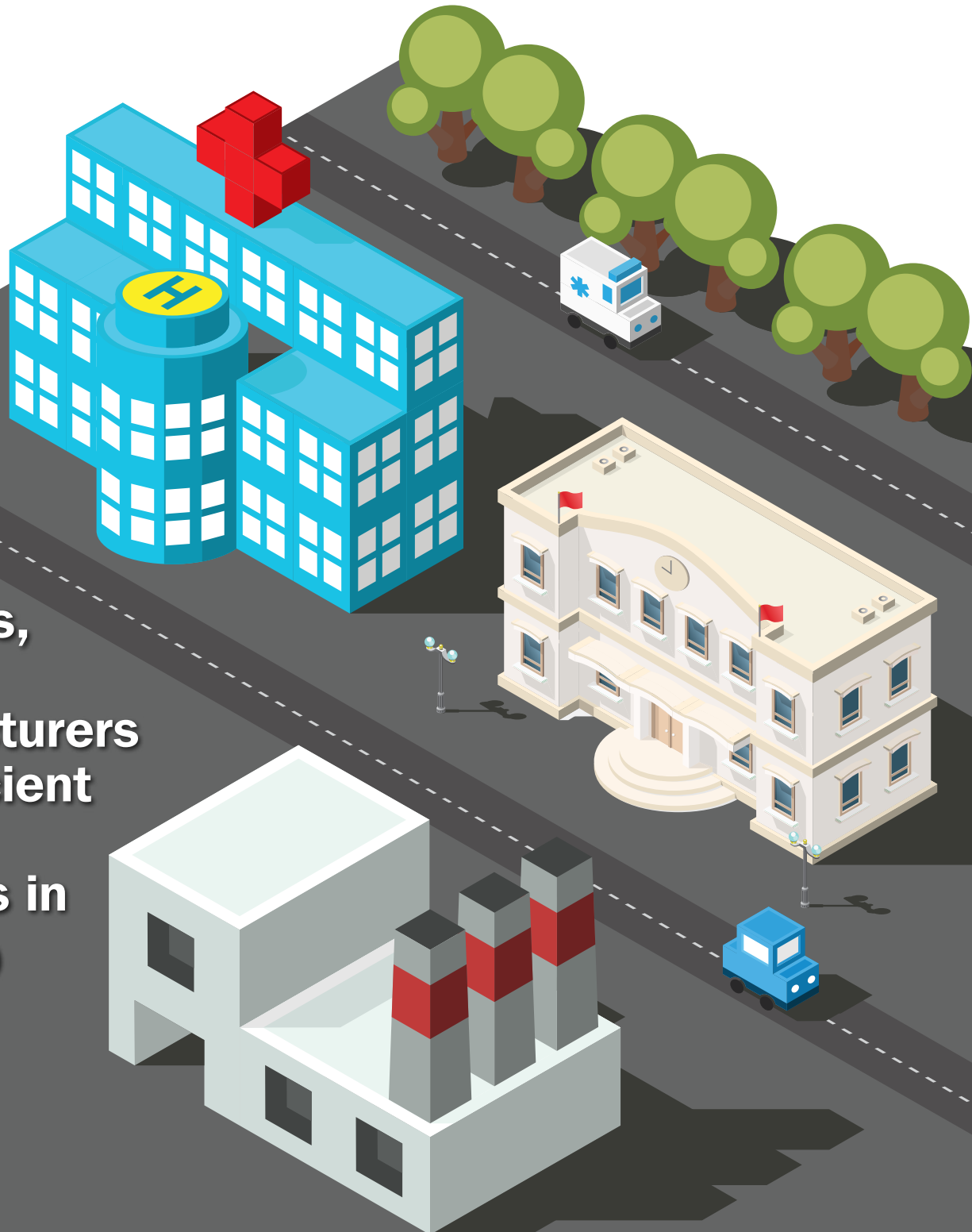
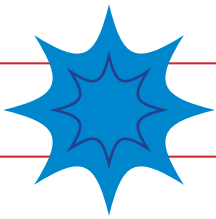


COMBINED HEAT AND POWER



Hospitals,
schools,
manufacturers
find efficient
power
solutions in
CHP





A healthy power source

CHP gives hospitals a resilient energy source for mission-critical operations.

BY TONYA MCMURRAY

For hospitals, power outages — even brief ones — can disrupt critical life support systems. And, because they operate around the clock, hospitals have extensive needs for both power and hot water.

More than 200 hospitals in the United States have turned to combined heat and power (CHP) to meet their needs for reliable and cost-effective energy, according to the U.S. Environmental Protection Agency.

“Hospitals make excellent applications for CHP because they are ‘energy

hogs’ that have both high thermal and electrical loads that occur simultaneously, which allows the CHP system to recover the maximum amount of waste heat and utilize it for heating, domestic hot water, cooling and steam for sterilization,” said Justin Rathke, founder and president of Vergent Power

Solutions Inc., a Capstone Green Energy Corp. turbine distributor. “This increase in energy efficiency provides valuable cost savings, freeing up the hospital’s financial resources for health care-related investments.”

“About two years after start-up, the cost savings have been on track with the \$150,000 to \$250,000 savings projected per year.”

**— Austin Madussi,
director, facilities,
Dryden Regional
Healthcare Centre**

Because electricity is produced on-site from the CHP system rather than transmitted across the grid, it provides more reliable energy, said Michael Alfano, sales application engineer at Yanmar America Corp.

“CHP gives you resiliency against any issues that might occur because you’re producing electric at your facility,” he said. “You don’t have to worry about lines going down in a storm or other disruptions. It provides very controlled power, so the electricity produced is more stable than you get from the electric utility. That’s important for sophisticated equipment that hospitals rely on.”

CHP systems using natural gas offer hospitals an attractive value proposi-

PHOTO COURTESY OF DRYDEN REGIONAL HEALTHCARE CENTRE



Dryden Regional Healthcare Centre turned to CHP to reduce its rapidly increasing electricity costs. Four natural gas-fueled Capstone C65 microturbines provide electricity and supply the building’s heat, leading to cost savings of at least \$150,000 per year.

tion, said David Swenson, manager of industrial services at Intermountain-Gas Co., which serves about 350,000 in southern Idaho.

“Natural gas is both energy efficient and very price competitive,” he said. “We have some of the least expensive power in the entire country in this area and, even so, CHP is cost-effective when compared with the cost of power.”

A MORE SUSTAINABLE SOLUTION

Cost was the primary reason Dryden Regional Healthcare Centre (DRHC), a rural Ontario, Canada, hospital, turned to CHP. The hospital’s electric bills increased nearly 44% between 2012 and 2017, and provincial changes in pricing and rebates were projected to add another 31% increase in November 2020.

“The main reason we undertook this project was the cost savings,” said Austin Madussi, director of facilities for DRHC. “As the services we provided, and their associated power requirements, grew and the cost of electricity increased, the financial burden became unsustainable.”

In 2019, DRHC installed four natural gas-fueled Capstone C65 microturbines to provide electricity and supply the building’s heat by repurposing exhaust produced by the microturbines.

“About two years after startup, the cost savings have been on track with

the \$150,000 to \$250,000 savings projected per year,” Madussi said. “During the winter months, we have been able to reclaim an average of 1.5 million British thermal units per hour, which has been a great supplement to our heating demand. In the summer months, the CHP system has satisfied all of our heating needs.”

David Sertic, senior adviser of commercial industrial energy conversation for Enbridge Inc., said DRHC’s results prove the value CHP offers to hospitals.

“CHP is a good fit for facilities requiring power and heat year-round, and hospitals fit that bill,” he said. “CHP installations enable hospitals to ‘peak shave’ their electricity purchasing, supplementing with CHP power.”



For more information about combined heat and power (CHP), visit:

Capstone Green Energy Corp.
capstonegreenenergy.com

