



## A-4: Performance Gap Analysis for Residential Deep Energy Retrofits

Energy Modelling

Calibration

Evaluation

Deep Retrofit

### Summary

Canada's stock of aging multi-unit residential-buildings (MURBs) represent one of the better opportunities to realize significant energy and operational carbon intensity reductions via deep energy retrofiting. This project will tackle the critical issue of how well predicted energy model performance compares to actual performance for residential retrofit projects post-occupancy.

#### Partners

Read Jones Christoffersen Ltd is a consulting firm specializing in structural engineering and building science and has an expertise in multi-unit residential deep energy retrofits.

#### Researchers

Under development

## METHODS AND DATA USED

Read Jones Christoffersen Ltd brings a portfolio of typical ~ 30 year old housing co-operatives, strata condominiums, family-owned rental buildings and single family houses in various locations and climate zones across Canada.

### Final Outcomes

Whole building energy models will be calibrated using utility consumption data in pre- and post-retrofit states, and compared to results using standard modelling practices. Other in-situ measurements available from RJC like air leakage tests and thermal imaging will also be incorporated. Statistical analysis will be conducted on the calibrated models to determine if an optimal path to achieving deep energy retrofits is identified, and guidelines and principles will be derived for use on future modelling projects.