

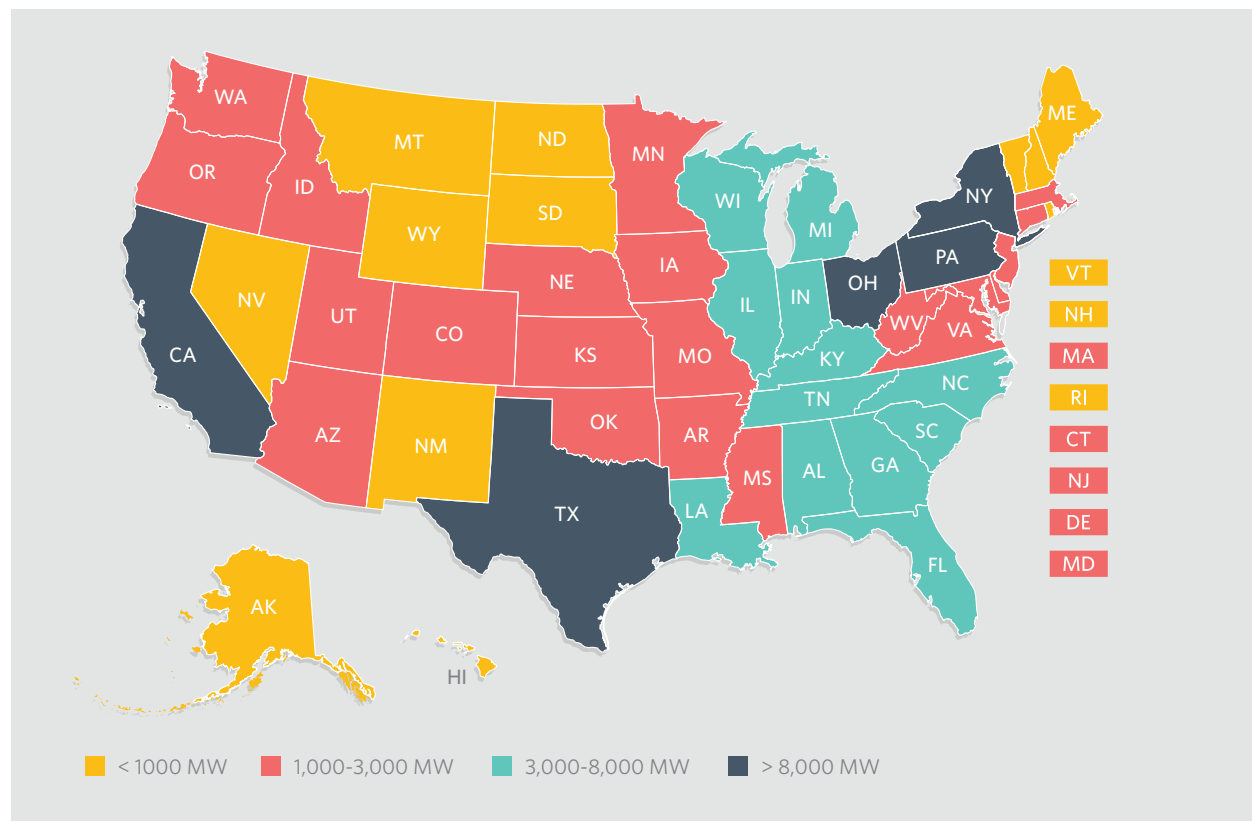


Industrial Energy Efficiency in Delaware

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 Delaware's industrial sector, saving manufacturers money and creating new energy businesses and jobs.

CHP Technical Potential



Source: U.S. Department of Energy

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State and regional statistics

Delaware has three CHP sites with a total generating capacity of 172.5 megawatts, or 17.4 percent of the state's overall electricity production.

Sources: U.S. Department of Energy and U.S. DOE CHP Mid-Atlantic Technical Partnership

Manufacturing makes up 93 percent of Delaware's exports. The state's healthy manufacturing sector makes up 7.25 percent of the total gross state product and employs nearly 6 percent of the nonfarm workforce.

Source: National Association of Manufacturers

Delaware's industrial sector consumed 33.2 percent of the total energy consumed statewide in 2012.

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

In 2012, Delaware ranked 27th in the nation in energy consumption per capita and 26th in electricity expenditures per capita (\$4,377).

Source: U.S. Energy Information Administration

Delaware has not added a CHP site since 1985. However, CHP potential within the state is 150 to 380 MW.

Source: American Council for an Energy-Efficient Economy and U.S. DOE Mid-Atlantic Clean Energy Application Center

State policies support industrial energy efficiency

In 2009, Delaware set reduced consumption targets for electrical and natural gas utilities through the Energy Efficiency Resource Standard Act, or EERS. The goals established in the EERS include a 15 percent decrease in electricity consumption, a 15 percent decrease in peak electricity demand, and a 10 percent decrease in natural gas consumption by 2015, based on 2007 retail sales. It also requires that utilities consider cost-effective demand response and demand-side management techniques before increasing their energy supply. Because implementation rules are not yet finalized, the EERS is currently considered voluntary.

Source: American Council for an Energy-Efficient Economy

In 2005, Delaware established a renewable portfolio standard, or RPS. The standard required utilities to purchase 10 percent of the electricity sold in-state from renewable sources by May 2020. In 2007, the goal was increased to 20 percent of electricity sold in-state, and in 2010 the RPS was revised again to 25 percent by 2026.

Source: Database of State Incentives for Renewables and Efficiency

CHP improves energy security

Reducing strain on the electrical grid with energy-efficient technologies increases power reliability during electrical outages due to extreme weather and other causes.

Delaware had 17 power outages in 2014, affecting 55,092 residents. On Oct. 30, 2012, Superstorm Sandy hit Delaware, causing blackouts affecting 45,000 residents statewide.

Source: Blackout Tracker

Examples of CHP Facilities in Delaware

City	Facility	Application	Year operational	Capacity (kW)	Fuel type
Dover	Kraft Cogeneration Facility	Food processing	1985	18,000	Coal
Delaware City	Motiva Enterprises LLC/ Star Enterprise	Refining	1956	120,000	Natural gas/propane
Claymont	General Chemical Corp.	Chemicals	1952	4,500	Other
Seaford	E.I. du Pont de Nemours & Co.	Textiles	1939	30,000	Coal

Source: U.S. Department of Energy

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For further information, please visit:

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