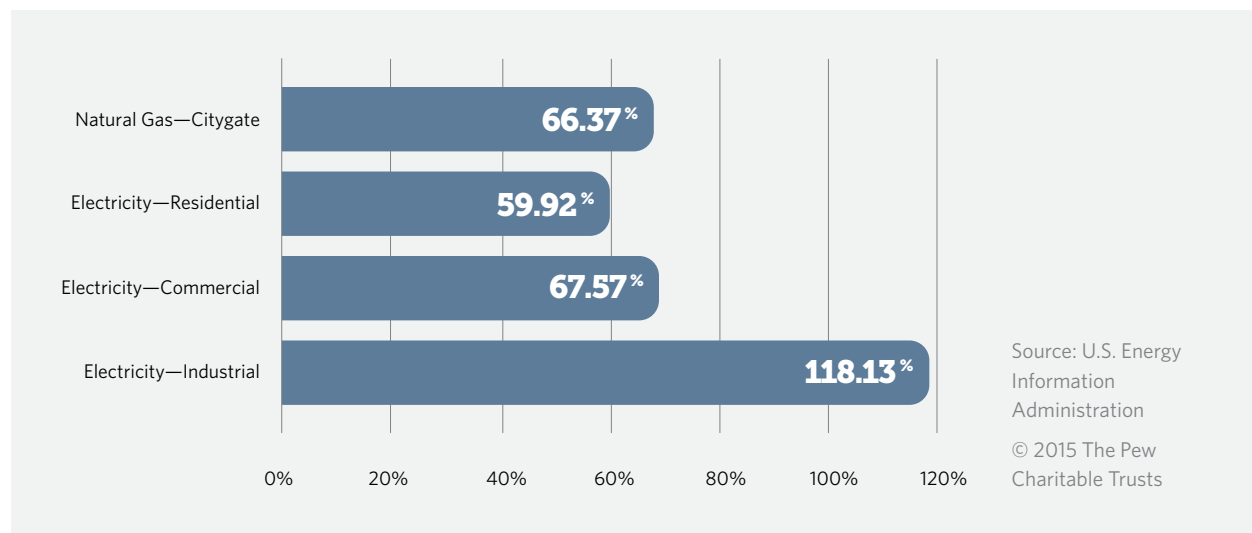


# Industrial Energy Efficiency in Alaska

## 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 offer tremendous potential to reduce energy consumption in Alaska's industrial sector, saving manufacturers money and creating energy businesses and jobs.

## Alaska Price Differences From U.S. Average, Most Recent Monthly



## State and regional statistics

In 2012, Alaska had the second-highest average retail price of electricity nationwide at 16.33 cents per kilowatt-hour, and industrial energy costs in the state range from 8.03 to 66.86 cents per kwh.

Sources: U.S. Energy Information Administration Alaska Profile and U.S. Department of Energy

CHP is being used across Alaska to provide energy-efficient power. The state has 153 CHP sites with a total generating capacity of 568.3 MW.

Source: U.S. Department of Energy

Alaska, which ranks 47th nationwide in energy efficiency policy and program efforts, faces unusual energy-related challenges. Alaska has long, cold winters; rural communities; small islanded grids; and heavy reliance on traditional fuel sources.

Source: American Council for an Energy-Efficient Economy

District energy is currently in use across Alaska. Alaska has over 150 remote, stand-alone electrical grids serving villages statewide as well as larger transmission grids in the southeastern portion of the state and the Railbelt electrical grid, which provides 80 percent of Alaska's electrical energy.

Source: Alaska Energy Authority

## State policies support industrial energy efficiency



Photo: Peter Pan Seafood Co. in Bristol Bay uses CHP to power food processing facility.

The Alaska Energy Authority offers multiple financial incentives for energy efficiency and renewable energy technologies, including CHP. The Alaska Power Project Loan Fund, created in 1993 and administered by the Alaska Energy Authority, provides loans for the development or upgrade of small-scale power production facilities, conservation facilities, and bulk fuel storage facilities, including waste energy conservation facilities.

Source: Alaska Energy Authority

reconnaissance studies, energy resource monitoring, and work related to the design and construction of eligible facilities, including those that use waste heat. Of the 64 projects the Alaska Energy Authority recommended for funding in 2014, 12 incorporated heat recovery technologies.

Source: Alaska Energy Authority

In 2008, the Renewable Energy Grant Program was established to provide assistance for feasibility studies,

## CHP improves energy security

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

In 2014, Alaska experienced 25 power outages that affected 91,728 people across the state.

Source: Blackout Tracker

## Examples of CHP Facilities in Alaska

City	Facility	Application	Year operational	Capacity (kW)	Fuel type
North Pole	K&K Recycling	Wholesale trade	2012	370	Biomass
Admiralty Island	Kennecott Copper	Primary metals	2000	5,500	Other
Valdez	Petro Star Valdez Refinery/Cooper Valley	Refining	1996	7,900	Oil
North Kenai	Tesoro Alaska Refinery	Refining	1989	18,400	Natural gas/ propane

Source: U.S. Department of Energy

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### For further information, please visit:

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