Summer 2023 Sustainability Scholars Program Internship Opportunity

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 on the Apply page to confirm your eligibility before applying.

Applications close at midnight on Sunday January 29, 2023.

Project title: Research to understand barriers to implementing efficient residential retrofits (contractor constraints)

Project Background & Overview:
The Community Energy Association (CEA) is helping a number of BC communities with meeting their IPCC 1.5°C targets of reducing their emissions by about 50% below 2010 levels by 2030, and 100% by 2050. Emissions need to be reduced in transportation, buildings, and solid waste – and to have the best chance of meeting these targets reductions should be made in all areas.

Evidence is increasing that existing buildings will be an extremely challenging area for reductions. Most of the buildings that will exist in 2030 and 2050 already exist today, and they will need to be retrofitted to help meet the CleanBC and Federal Green Building targets. Retrofitting half of low density residential buildings to be GHG neutral by 2030 and all of them by 2050 in any community is a momentous task. In practice, this means in any given community achieving retrofit rates of about 4-7% of existing housing stock per year where each of these buildings becomes zero or very low GHG.

CEA is actively helping various communities in BC with retrofit programs that could result in substantial GHG emission reductions if they can be successfully implemented. The primary area of focus is transitioning buildings from fossil fuel heating and domestic hot water to electric. The greatest challenge that CEA has identified to date is contractor capacity and availability. Contractors report being short staffed, overwhelmed with the volume of work that they have from all sources, and therefore can be uninterested in energy efficiency and air source heat pumps, can have limited technical understanding, and can even believe myths (e.g., about the lack of applicability of air source heat pumps in various BC contexts).

CEA would like research that delves more deeply into this issue, and starts to identify solutions, which will help in tailoring programs to successfully help communities with deep GHG emission reductions. Specifically, we would like to assess contractor Knowledge, Attitudes and Practices

(KAP) as they relate to deep energy retrofits and heat pump installation, with a particular focus on rural communities.

Project description

This project will delve into contractor issues affecting energy efficiency retrofits in rural BC, and start to suggest ways to overcome these.

This will be valuable as the primary barrier that CEA has identified in its implementation of retrofit programs to date is the willingness and availability of contractors to meet home owner demand for heat pump installations. Contractors have expressed skepticism regarding heat pump efficacy, and time constraints in responding to customer inquiries have resulted in unpaid labour and frustration with the rebate and HPCN processes.

CEA sees a need within the market to understand the present and future challenges to clean energy transitions, and to identify pathways to addressing those challenges. The work outcomes will be immediately actionable, and perhaps some could be actioned even while the research project is underway or shortly after the research project has been concluded. CEA has retrofit programs underway in BC as do several other organizations. If these programs can be implemented at scale as intended, they will lead to substantial GHG emission reductions. They are an essential part of the implementation of almost all communities' climate action plans.

It is likely that the solutions to contractor issues will be complex, hence it is anticipated that the project will provide some initial ideas and guidance in terms of solving these, but it is unlikely that the project will come to full conclusions on these.

Project scope

The work will consist of both quantitative and qualitative research and analysis. Specifically, the scholar will create a Knowledge, Attitudes and Practices (KAP) survey focused on rural community contractors that will aim to understand what contractors know, believe and do in regards to retrofits and heat pump installations. Design and distribution of the survey will need to address contractor engagement fatigue and the challenges involved in eliciting responses.

At the completion of the survey, if time and resources allow, CEA may also facilitate focus group discussions that the scholar can participate in, to gain additional knowledge and explore issues raised through the survey to a greater depth.

Key questions related to contractors are:

- Estimate of the number of contractors available in rural communities (definition of rural to be established through the survey design) that can and do install different energy efficiency measures
- Number that are part of the Home Performance Contractor Network, and receptivity to being part of this
- Implementation capacity (number and rate of project completion)
- Labor availability (technical capacity) and trends in customer demand

- Systems and supports for realizing customer energy transitions as well as experienced gaps
- Behaviours, attitudes, understanding and knowledge regarding energy efficiency, GHG reductions, natural gas appliances, heat pumps etc.

Deliverables

- A final report containing a summary of the work completed, including answers to the key questions listed above
- A final report for the online public-facing Scholars Project Library.

Time Commitment

- This project will take 250 hours to complete
- This project must be completed between May 1 to August 15, 2023
- The Scholar is to complete hours between 9 am and 5 pm, Monday to Friday, approximately 17 to 20 hours per week.

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
☒ Familiarity conducting focus group research, an asset
☒ Strong analytical skills
☒ Ability to work independently
☒ Deadline oriented
☒ Project management and organizational skills
☒ Comfortable interacting with strangers to conduct public/in person surveys
☒ Familiarity with creating questionnaires / Knowledge, Attitudes and Practices (KAP) surveys an asset.

Applications close **midnight Sunday January 29, 2023**
Apply here: Click here to apply
Contact Karen Taylor at sustainability.scholars@ubc.ca if you have questions

Useful Resources

We are holding a special **resume preparation workshop for prospective Scholars** on January 23, 2023. Click here for details and to register.

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