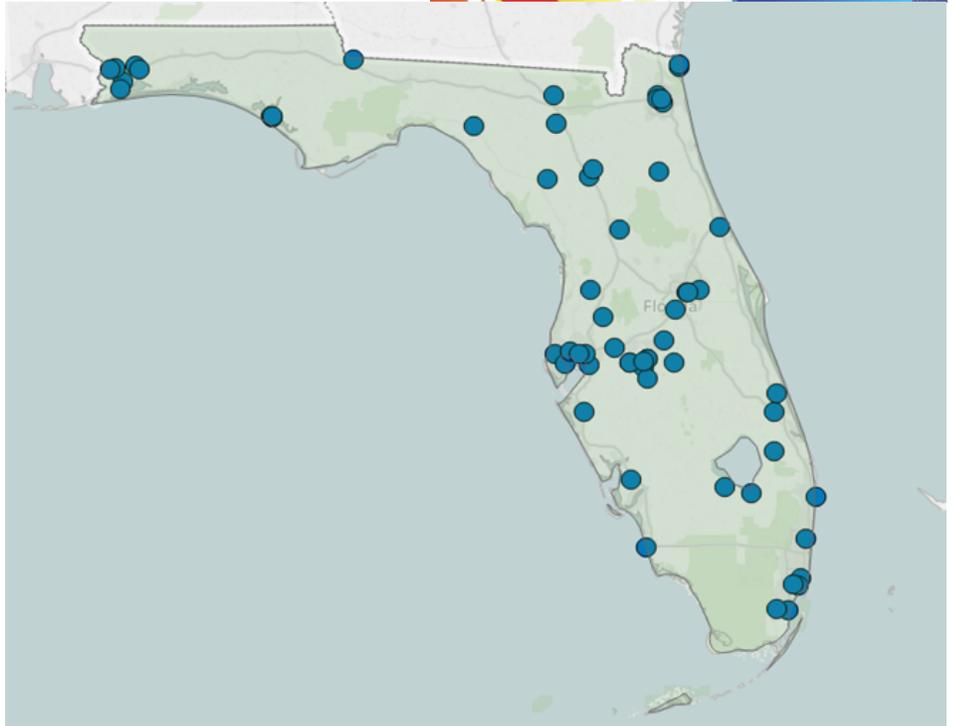


The State of CHP: Florida



Map of current CHP installations in Florida. 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 Florida, with data on current installations, technical potential, and economics for CHP.

Florida: 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 Florida, and can be accessed by visiting energy.gov/chp-installs.

CHP Project Profiles

The Southeast CHP TAP 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 at energy.gov/chp-projects.

Southeast CHP Technical Assistance Partnership

For assistance with questions about specific CHP opportunities in Florida, please consult with the Southeast CHP TAP by visiting sechtap.org or contacting the CHP TAP director.

Florida Existing CHP

Sector	Sites	Capacity (MW)
Industrial	35	2,202
Commercial/Institutional	26	518
Other	1	1
Total	62	2,721

Southeast CHP TAP Director

Isaac Panzarella, P.E.

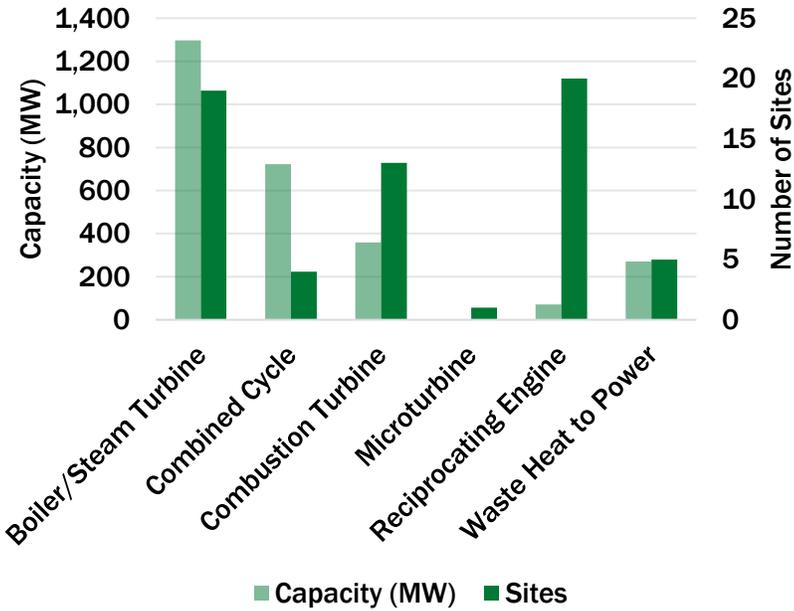
- North Carolina State University
- ipanzarella@ncsu.edu
- 919-515-0354

SOUTHEAST

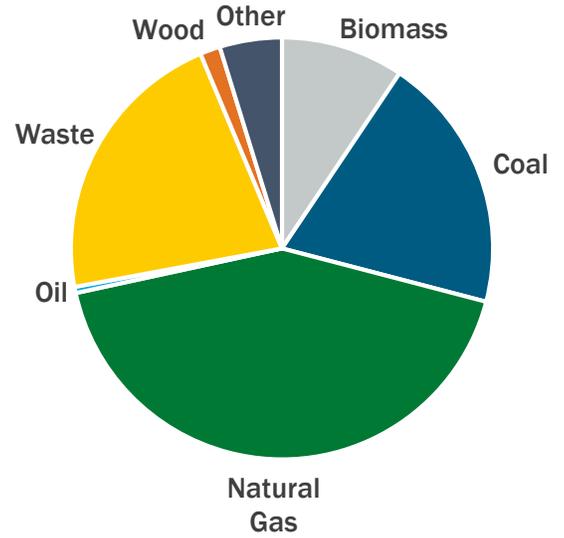


CHP
TECHNICAL ASSISTANCE
PARTNERSHIPS

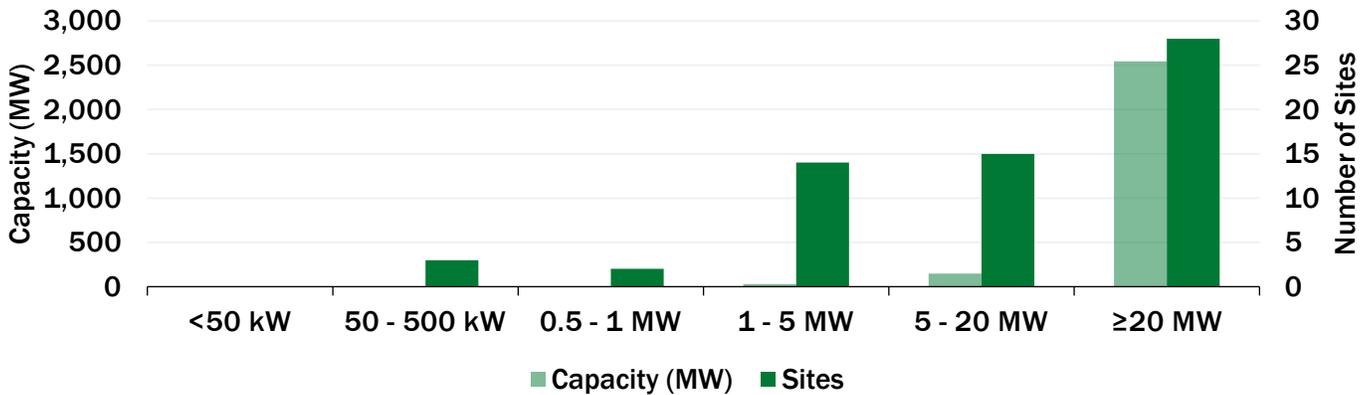
Florida CHP by Technology



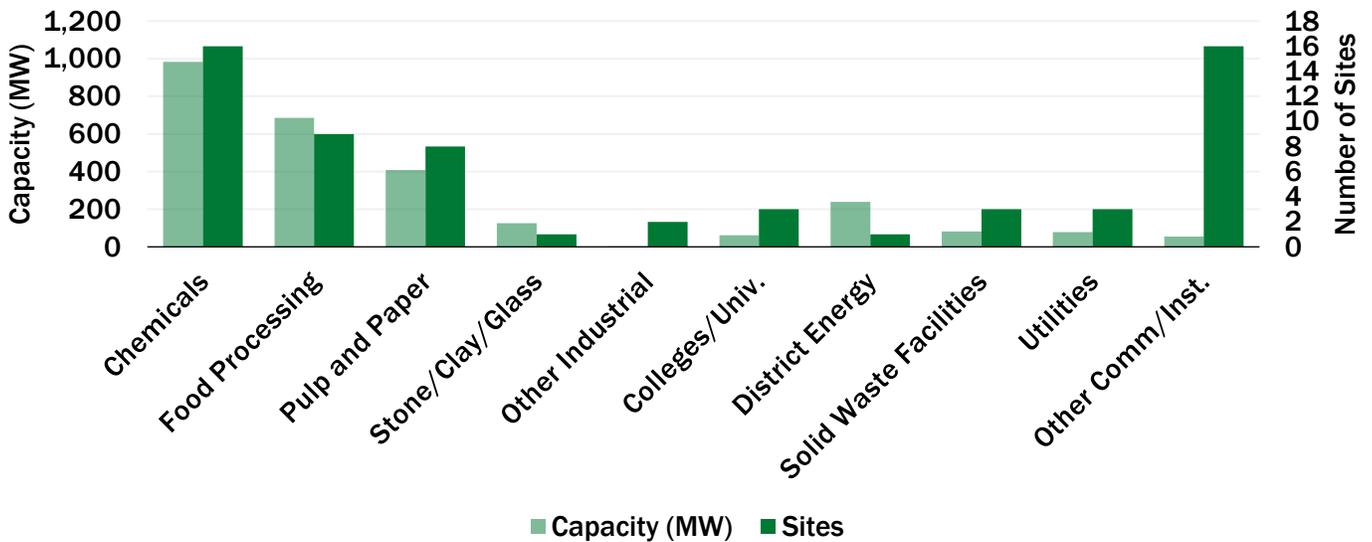
Florida CHP Capacity (MW) by Fuel



Florida CHP by Size Range



Florida CHP by Application



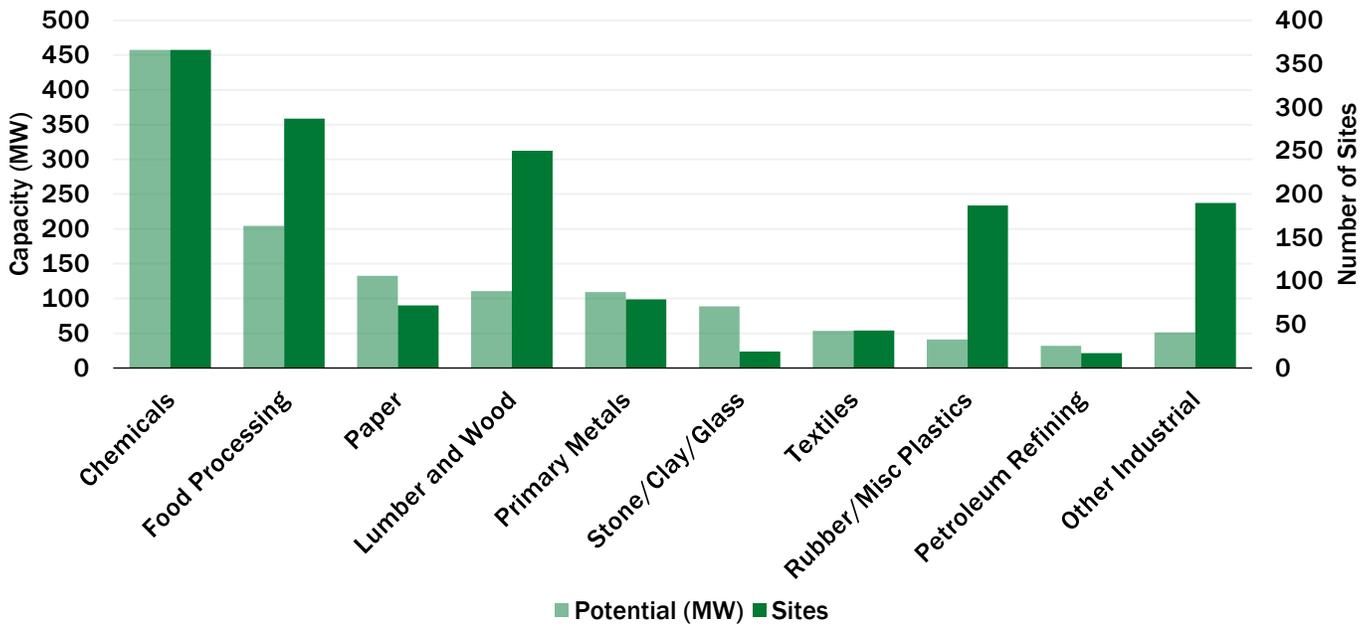
Florida: Technical Potential for New CHP Installations

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. This report can be accessed at energy.gov/chp-potential.

Florida CHP Technical Potential

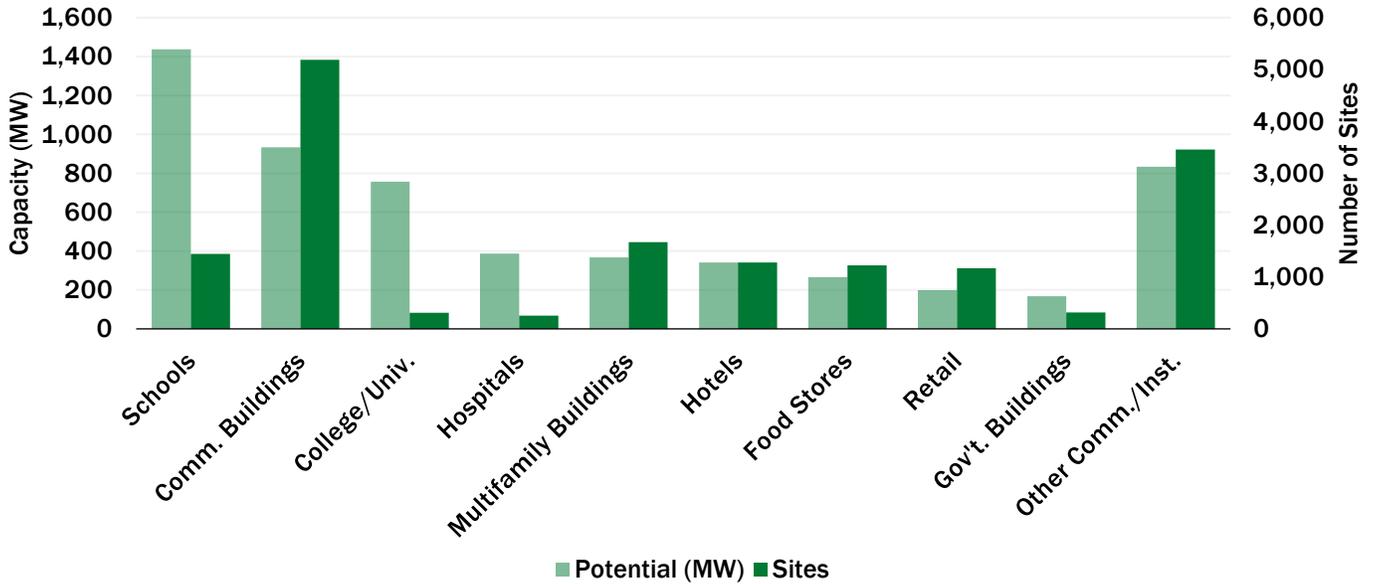
Sector	Potential Sites	Potential MW
Industrial	1,510	1,281
Commercial/Institutional	16,313	5,688
Total	17,823	6,968

Florida 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	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

Florida 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
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

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

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

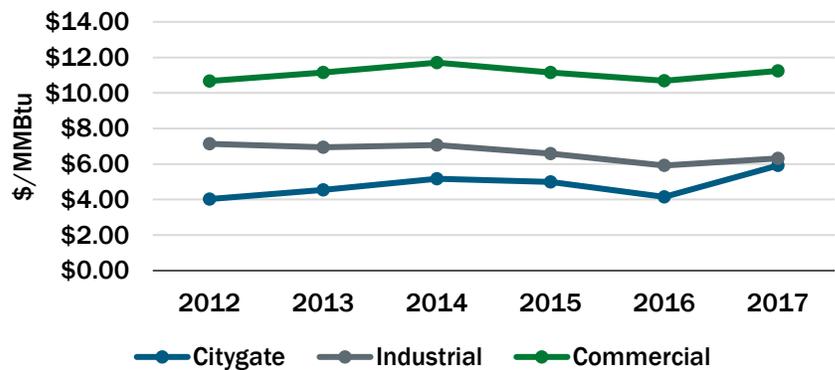
The EIA industrial natural gas price is a full tariff rate, and most large consumers are purchasing gas commodities from marketers at a lower rate.

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

Sector	FL Price	U.S. Price
Citygate*	5.91	4.26
Industrial	6.32	4.20
Commercial	11.24	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.

Florida Average Natural Gas Prices



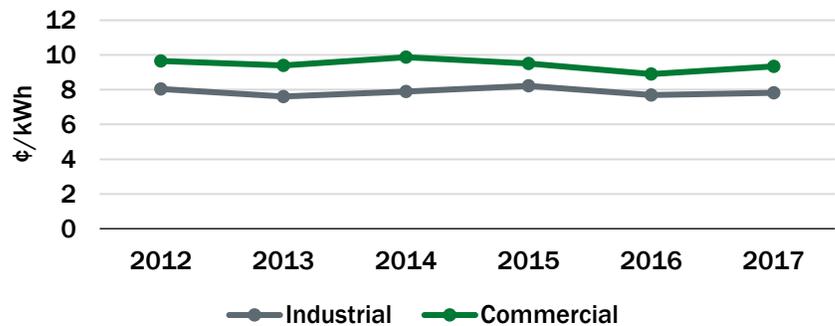
Florida Electricity Prices

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

Florida Average Electricity Prices (¢/kWh) - 2017

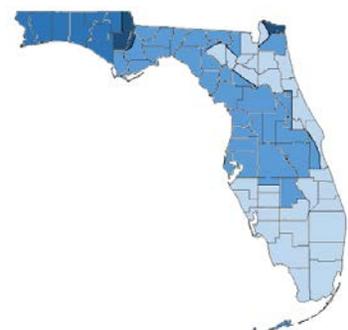
Sector	FL Price	U.S. Price
Industrial	7.83	6.88
Commercial	9.35	10.66

Florida Average Electricity Prices



Florida Average Delivered Electricity Prices by Utility

Utility	Industrial Price (¢/kWh)	Commercial Price (¢/kWh)	Average Price (¢/kWh)
Florida Public Utilities	13.01	13.35	13.18
Gulf Power	8.27	10.85	9.56
Jacksonville Electric Authority	7.43	9.88	8.65
Duke Energy Florida	8.05	9.23	8.64
Tampa Electric	7.81	9.46	8.63
Florida Power & Light	6.78	8.98	7.88



- Florida Power & Light
- Duke Energy / JEA / TECO
- Gulf Power
- Florida Public Utilities