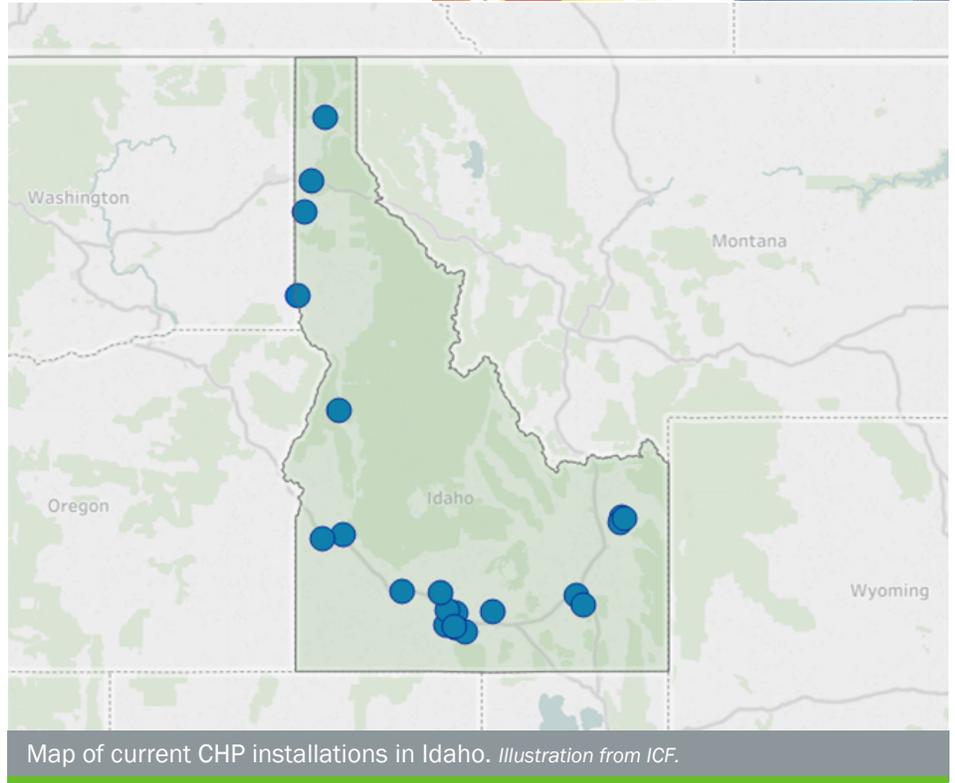


The State of CHP: Idaho



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



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

CHP Project Profiles

The Northwest CHP TAP has compiled information on certain illustrative CHP projects in Idaho. You can access these by visiting the Department of Energy’s CHP Project Profiles Database at energy.gov/chp-projects.

Northwest CHP Technical Assistance Partnership

For assistance with questions about specific CHP opportunities in Idaho, please consult with the Northwest CHP TAP by visiting nwchptap.org or contacting the CHP TAP director.

Idaho Existing CHP

Sector	Sites	Capacity (MW)
Industrial	8	177
Commercial/Institutional	7	10
Other	6	15
Total	21	202

Northwest CHP TAP Director

David Van Holde, P.E.

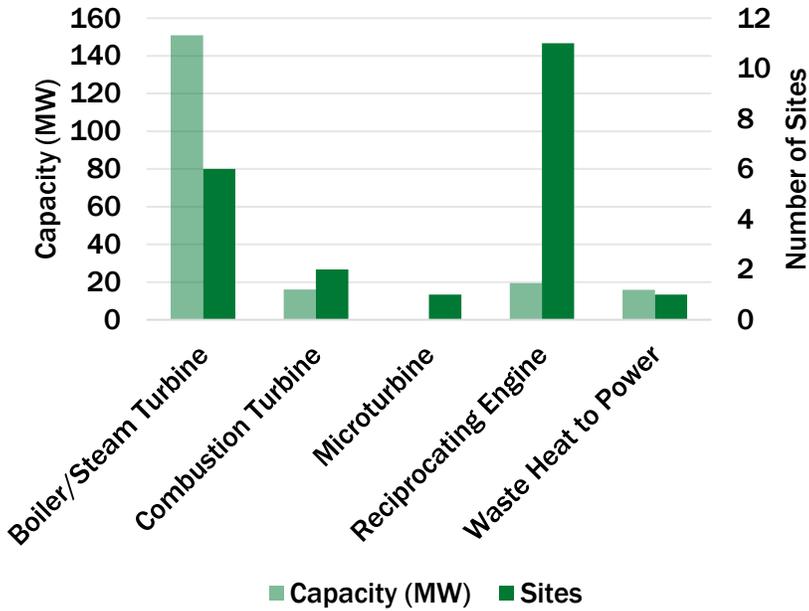
- Washington State University
- vanholded@energy.wsu.edu
- 360-956-2071

NORTHWEST

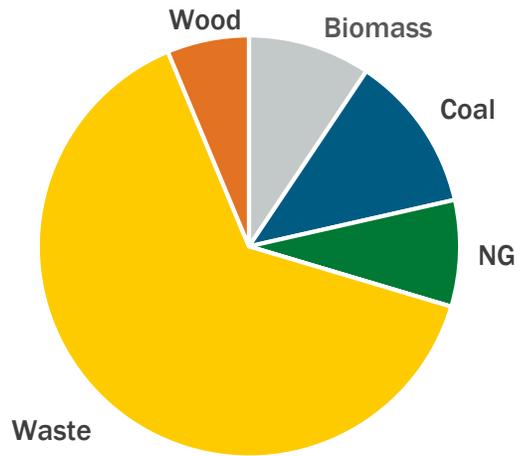


CHP
TECHNICAL ASSISTANCE
PARTNERSHIPS

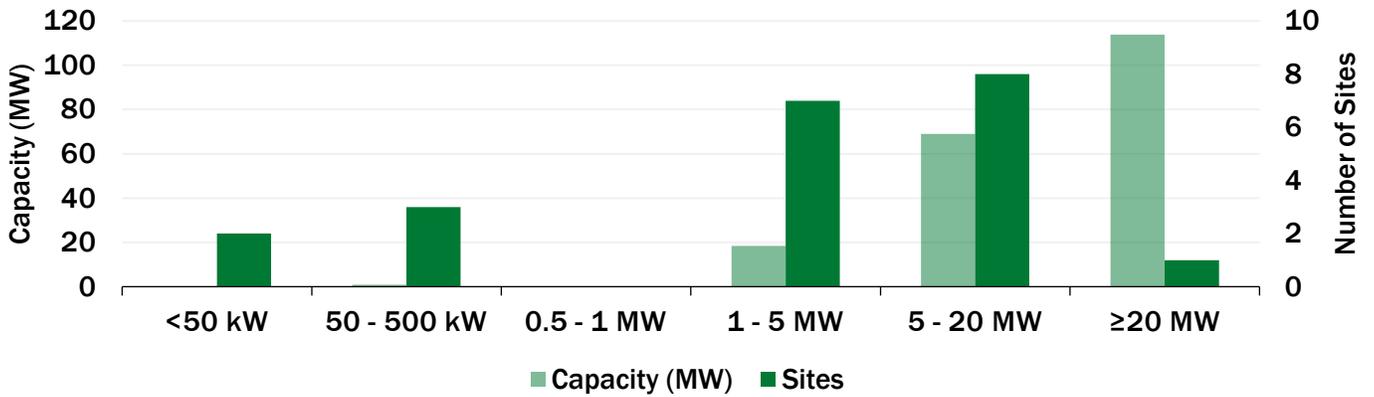
Idaho CHP by Technology



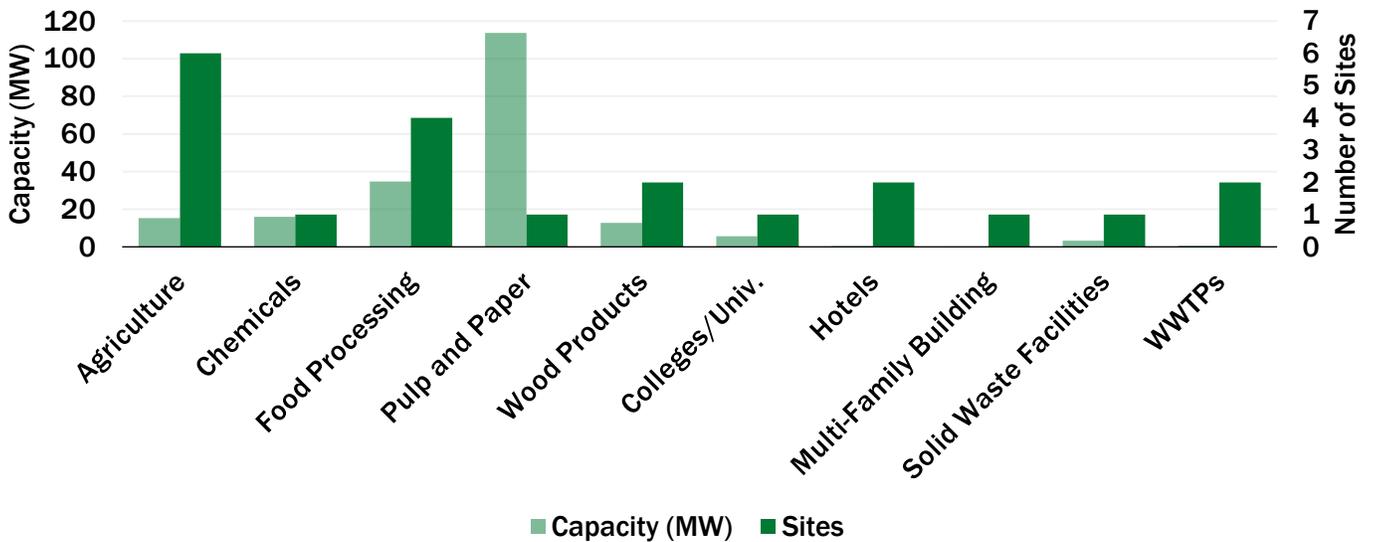
Idaho CHP Capacity (MW) by Fuel



Idaho CHP by Size Range



Idaho CHP by Application



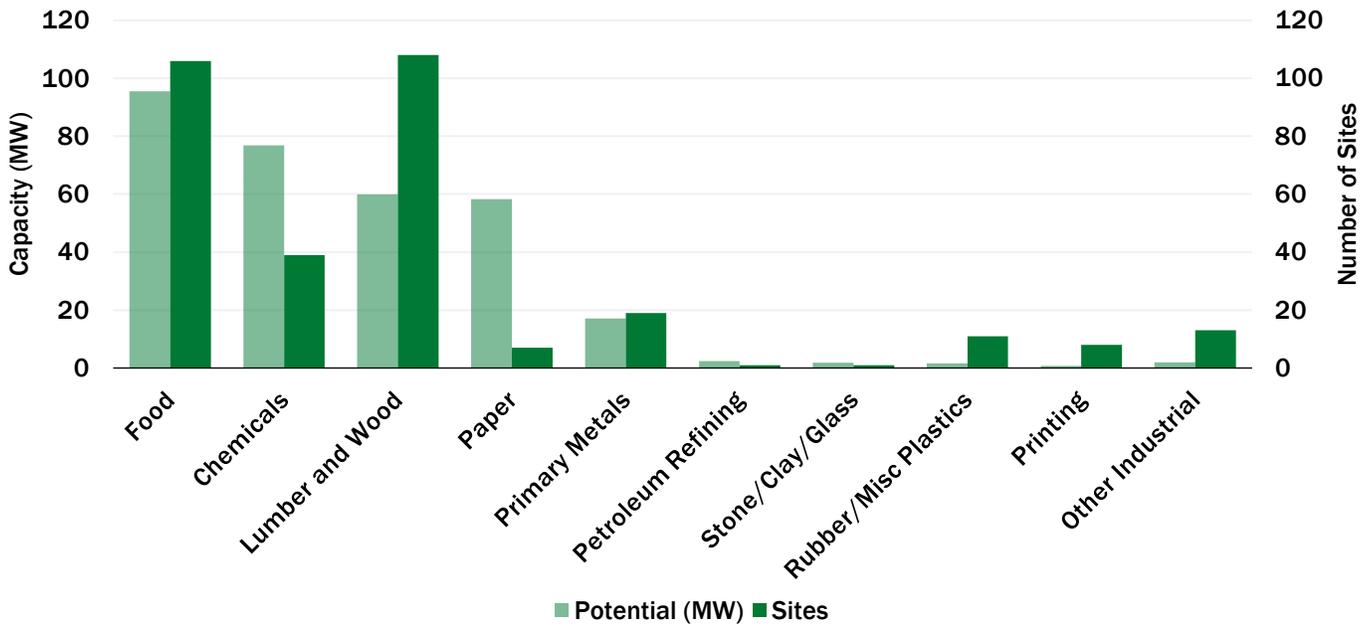
Idaho: Technical Potential for New CHP Installations

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.

Idaho CHP Technical Potential

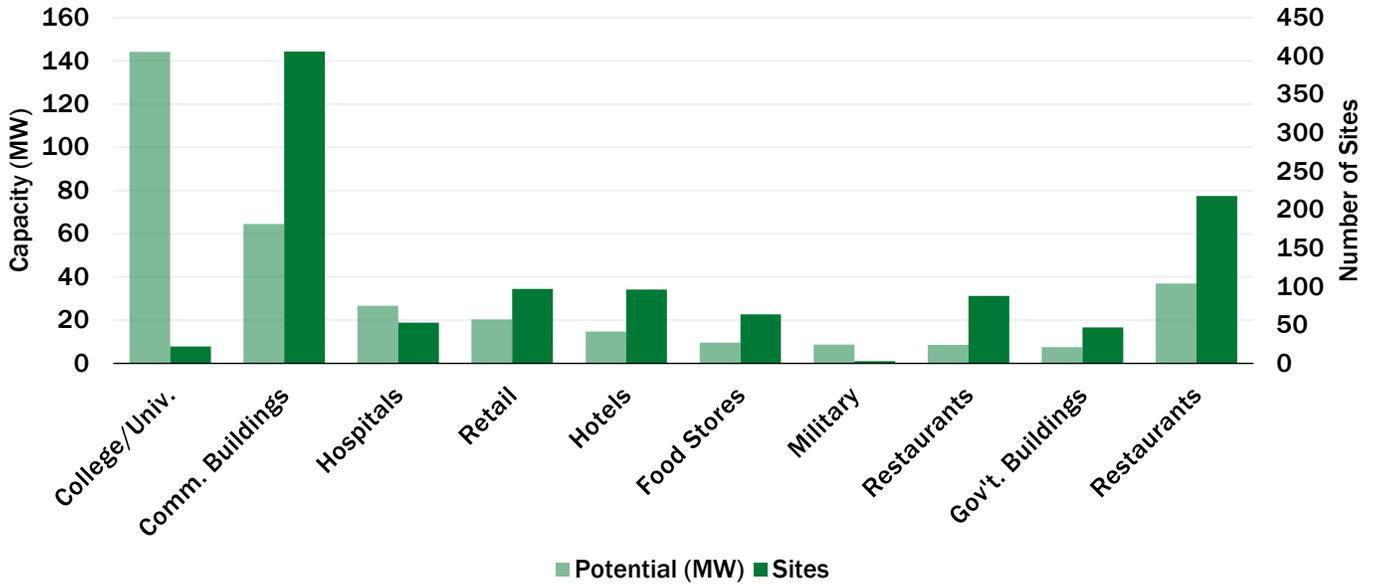
Sector	Potential Sites	Potential MW
Industrial	313	316
Commercial/Institutional	1,094	342
Total	1,407	658

Idaho 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
Food	54	10	18	12	32	62	2	12	0	0	106	95
Chemicals	28	4	1	1	7	12	2	20	1	41	39	77
Lumber and Wood	77	13	15	10	15	30	1	7	0	0	108	60
Paper	4	1	1	1	0	0	1	16	1	40	7	58
Primary Metals	12	3	1	1	6	14	0	0	0	0	19	17
Other Industrial	32	5	0	0	2	4	0	0	0	0	34	9
Total	207	36	36	24	62	121	6	54	2	81	313	316

Idaho 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
College/Univ.	12	2	0	0	5	12	2	33	3	97	22	144
Commercial Buildings	293	15	90	36	23	14	0	0	0	0	406	64
Hospitals	39	7	8	6	6	14	0	0	0	0	53	27
Retail	92	14	3	2	2	5	0	0	0	0	97	20
Hotels	90	10	4	2	2	2	0	0	0	0	96	15
Other Comm./Inst.	400	46	12	8	7	12	1	6	0	0	420	72
Total	926	94	117	54	45	58	3	39	3	97	1,094	198

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>

Idaho: 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.

Idaho Natural Gas Prices

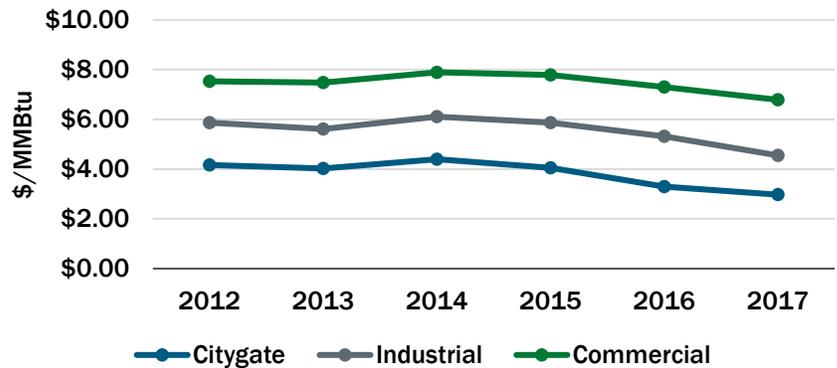
The EIA industrial natural gas price is a full tariff rate, and most large consumers are purchasing gas commodities from marketers at a lower rate.

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

Sector	ID Price	U.S. Price
Citygate*	2.97	4.26
Industrial	4.55	4.20
Commercial	6.79	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.

Idaho Average Natural Gas Prices



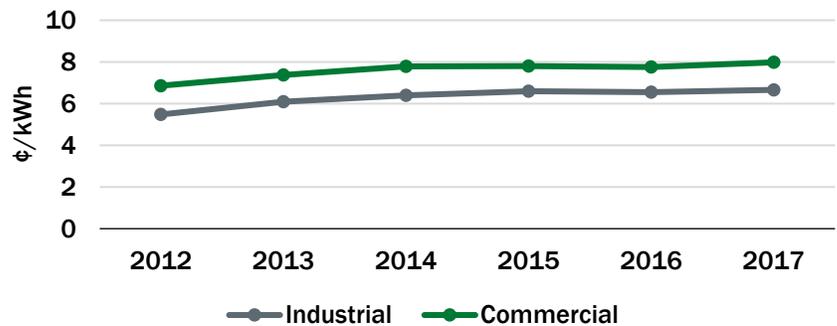
Idaho Electricity Prices

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

Idaho Average Electricity Prices (¢/kWh) - 2017

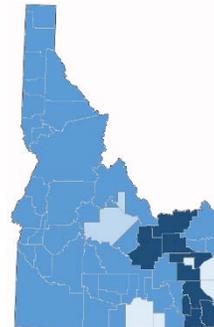
Sector	ID Price	U.S. Price
Industrial	6.66	6.88
Commercial	7.98	10.66

Idaho Average Electricity Prices



Idaho Average Delivered Electricity Prices by Utility

Utility	Industrial Price (¢/kWh)	Commercial Price (¢/kWh)	Average Price (¢/kWh)
Rocky Mountain Power	13.49	14.97	14.23
Northern Lights	5.19	10.53	7.86
Fall River Rural Elec Coop	-	7.58	7.58
Avista Corp	5.72	9.13	7.42
Idaho Power	6.76	7.78	7.27
Salmon River Elec Coop	4.95	7.09	6.02
City of Idaho Falls	4.84	6.18	5.51
Lower Valley Energy	4.36	6.35	5.36
Raft Rural Elec Coop	5.16	5.42	5.29



- Idaho Falls / Raft Rural / Lower Valley Energy
- Salmon River Elec Coop
- Avista / ID Power / Northern Lights / Fall River
- Rocky Mountain Power