

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 March 8, 2020.**

Research project title: Research to Understand Best Options for Electrifying the Stanley Park Train

Research supports the following policies

- Greenest City Action Plan/ Climate Emergency Response Plan
Specific goal area/ big move(s):
[Goal 1:](#) Climate and Renewables - Eliminate dependence on fossil fuels.
[Goal 8:](#) Clean Air - Breathe the cleanest air of any major city in the world.
[Goal 11:](#) Greening Our Operations
- Green Operations: Zero Carbon
- Renewable City Action Plan
- Healthy City Strategy

Outline scope of project and why it is of value to the City and describe how and when the scholar's work will be actionable

Welcoming over 200,000 visitors annually, the Stanley Park Railway is popular with locals and tourists alike. The 20 gauge, 2-kilometer track winds through the forest over ground cleared by Typhoon Freda, the most devastating storm in Vancouver history, which blew through in 1962.

The vintage Stanley Park Train engine is a locally built replica of Canadian Pacific Railway Engine #374, famous for pulling Canada's first transcontinental passenger train into Vancouver in the late 1880s. It transports over 200,000 passengers a year. Given its popularity and history, electrifying the train's gas engine is a directly actionable and meaningful way to reduce the City's GHG emissions.

Scope of work:

- Assess the feasibility of electrifying the gas-powered Stanley Park Train.
- Research different electrification options, including retrofitting and purchasing new.
- Evaluate financial, technical, timeline, and regulatory requirements/impacts, including a high level scope of work for each option.
- Provide a comprehensive cost-benefit analysis of electrification options.

Why this work is of value:

- Electrifying the Stanley Park Train is a directly actionable way for the City to demonstrate its leadership in green issues.
- This research supports the Greenest City Action Plan and other aforementioned policies by reducing the City's GHG and pollutant emissions.

Deliverables

The Greenest City Scholar will deliver a final report containing a summary of their completed work with recommendations. The deliverables will include:

- A feasibility study of electrification options for the Stanley Park Train, including a high-level cost-benefit analysis.
- Recommendations as to which option will provide most value to the City.
- A public facing final report for the UBC USI website.

Time Commitment

- This project will take **250** hours to complete.
- This project must be completed between **May 4 to August 14, 2020**
- The scholar is to complete hours between **8 AM to 4 PM Monday to Friday**, approximately **16 hours per week**.

Skill set/background required/preferred

- Excellent research and writing skills.
- Demonstrated interest in mechanical engineering, sustainability
- Strong technical writing skills
- Strong analytical skills
- Ability to work independently
- Demonstrated time management skills
- Deadline oriented
- Familiarity preparing feasibility studies
- Mechanical engineering background
- Experience with electric drivetrains an asset

Applications close **midnight Sunday March 8, 2020**.

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

Contact Karen Taylor at 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>

