

# The State of CHP: New Jersey



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. For help with questions about specific CHP opportunities in New Jersey, please consult with the [Mid-Atlantic CHP Technical Assistance Partnership](#).

Installed CHP

CHP Technical Potential

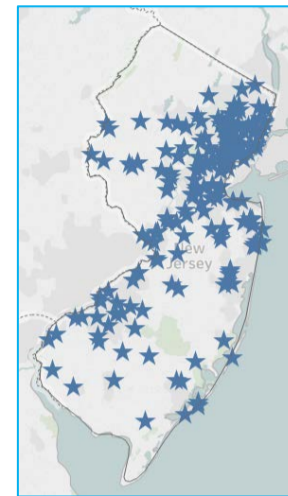
CHP Economics

CHP Partners

## New Jersey Installed Base of CHP

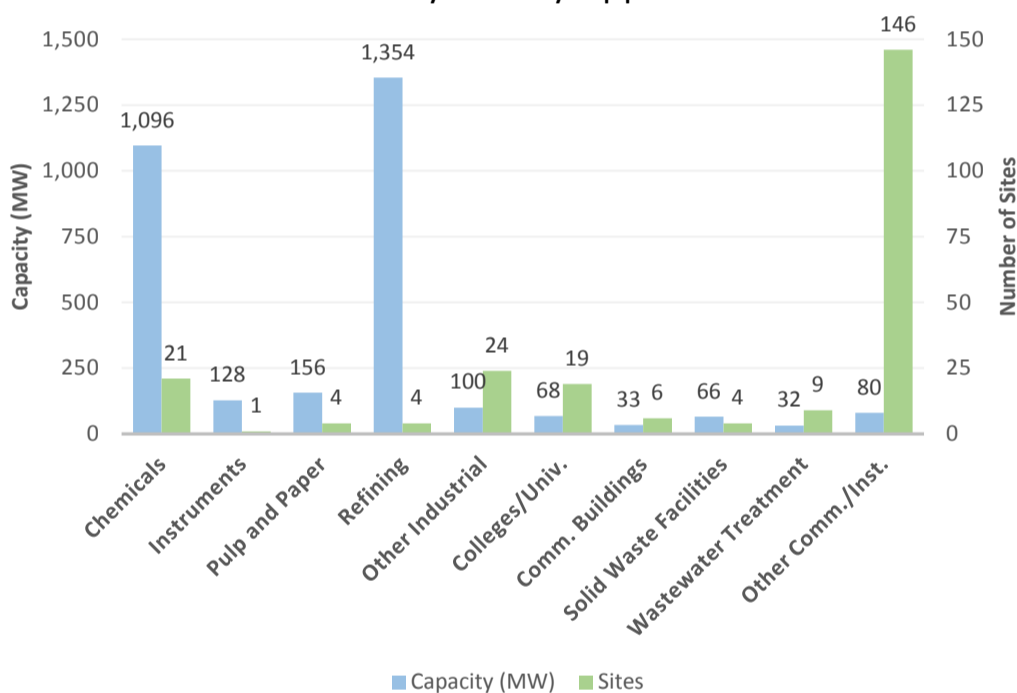
[U.S. DOE Combined Heat and Power Installation Database](#)

Sector	Installations	Capacity (MW)
Industrial	53	2,834
Commercial/Institutional	184	280
Other	1	0.2
<b>Total</b>	<b>238</b>	<b>3,115</b>



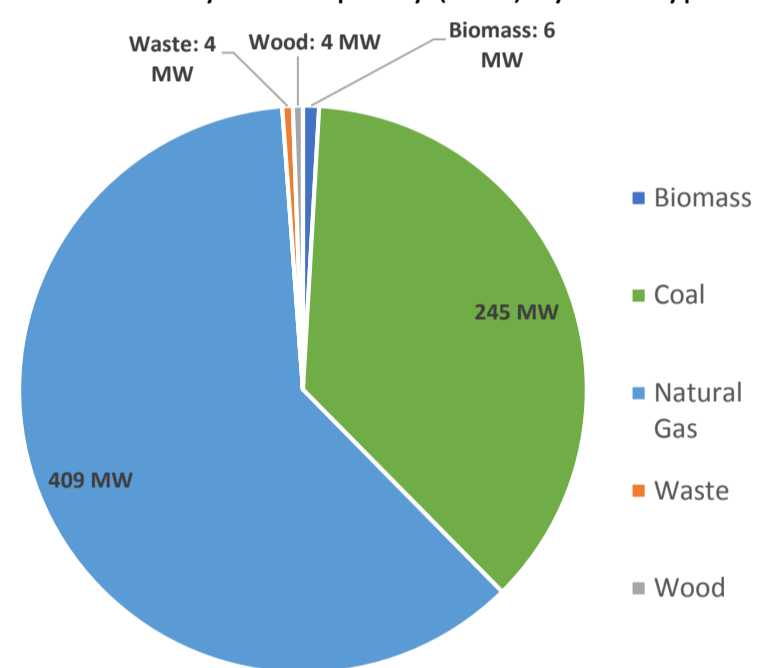
The Mid-Atlantic CHP Technical Assistance Partnership has compiled information on certain illustrative CHP projects in New Jersey. You can access these by visiting the Department of Energy's [CHP Project Profiles Database](#).

### New Jersey CHP by Application



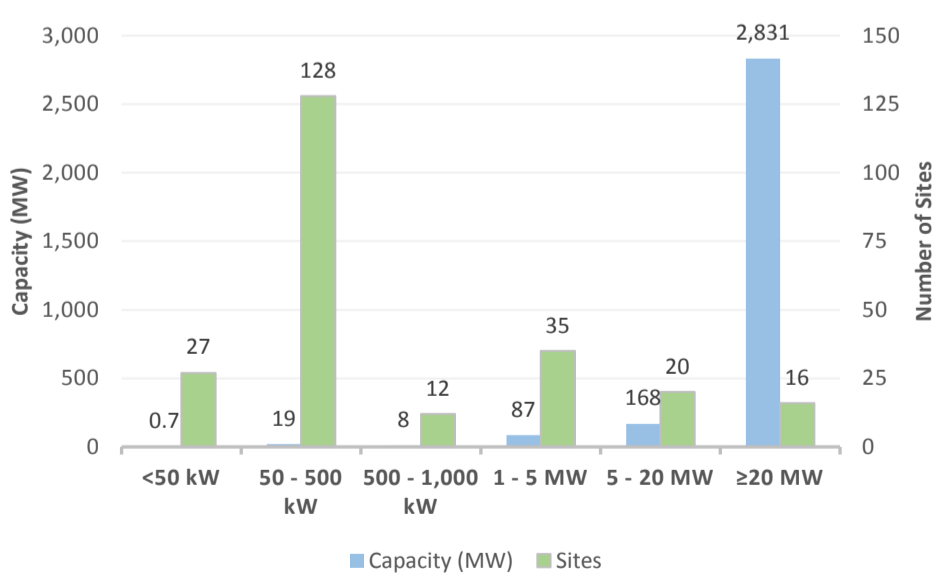
Source: DOE CHP Installation Database (U.S. installations as of Dec. 31, 2016)

### New Jersey CHP Capacity (MW) by Fuel Type



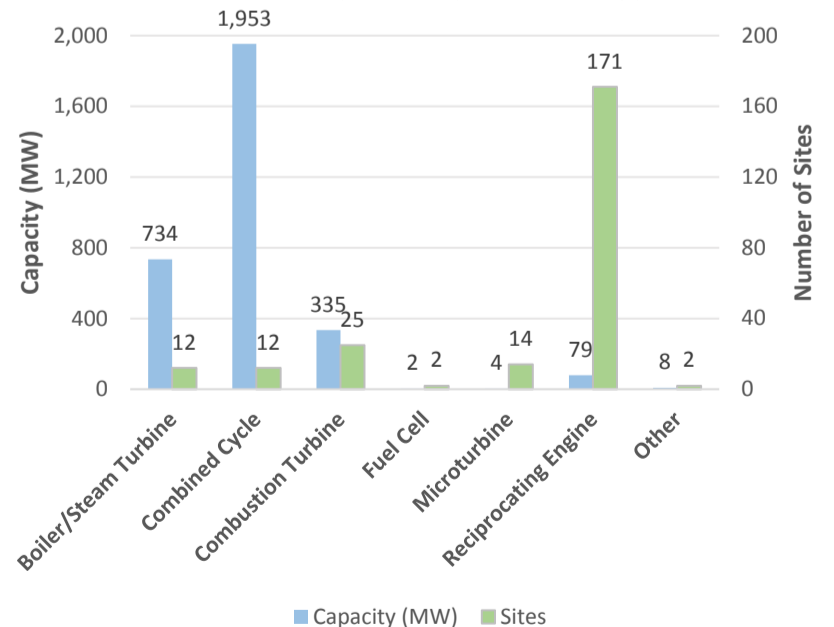
Source: DOE CHP Installation Database (U.S. installations as of Dec. 31, 2016)

### New Jersey CHP by Size Range



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

### New Jersey 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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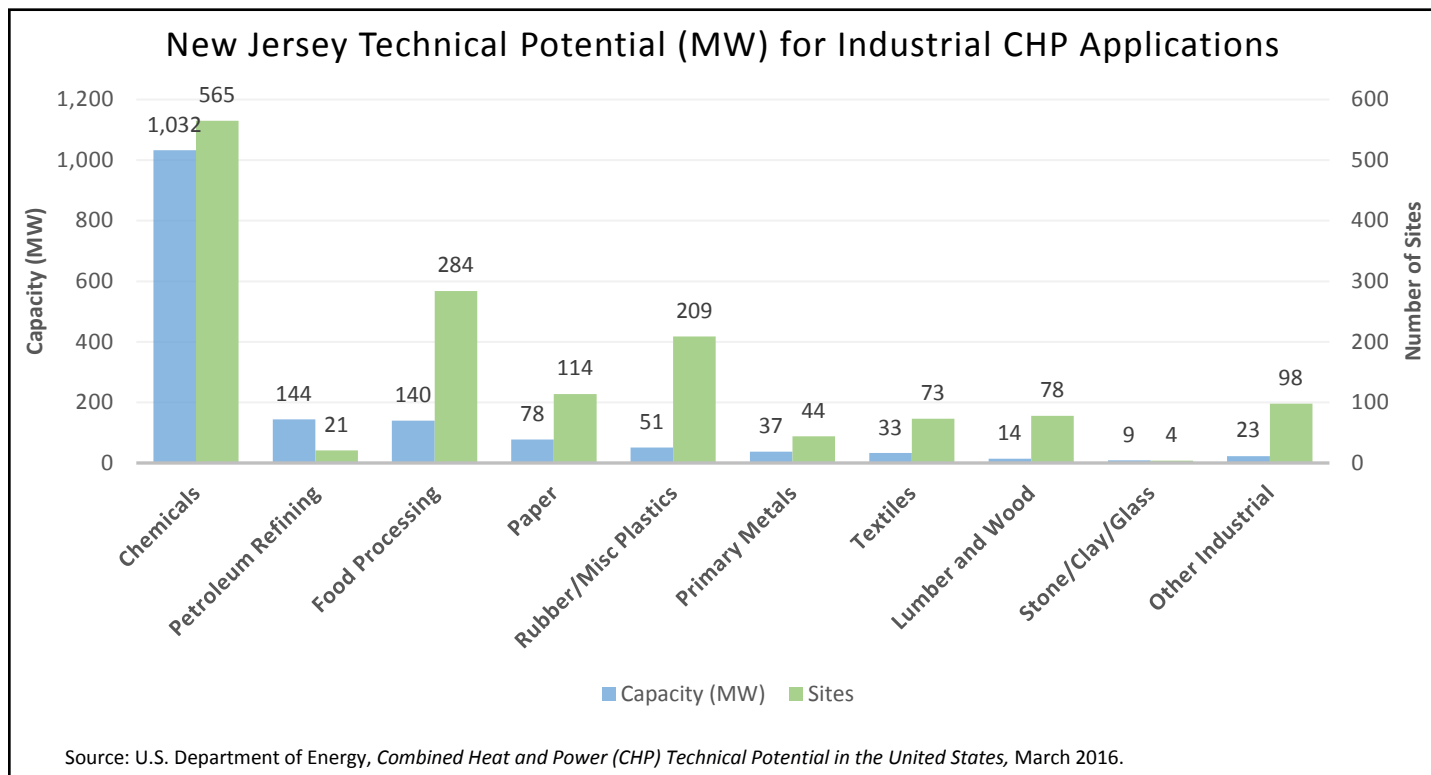
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## New Jersey Technical Potential for New CHP Installations

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

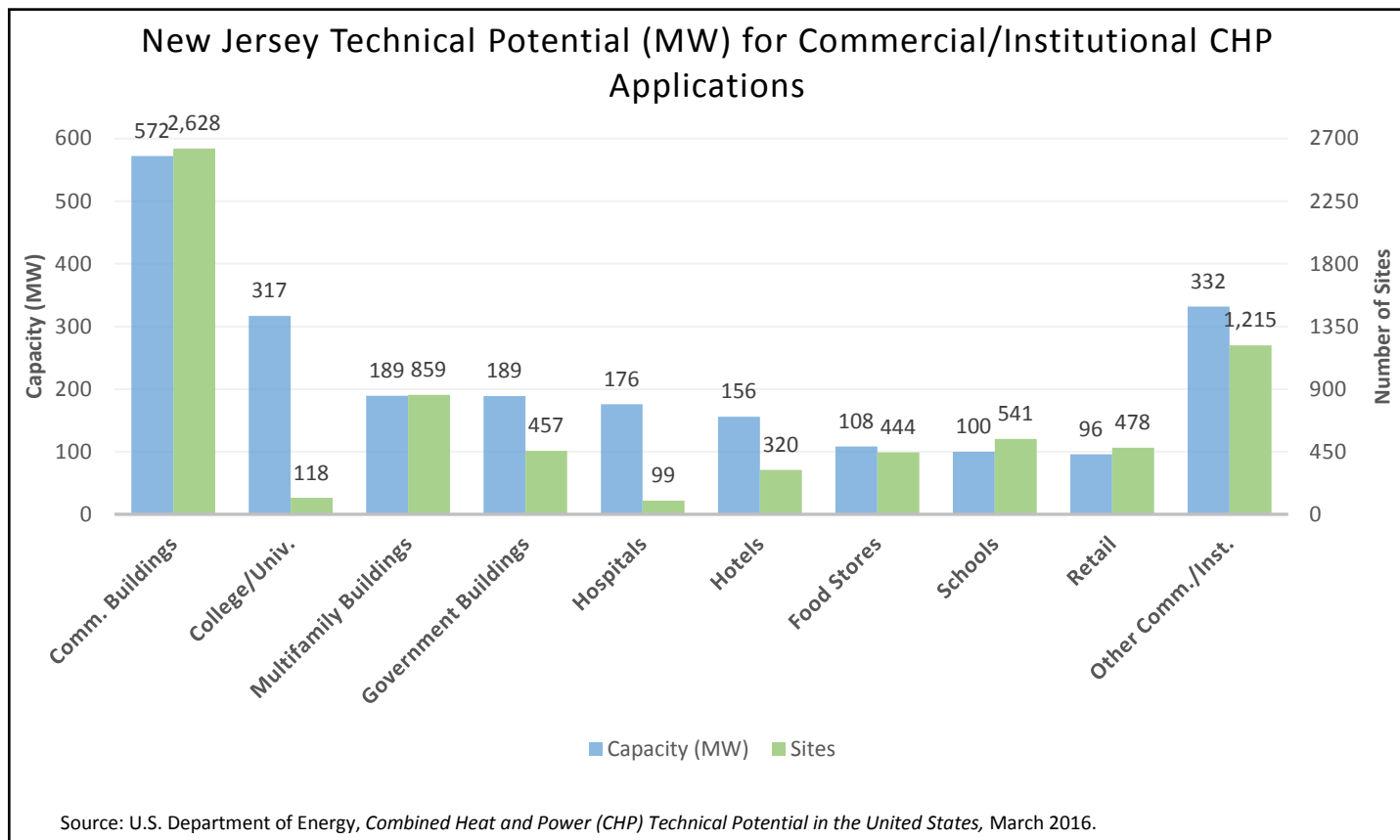
Sector	Potential Sites	Potential Capacity (MW)
Industrial	1,490	1,562
Commercial/Institutional	7,159	2,235
<b>Total</b>	<b>8,649</b>	<b>3,797</b>



### 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
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
<b>Total</b>	<b>1,061</b>	<b>193</b>	<b>184</b>	<b>131</b>	<b>174</b>	<b>356</b>	<b>57</b>	<b>483</b>	<b>14</b>	<b>400</b>	<b>1,490</b>	<b>1,562</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 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	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
<b>Total</b>	<b>5,417</b>	<b>616</b>	<b>1,170</b>	<b>538</b>	<b>534</b>	<b>636</b>	<b>32</b>	<b>277</b>	<b>5</b>	<b>168</b>	<b>7,159</b>	<b>2,235</b>

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

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## 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.

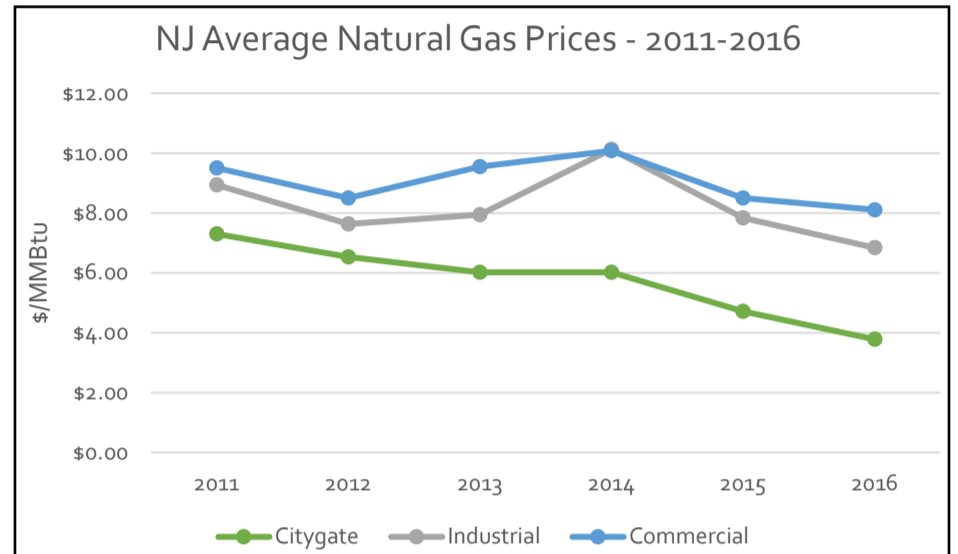
### New Jersey Natural Gas Prices

#### New Jersey Average Gas Prices - 2016

Sector	NJ Price (\$/MMBtu)	U.S. Price (\$/MMBtu)
Citygate*	3.78	3.75
Industrial	6.84	3.39
Commercial	7.86	7.22

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



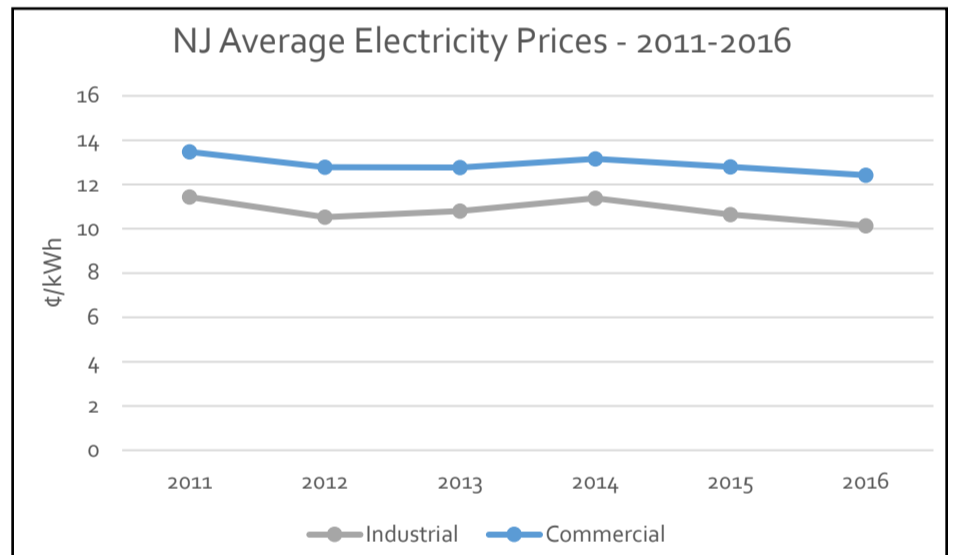
### New Jersey Electricity Prices

#### New Jersey Average Electricity Prices - 2016

Sector	NJ Price (¢/kWh)	U.S. Price (¢/kWh)
Industrial	10.14	6.75
Commercial	12.42	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.



### New Jersey Average Delivered Electricity Prices by Utility

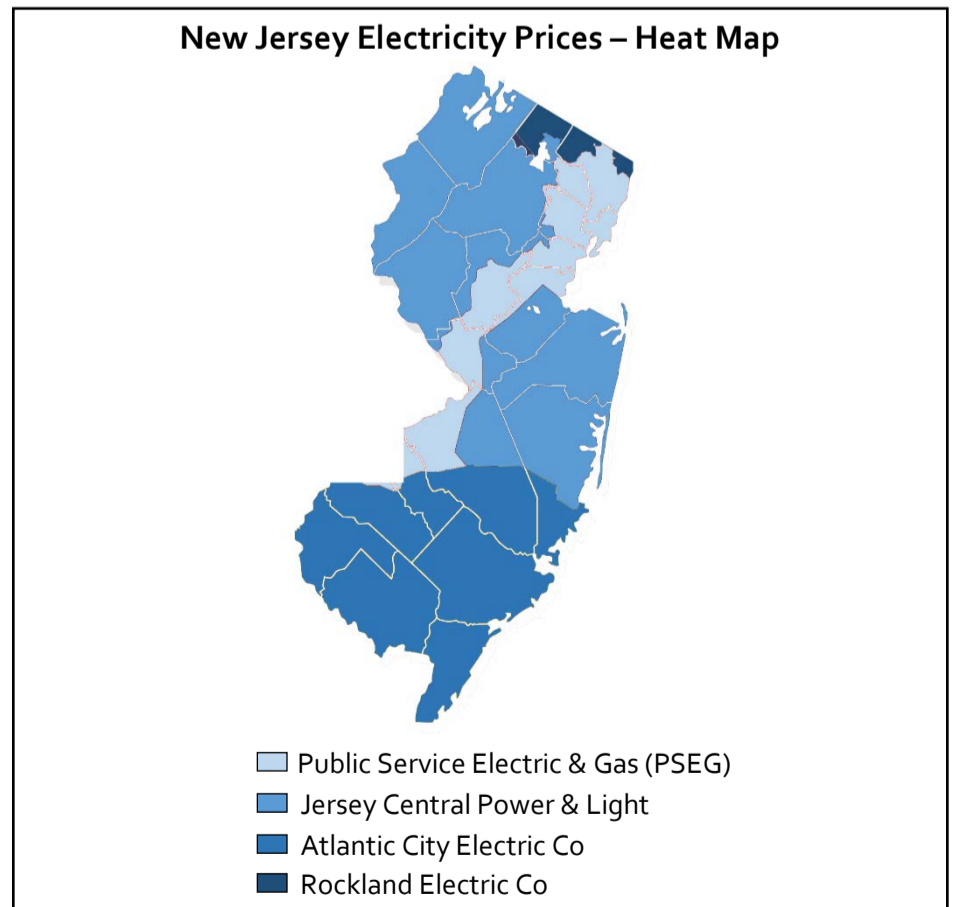
Utility	Industrial Price (¢/kWh)	Commercial Price (¢/kWh)	Average Price** (¢/kWh)
Rockland Electric Co	16.22	15.07	15.65
Atlantic City Electric Co	11.55	15.01	13.28
Jersey Central Power & Lt	11.06	12.71	11.89
Public Service Elec & Gas	5.54	12.72	9.13

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.

### New Jersey Electricity Prices – Heat Map



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Installed CHP

CHP Technical  
Potential

CHP Economics

CHP Partners

## Department of Energy CHP Partnerships

### Mid-Atlantic CHP Technical Assistance Partnership



U.S. DEPARTMENT OF ENERGY  
**CHP Technical Assistance Partnerships**  
MID-ATLANTIC

Mid-Atlantic CHP TAP Director: Jim Freihaut  
Phone: 814-863-0083  
Email: [jdf11@psu.edu](mailto:jdf11@psu.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](#).

- Hoboken, NJ

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