



Energy
Efficiency
Program

Understanding Combined Heat and Power



What is CHP?

Combined Heat and Power (CHP)—also known as cogeneration—is a highly efficient on-site energy system that generates electricity and captures the heat to produce hot water, steam, or chilled water. CHP offers fuel flexibility and can run on natural gas, biogas, biofuels, or hydrogen.

Applications

CHP is best suited for sites with steady, significant thermal and electric loads.

Examples may include:

- Chemical plants, refineries
- Pulp and paper mills
- Wastewater treatment plants
- Food processing plants
- Hospitals and nursing homes
- Hotels & health clubs
- Universities
- And more!

How it works?

A fuel-powered prime mover (like a gas turbine or engine) drives a generator to produce electricity. Instead of wasting the heat from this process, CHP systems recover it to meet a facility's thermal needs. Technologies include:

- Microturbines
- Combustion turbines
- Steam turbines
- Fuel cells

CHP delivers clean reliable and cost effective energy- Ideal for enabling large energy users to reduce demand and grid congestion, improve power quality, and provide operational flexibility.

Benefits

- Decreased energy costs
- Enhanced energy resiliency within critical infrastructure and operations
- Reduced risk from uncertain energy prices
- Utilizes abundant domestic natural gas

Want to hear more? Contact us for a no-cost consultation to see if this technology is a solution for your facility. Visit [nicorgas.com/chp](https://www.nicorgas.com/chp).