

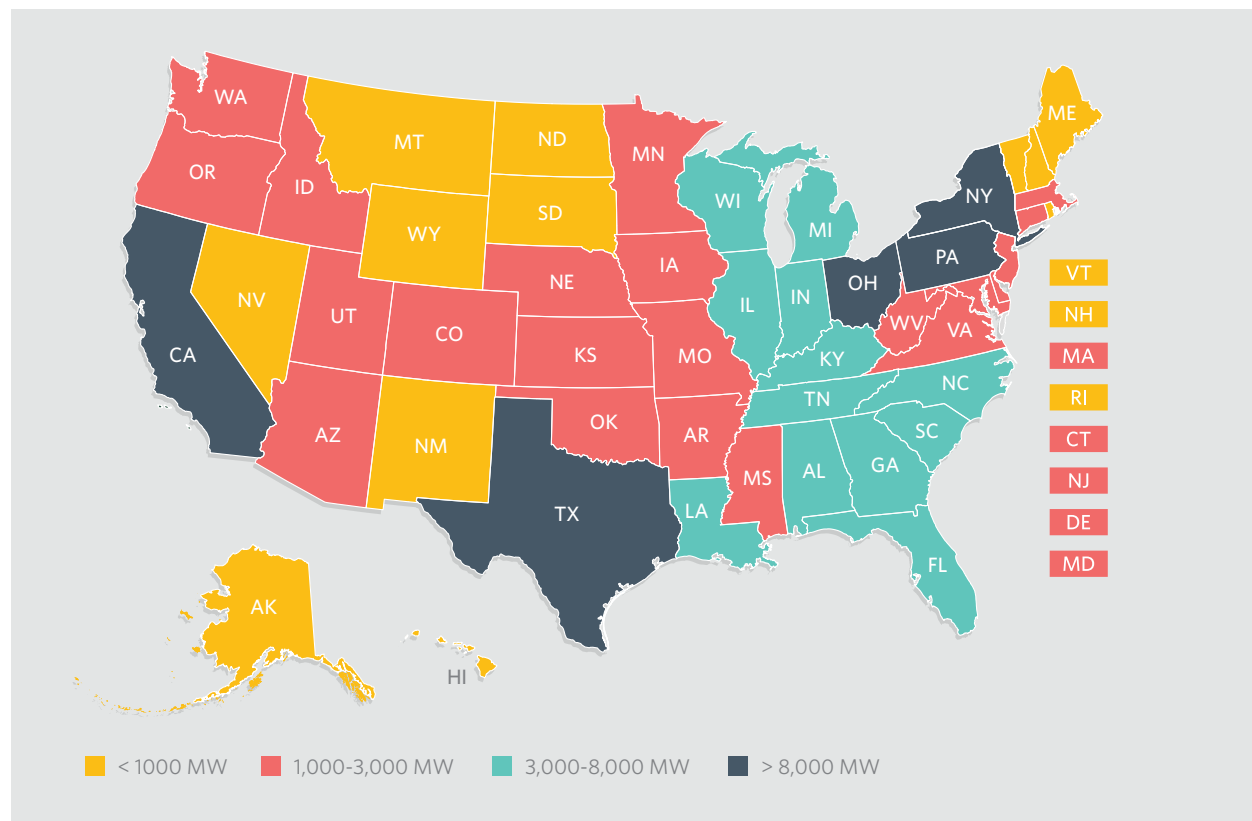


Industrial Energy Efficiency in New York

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 York'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

New York is a leader in manufacturing, which accounts for 5.2 percent of the state's total output. This amounted to \$67.9 billion in 2013.

Source: National Association of Manufacturers

New York's energy use ranks eighth nationwide (at 3,513.4 trillion British thermal units in 2012). Industrial energy use is responsible for almost ten percent of the state's total energy consumption.

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

From 2005 to 2010, the state ranked second in new additions of CHP sites and fifth in total capacity of the new CHP installations, adding 101 CHP sites in the period that totaled 102.8 megawatts in capacity.

Source: American Council for an Energy-Efficient Economy

New York has the potential to further increase its CHP capacity. A 2002 study found that there is technical potential for about 8.5 gigawatts of CHP in the state.

Source: New York State Energy Research and Development Authority

State policies support industrial energy efficiency

In 2004, New York adopted a renewable portfolio standard, or RPS. As designed, New York's RPS had a renewables target of 25 percent of state electricity consumption by 2013, but it was expanded in January 2010 to 30 percent by 2015. Of this 30 percent, approximately 20.7 percent of the target is derived from existing renewable energy facilities, and 1 percent of the target is expected to be met through voluntary green power sales by 2015.

Source: Database of State Incentives for Renewables and Efficiency

In 2007, New York adopted an energy efficiency portfolio standard (EEPS). The EEPS set a goal of reducing electrical usage in New York by 15 percent from projected electricity usage in 2015. The EEPS required detailed program targets, ratepayer collections to fund energy efficiency programs, and various other protocols. The EEPS also established collections from natural gas customers to fund gas efficiency programs by establishing targets of 4.35 billion cubic feet, or Bcf, annually for 2009 to 2011, and 3.45 Bcf annually for 2012 to 2020, resulting in a program-related gas savings target of 44 Bcf annually in 2020.

Source: Database of State Incentives for Renewables and Efficiency

In 2013, New York announced that the state's CHP Performance Program would offer \$40 million in incentives for CHP projects that maximize efficiency and can operate independently of the grid. The program builds on the state's investment of more than \$100 million in recent years.

Source: New York State Energy Research and Development Authority

States With Most Reported Power Outages

2011	2012	2013	2014
1. California	1. California	1. California	1. California
2. New York	2. New York	2. Texas	2. Texas
3. Texas	3. Texas	3. Michigan	3. Michigan
4. Michigan	4. Michigan	4. Pennsylvania	4. Pennsylvania (tie)
5. Pennsylvania	5. New Jersey	5. Ohio	4. New York (tie)
6. Illinois	6. Pennsylvania	6. New York	5. Ohio
7. Ohio	7. Ohio	7. Virginia	6. New Jersey
8. New Jersey	8. Washington	8. New Jersey	7. Washington
9. Washington	9. Illinois (tie)	9. Washington	8. Illinois
10. Wisconsin	9. Virginia (tie)	10. Massachusetts	9. North Carolina

Source: Blackout Tracker

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CHP improves energy security

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

Source: U.S. Department of Energy

In 2014, New York tied for the fourth-highest number of reported power outages in the nation. In 2014, New York had 6,128 minutes of blackouts, or four and a quarter days without power.

Source: Blackout Tracker

More than 2.1 million New Yorkers were left in the dark after Superstorm Sandy in 2012. Sandy was the second-costliest weather disaster in U.S. history

Sources: Federal Emergency Management Agency and National Oceanic and Atmospheric Administration

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

Examples of Newly Installed CHP Facilities in New York

City	Organization	Application	Year operational	Capacity (kW)	Fuel type
New York	UTS Project Co.	Hotels	2012	1,750	Natural gas
Bronx	Riverbay Corp. Co-op City	Multifamily building	2001	38,000	Natural gas
College Point	Pepsi-Cola Bottling Co.	Food processing	2007	1,073	Natural gas
Garden City	Verizon Communications	Communications	2005	1,400	Natural gas

Source: U.S. Department of Energy

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For further information, please visit:

pewtrusts.org/industrialefficiency

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