



CHP UNIT INSTALLATION at EQUS Corporate Office

Constructed in 2020, EQUS' Corporate Office facility features an innovative Near Net-Zero energy system. The system is comprised of a 55-kilowatt ground-mounted solar array that takes advantage of over 2,000 hours of annual sunlight, a 15-kilowatt battery to store excess electricity generated during peak times, and a combined heat and power system which generates both power and heat.

35 kilowatt combined heat and power (CHP), delivered by TEDOM, uses natural gas to power an internal combustion engine which generates electricity. The CHP system captures the excess thermal energy produced in this process and uses it to heat the building and melt the snow off the sidewalks surrounding the building in the winter. This process is highly efficient and significantly lowers utility costs and greenhouse gas emissions.

The facility operates on a smart building management system that integrates the generation, storage, and usage of the electricity and heat being generated to maximize efficiency.

The innovative system is expected to result in an estimated 95 % reduction in grid power used, as well as a 59 % cost savings on utilities, and a 31 % reduction in greenhouse gas emissions.

CHP unit type	TEDOM Micro 35
Fuel	Natural Gas
Electrical Output	35 kW
Heat Output	73.9 kW
Total Efficiency (LHV)	95.4 %
Commissioning Date	May 2020
Place of installation	Innisfail, Alberta, Canada



Combined heat and power production, also known as cogeneration, is an electricity production method that utilizes the heat released by the electricity production process in a useful manner. In doing so, a high utilisation efficiency of the energy from fuel is attained when the fuel is mostly a natural gas, LPG or biogas. Cogeneration pays off where demands for higher supplies of heat or cold exist. The power generated in the CHP unit can be utilised for the plant's own consumption or it can be distributed to the power grid.