

## Summer 2025 Sustainability Scholars Program Internship Opportunity

The UBC Sustainability Hub is pleased to offer current UBC graduate students the opportunity to work on sustainability internship projects. Successful candidates work under the guidance of a mentor from the partner organization, and are immersed in real world learning where they can apply their research skills and contribute to advancing sustainability across the region. The pay rate for the summer 2025 program is \$31.25/hour or \$7,812.50 for a 250-hour project.

- 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 11:59 pm on Sunday January 26, 2025.**

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### **Project title: Barriers and opportunities to energy sharing between vehicles and buildings during an emergency, and vehicles and grids at other times**

#### **Project Background & Overview:**

BC Housing's Research Centre, through the Mobilizing Building Adaptation and Resilience (MBAR) program undertakes climate action and resiliency research, focusing on early innovation opportunities within the residential building sector. MBAR has a long history of research in this space, including work on the Energy Step Code, Future Weather Files, and in pilot projects that incorporate innovation into their designs.

With our focus on innovation, we are exploring new and novel ways to enhance energy efficiency, reduce emissions, and address climate risks. We believe in the concept of multisolving – addressing multiple challenges with one intervention. Researching innovations that both reduce carbon footprints and increase resiliency to climate hazards means we are getting more value for our investment.

BC Housing is the largest residential developer in BC, and as such we have an obligation to do our work well. As we remain involved in the full life cycle of these assets directly or through our housing partners, we must ensure the longevity of the assets so they continue to serve our tenants for decades to come. Our research looks at not just the immediate challenge, but the long term implications of our decisions.

The project here is relevant to BC Housing as we look to ways to use existing infrastructure and technologies to solve multiple challenges. The advent of electric vehicles on our sites provides the opportunity to not only encourage transition away from fossil fuel vehicles, but also provide an avenue for managing energy usage, and support emergency operations in our buildings. BC Housing has multiple priorities to address, and being able to address sustainability, resiliency, carbon reduction, and tenant safety all in one solution is ideal.

#### **Project description**

# SUSTAINABILITY SCHOLARS PROGRAM

We believe that the increase in electric vehicle ownership provides a potential avenue as a post-disaster energy source and/or a potential way to level the energy load over the course of a day or a season. To that end we want to understand:

- How can energy sharing between vehicles, buildings, and grids be enabled to enhance overall efficiency?
- What are the challenges and benefits of integrating vehicle-to-building (V2B) and vehicle-to-grid (V2G) systems for energy management?

## Project scope

Focussing on a minimum of three relevant vehicle types, three relevant building types (to be determined in consultation with the project mentor) the project work will include the following:

- Literature search to understand the current environment for vehicle-to-building (V2B) and vehicle-to-grid (V2G) services
  - Looking nationally and internationally for peer reviewed articles and grey literature that explore V2B and V2G options
  - Topics include the technology available to serve this purpose, economic evaluations, supply chain considerations, benefits to environment, safety, health and recyclability
- Environmental scan to see whether this technology exists elsewhere and how it is used
  - Examine up to 10 jurisdictions that have provided explored or implemented V2B or V2G solutions
  - Source policy documentation that relates to the applicable building codes, zoning requirements, or other enabling authorities
- Policy, regulatory, and technology review
  - Source policy documentation, regulations, incentives, and pilot programs to applicable to the context in BC
  - Expert interviews to understand the current policy and technical environment
    - Up to 10 key informant interviews with jurisdictions with experience, service providers, or academics that have a depth of knowledge on this topic

## Deliverables

- A final report containing a summary of the work completed, including:
  - documentation of key barriers and opportunities
  - a roadmap to advance this opportunity that considers technical and policy opportunities, and barriers.
- 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.
- The Scholars is to complete their hours between 9 am and 5 pm, Monday to Friday, approximately 17 to 20 hours per week.

# SUSTAINABILITY SCHOLARS PROGRAM

## Required/preferred Skills and Background

- Excellent research and writing skills
- Demonstrated interest in sustainability
- Familiarity with research methodologies and survey techniques
- Strong analytical skills
- Ability to work independently
- Deadline oriented
- Comfortable interacting with strangers to conduct interviews
- Familiarity preparing feasibility studies
- Familiarity reviewing policy and regulations, an asset
- Electrical engineering background an asset

Applications close at **11:59 pm Sunday January 26, 2025**

Apply here: [Click here to apply](#)

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

## Useful Resources

We are holding a special **resume preparation workshop for prospective Scholars** on January 21, 2025. [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>