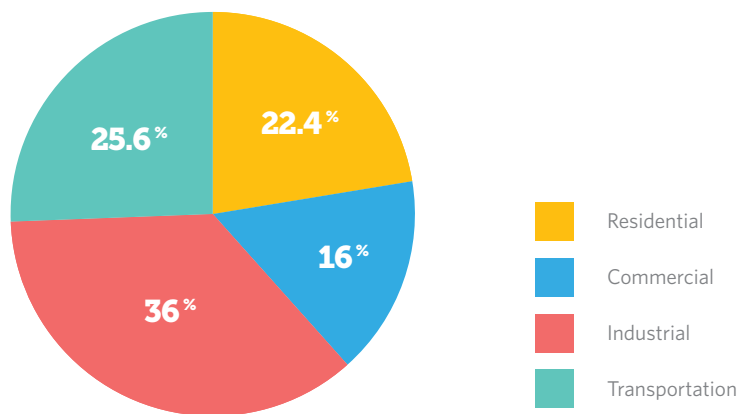


Industrial Energy Efficiency in Idaho

Overview

Combined heat and power, or CHP, technologies provide reliable electricity, mechanical power, or thermal energy by capturing heat that is wasted during electricity generation. District energy takes heat from a CHP system to heat or cool entire complexes such as a university campus, office park, or downtown area. More recently, a process called waste heat to power, or WHP, has been used to capture heat released during industrial processes that convert raw materials into products. These on-site technologies allow businesses to achieve energy efficiencies of up to 80 percent. Technologies such as CHP and WHP represent tremendous potential to reduce energy consumption in Idaho's industrial sector, saving manufacturers money and creating energy businesses and jobs.

Idaho Energy Consumption by End-Use Sector, 2012



Source: U.S. Energy Information Administration State Energy Data System Rankings

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State and regional statistics

Idaho's healthy manufacturing sector accounts for 12.25 percent of the total gross state product and employs 9.1 percent of the workforce. Manufacturing produces 89.5 percent of the state's total exports.

Source: National Association of Manufacturers

Idaho has 16 CHP sites across the state with a total generating capacity of 180.3 MW.

Source: U.S. Department of Energy

Idaho's industrial sector used 186.5 trillion British thermal units of power in 2012. The industrial sector uses 36 percent of the total energy consumed statewide.

Source: U.S. Energy Information Administration State Energy Data System Rankings

State policies support industrial energy efficiency

The Idaho Governor's Office of Energy Resources administers low-interest loan programs for energy efficiency projects, including some types of CHP. Loans are available to commercial, residential, school, local government, state government, agricultural, institutional, and hospital properties for retrofit only, with the exception of some renewable resources.

Source: Idaho Governor's Office of Energy Resources

In 2005, Idaho enacted a bill to allow independent (nonutility) developers of renewable energy projects in the state to request financing from the Idaho Energy Resources Authority, a state bonding authority created under the Environment, Energy, and Technology Energy Resources Authority Act. Renewable energy in the program includes CHP and WHP.

Source: American Council for an Energy-Efficient Economy

Biomass offers opportunities for CHP technologies

Biomass represents an opportunity in Idaho because of the state's large wood products and food processing industries. Eleven of the 17 CHP sites in Idaho are powered by biomass, including the two most recently installed CHP projects. Agricultural and industrial facilities employing biomass and CHP include Dean Foods, Blue Sky Dairy, Dry Creek Dairy, American Potato/NNG, J.R. Simplot Co., and Amalgamated Sugar Co.

Source: U.S. Department of Energy

CHP improves energy security

Reducing strain on the electrical grid with energy-efficient technologies increases power reliability during electrical outages that result from extreme weather and other causes. CHP is the cornerstone of a resilient energy infrastructure. It enables hospitals, fire stations, police stations, and similar critical facilities to continue operations when the electric grid goes down during a disaster.

Source: U.S. Department of Energy

Idaho experienced 43 blackouts in 2014. The outages resulted in more than 27 hours of total blackout, affecting 127,379 people across the state.

Source: Blackout Tracker

Examples of CHP and WHP Facilities in Idaho

City	Facility	Application	Year operational	Capacity (kW)	Fuel type
Filer	Bettencourt Dairies	Agriculture	2012	3,200	Biomass
Plummer	Pacific Crown Timber Products Inc.	Wood products	1983	6,500	Wood
Rupert	Magic Valley foods plant	Food processing	1997	10,000	Natural gas
Twin Falls	Cargill Inc./ Bettencourt Dairies	Agriculture	2011	1,700	Biomass

Source: U.S. Department of Energy

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For further information, please visit:

pewtrusts.org/industrialefficiency

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