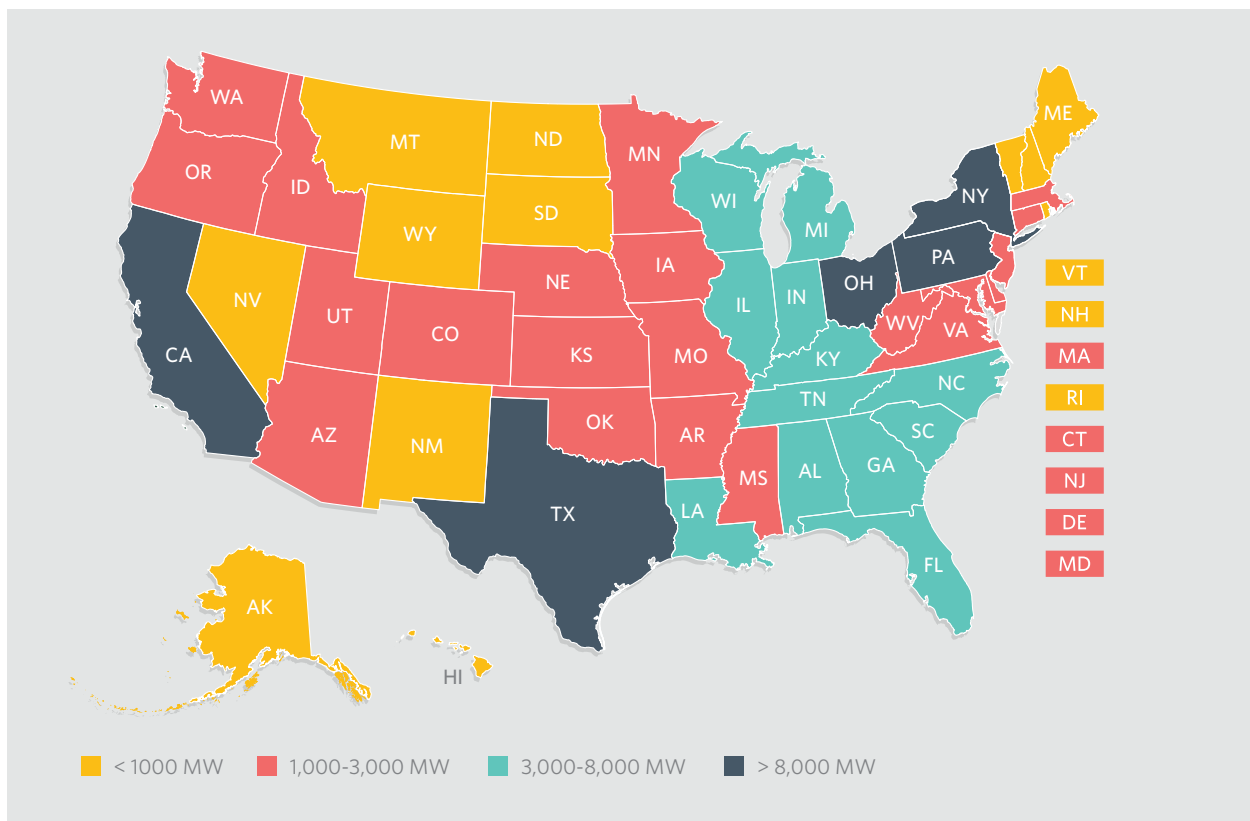


# Industrial Energy Efficiency in South Carolina

## 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 South Carolina's industrial sector, saving manufacturers money and creating energy businesses and jobs.

## CHP Technical Potential



Source: U.S. Department of Energy

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## State and regional statistics

South Carolina is a leader in manufacturing, with a strong and growing manufacturing sector. Manufacturing accounts for over 9 percent of the state's total gross product and employs 10.3 percent of the workforce. The total output from manufacturing in South Carolina was \$4.25 billion in 2013.

Source: National Association of Manufacturers

South Carolina's industrial energy use ranks 19th nationwide. Industrial energy use accounts for almost 34 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 South Carolina Profile

South Carolina has the potential to deploy 3 to 8 gigawatts of CHP—one of the highest rates in the country. However, it has not capitalized on this opportunity. From 2005 to 2010, the state ranked 26th in new additions of CHP sites and 29th in the total capacity of these installations.

Source: American Council for an Energy-Efficient Economy

## Support for industrial energy efficiency in South Carolina

The South Carolina Energy Office offers the ConserFund Loan Program to fund energy efficiency improvements for state agencies, local governments, public colleges and universities, school districts, and nonprofit organizations. CHP systems that produce electricity and process steam heat for use primarily within a building or complex of buildings are eligible for loans covering up to 100 percent of eligible project costs, from \$25,000 to \$500,000.

Source: American Council for an Energy-Efficient Economy

In 2007, South Carolina enacted the Energy Freedom and Rural Development Act to provide incentives for biomass-energy facilities, including CHP biomass facilities. Eligible systems earn 1 cent per kilowatt-hour for electricity generated, or 30 cents per 100,000 British thermal units for energy produced from biomass resources.

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 resulting 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, South Carolina had 56 power outages affecting 381,299 people. CHP can play a role in keeping South Carolina's critical infrastructure operating during a storm and its aftermath.

Source: Blackout Tracker

## Examples of CHP Facilities in South Carolina

City	Organization	Application	Year operational	Capacity (kW)	Fuel type
Charleston	Westvaco Corp.	Pulp and paper	1999	99,200	Wood, wood waste
Greer	BMW Manufacturing Co.	Transportation equipment	1994	30,000	Natural gas
Lugoff	E. I. Du Pont De Nemours & Co	Chemicals	1952	24,500	Coal
Pageland	Comfy Consumer Products	Textiles	1968	7,290	Natural gas

Source: U.S. Department of Energy

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### For further information, please visit:

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