

The State of CHP: Rhode Island



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

Installed CHP

CHP Technical Potential

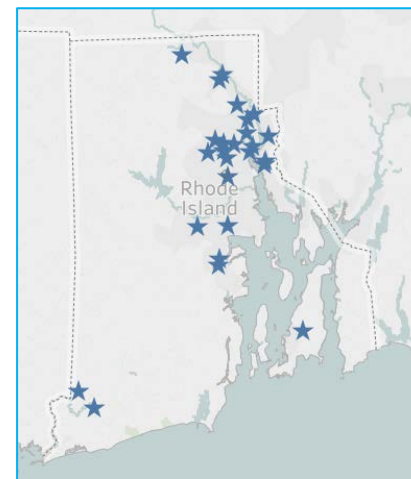
CHP Economics

CHP Partners

Rhode Island Installed Base of CHP

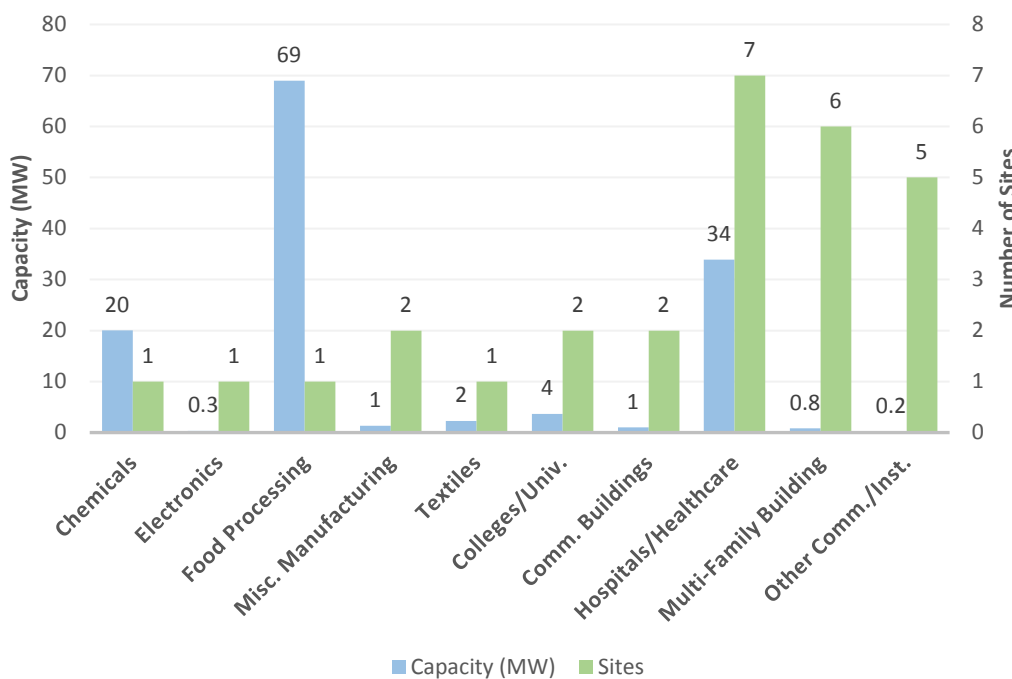
[U.S. DOE Combined Heat and Power Installation Database](#)

Sector	Installations	Capacity (MW)
Industrial	6	93
Commercial/Institutional	22	40
Other	0	0
Total	28	133



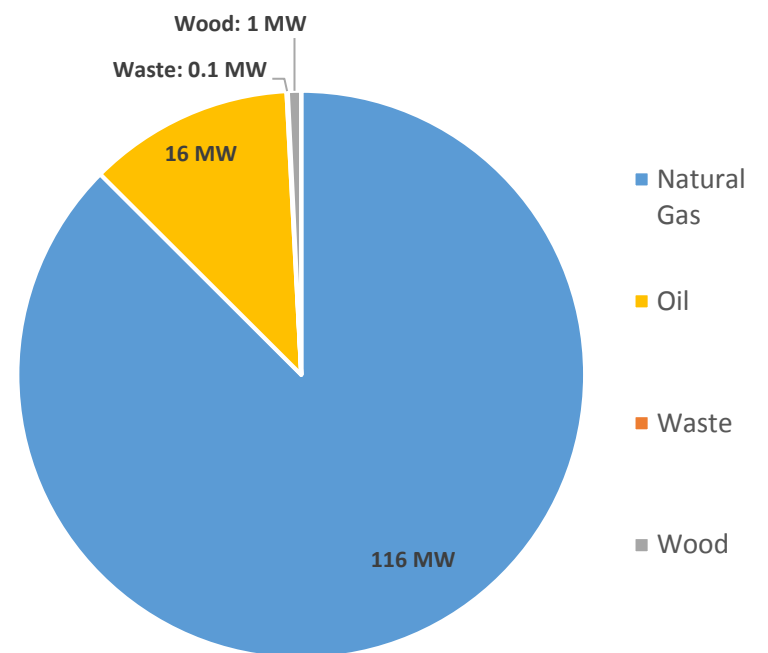
The Northeast CHP Technical Assistance Partnership has compiled information on certain illustrative CHP projects in Rhode Island. You can access these by visiting the Department of Energy's [CHP Project Profiles Database](#).

Rhode Island CHP by Application



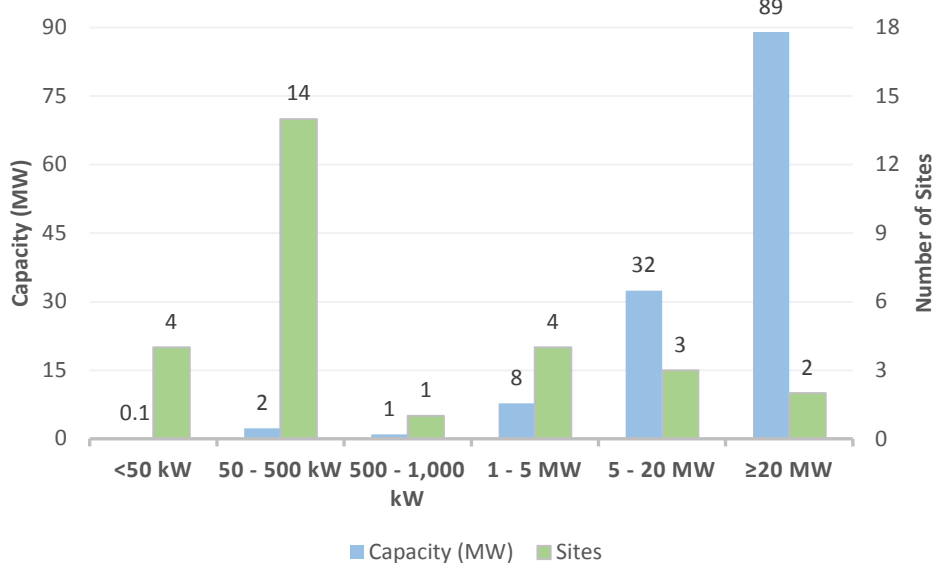
Source: DOE CHP Installation Database (U.S. installations as of Dec. 31, 2016)

Rhode Island CHP Capacity (MW) by Fuel Type



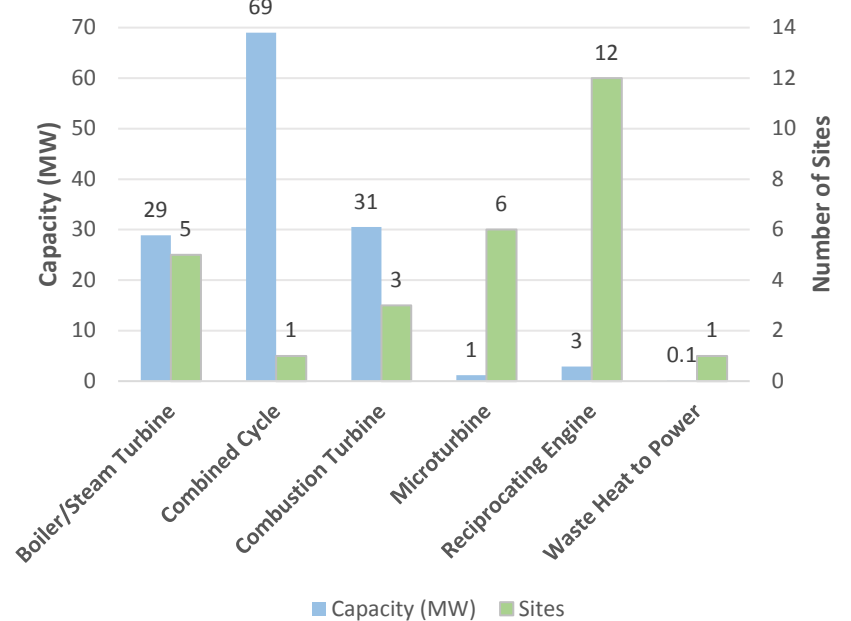
Source: DOE CHP Installation Database (U.S. installations as of Dec. 31, 2016)

Rhode Island CHP by Size Range



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

Rhode Island 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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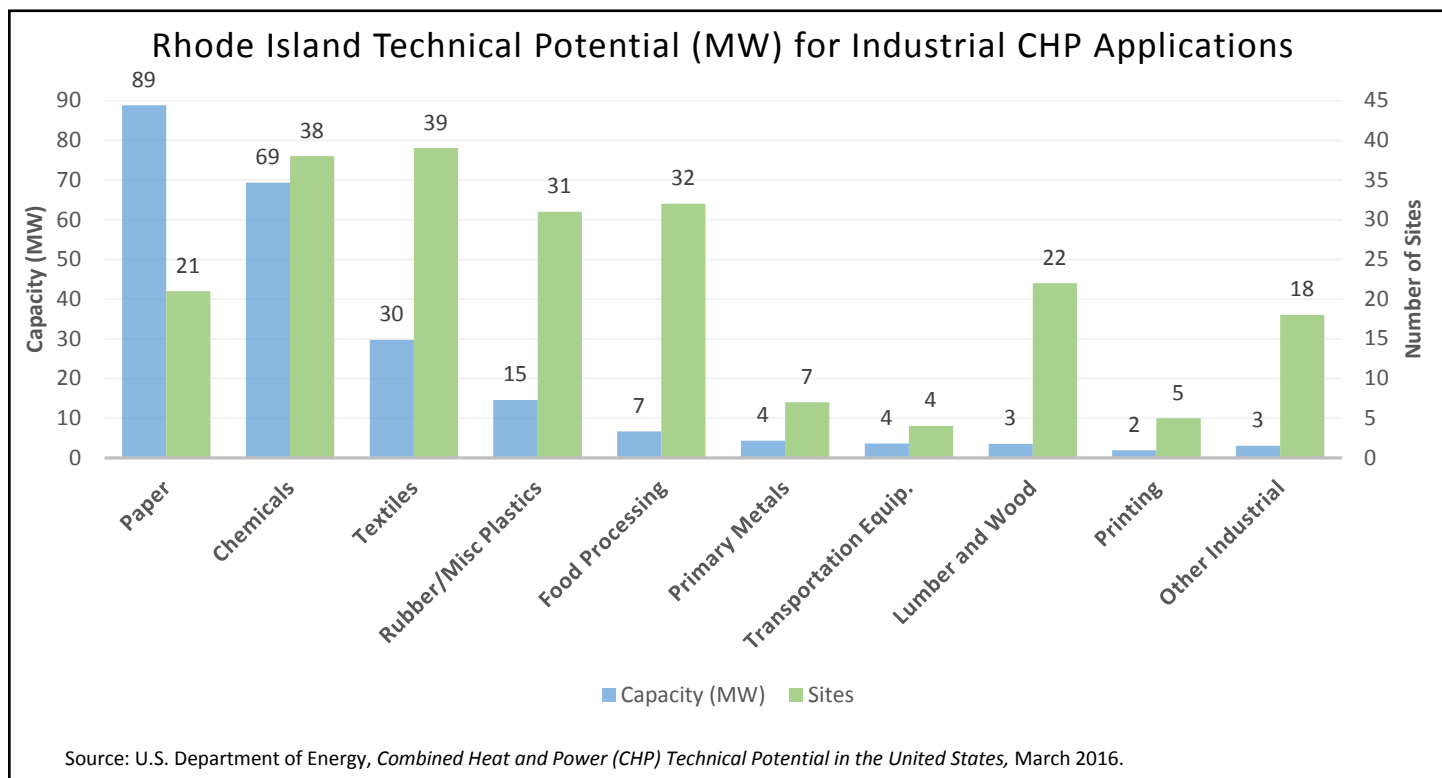
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Rhode Island Technical Potential for New CHP Installations

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

Sector	Potential Sites	Potential Capacity (MW)
Industrial	217	225
Commercial/Institutional	897	391
Total	1,114	616

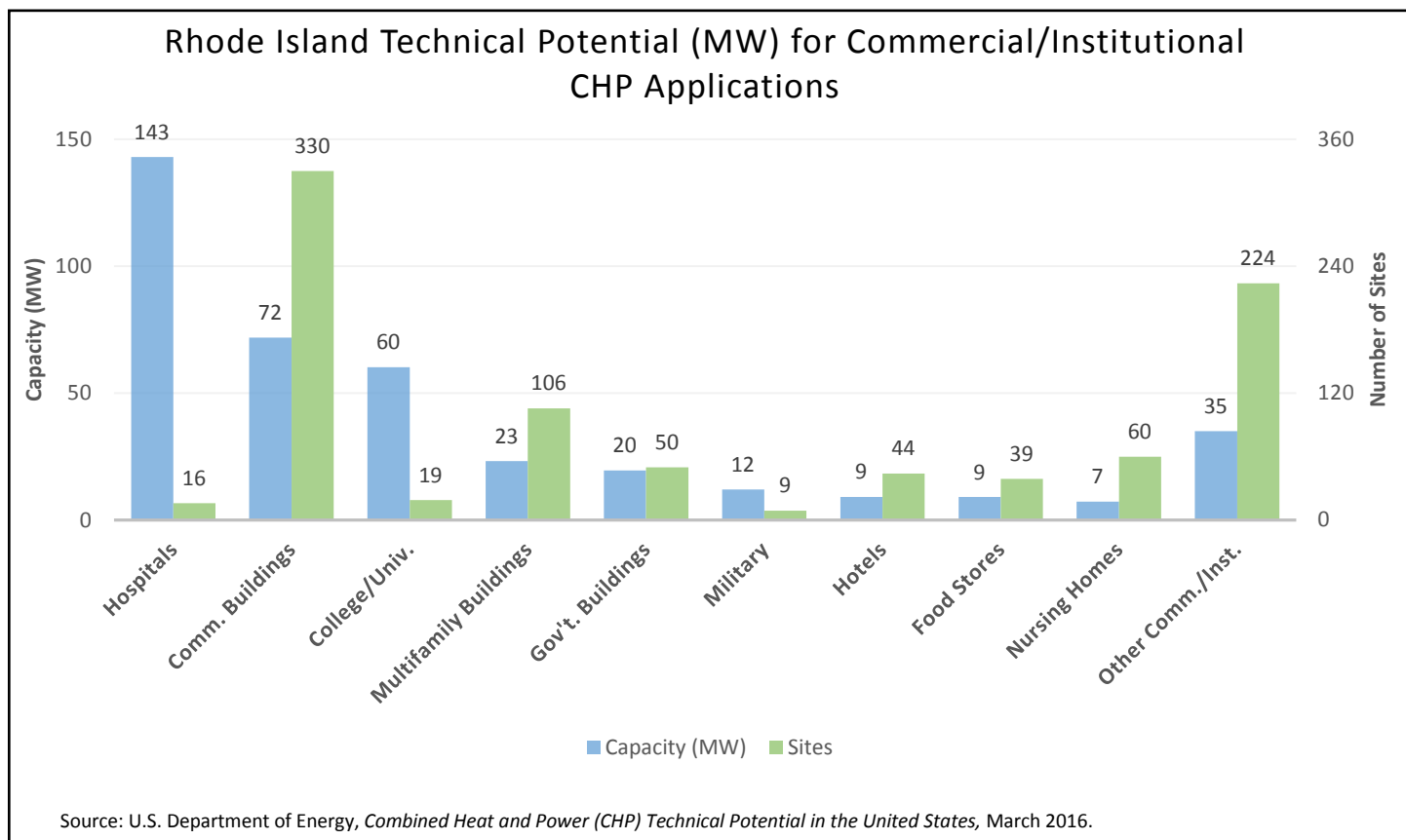


Source: U.S. Department of Energy, *Combined Heat and Power (CHP) Technical Potential in the United States*, March 2016.

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
Paper	14	3	1	1	2	5	2	18	2	62	21	89
Chemicals	19	4	3	2	11	24	5	38	0	0	38	69
Textiles	24	6	8	6	6	12	1	7	0	0	39	30
Rubber/Misc Plastics	26	3	3	2	1	4	1	6	0	0	32	15
Food Processing	31	6	1	1	0	0	0	0	0	0	32	7
Other Industrial	50	7	2	1	4	8	0	0	0	0	56	16
Total	164	28	18	13	24	53	9	69	2	62	217	225

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
Hospitals	4	2	4	3	7	13	0	0	1	125	16	143
Commercial Buildings	194	10	97	39	39	23	0	0	0	0	330	72
College/Univ.	9	1	1	1	5	19	4	40	0	0	19	60
Multifamily Buildings	75	6	27	14	4	4	0	0	0	0	106	23
Government Buildings	41	5	5	4	3	4	1	6	0	0	50	20
Other Comm./Inst.	361	48	9	6	5	12	1	7	0	0	376	73
Total	684	71	143	65	63	76	6	53	1	125	897	391

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

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Rhode Island 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.

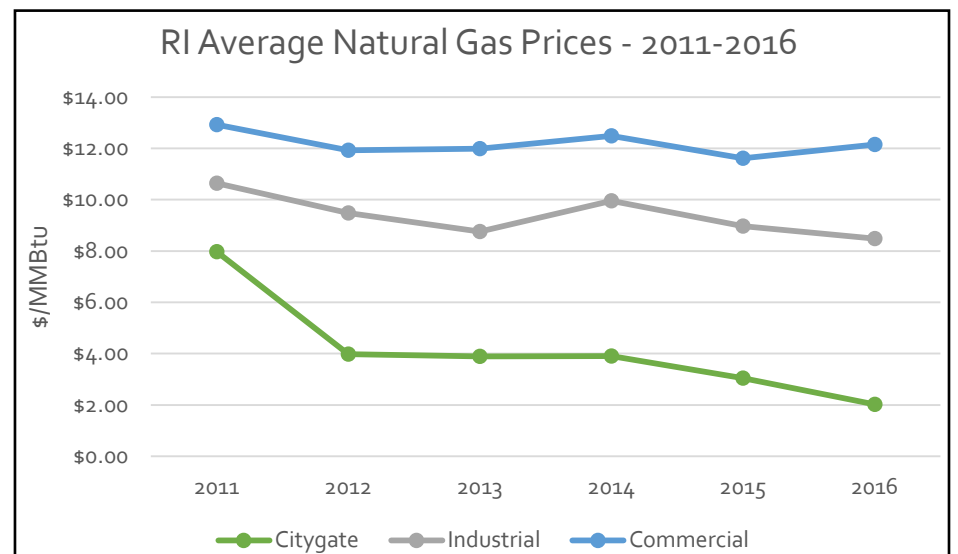
Rhode Island Natural Gas Prices

Rhode Island Average Gas Prices - 2016

Sector	RI Price (\$/MMBtu)	U.S. Price (\$/MMBtu)
Citygate*	2.02	3.75
Industrial	8.48	3.39
Commercial	12.15	7.22

Source: U.S. Energy Information Administration, "Natural Gas Prices", https://www.eia.gov/dnav/ng/ng_pri_sum_dcu_SRI_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.



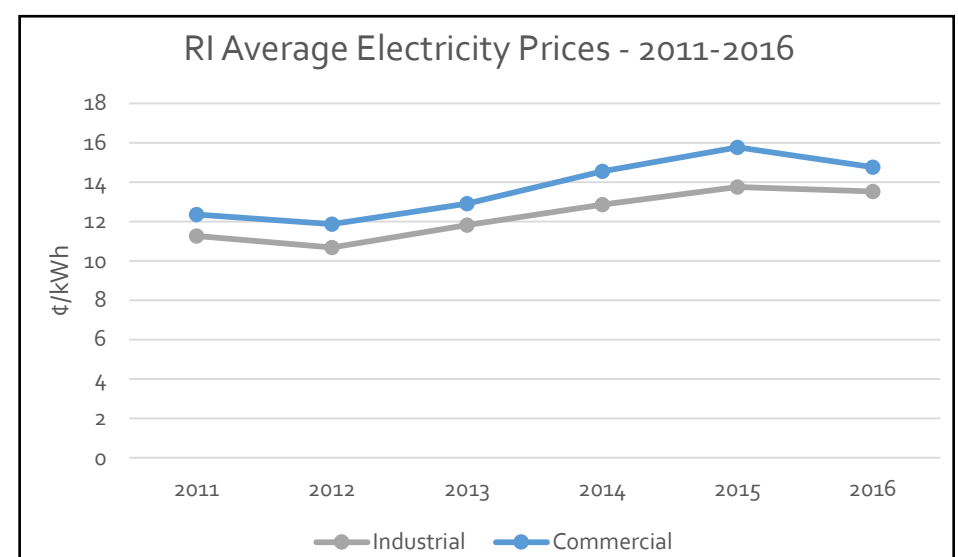
Rhode Island Electricity Prices

Rhode Island Average Electricity Prices - 2016

Sector	RI Price (¢/kWh)	U.S. Price (¢/kWh)
Industrial	13.54	6.75
Commercial	14.77	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.



Rhode Island Average Delivered Electricity Prices by Utility

Utility	Industrial Price (¢/kWh)	Commercial Price (¢/kWh)	Average Price** (¢/kWh)
Narragansett Electric Co	17.33	17.66	17.50
Pascoag Utility District	15.10	17.89	16.50

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.

Rhode Island Electricity Prices – Heat Map



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CHP Technical
Potential

CHP Economics

CHP Partners

Department of Energy CHP Partnerships

Northeast CHP Technical Assistance Partnership



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

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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](#).

- National Grid

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