



PROJECT PROFILE

61 Yorkville Avenue

In 2022, the City of Toronto put out a challenge to building owners across the city. 61 Yorkville took up the call.

The Project

The climate is changing. In Toronto, buildings are the largest source of greenhouse gas emissions today. To support the City's Net Zero Strategy, the Deep Retrofit Challenge (DRC) was created to support and showcase replicable, cost-effective deep energy retrofits.

One such building is Minto's 61 Yorkville. Built in 2003, the energy efficient systems and equipment installed were leading edge for the time. Now, 20 years later, Minto is renewing that technology in the residential portion of this mixed-use building on their journey towards going carbon neutral.

We met with Joanna Jackson, Vice President of Sustainability and Innovation for the Minto Group, to talk about their participation in the DRC and the desire to reduce their carbon impact.

"With most retrofit projects, you're just skimming the surface – looking for the easy wins in energy efficiency or greenhouse gas reduction. With a deep retrofit, you're diving deep into the building as a whole. You're balancing both sides."

Addressing these problems requires a big commitment – and the DRC created an opportunity for Minto to take that step towards operational efficiency and energy savings, as well as air pollution and carbon footprint reduction.

Project Goals:



Reduce energy use intensity (EUI)



Reduce air pollution (GHG emissions)



Re-emerge as a leading edge building



Create a first case project and expand across portfolio



Reduce utility costs

Building owner:

Minto Apartment Limited
Partnership

Energy consultant:

Ecosystem Energy

Building type:

Mixed-use

Number of storeys:

18

Number of units:

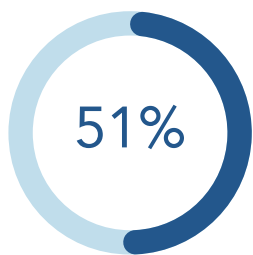
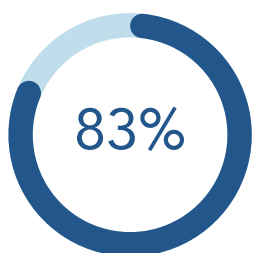
181

Gross floor area (m²):

19,490

Year built:

2003

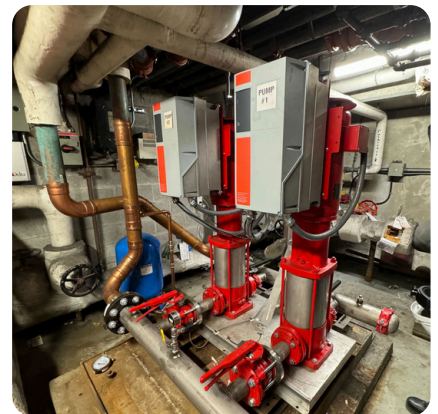
**Energy Use
Reduction*****GHG Emissions
Reduction***

* Projected values

The Process

As Minto began to investigate electrification of their portfolio, the DRC was the push needed to move from idea to action. After completing broad feasibility studies, 61 Yorkville was Minto's ideal candidate due to mechanical equipment nearing the end of its lifespan, and the good condition of the building's envelope.

To reach the goal of over 50% reduction in both energy use and GHG emissions, an integrated design process workshop was held to identify opportunities to enhance the efficiency of the building, as well as alternative design approaches to increase sustainability. For Joanna, the workshop validated the plans Minto had put in place, and also highlighted an opportunity and area of focus for future decarbonization projects: window retrofits.



Common to many buildings in Toronto, 61 Yorkville's existing mechanical systems included a central chiller, cooling tower, and gas-fired boiler plant serving fan coil units in the suites. Other central systems included make-up air units and domestic hot water heaters. Energy modelling demonstrated that the burning of fossil gas for space heating, ventilation and domestic hot water made up 86% of the building's total GHG emissions.

The largest contributors to energy use were the make-up air units, suite power, domestic hot water, space heating and cooling, and pumps and fans. With limited control over the suite power, Minto decided to focus on the other energy-intensive systems, which made up about 69% of the building's total energy use.

While Minto invested in a variety of measures to bring these numbers down, the most significant upgrade was to install **air-to-water modular heat pumps (AWMHP)** to act as the new primary source of heating and cooling. Along with other equipment upgrades, control optimization, and make-up air duct sealing, this deep retrofit was projected to reduce energy consumption by 51% and GHG emissions by 83%.

Measures Implemented:

- Centralized air-to-water heat pumps and heat recovery chiller for space conditioning and domestic hot water
- LED lighting and motion sensor controls in common areas and parking garage
- Air sealing make-up air ductwork
- Recommissioning of centralized make-up air unit
- Recommissioning of pumps
- New domestic cold water booster pump set
- Optimization of building automation system



Project Budget*
\$3,022,600



Estimated Payback*
18 years

* Projected values

Lessons Learned

Obstacles arise in every project, and 61 Yorkville was no exception. There were building quirks that needed custom solutions. There were communication issues with residents. There was a tight timeline to adhere to. But what helped Minto keep their head above water? Partnership.

Early on in the process, Minto brought in Ecosystem, a partner in design, engineering, construction and commissioning with a holistic approach. This partnership meant an alternative project and procurement model, moving away from the traditional 'Design, Bid, Build' that Minto was accustomed to. It was a leap of faith – an essential one that allowed for the project to run to its current state: 90% complete without major hiccups or major time delays.

In the end, Joanna told us it was worth the effort. "Once we got over that initial hurdle – finding the right building, the right partners, getting buy-in from all the different teams – the process was relatively smooth. It was just getting the momentum going, getting this thing on the road."

As 61 Yorkville crosses the finish line, Joanna is hopeful for a sustainable future for Minto and their residents – with a new decarbonization project in the budget for 2025 and no plans of stopping.



"I'm excited for our first natural gas bill. When we start up the system and see that huge reduction in consumption – that's the reward. Seeing all our work become a result."

Joanna Jackson

Vice President of Sustainability and Innovation for the Minto Group



Learn more about the participating buildings' proposed emissions reductions and deep retrofit measures [here](#)



For more information on the Deep Retrofit Challenge, please contact drc@toronto.ca