Commercial solar array

HOLY CROSS ENERGY

• EST. 1939 •

CO2 EMISSION REPORT

WHO WE ARE

Holy Cross Energy (HCE) is a cooperative electric association serving the needs of rural communities in central and western Colorado. The majority of our member-owners are located in the counties of Eagle, Garfield, and Pitkin, but we also provide electrical service to a few properties in Gunnison and Mesa counties.

Our headquarters is located in Glenwood Springs and we also have three outlying offices located in Aspen, Avon and Gypsum. HCE provides power to more than 57,000 meters from 11 substations with over more than 3,000 miles of distribution and transmission lines.

Wood chips collected from beetle kill pine trees to be used at the biomass plant in Gypsum, Co.

POWER SUPPLY

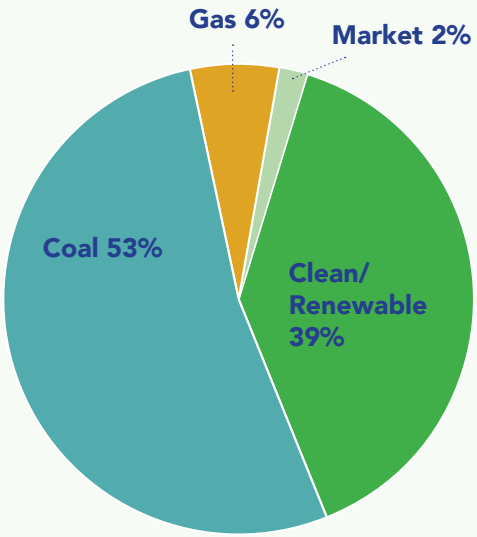
HCE has long term power supply commitments through contracts with Public Service Company of Colorado (a subsidiary of Xcel Energy) and Western Area Power Administration. We have long term purchase power agreements with a number of small, clean and renewable generators located in and near our service territory, including 6 small hydroelectric generators, 3 small commercial solar arrays, a 12 MW biomass plant, and 4 community owned solar arrays.

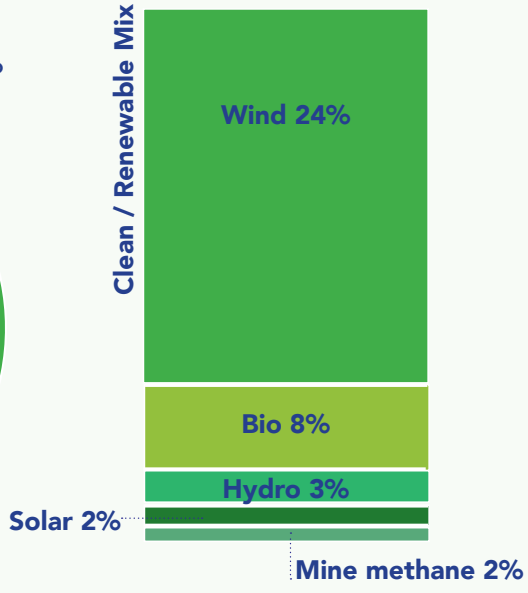
In 2018, we also made short term economy purchases from Black Hills Power and Xcel Energy. The short-term purchases from Xcel significantly increased the share of our members loads served with wind resources in 2017. Another 145 kW solar array provided bill credits to low and moderate income HCE members at no cost to participants. HCE owns an 8% share in Unit 3 at the Comanche Generating Station located in Pueblo, CO. This 750 MW super-critical, coal-fired generating unit became operational in July of 2010 and provided approximately 58% of HCE's energy needs in 2017.

About 39% of the energy used to meet member load was supplied through clean and renewable resources, such as wind, solar, hydro, biomass, and coal mine methane generation. About 53% came from coal, 6% came from gas, and about 2% was from market sources which could not be identified with a high level of certainty.

2017 ENERGY BY FUEL

Source Fuel	CO2 (Tons)
Coal	706,000
Natural Gas	38,000
Market	17,000
Mine Methane	-82,000
Total	**678,000**





Next era energy wind in Northern Colorado purchased by Xcel and sold to HCE

EMISSIONS & RENEWABLE ENERGY

HCE procured 1,214,899 MWh of wholesale and generated power (including estimated generation from net meters) and billed for 1,166,454 MWh to serve consumers' loads. The difference includes transmission and distribution line losses, electricity used in company facilities, and electricity provided to net metered customers that was offset under that billing mechanism. The CO2 emissions associated with electric power generation used to serve HCE's customers in 2017 totaled approximately 678,000 short tons. Emissions decreased by 13.3% from 2016 and sales decreased by 2.0%. Emissions were about 29.0% lower than when tracking began in 2005 while sales were 13.2% higher. After accounting for line losses and the sales which have no associated emissions (under voluntary green pricing programs), the average CO2 intensity for delivered electricity during 2017 was 1.18 lb. per kWh.

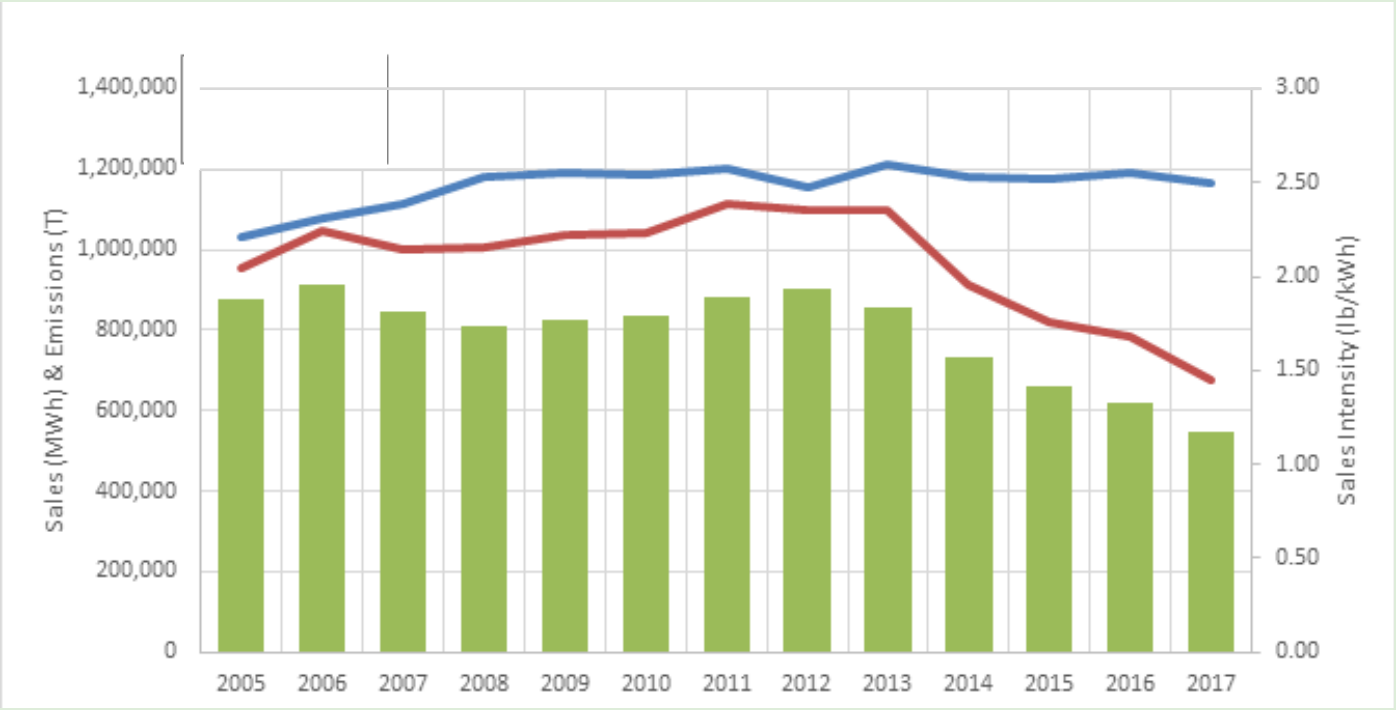
HCE offers a voluntary program to support renewable energy generation in Colorado under which HCE members may select their fuel source: Colorado wind, local hydro, and local solar. 13,848 MWh was purchased by 1,554 HCE members in 2017. In addition, HCE's members had installed 974 small renewable energy generators (such as solar panels) behind their meters by the end of 2017. The 7,687 kW of distributed generation produced about 9,677 MWh during the calendar year.

Colorado passed a Renewable Energy Standard (RES) in 2004 by voter initiative that required Investor Owned Utilities to supply 10% of their retail electric sales from renewable sources by 2020. In 2007, House Bill 1281 added a requirement that electric cooperatives supply 10% of retail sales from renewable sources by 2020, with the required percentages increasing over time. HCE was required to supply 6% of retail sales from renewable sources in 2017, or the equivalent of 69,988 MWh. 397,943 MWh (nearly 33%) of HCE power supply came from sources which qualify for the Colorado RES in 2017, excluding renewable sales to customers under the voluntary pricing programs. Renewable Energy Credits equal to those sales are retired on an annual basis and not used for any other purpose.

TOTAL CO2 EMISSIONS

YEAR	RECEIVED POWER (MWh)	TOTAL SALES (MWh)	RENEWABLE SALES (MWh)	EMISSIONS (Short tons)
2017	1,211,780	1,166,454	13,846	676,000
2016	1,211,780	1,190,409	13,997	787,000
2005	1,080,417	1,032,137	10,501	955,700

SALES & CO2 HISTORY



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ADDITIONAL INFORMATION

Information for previous years is available at **HolyCross.com/co2-emissions.**

This information is based on the best information available at the time the report is issued.

This report may be updated to reflect changes in the information used to calculate carbon dioxide emissions associated with energy sold to HCE members.