

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: Development of a Building Retrofit Toolkit to address Extreme Heat Events (City of Burnaby)

Project Background & Overview:

The City of Burnaby (City) declared a Climate Emergency in 2019. The emergency declaration set new carbon reduction targets for the City over the next three decades (45% reductions by 2030, 75% reductions by 2040 and carbon neutrality by 2050). This emergency declaration is in alignment with the targets set by the Intergovernmental Panel on Climate Change (IPCC) to limit global temperature increases to a maximum of 1.5 degrees Celsius.

To ensure Burnaby will meet these targets, the City developed a Climate Action Framework with seven 'big moves' areas: 1) climate leadership; 2) resilient neighbourhoods; 3) healthy ecosystems; 4) accelerated mode shift; 5) zero emission vehicles; 6) zero emission buildings - net zero new; and 7) zero emission buildings - retrofits. The Climate Action Framework builds on existing Burnaby policy, strategies and plans as well as advances new City programs to ensure that they are mutually supportive.

The City and the rest of the Metro Vancouver region have been experiencing intensified and more frequent extreme weather events, including prolonged heat waves, extreme cold, wildfires, droughts, windstorms and unprecedented volumes of rain to trigger floods and landslides attributed to anthropogenic climate change. With these events, and more projected for the future, the responses to prepare, adapt and build capacity are important functions of forming a resilient community.

In particular, the casualties of the June 25- July 1, 2021 extreme heat event prompted the Chief Coroner of BC's Extreme Heat and Human Mortality Death Review Panel¹, whose findings highlighted, amongst many things, that in 98% of the deaths recorded the heat injury occurred indoors in a residence. Recommended mitigation tactics pointed to a number of characteristics

¹ Death Review Panel, 2022. *Extreme Heat and Human Mortality: A Review of Heat-Related Deaths in B.C. in Summer 2021*. Available at: https://www2.gov.bc.ca/assets/gov/birth-adoption-death-marriage-and-divorce/deaths/coroners-service/death-review-panel/extreme_heat_death_review_panel_report.pdf

of the built environment that could help or hinder the mitigation efforts of future extreme heat events. This aligns with other emerging research, and with the City of Burnaby's commitment to develop a Climate Change Adaptation Strategy (Big Move 2, Quick Start 4) and the development of a city-wide Zero Emission Building Retrofit Strategy (Big Move 7, Quick Start 3).

Building resiliency requires strong adaptive capacity, especially for humans to adjust to potential vulnerabilities, like extreme weather events, that directly affect the local neighbourhood and community. Building a resilient neighbourhood (#2 above) is ensuring that residents' basic needs are met while minimizing the impacts. In addition, there is the importance of existing buildings, where residents live, to be prepared for future extreme weather events through retrofits (#7 above) that can also advance low-carbon programs. As the City further works to implement big moves initiatives, the focus to engage and involve climate actions at a neighbourhood and building scale can support residents and buildings being connected and prepared for future climate events. Ultimately, supporting climate action also supports the goal of building a healthy community in Burnaby.

Project description

The purpose of the project is to develop a resilient built-environment toolkit for existing buildings, with an emphasis on potential retrofit actions to mitigate the impacts of extreme heat events.

The intended toolkit would be developed with City staff for use by building owners, operators and residents to consider low-carbon programs and mitigation actions that would address future extreme heat events. This toolkit would augment existing initiatives currently underway with the Urban Resilient Futures [Zero-Emission Building Retrofit Task Force](#) report, the development of a city-wide Zero-Emissions Building Retrofit Strategy, and the [creation of an Age-Friendly Strategic Plan for Multi-Sectoral Extreme Weather Response in Burnaby](#) (grant administered through the BC Healthy Communities Age-Friendly Grant). The toolkit would add value to ongoing initiatives with the City in working on improving planning and preparedness for future extreme heat events, which also aligns with Recommendation 3 of the aforementioned Death Review Panel findings.

The Scholar's work would concur with the age-friendly strategic plan implementation and other extreme heat response planning taking place over the 2023 summer term.

Project scope

Project work will include:

- Scan of best practices and literature on available City- and community-based research on extreme heat and the impact on residents in different building typologies (low-, medium- and high-rise buildings);
- Develop a set of indicators to consider for extreme heat vulnerabilities and possible mitigation effects with different housing typologies of Burnaby's standard low, medium and high-density buildings;
- Develop 2 to -3 low-carbon scenarios to consider available incentives and other possible incentives that would impact baseline measurements using the same housing typologies as listed above;

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- Engage with city staff to solicit input on the scenarios, identify any successes/gaps in each scenario, and to further refine outcomes;
- Recommend a set of tools to include in the building retrofit toolkit that could be used to mail out potential residents, building owners and operators in Burnaby.

Deliverables

- A summary of the work completed
- Recommendations on toolkit/checklist contents and a prioritised list of recommended contents that need to be sourced or created
- 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 8:30 am and 4:30 pm, Monday to Friday, approximately 17 to 20 hours per week.
- Preferably, the Scholar is available for a kick-off meeting, regular check-ins, community partner meetings and potential engagement sessions that may be planned in conjunction with other City initiatives over the 2023 summer term (possibly over zoom or in-person).

Required/preferred Skills and Background

- Demonstrated interest in urban planning, public health, geography, social work, emergency management or other relevant discipline.
- Experience conducting stakeholder engagement events, including facilitation skills, is an asset
- Excellent public speaking and presentation skills
- Community engagement experience
- Excellent research and writing skills
- Familiarity with research methodologies and survey techniques
- Familiarity conducting focus group research
- Strong analytical skills
- Ability to work collaboratively
- Project management and organizational skills
- Design and layout skills (e.g., Adobe Creative Suite, Infographics, etc.)

Note:

The City of Burnaby will provide access to hot desk office space within the Community Planning Division at 4946 Canada Way. This would include a laptop with Microsoft applications to conduct the proposed work. City staff can work with the Scholar on other additional needs.

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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>