COLLICUTT Energy

CASE STUDY

RECREATION CENTRE

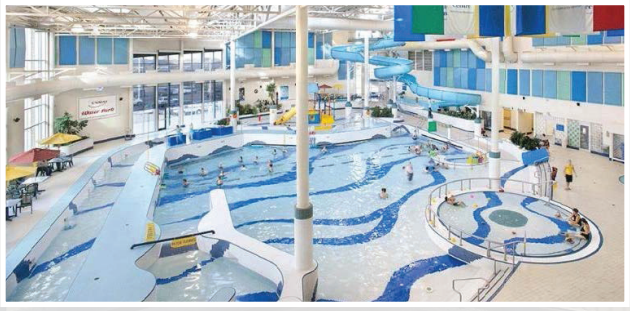
BACKGROUND

The recreation centre, situated in Red Deer, AB, is a 250,000 ft^2 leisure and wellness centre that has been in operation since 2001. Due to high utility costs and a desire to lower the building's carbon footprint, an investigation into Combined Heat and Power (CHP) applicability was initiated in 2013.

Building Type Recreational Facility

Location Red Deer, Alberta

Power System Installed 260 kWe CHP system



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THE SOLUTION

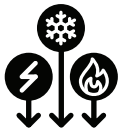
Based off the results of the energy audit conducted, it was determined that a CHP system would significantly reduce the building's utility costs and the overall carbon footprint of the building.

Collicutt Energy Services was hired to design and build the 260kWe CHP system that was then installed on the north side of the building in late 2014.

System Sizing
The system size was determined based on the baseline electrical and thermal load. This ensured that all of the electricity and as much of the heat produced would be effectively utilized by the building.

System manufacturing
Once Collicutt Energy completed the engineering and design, the CHP system was manufactured at Collicutt Energy's 80,000 ft^2 facility in Red Deer. A walk-in style enclosure was selected allowing routine maintenance and inspections to be conducted comfortably even in outside conditions as low as -40°C.

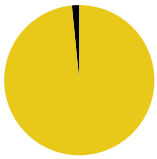
In 2018, the recreation centre CHP system has resulted in a:



$133,120
reduction in utility bills

579 TONNES
reduction in greenhouse gas emissions

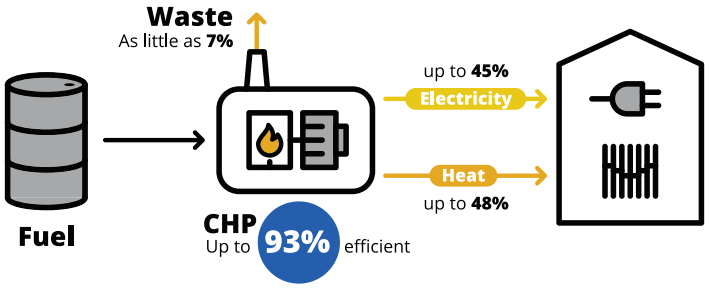
Of the power produced in 2018, the recreation centre used:



99%
of electricity generated

65%
of heat generated

COMBINED HEAT AND POWER (CHP) IS THE SIMULTANEOUS GENERATION OF POWER AND HEAT FROM A SINGLE FUEL SOURCE, ALLOWING SYSTEM EFFICIENCIES OF UP TO 93%.



Payback periods of as low as
3-5 Years

Electrical Efficiency of up to
45%

Sustainable
CHP has tremendous economic potential. Collicutt Energy can support your facility feasibility review.

Best-in-Class
With our in-house engineering team, Collicutt Energy can design and build the most optimally designed solution for your application.

THE BENEFITS OF CHP

Reduced Utility Cost Generating power and heat locally can dramatically reduce the overall cost of utilities.

Reduced Carbon Footprint CHP technology uses clean burning natural gas to lower the overall volume of greenhouse gas emissions produced.

Increased Reliability When grid failure or interruptions occur, localized power generation continues to produce power, minimizing or eliminating downtime.

Revenue Generator Excess power produced by a CHP unit at your facility can be exported to the grid, increasing your revenue and your facility value.