A-10: Model-based Energy Audits

Energy Modelling   **Machine Learning**   **Calibration**   **Deep Retrofit**

Summary

This project will research calibrated energy models (both traditional and data-driven) to assess retrofit options for a cohort of 20 diverse buildings from the lead partner, the Greater Victoria 2030 Resilient District. All buildings in the district are targeting 80% emissions reductions by 2030. Working directly with property managers will give unprecedented access to detailed data on large, complex buiildings, as well as the opportunity to investigate pre- and post-retrofit building performance.

Partners

The Greater Victoria 2030 District, hosted by BOMA BC, is a coalition of property managers and municipalities that have signed on to significant reductions in energy and carbon in their buildings.

Researchers

Under development.

METHODS AND DATA USED

Research will be undertaken on the effectiveness of coupling surrogate models with Bayesian inference. The accuracy will be tested on a number of real-world case study buildings.

Final Outcomes

Coupling surrogate modelling with Bayesian inference will result in a statistical basis of retrofit performance at a fraction of the cost of traditional calibrated energy modelling. This will be tested on a number of real-world case study buildings. This will open the door to a major increase in the information generated and knowledge delivered on potential retrofit options for major emission reductions.