

Zero Emissions Roadmap

Grid Innovation Fund Project Details

Lead Proponent: Toronto 2030 District

Partners: The Transition Accelerator, Purpose Building, Coolearth Architecture

Strategic Area(s):	Electrification / Decarbonization
Project Total Cost:	\$129,236
Year Contracted:	2020
Location:	Toronto, Ontario
Economic Development:	1,560 jobs

Project Objectives

The project aims to demonstrate a transition to clean energy is affordable and beneficial to Toronto. It will discover the pathway to a GHG-emissions-free building sector by 2050 through engagement and input of 40+ stakeholders from the sector through a series of workshops. The findings will be adaptable by any Ontario city, given the mix of building types involved in the project.

Expected Outcomes

If successful, the pilot will calculate 100% electrification for the City of Toronto by 2050 using actual utility reference data collected during the proponent's previous [project](#). Some of the expected outcomes of the pilot include:

- Identify technologies that can replace natural gas service, and their appropriate uses, including near-horizon technologies, with costs. The principal technologies are: electric resistance, ground source heat pumps, and air source heat pumps.
- Calculate the base electrical usage by building type, assuming resistance, air source and ground source, with growth to 2030, 2050, additional growth.
- Identify technical restrictions with the current distribution grid, with costs.
- List building-centric approaches to resilience if grid or distribution goes down (e.g., shelter in place for day/week/2 weeks, batteries).
- Identify optimum conditions and restriction for solar panels plus storage.
- Quantify potential for wind turbines in Lake Ontario off Toronto.