



NET-ZERO CONSTRUCTION FOR THE CANADIAN CLIMATE

Sifton Residential Case Study



ZUBA

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The Challenge

West 5 is a 70-acre, fully sustainable mixed-use development under construction in London, Ontario with a vision for 100% energy efficiency. Featuring commercial spaces, townhomes, condos, apartments, retirement residences, interconnected walkways, trails and open green spaces, the community has something for everyone.

Developed by Sifton Properties, West 5 is designed to generate all the energy it uses and is being built on an energy-producing smart grid. For phase 2 of the residential townhome construction, which took place between 2019 and 2020, all units were being built to the specifications of the Canadian Home Builders' Association Net-Zero Labelling Program.

Because there would be no natural gas as it's a less efficient energy source, the townhomes required an electric HVAC system that was extremely efficient even in extreme-cold Canadian temperatures. Other considerations were integrated controls and quiet operation since the units' amenity areas like decks and patios are quite close together.

The Solution

This net-zero project posed challenges that would not be satisfied by traditional heating systems, so a Mitsubishi Electric HVAC system was selected. It was an upgrade from the system used in the first phase of the townhome project from another supplier, which was an electric furnace with a split cooling coil and condenser.

“The previous product proved not to be a true cold climate heat pump and was inefficient in the winter. It wasn’t reliable and required a lot of servicing right from the start,” explains Toby Stolee, Director of Housing Operations at Sifton.

This meant that cold climate performance was top of mind for Sifton when selecting an HVAC solution for phase 2.

“We selected Mitsubishi Electric first and foremost because of the energy efficiency and the fact that the heat pump is a true cold-climate unit that performs and maintains a high level of efficiency throughout winter,” says Stolee.



Part of the Zuba family of Mitsubishi Electric products, the centrally ducted cold climate air source heat pump system chosen features 100% output at -15°C, which is substantially better than previous product in phase 1.

“I have nothing but good things to say about Mitsubishi Electric. This project used some of the easiest equipment we’ve installed – the setup was simple and we haven’t had any issues with the heat pump kicking in, even in extreme freezing temperatures. Event tech support has been great, always answering our questions promptly and talking us through whatever we needed.”

Brent Weber, Air Conditioning Mechanic & Supervisor, Design Heating Systems Inc.

The Results

The Mitsubishi Electric HVAC system is extremely energy efficient, allowing Sifton to meet their net-zero certification goals.

Stolee confirms that the townhome units from phase 2 are more energy efficient than those from phase 1, which he attributes to the change to Mitsubishi Electric HVAC equipment. The developer has also had very good feedback from the end-users in terms of comfort and quiet operation.

“Builders like Sifton are leading the way in designing, developing and constructing communities that are more energy efficient than typical code-built homes, providing a healthier environment and lowering Ontario’s overall carbon footprint,” says Shannon

Bertuzzi, Vice President of Market Development at EnerQuality, the #1 certifier of energy-efficient housing in Canada and the market leader in residential green building programs.



“As a true net-zero project, we require an electric HVAC system that is extremely efficient and allows us to meet our sustainability targets.”

Toby Stolee,
Director of Housing Operations
at Sifton Properties

Summary

Developer/Building Owner:
Sifton Properties

Distributor:
Mits Airconditioning Inc.

HVAC Contractor:
Design Heating

Location:
London, Ontario

Industry:
Residential

Size:
72 townhomes

Challenges:
Create net-zero townhomes that have efficient cooling and heating even in freezing Canadian temperatures.

Selection Criteria:

- Net-zero construction
- Extremely efficient HVAC
- Superior cold climate performance
- Quiet operation
- Integrated controls
- Reliable with low maintenance

Design/Engineering Solution:
20 x 1 ton and 52 x 1.5 ton Cold Climate systems with centrally ducted vertical air handling units

Results:

- More energy-efficient units than previous phase
- Very good end-user feedback on comfort and low noise
- Efficient heating at winter design temperatures



Heating and Cooling

Mitsubishi Electric Canada

Mitsubishi Electric Sales Canada Inc. was established in 1979 as a subsidiary of the Mitsubishi Electric Corporation of Japan. Since then Mitsubishi Electric Sales Canada Inc. has been at the forefront of heating and air conditioning technology, sales, installation and service.

With over 100 years of experience in providing reliable, high-quality products to both corporate clients and general consumers all over the world, Mitsubishi Electric Corporation is a recognized world leader in

the manufacturing, marketing and sales of electrical and electronic equipment used in information processing and communications, consumer electronics, industrial technology, energy, transportation and construction. No matter what you do, or where you live, work or play, chances are a Mitsubishi Electric product touches your life.

Vision:

To be the most trusted industry leader in providing innovative heating, cooling and ventilation technology, engineered specifically for Canadian climates.

Mission:

To deliver quality, comfort and value to all Canadians through leading-edge engineering, locally inspired design and a dedication to superior service.



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