



## PROJECT PROFILE

# 88 College Street

In 2022, the City of Toronto put out a challenge to building owners across the city. 88 College joined the effort.

## 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.

88 College Street, a 143-year-old former church, now owned by the University of Toronto, was one of the more unique DRC participants. Though part of an educational institution, technically, 88 College operates as a commercial entity — ensuring its fit and eligibility for the DRC.

The University is in the midst of a challenge of their own, with plans to double the size of its campus by 2050, while also reducing its significant operational carbon footprint.

Retrofitting existing buildings like 88 College is one of the key methods that Alistair Vaz, Senior Planner, University Planning at the University of Toronto, thinks U of T's goal can be achieved — and the DRC was there to help.

"This is a unique project. Not many people have taken on a deeper energy retrofit of a building this old, for obvious reasons. This is a project that could have just been a beautiful interior renovation, but we have these larger climate goals as a university, and so it was incumbent on us to try and figure out a way forward."

## Project Goals:



Reduce energy use intensity (EUI)



Reduce air pollution (GHG emissions)



Contribute to campus climate plan



Align with building renovation

**Building owner:**  
University of Toronto

**Energy consultant:**  
Entuitive

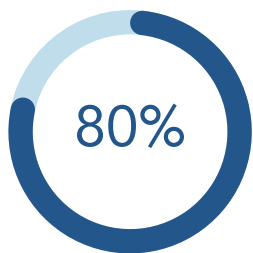
**Building type:**  
Commercial office

**Number of storeys:**  
2

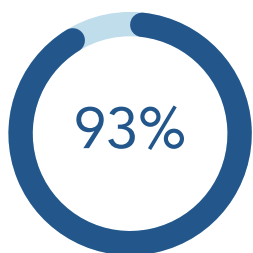
**Gross floor area (m<sup>2</sup>):**  
1,748

**Year built:**  
1882

## Energy Use Reduction\*



## GHG Emissions Reduction\*

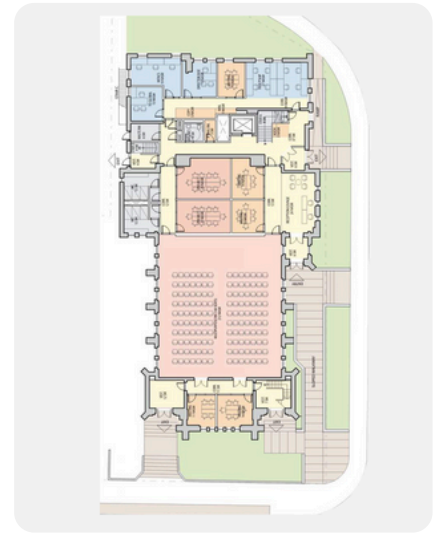


\* Projected values

# The Process

The heritage property, acquired by the University of Toronto in 1965, was being used by the university's UTEST incubator as a co-working space. As they planned a major renovation of the building to improve both the office and collaborative spaces, the University decided to take advantage of the excellent opportunity to improve energy efficiency at the same time.

88 College was already designed to operate as passively as possible, as access to active heating and cooling systems was limited at the time it was built. The age of the building also meant that it boasted beautiful heritage architectural features that had to be preserved, and a plan was developed to reuse existing materials — like the old wood slab floor in the nave — to focus on creating less waste and embodied carbon.



The retrofit measures being considered were holistic, including comprehensive improvements to the building envelope and mechanical systems. This meant replacing or refurbishing windows and doors, improving insulation, and air sealing — all while preserving the building's heritage features. On the mechanical side, electrification was the goal — with air-source heat pumps, and electric boilers and water heaters. Inspired by the integrated design workshop, the project team dug deep into all possible options.

Overall, the proposed retrofit of 88 College was projected to provide an incredible 93% reduction in GHG emissions and an 80% reduction in energy use intensity. Ultimately, the project was cancelled to allow the University more time to process the lessons learned through the planning and design of the project, with the goal of reimagining it in the future — with a higher return on investment while still meeting similar performance targets.

## Measures

### Considered:

- Central air-source heat pumps with auxiliary electric boilers
- Dedicated outdoor air supply with heat recovery and demand control ventilation
- Electric DHW heater
- Upgrade insulation at roof, wall and floor assemblies
- Refurbish or replace windows and doors
- Air tightness improvements
- LED lighting retrofit and controls



**Measures Budget\***  
**\$1,244,000**



**Estimated Payback\***  
**17 years**

\* Projected values

## Lessons Learned

Even though the project did not move forward, Alistair says the planning team is hugely appreciative of the City's involvement. "I wish we had a completed project that we could walk everyone through. In many ways, this was a demonstration project for the University — to learn what is involved in planning for adaptive reuse and renewal of an older, underperforming asset."

This project forced the University to reconsider internal processes like planning, procurement, and delivery models to allow for a project like this to be executed. "Those learnings will have a lasting impact," says Alistair.

Alistair adds that he, and others, would love to see a version of the DRC focused on institutional buildings. While most institutions have decarbonization plans for their assets as a whole, the approach for reducing GHG emissions and energy use must be uniquely tailored to each building, Alistair told us, and programs like the DRC offer the support needed to carry it through.

"I could see so many different institutional asset owners taking this on," Alistair says. "Hospitals. School boards. We can't afford to tear down more than 20% of the buildings we have. So we have to find a way forward, and this is the recipe for how we do it."



"For me personally, and for those who are involved in the project, this is actually a success story. The process and the journey was really positive for us."

**Alistair Vaz**  
Senior Planner, University Planning,  
University of Toronto



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](mailto:drc@toronto.ca)