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://betterbuildingssolutioncenter.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://betterbuildingssolutioncenter.energy.gov/accelerators/combined-heat-and-power-resiliency>

Connecticut: 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.

Connecticut Natural Gas Prices

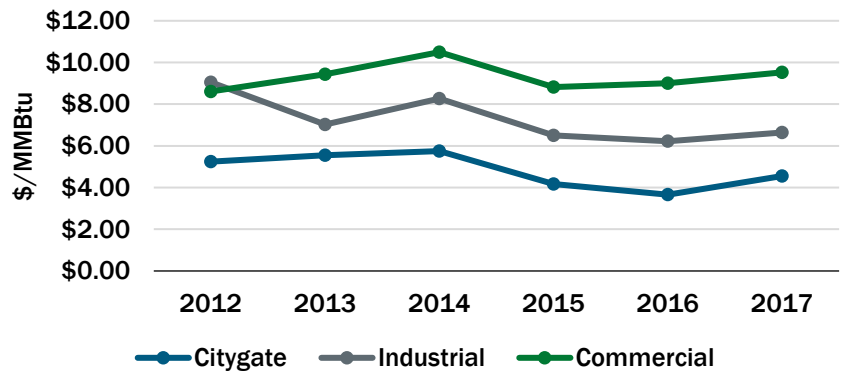
The EIA industrial natural gas price is a full tariff rate, and most large consumers are purchasing gas commodities from marketers at a lower rate.

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

Sector	CT Price	U.S. Price
Citygate*	4.55	4.26
Industrial	6.64	4.20
Commercial	9.53	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.

Connecticut Average Natural Gas Prices



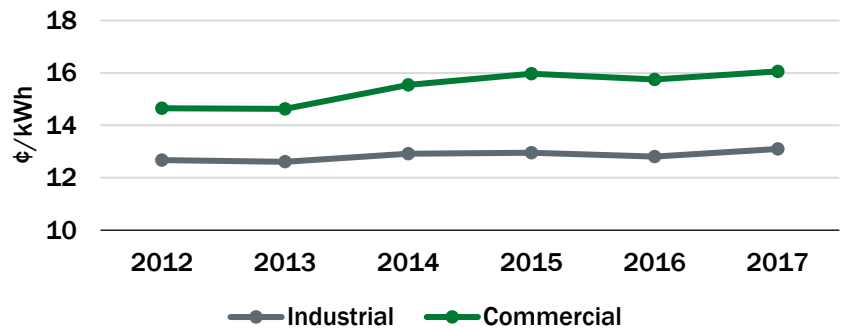
Connecticut Electricity Prices

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

Connecticut Average Electricity Prices (¢/kWh) - 2017

Sector	CT Price	U.S. Price
Industrial	13.10	6.88
Commercial	16.06	10.66

Connecticut Average Electricity Prices



Connecticut Average Delivered Electricity Prices by Utility

Utility	Industrial Price (¢/kWh)	Commercial Price (¢/kWh)	Average Price (¢/kWh)
United Illuminating Co	16.08	16.86	16.47
City of Norwich	14.90	16.16	15.53
Eversource	14.73	16.12	15.42
Bozrah Light & Power Co.	6.14	18.48	12.31
Groton Dept of Utilities	9.70	13.95	11.82
Mohegan Tribal Utility Authority	--	8.85	8.85

