



Industrial Energy Efficiency in New Hampshire

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 New Hampshire's industrial sector, saving manufacturers money and creating energy businesses and jobs.

State and regional statistics

New Hampshire is a leader in manufacturing. Its strong and growing manufacturing sector accounts for nearly 11.4 percent of the state's total gross product and employs over 10 percent of the workforce. Manufacturing in New Hampshire was worth \$7.7 billion in 2013.

Source: National Association of Manufacturers

Industrial energy use is responsible for 12.6 percent of New Hampshire's total energy consumption.

Sources: U.S. Energy Information Administration State Energy Data System Rankings and U.S. Energy Information Administration New Hampshire Profile

New Hampshire has 16 CHP sites across the state, with a total generation capacity of 46,728 kilowatts.

Source: U.S. Department of Energy

New Hampshire has the potential to increase its CHP capacity. From 2005 to 2010, the state ranked 19th in new additions of CHP sites and 40th in the total capacity of these installations. New Hampshire added four CHP sites over those five years totaling 800 kilowatts in capacity.

Source: American Council for an Energy-Efficient Economy

Support for industrial energy efficiency in New Hampshire

In 2007, New Hampshire enacted a renewable portfolio standard that allows CHP to qualify under its targets. Renewably fueled CHP can receive credit for the electricity output as well as the "useful thermal energy" output.

Source: U.S. Environmental Protection Agency

In 2009, New Hampshire enacted a Climate Action Plan that recommends implementation of CHP where possible as a method of reducing greenhouse gas emissions. The plan calls for regulatory changes, incentives, portfolio standards, and development outreach, education, and training programs to encourage the use of CHP in New Hampshire.

Source: U.S. Environmental Protection Agency

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

In 2014, New Hampshire had 25 power outages affecting an average of 9,440 people per outage. The most common cause of the outages was weather or falling trees.

Source: Blackout Tracker

CHP can play a role in keeping New Hampshire's critical infrastructure operating during a storm and its aftermath.

Examples of CHP Facilities in New Hampshire

City	Facility	Application	Year operational	Capacity (kW)	Fuel type
Durham	University of New Hampshire	Colleges/Univ.	2006	13,000	Natural gas
Hampton	Foss Manufacturing Co. Of New Hampshire	Textiles	1978	11,900	Oil
Manchester	Velcro USA Inc.	Textiles	1989	8,600	Natural gas
Portsmouth	Lavalley-Middleton Building Supply	Primary metals	1986	600	Natural gas

Source: U.S. Department of Energy

© 2015 The Pew Charitable Trusts

For further information, please visit:

pewtrusts.org/industrialefficiency

Contact: Jessica Lubetsky, officer, clean energy

Email: jlubetsky@pewtrusts.org **Phone:** 202-540-6356

Project website: pewtrusts.org/industrialefficiency

The Pew Charitable Trusts is driven by the power of knowledge to solve today's most challenging problems. Pew applies a rigorous, analytical approach to improve public policy, inform the public, and invigorate civic life.