

# A 94% reduction in GHGs and more

Canada's most ambitious affordable housing transformation lights the way

With mechanical systems nearing end of life, inadequate ventilation and additional issues, the 50-year old Ken Soble Tower was in critical need of an upgrade.

CityHousing Hamilton (the non-profit agency that oversees the city's housing portfolio) commissioned a feasibility study to compare their options: sell, rebuild, capital repair and rehabilitation or retrofit.

## Free design assistance and technical support

The study showed that while the tower was structurally solid, the building envelope and HVAC systems were severely distressed. By retrofitting, the report said, the municipality could revitalize the tower for about half the cost of building new. Based on these findings, the project was given the green light in 2018.

As part of the retrofit, the project team leveraged free technical assistance and financial incentives offered by Enbridge Gas' *Savings by Design* program. The program is designed to guide, assist and reward project teams to improve energy and environmental performance of buildings in new construction and major renovation projects.

## A value of up to \$60,000

*Savings by Design* starts by covering all costs of an Integrated Design Process (a \$30,000 value), bringing together architects, engineers, energy specialists and others early in the design stage to explore new approaches to high-performance buildings.

For the Ken Soble Tower, the project team was able to improve on a model that surpassed standard building code requirements. Among the many improvements they came up with: modernizing the ventilation system with new air handling units and ductwork, installing a centralized HVAC system and adding new overcladding with rock wool insulation, energy-efficient windows and a high-performance rain screen system.

## Designing resilient buildings

The project team used 2050 temperature projections to test thermal comfort in all seasons, and in case of system failure, the building will have the capacity to stay warm in winter for up to two days (compared to two hours in a typical building) and stay cool in summer for up to four days (compared to half a day).

## Revitalizing Hamilton's West Harbour

When complete in 2020, the tower will become a landmark building in Hamilton's West Harbour waterfront redevelopment, a vibrant new community hub.



## PROJECT HIGHLIGHTS

- 94% GHG reduction
- 23.8 kWh/m<sup>2</sup>/year heating savings
- 2.4 kWh/m<sup>2</sup>/year cooling savings
- \$30,000 design assistance