

# SUSTAINABILITY SCHOLARS PROGRAM

## Summer 2020

The UBC Sustainability Initiative (USI) is pleased to offer current UBC graduate students the opportunity to work on funded sustainability internship projects. Successful candidates work under the mentorship of a partner organization, and are immersed in real world learning where they can apply their research skills and contribute to advancing sustainability across the region.

- Visit the [Sustainability Scholars Program website](#) to learn [how the program works](#) and to [apply](#).
- Be sure to review the [application guide](#) to confirm your eligibility before applying.
- **Applications close at midnight on Sunday February 2, 2020.**

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## Research project title: Total Cost of Ownership (TCO) analysis for Social Housing

### Sustainability Goal or Operations Plan objective

Building Energy Efficiency

Long Term Goal: Create safe, affordable and functional housing over the entire Building life cycle.

### Project description

The purpose of the study is to establish a general understanding of the Total Cost of Ownership (TCO) of social housing portfolios. Investment and design decisions are made by BC Housing on behalf of the Province in a changing physical and regulatory environment. Financial consequences of some of these decisions only become evident as the years roll by. BC Housing would like to have a much better understanding of the different factors and the extent to which these factors impact the total cost of procuring, operating and maintaining a social housing asset.

- Review and compile life cycle costing data from a sampling of recently completed new construction social housing buildings, including design cost, construction cost and operational cost (energy, O&M, etc.) Include any disposal cost and non-monetary cost if available.
- Evaluate at least one archetype in different climate zones, with different construction types and mechanical services. i.e. Low Rise MURB, wood frame, gas heated in Lower Mainland and Low Rise MURB, concrete, electric heated in Lower Mainland.
- Using the above data, determine the Total Cost of Ownership.
- Determine the impact of design, construction elements and mechanical systems on the TCO.
- Identify any additional factors that may impact TCO; e.g., sustainable strategies such as climate adaptability and resiliency. (Please note: BC Housing Research team is currently investigating these strategies and non-monetary benefits/ costs, and anticipate that a framework will be ready in time for the Scholar to use in their evaluation).
- Explore the impacts of recent and proposed Provincial regulations on TCO e.g. how will CleanBC electrification and deep GHG emissions reduction mandates affect TCO in the sector.

### Deliverables

- A final report, containing a summary of completed work with recommendations, complemented by a final presentation to key stakeholders.
- Detailed description of all costs associated to each category of the building life cycle and their impact to the TCO.
- A final report [or Executive Summary] for the UBC Sustainability Scholars online project library.

### Time Commitment

- This project will take **250** hours to complete.
- This project must be completed between May 4 and August 14, 2020
- The Scholar is to complete hours between 8:30 AM and 4:30 PM, Monday to Friday, approximately **15** hours per week.
- The scholar should be available for weekly team meetings along with a weekly one-on-one meeting with the mentor.

### Required/preferred Skills and Background

- Excellent research and writing skills
- Demonstrated interest in sustainability
- Experience conducting stakeholder engagement events, including facilitation skills, is an asset
- Familiarity with research methodologies and survey techniques
- Statistical analysis
- Excellent public speaking and presentation skills
- Strong analytical skills
- Ability to work independently
- Deadline oriented
- Project management and organizational skills
- Building science background
- Strong technical and drafting skills
- Demonstrated experience in energy analysis
- Familiarity with benchmarking methods and tools
- Comfortable interacting with strangers to conduct public/in person surveys
- Familiarity preparing feasibility studies
- Experience with financial modelling and analysis
- Design and layout skills an asset

Applications close **midnight Sunday February 2, 2020.**

Apply here: <http://sustain.ubc.ca/scholarsapply>

Contact Karen Taylor at [sustainability.scholars@ubc.ca](mailto:sustainability.scholars@ubc.ca) if you have questions



## Useful Resources

Below are some links to useful resources to help you with your resume and cover letter (there are many more online). Some of these resources also provide information on preparing for your interview.

<https://students.ubc.ca/career/career-resources/resumes-cover-letters-curricula-vitae>

<https://www.grad.ubc.ca/current-students/graduate-pathways-success>

<https://www.grad.ubc.ca/cover-letter-cv-resume-templates-ubc-career-services>

The Centre for Student Involvement & Careers will host a resume & cover letter webinar tailored for graduate students on Tuesday, January 21, 2020 from 12:00-1:30. Registration will open approximately two weeks before the webinar, and can be accessed at Careers Online.

