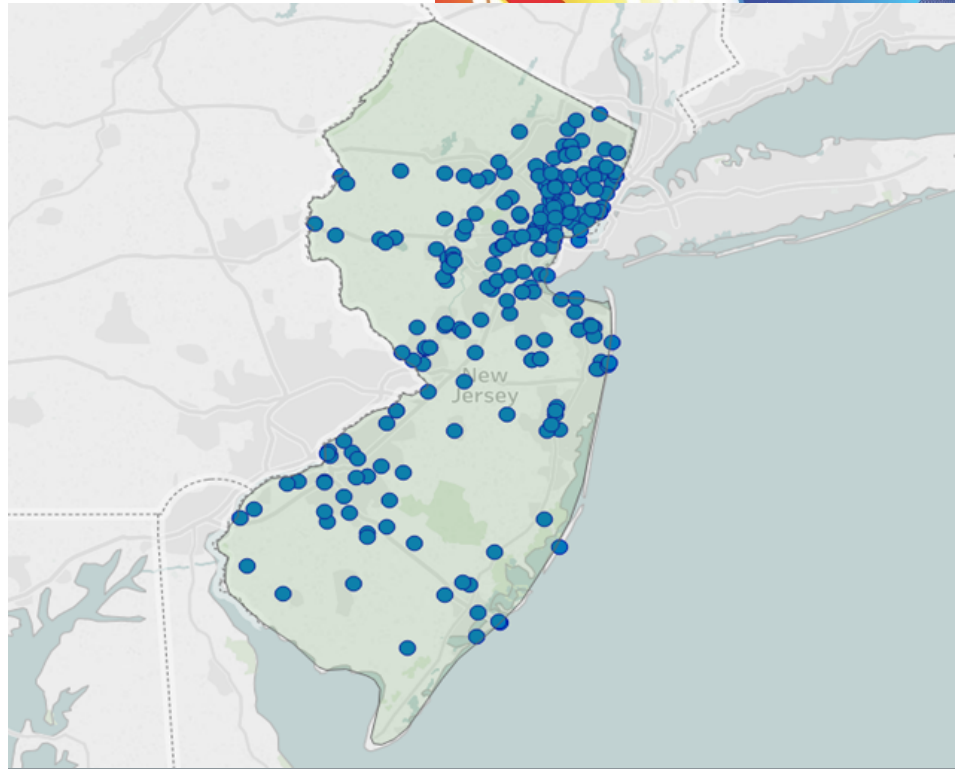


The State of CHP: New Jersey



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



Map of current CHP installations in New Jersey. Illustration from ICF.

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

CHP Project Profiles

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

New York-New Jersey CHP Tech. Assistance Partnership

For assistance with questions about specific CHP opportunities in New Jersey, please consult with the New York-New Jersey CHP TAP by visiting nynjchptap.org or contacting the TAP director.

New Jersey Existing CHP

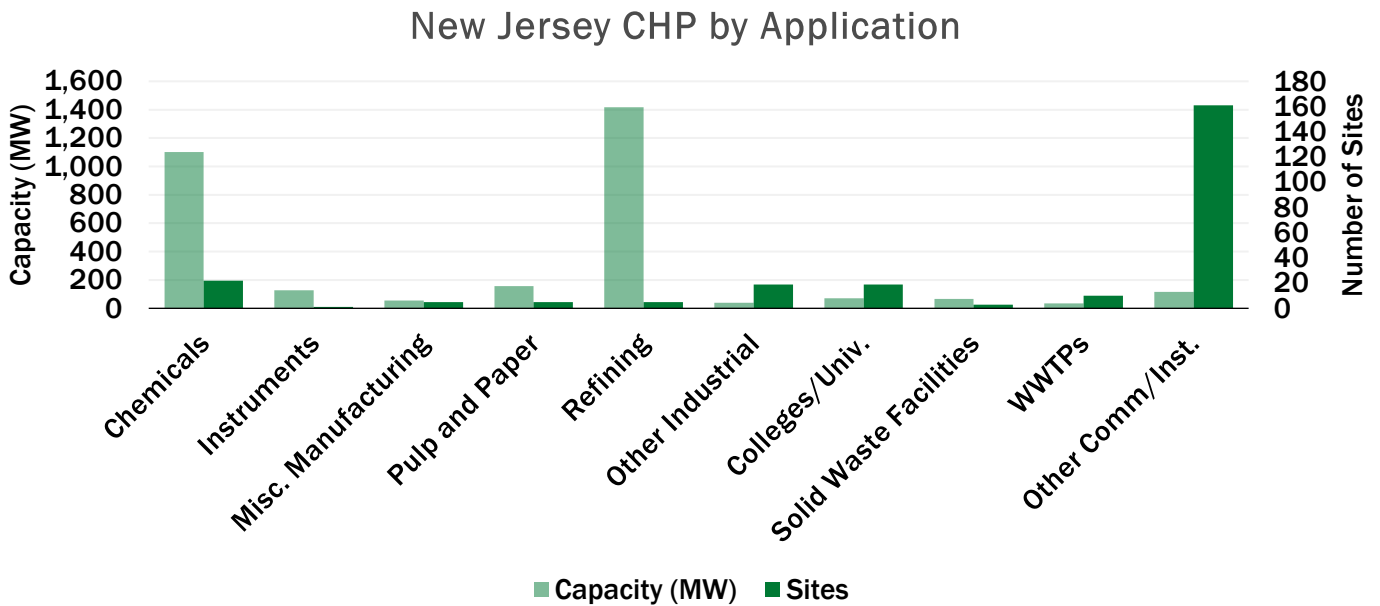
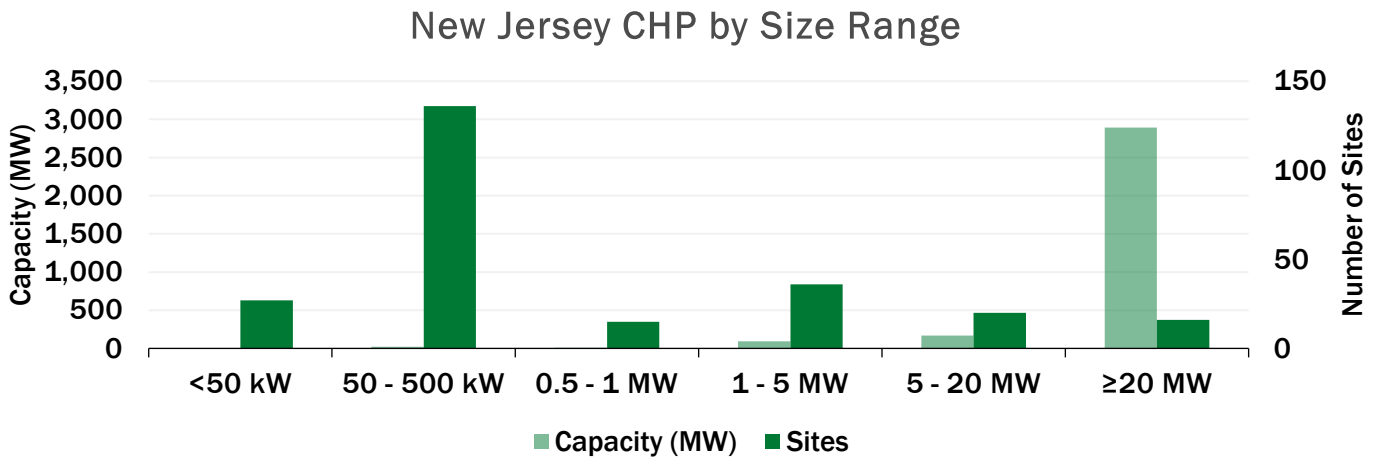
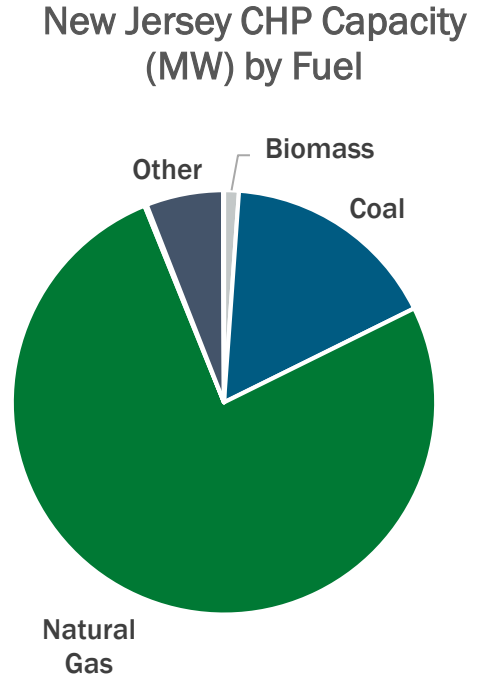
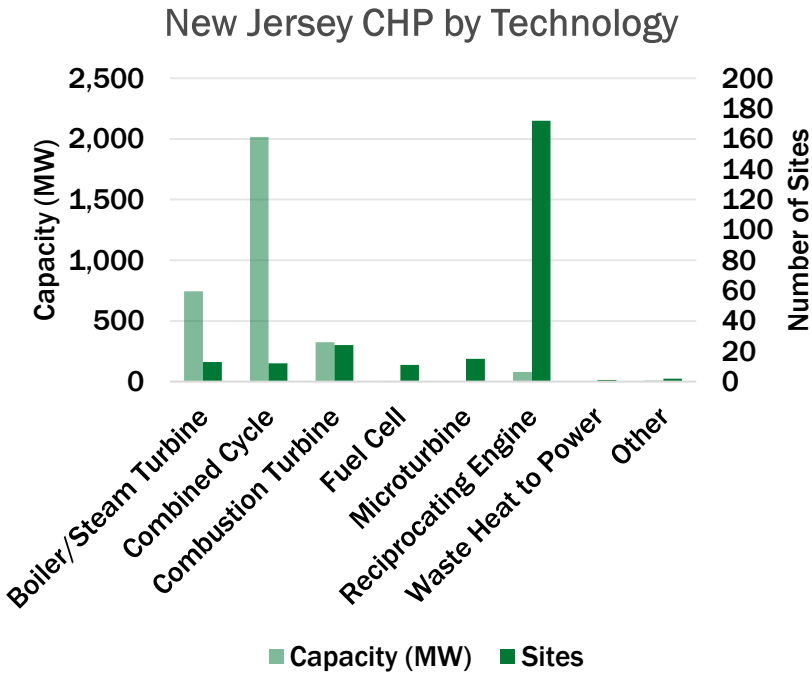
Sector	Sites	Capacity (MW)
Industrial	56	2,897
Commercial/Institutional	193	286
Other	1	0.2
Total	250	3,184

New York-New Jersey CHP TAP Director

Tom Bourgeois

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- 914-422-4013



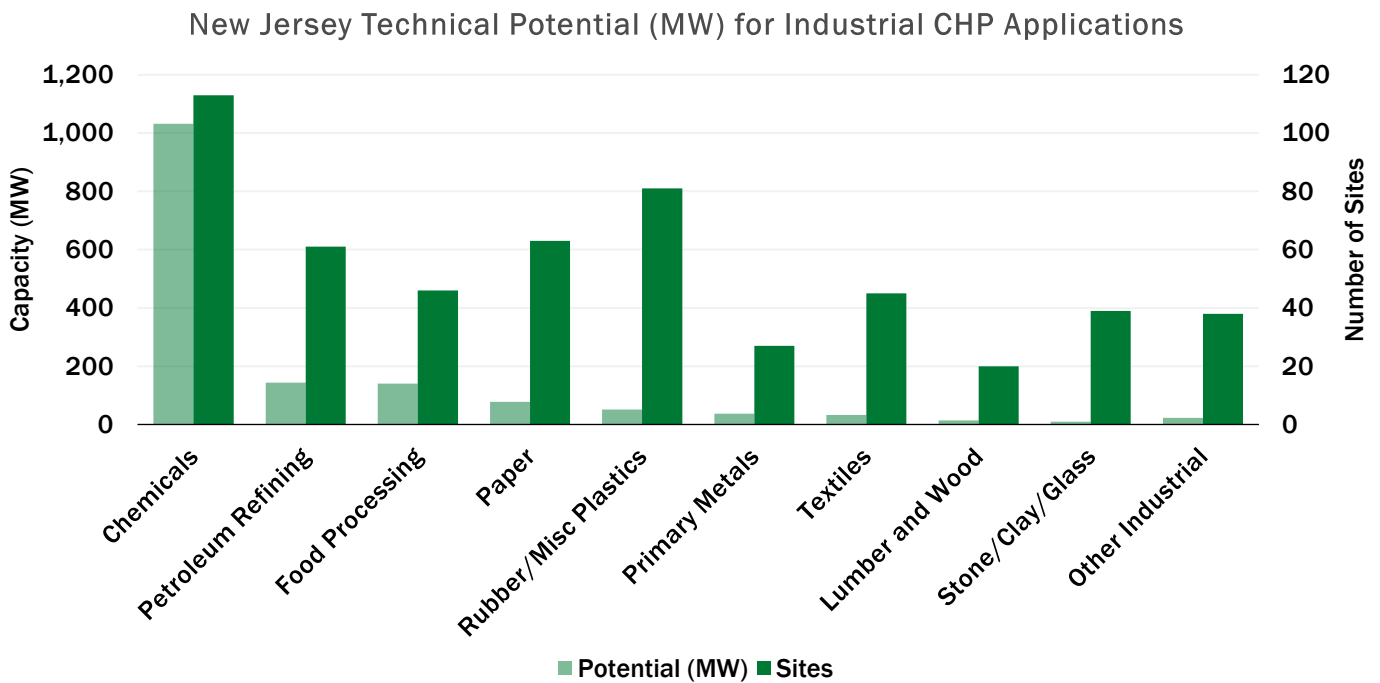


New Jersey: Technical Potential for New CHP Installations

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](#).

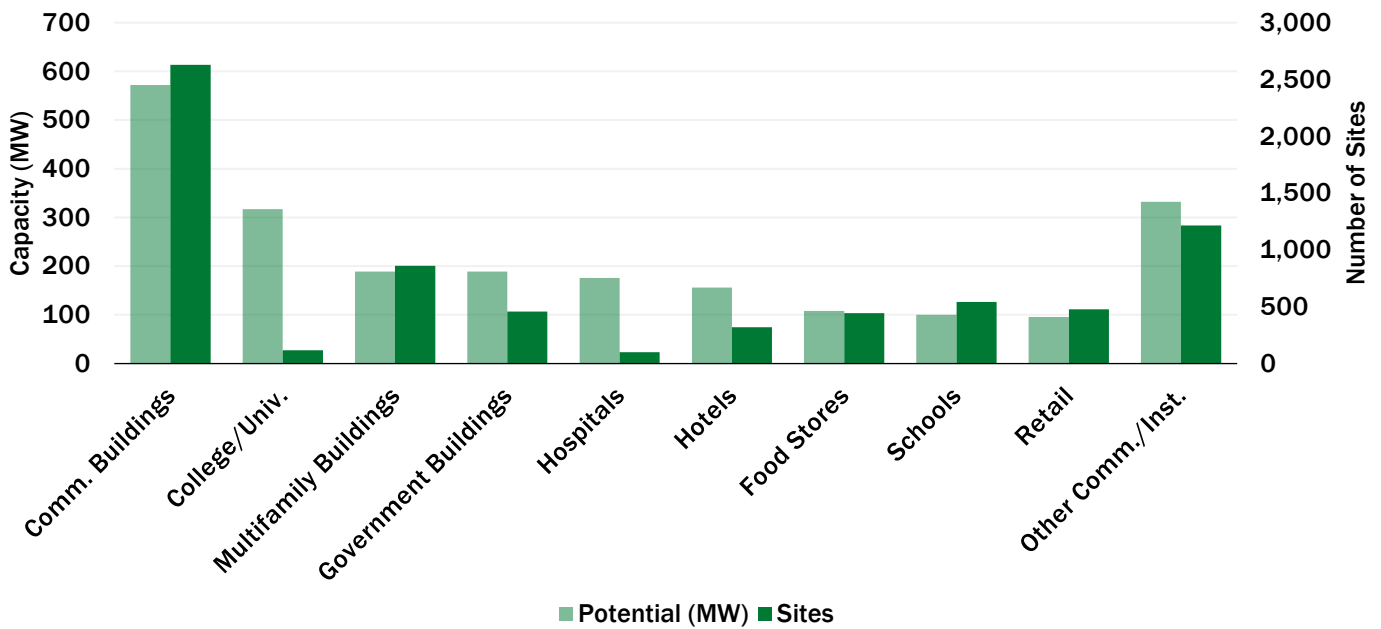
New Jersey CHP Technical Potential

Sector	Potential Sites	Potential MW
Industrial	1,490	1,562
Commercial/Institutional	7,157	2,199
Total	8,647	3,761



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	331	62	74	52	99	214	50	405	11	299	565	1,032
Petroleum Refining	1	0	10	7	5	9	2	26	3	101	21	144
Food Processing	219	40	29	21	34	65	2	14	0	0	284	140
Paper	72	17	28	19	12	22	2	20	0	0	114	78
Rubber/Misc Plastics	193	30	10	7	6	14	0	0	0	0	209	51
Other Industrial	245	44	33	25	18	31	1	17	0	0	297	116
Total	1,061	193	184	131	174	356	57	483	14	400	1,490	1,562

New Jersey Technical Potential (MW) for Comm./Inst. 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	1,546	77	773	309	309	185	0	0	0	0	2,628	572
College/Univ.	65	9	12	7	28	84	10	98	3	119	118	317
Multifamily Buildings	605	45	219	110	34	34	0	0	0	0	859	189
Hospitals	14	3	18	13	67	159	0	0	0	0	99	176
Hotels	279	35	22	13	8	13	11	95	0	0	320	156
Other Comm./Inst.	2,542	397	84	54	43	85	7	51	2	49	2,678	636
Total	5,417	616	1,170	538	534	636	32	277	5	168	7,159	2,235

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>

New Jersey: 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.

New Jersey Natural Gas Prices

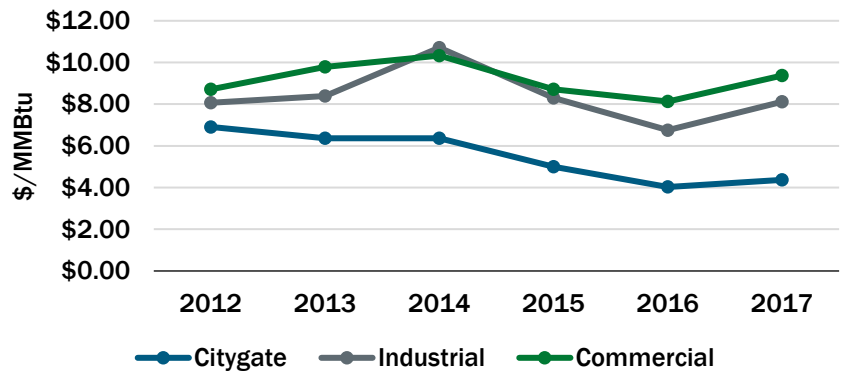
The EIA industrial natural gas price is a full tariff rate, and most large consumers are purchasing gas commodities from marketers at a lower rate.

New Jersey Average Gas Prices (\$/MMBtu) - 2017

Sector	NJ Price	U.S. Price
Citygate*	4.38	4.26
Industrial	8.12	4.20
Commercial	9.37	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.

New Jersey Average Natural Gas Prices



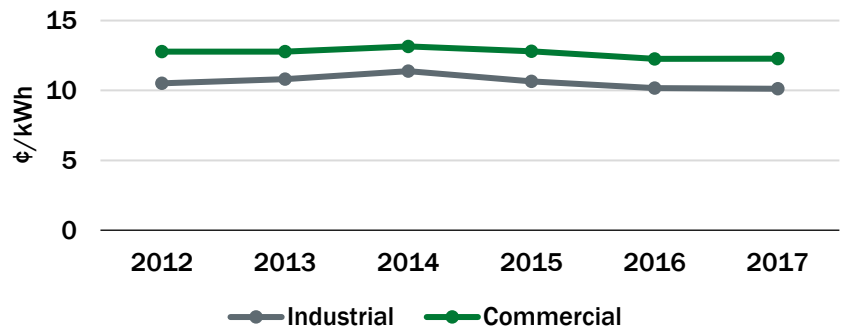
New Jersey Electricity Prices

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

New Jersey Average Electricity Prices (¢/kWh) - 2017

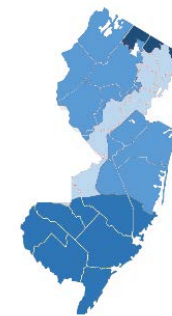
Sector	NJ Price	U.S. Price
Industrial	10.12	6.88
Commercial	12.28	10.66

New Jersey Average Electricity Prices



New Jersey Average Delivered Electricity Prices by Utility

Utility	Industrial Price (¢/kWh)	Commercial Price (¢/kWh)	Average Price (¢/kWh)
Rockland Electric Co	13.54	14.88	14.21
Atlantic City Electric Co	10.13	15.21	12.67
FirstEnergy (Jersey Central)	10.13	13.13	11.63
Public Service Elec & Gas Co	4.81	12.27	8.54



- Public Service Electric & Gas (PSEG)
- FirstEnergy (Jersey Central)
- Atlantic City Electric Co
- Rockland Electric Co