

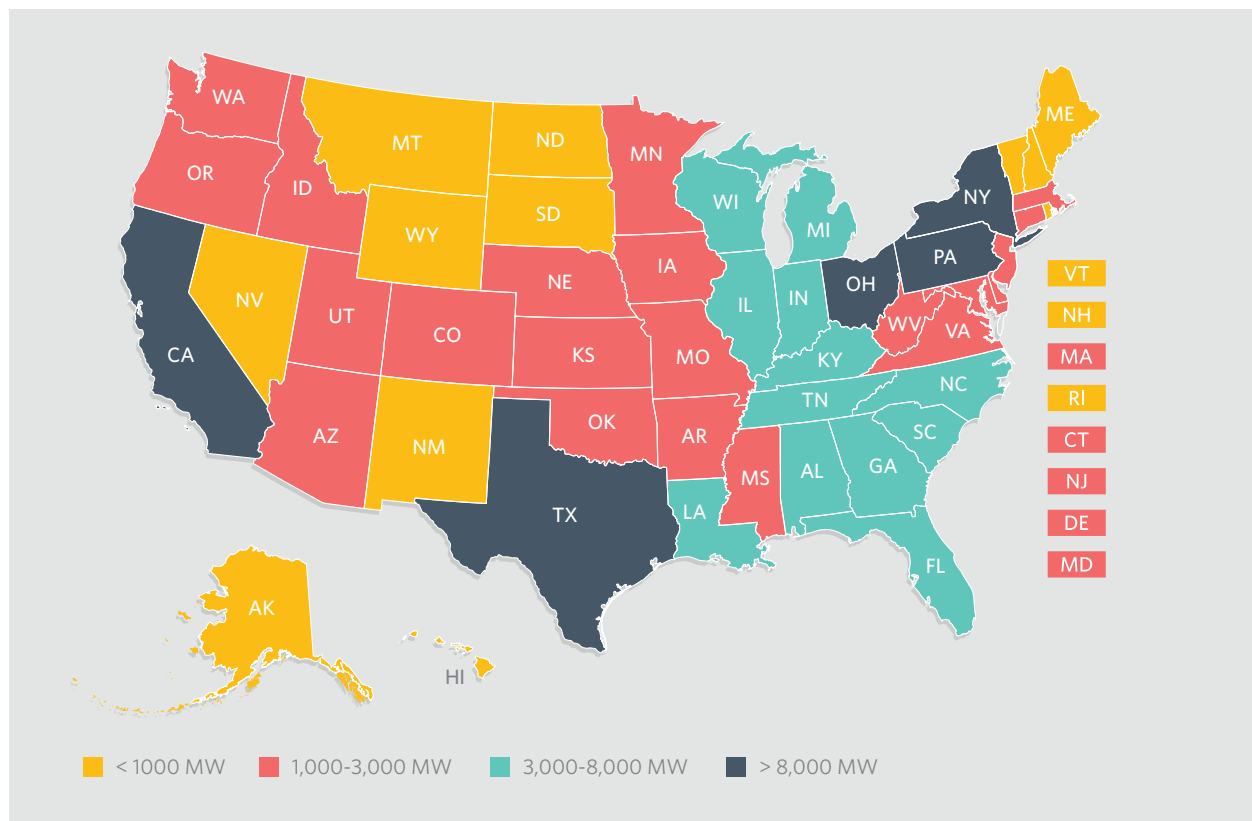


Industrial Energy Efficiency in Texas

Overview

Combined heat and power, or CHP, technologies provide reliable electricity, mechanical power, or thermal energy by capturing heat left over from 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 Texas' industrial sector, saving manufacturers money and creating energy businesses and jobs.

CHP Technical Potential



Source: U.S. Department of Energy

© 2015 The Pew Charitable Trusts

State and regional statistics

Texas has a strong and growing manufacturing sector. Manufacturing accounts for 15.2 percent of the state's total output, \$233 million in 2013, and employs 7.55 percent of the nonfarm workforce.

Source: National Association of Manufacturers

Texas ranked first in the nation in industrial energy use in 2012. The industrial sector represents over half (51.3 percent) of the total energy consumed statewide.

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

Texas ranked 14th in the nation for new CHP added capacity between 2005 and 2010. The state added eight new facilities totaling 380 megawatts during that period.

Source: American Council for an Energy-Efficient Economy

Manufacturers in the South lead the nation in on-site CHP generation. The South produces 20 percent of its industrial power needs from on-site CHP facilities.

Source: U.S. Energy Information Administration, Manufacturing Energy Consumption Survey, 2010

State policies support industrial energy efficiency

In 1999, Texas became the first state to adopt an energy efficiency resource standard, or EERS. It required all utilities to offset load growth by 10 percent through end use efficiency. After meeting this goal, the Legislature increased the target to 15 percent by 2008 and 20 percent by 2009.

Source: American Council for an Energy-Efficient Economy

Although Texas has consistently met its EERS goals, it is still well below the national average for EERS goals. Consequently, the state is missing out on investment opportunities in energy efficiency. In 2010, the Public Utilities Commission of Texas adopted Senate Bill 1125, which increased the goal to 20 percent of incremental load growth in 2011, 25 percent in 2012, 30 percent in 2013, and so on. S.B. 1125 also established customer cost caps, which has limited some utilities from investing in energy efficiency programs.

Source: American Council for an Energy-Efficient Economy

Texas Governor Rick Perry signed two bills into law in June 2013 that aim to increase the use of CHP. The first, House Bill 2049, adds language to the Texas Utility Code allowing CHP facilities to export electricity and heat to multiple buyers near the facility to maximize efficiency and minimize financial risk. The second, H.B. 1864, clarifies how to conduct CHP feasibility studies for government facilities that want to use CHP for disaster preparedness.

Source: Center for Climate and Energy Solutions

State EERS Policies

State	Cumulative 2020 target	State	Cumulative 2020 target
Vermont*	27.00%	Wisconsin*	13.50%
Maryland*	26.70%	Maine*	13.40%
New York*	26.50%	Connecticut*	13.14%
Massachusetts	26.10%	California*	12.94%
Rhode Island*	25.26%	Ohio	12.13%
Arizona	22.00%	Michigan	10.55%
Illinois	18.00%	Oregon*	10.40%
Hawaii*	18.00%	Pennsylvania*	9.98%
Washington	17.24%	New Mexico	8.06%
Minnesota	16.50%	Arkansas*	6.75%
Iowa*	16.10%	Texas	4.60%
Delaware	15.00%	Florida	4.06%
Colorado	14.93%	Nevada	3.76%
Indiana	13.81%	North Carolina	2.92%

Source: American Council for an Energy-Efficient Economy

© 2014 The Pew Charitable Trusts

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.

Texas had the third most power outages in the nation from 2010 to 2012, and in 2013 and 2014, the second most. In 2014, the state had 178 blackouts, affecting 818,506 residents and lasting over a day and a half.

Source: Blackout Tracker

Examples of CHP Facilities in Texas

City	Organization	Facility	Application	Year operational	Capacity (GW)	Fuel type
Dallas	City of Dallas	Southside Wastewater Treatment Plant	Waste treatment	2011	4.2	Biomass
Houston	BP Rodeo Helios Plaza	BP Rodeo Helios Plaza	Office buildings	2010	4.3	Natural gas/propane
Houston	Methodist Hospital	Methodist Hospital	Hospitals/health care	2010	4.6	Natural gas/propane
Houston	Thermal Energy Corp.	Thermal Energy Corp.	Hospitals/health care	2010	48.	Natural gas/propane

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.