

Summer 2026 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 February 1, 2026.

Project title: Equitable electricity demand reduction and response strategies for vulnerable BC households

Project Background

In British Columbia, nearly 300,000 households experience energy insecurity, spending more than twice the national median on their energy costs. Energy insecurity means that families are suffering from high rates of asthma, cardiovascular disease, and mould-related illnesses caused by living in homes that are too hot in the summer, too cold in the winter and poorly ventilated. It means some families are forced to choose between paying heating bills or paying for life's other essentials. As economic and climate conditions worsen, more families in Canada are affected by energy insecurity and the health impacts of under- and over-heated homes. Households in disadvantaged rural and Indigenous communities, as well as lower-income and medically vulnerable households, are often the most overlooked by traditional programming and investment.

Electrifying homes to utilize high-efficiency space and water heating can alleviate many of the worst impacts of energy insecurity by lowering energy bills and improving the health of homes. Retrofit measures such as the installation of electric heat pumps can address both over- and under-heating, and improve air quality through active filtration. However, the initial costs of electrification can be high, particularly when electrical service upgrades are perceived as a necessary first step for replacing existing gas appliances with high-efficiency electric ones.

In combination with the above-described home retrofits, equity-targeted electrification strategies can include the deployment of demand reduction and response technologies, reducing electricity demand and the need for infrastructure upgrades. These technologies can be paired with several consumer rate choices offered by BC Hydro, and when optimized, these choices can reduce costs to the utility and bills paid by customers. These minimally invasive upgrades can be deployed alongside programs that provide free heat pumps and insulation upgrades to income-qualifying households. In this way, load management and demand

reduction technologies can both enable lower-cost electrification in homes as well as reduce costs and capacity constraints across the entire electricity system.

Project description

This project will meaningfully contribute to policy and technical conversations taking place in BC regarding the fair and equitable rollout of electrification in homes, and overall issues of fairness and unequal access in the transition to a lower-carbon energy system. This project will also aim to draw meaningful connections and synergies between energy justice and equity goals, and the goals of electric utilities to manage peak demand and reduce constraints on the power grid as electrification continues to raise overall electricity demand.

Utility programs for low-income customers currently focus primarily on the deployment of home energy retrofits (e.g., installation of heat pumps or insulation), which can be costly and slow to deploy. In contrast, load management technologies (e.g., scheduled EV chargers) and electricity rates (e.g., time-of-use discounts for overnight EV charging) primarily serve peak demand reduction goals for utilities and high-consumption customers.

Load management programs are not currently designed with vulnerable or lower-income households in mind. Existing strategies focus on high-end “smart” appliances, strategic timing of EV charging, and shifting electricity demand to off-peak hours, all of which can be inaccessible to vulnerable households due to limited incomes and inflexible work schedules, among other systemic factors.

This project will explore how load management and demand reduction technologies can support lower-income households to electrify their homes and reduce energy bills, through both technology and consumer rate options. Ultimately, our hope is that this research will take a fresh look at the many load management and demand response strategies that are currently being discussed in BC as a means to electrification, and make recommendations as to which of these are best suited for deployment in vulnerable and lower-income households, ultimately making the benefits of all-electric homes accessible to more people in BC and Canada.

Project scope

This project will involve:

1. Literature review of existing load management technologies utilized in jurisdictions with similar housing archetypes and electrical infrastructure (including BC). The literature review should identify 4-6 promising technologies from a cost and installation feasibility perspective in lower-income homes. These can include, but are not necessarily limited to:
 - Utility-controllable thermostats and water heaters
 - Load management “switches” and devices
 - Grid-connected batteries
 - Solar PV with net metering
 - “Smart” electrical panels

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2. Consideration of how these technologies could be optimally paired with existing and in-development BC Hydro rate design options. The student should consider combinations of technologies and rate choices that synergize well together to reduce demand and lower energy bills. Rate options that should be considered include:
 - Residential Time-of-use rates (TOU)
 - Controllable Device rates (in development by BC Hydro)
 - Flat rate
 - Subscription and Subscription+ rates (fixed monthly payments with or without an annual adjustment payment)
 - Any other relevant rate designs from jurisdictions outside BC (optional)
3. Analysis of these strategies from a feasibility and equity perspective, which may include:
 - Overall lowest cost of deployment (assuming technologies are installed at no cost to the customer)
 - Ease of installation and minimization of disruption to customers
 - Ease of understanding and acceptance when technologies and rate choices are combined
 - Any supporting evidence from existing research or case studies in comparable jurisdictions, demonstrating how electrification of homes can be most easily accomplished at lowest cost to the occupant.
 - Interviews with subject matter experts (e.g., BC Hydro staff, electrification experts, municipal staff) whom the project mentor would be able to connect the student with to validate and refine the research approach and existing policy landscape.
 - A high-level equity analysis, focusing primarily on benefits to procedural and distributional equity for low-income customers.
4. Analysis of electrification and demand response strategies for vulnerable and lower-income households, and recommendations to inform which technologies and accompanying rate options should be advanced for recommendation and development by utilities and policymakers.

Deliverables

- A final report containing a summary of the work completed
- A final report for the online public-facing [Scholars Project Library](#).
- A presentation summarizing the methods and key findings of the research

Time Commitment

- This project will take 250 hours to complete
- This project must be completed between May 1 to August 14.
- The Scholars is to complete their hours between 9 am and 5 pm, Monday to Friday, approximately 17 to 20 hours per week.
- Note that the project mentor's regular work hours are 9AM-5PM Monday to Thursday

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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
- Ability to work independently
- Project management and organizational skills
- Understanding of energy systems either from a technical or policy perspective, an asset
- Interest in energy policy, or background in engineering, utilities, or regulatory law, an asset.

Applications close at **11:59 pm Sunday February 1, 2026**

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 19, 2026.
[Click here for details and to register.](#)

Below are some links to useful resources to help you with your resume, cover letter and preparing for an interview (there are many more online).

<https://students.ubc.ca/career/career-resources/>

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