The State of CHP: Florida

The information in this document provides a general overview of the state of CHP in Florida, with data on current installations, technical potential, and economics for CHP. For help with questions about specific CHP opportunities in Florida, please consult with the Southeast CHP Technical Assistance Partnership.

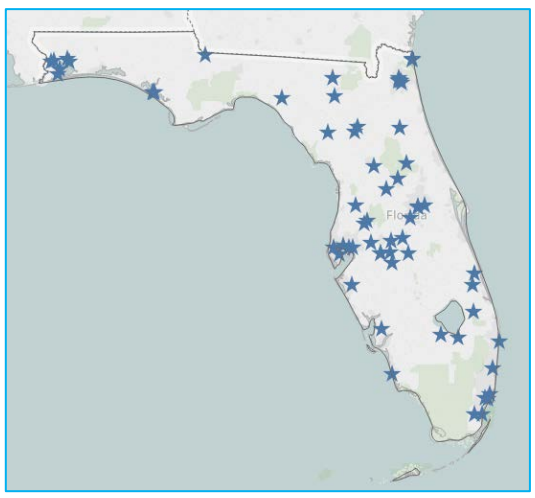
Installed CHP | CHP Technical Potential | CHP Economics | CHP Partners

Florida Installed Base of CHP

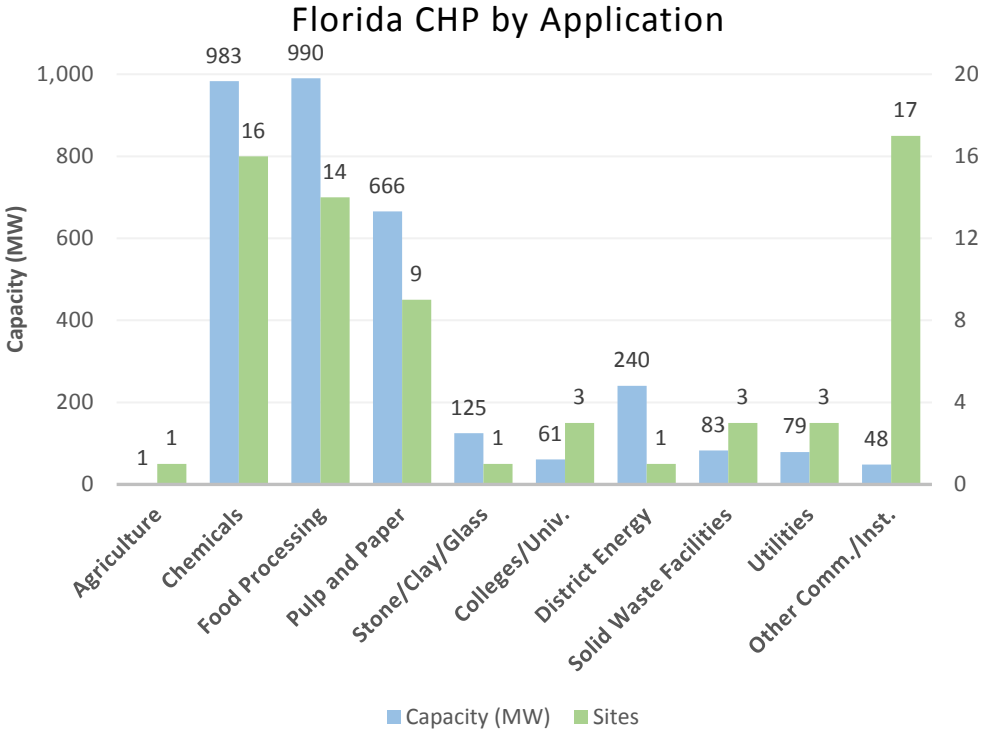
U.S. DOE Combined Heat and Power Installation Database

Sector	*Installations*	*Capacity (MW)*
Industrial	40	2,764
Commercial/Institutional	27	511
Other	1	1
Total	**68**	**3,276**

The Southeast CHP Technical Assistance Partnership has compiled information on certain illustrative CHP projects in Florida. You can access these by visiting the Department of Energy's CHP Project Profiles Database.

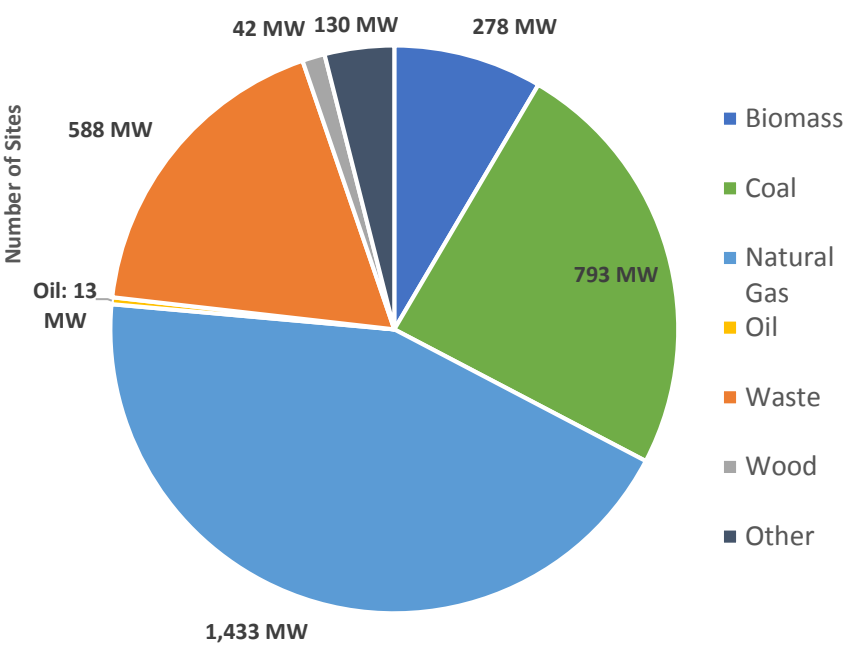


Florida CHP by Application



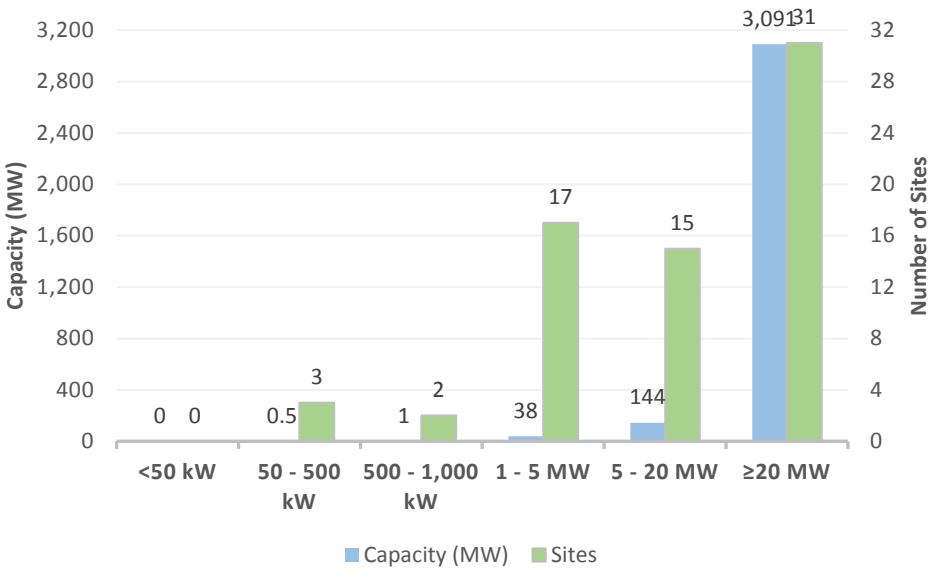
Source: DOE CHP Installation Database (U.S. installations as of Dec. 31, 2016)

Florida CHP Capacity (MW) by Fuel Type



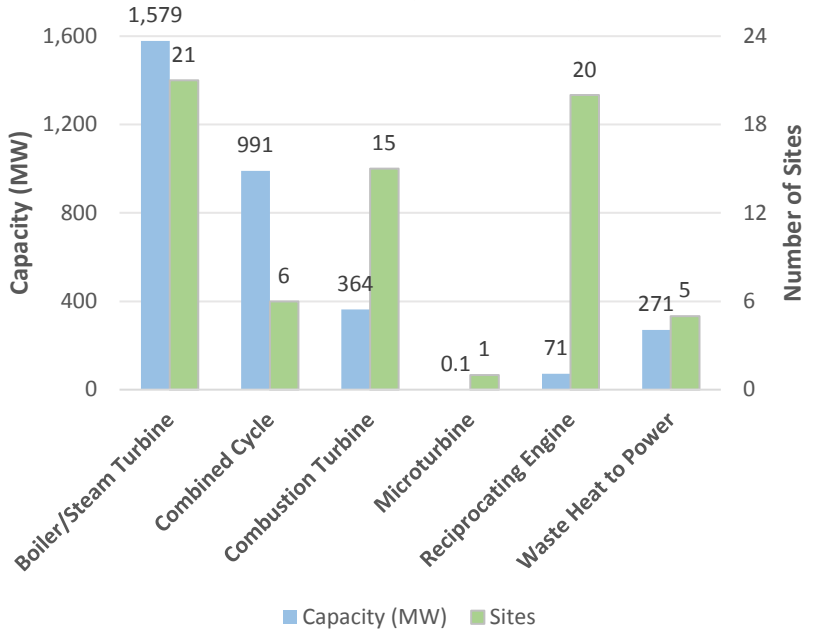
Source: DOE CHP Installation Database (U.S. installations as of Dec. 31, 2016)

Florida CHP by Size Range



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

Florida 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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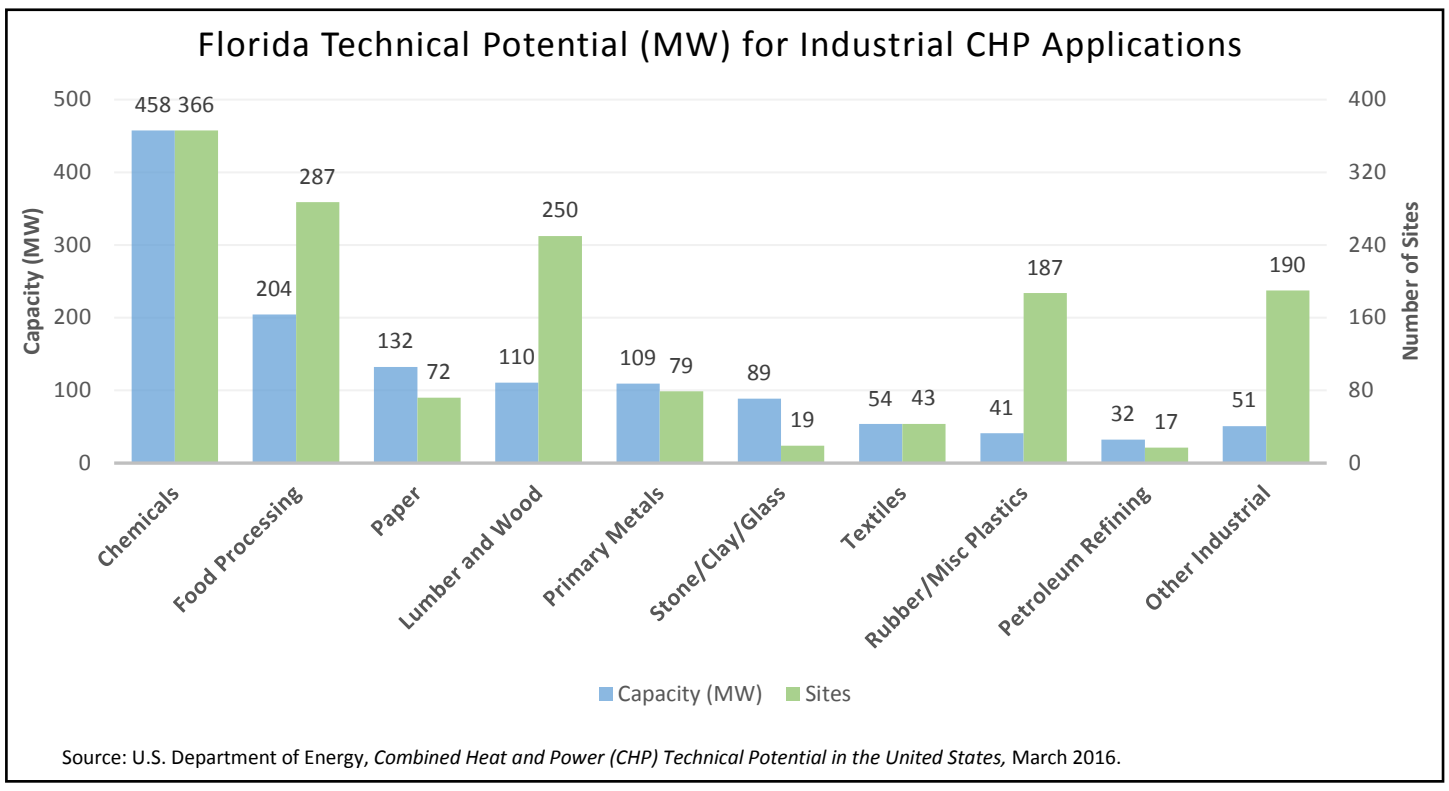
Florida Technical Potential for New CHP Installations

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

Sector	*Potential Sites*	*Potential Capacity (MW)*
Industrial	1,510	1,281
Commercial/Institutional	16,313	5,688
Total	**17,823**	**6,968**

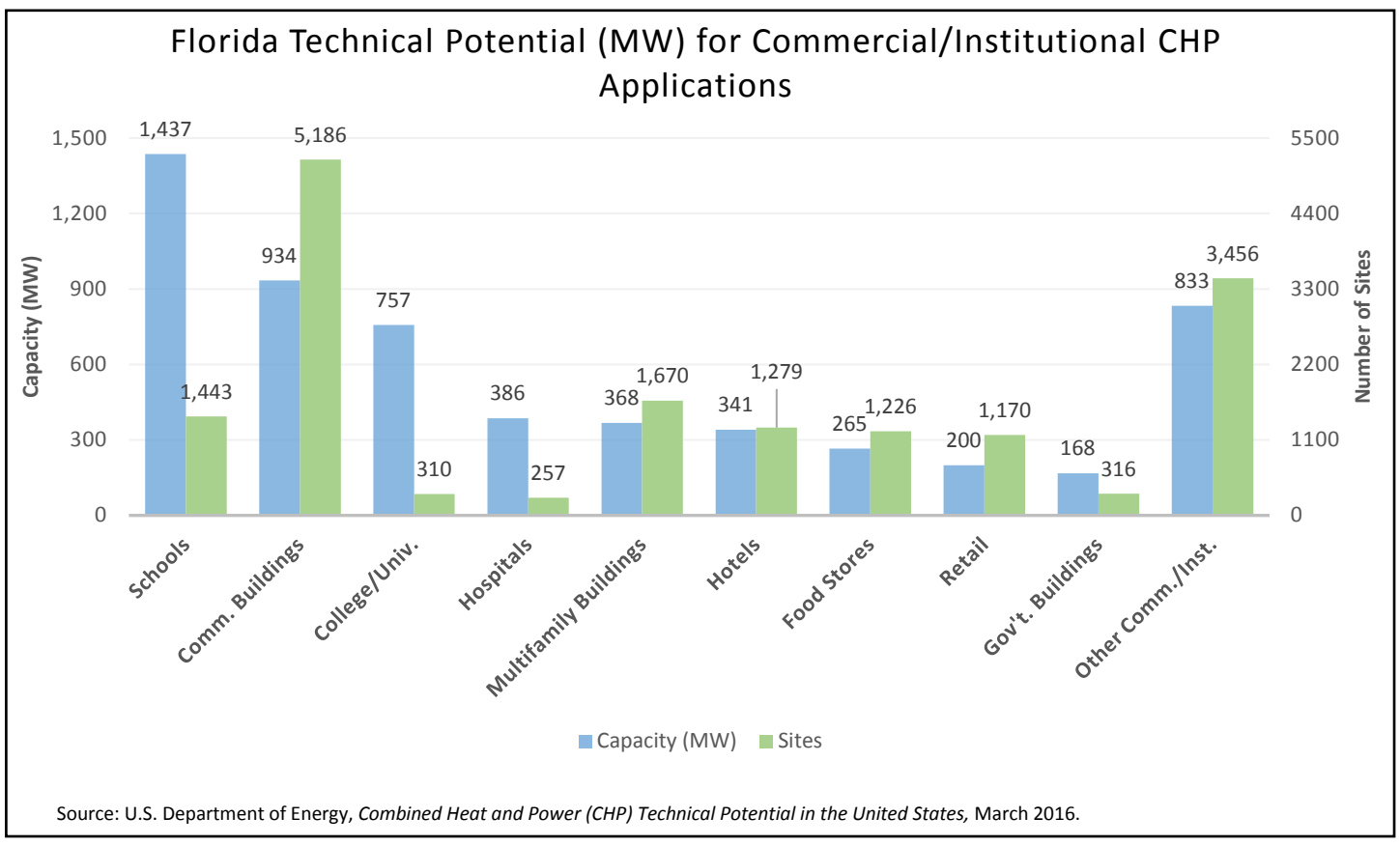


Source: U.S. Department of Energy, *Combined Heat and Power (CHP) Technical Potential in the United States,* March 2016.

Technical Potential by CHP Size Range for Top Five Industrial Sectors

	50-500 kW		0.5 - 1 MW		1 - 5 MW		5 - 20 MW		>20 MW		Total	
Application	**Sites**	**MW**	**Sites**	**MW**	**Sites**	**MW**	**Sites**	**MW**	**Sites**	**MW**	**Total Sites**	**Total MW**
Chemicals	248	44	47	32	48	99	22	181	1	102	366	458
Food Processing	201	38	35	25	47	87	3	22	1	33	287	204
Paper	42	10	13	10	14	33	1	17	2	63	72	132
Lumber and Wood	195	35	27	19	26	45	2	12	0	0	250	110
Primary Metals	46	10	16	11	14	32	1	10	2	46	79	109
Other Industrial	371	56	33	24	45	109	7	77	0	0	456	267
Total	1,103	191	171	122	194	405	36	319	6	244	1,510	1,281

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

	50-500 kW		0.5 - 1 MW		1 - 5 MW		5 - 20 MW		>20 MW		Total	
Application	**Sites**	**MW**	**Sites**	**MW**	**Sites**	**MW**	**Sites**	**MW**	**Sites**	**MW**	**Total Sites**	**Total MW**
Schools	0	0	928	666	515	771	0	0	0	0	1,443	1,437
Commercial Buildings	3,457	173	1,383	553	346	208	0	0	0	0	5,186	934
Hospitals	67	20	61	43	122	262	7	62	0	0	257	386
Multifamily Buildings	1,177	88	427	213	66	66	0	0	0	0	1,670	368
Hotels	1,110	144	92	58	75	127	2	11	0	0	1,279	341
Other Comm./Inst.	6,919	963	294	193	210	390	22	189	2	21	7,447	1,806
Total	11,828	1,282	3,107	1,677	1,312	1,831	55	541	11	306	16,313	5,688

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

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Florida 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.

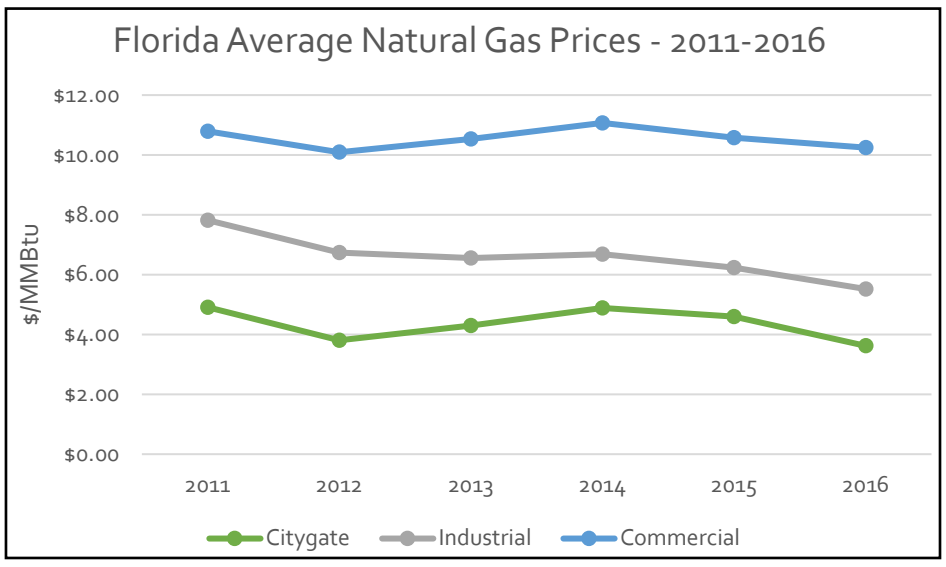
Florida Natural Gas Prices

Florida Average Gas Prices - 2016

Sector	*FL Price ($/MMBtu)*	*U.S. Price ($/MMBtu)*
Citygate*	3.62	3.75
Industrial	5.52	3.39
Commercial	10.25	7.22

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



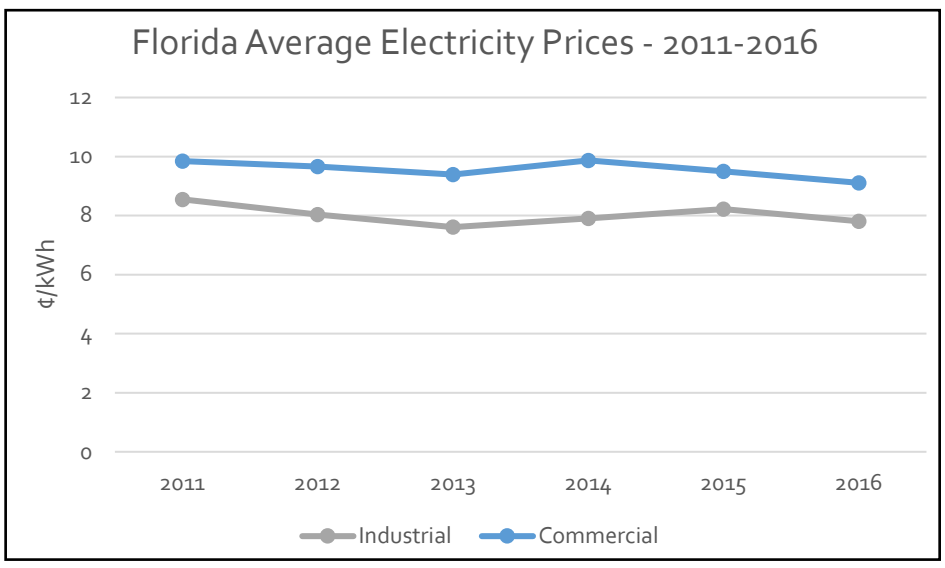
Florida Electricity Prices

Florida Average Electricity Prices - 2016

Sector	*FL Price (¢/kWh)*	*U.S. Price (¢/kWh)*
Industrial	7.81	6.75
Commercial	9.11	10.37

Source: U.S. Energy Information Administration, "Electricity Data Browser", https://www.eia.gov/electricity/data.cfm

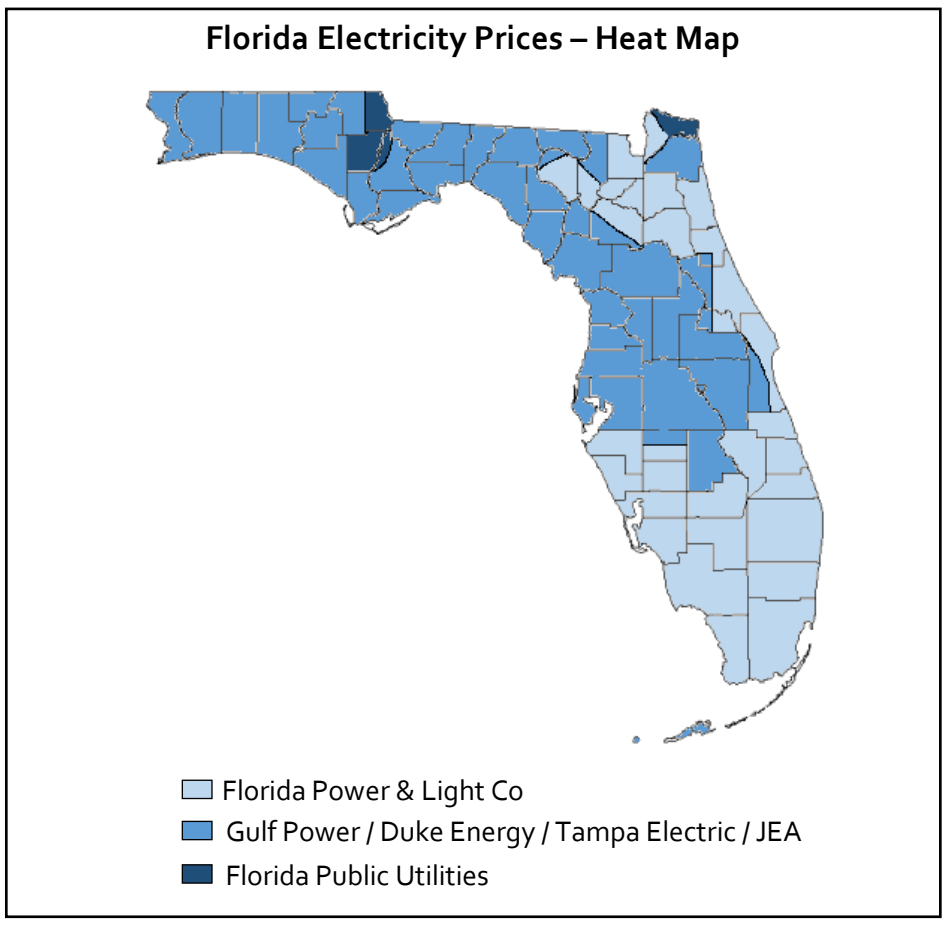
Electricity rates can vary greatly by utility and facility size range. The rates below from EIA represent general averages; individual facility rates may vary.



Florida Average Delivered Electricity Prices by Utility

Utility	*Industrial Price (¢/kWh)*	*Commercial Price (¢/kWh)*	*Average Price** (¢/kWh)*
Florida Public Utilities Co	16.48	13.51	14.99
Gulf Power Co	8.64	11.05	9.84
Duke Energy Florida	8.79	9.97	9.38
Tampa Electric	8.57	10.03	9.30
Jacksonville Electric Auth.	7.94	10.32	9.13
Florida Power & Light Co	6.65	8.75	7.70

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.

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Department of Energy CHP Partnerships

Southeast CHP Technical Assistance Partnership

U.S. Department of Energy
CHP Technical Assistance Partnerships
SOUTHEAST

Southeast CHP TAP Director: Isaac Panzarella
Phone: 919-515-0354
Email: ipanzarella@ncsu.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.

- Miami-Dade County, FL

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