

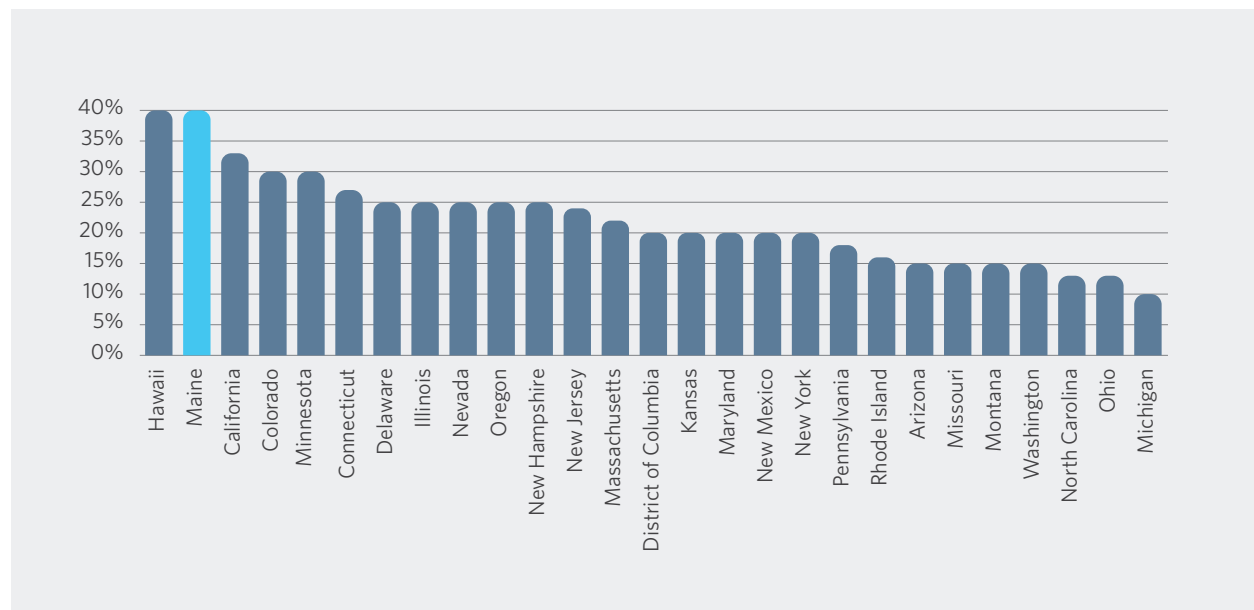


Industrial Energy Efficiency in Maine

Overview

Combined heat and power technologies provide reliable electricity, mechanical power, or thermal energy by capturing heat that is wasted during electricity generation. District energy takes heat from a combined heat and power, or 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 Maine's industrial sector, saving manufacturers money and creating energy businesses and jobs.

Renewable Portfolio Standard (Percentage of Electricity Sold)



Source: Database of State Incentives for Renewables and Efficiency

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State and regional statistics

Maine has 32 CHP sites across the state with a total generating capacity of 935.4 megawatts.

Source: U.S. Department of Energy

Maine's strong manufacturing sector makes up 10.36 percent of the total gross state product and employs more than 8 percent of the nonfarm workforce.

Source: National Association of Manufacturers

The industrial sector represents 31.6 percent of the total energy consumed statewide.

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

Maine ranks 10th in the nation in energy expenditures per capita (\$5,508) and 26th in consumption per capita.

Source: U.S. Energy Information Administration

Maine ranked 34th in the number of new in-state CHP sites between 2005 and 2010. The two new sites constructed in that period added a total of 4.5 MW to the state's capacity.

Source: American Council for an Energy-Efficient Economy

State policies support industrial energy efficiency

In 1997 Maine passed its first renewable resource portfolio requirement as part of the state's law to restructure electric utilities. In 1999 the Maine Public Utility Commission established rules requiring power suppliers to generate at least 30 percent of their electricity sales from eligible renewable and efficient sources.

Source: Database of State Incentives for Renewables and Efficiency

Maine has one of the strongest state renewable portfolio standards, or RPSs, in the country. Since 1999, Maine's RPS has been amended several times and now has defined two classes. Class I includes new renewables that came online after 2005 and will adhere to energy savings of 1 percent by 2008, 2 percent by 2009, 3 percent by 2010, and so on. Class II contains existing renewables, including CHP, which are eligible for the 30 percent requirement from the 1999 rule.

Source: Database of State Incentives for Renewables and Efficiency

In 2009, the Act Regarding Maine's Energy Future was signed into law. It established the Efficiency Maine Trust, which is required to implement efficiency goals, including a 100-MW reduction in peak-load electricity consumption by 2020, a 30 percent reduction in electricity and natural gas consumption, a 20 percent reduction in heating fuel consumption, weatherization of 100 percent of homes and 50 percent of businesses by 2030, and capturing all cost-effective efficiency resources available for utility customers.

Source: Database of State Incentives for Renewables and Efficiency

Although the policy environment for CHP is generally favorable, high upfront costs remain a barrier for installation. This prevents Maine from realizing the full benefits of the resource.

Source: American Council for an Energy-Efficient Economy

CHP Improves Energy Security

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

Maine experienced 36 electrical outages in 2014. These outages affected 347,638 people and lasted 14 hours. On Oct. 30, 2012, severe weather from Superstorm Sandy knocked out the power to 90,000 customers across the state.

Source: Blackout Tracker

Examples of Newly Installed CHP Facilities in Maine

City	Facility	Application	Year operational	Capacity (kW)	Fuel type
Scarborough	Siemens	Pulp and paper mill	2012	28,000	Biomass
Brunswick	Brunswick College	Colleges/universities	2012	630	Natural gas/ propane
Dixfield	Industrial facility	Wood products	2011	670	Biomass
Jackman	Moose River Lumber	Wood products	2011	13,800	Wood waste

Source: U.S. Department of Energy

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For further information, please visit:

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