



# Blatchford

## Alberta Community Installs Heat Pump as Part of Efforts to Become Carbon Neutral



**Blatchford, Edmonton aims to be a model for a 100 percent green community. Installation of CIMCO Heat Pump plays a part of that mission.**

### The Goal

While several factors play into fulfilling these sustainability goals, two of the major ones are infrastructure and technology; these tie directly into their energy strategy. Their energy strategy focuses on energy conservation and energy efficiency. As such, the energy system is uniquely designed to reduce environmental impact. To reduce greenhouse gas emissions, a public, city-owned utility owns and operates a District Energy Sharing System (DESS) that is tasked with providing eco-friendly heating, cooling, and hot water to the buildings and homes. By sharing energy between these buildings, Blatchford will reduce overall energy consumption across the community and produce roughly 75 percent fewer greenhouse gas emissions than a standard residential community.

### The Solution

CIMCO Refrigeration designed a heat pump to be housed in Blatchford's energy station. The aim was to generate heated recirculated water for five swimming pools in the Community Centre, using recycled water from the local water treatment plant as its geothermal source. Energy Centre One is the home of the planned energy station, including this heat pump. It's located in the heart of Blatchford, in a decidedly public and pedestrian-friendly area.

### The Results

The heat pump was provided according to specifications, with the capability to provide maximum 1070 KW or 4 Giga Joules of heat based on a geothermal flow rate of 780 us gpm or seasonal cooling of 3120 MBH at full capacity. The heat pump is reversible, providing building cooling glycol in summer and heated glycol in winter. In winter, the system is designed to operate at 58°F ammonia discharge temperature and 18°F suction temperature. It provides 250 TR using a geothermal ground loop for chilling and provides a 50°F fluid source as a heat source for the housing development to operate individual small-scale residential heat pumps. And in the summer, it has a range to operate at 40°F suction to 90°F condensing using ground source geothermal. It provides a 45°F circuit for summer air conditioning up to 350 TR, as conditions require.