UBC Sustainability Scholars Program 2019

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 organizational sustainability goals.

For more information about the Sustainability Scholars Program and to apply to work on this project, please visit the [Student Opportunities](#) page.

Please review the application guide (PDF) before applying.

Applications close **midnight Monday February 25, 2019**.

Research project title
Lifecycle Costing Tool for Selecting New Fleet Vehicles

Sustainability Goal or Operations Plan objective

The Township of Langley has committed to developing a lifecycle costing tool for selecting new fleet vehicles as part of the Council-adopted Strategic Energy Management Plan (SEMP). This tool will help the Township reach its carbon reduction goals for fleet, which include:

- 50% of passenger vehicles to be electric, by 2026
- 100% of gasoline trucks to be 50% more efficient due to right-sizing, electric, and fuel efficient purchasing by 2028

Outline scope of project and why it is of value to your organization. Describe how and when the Scholar's work will be actionable.

The Township's fleet fuel accounts for 15% of corporate energy use and is the second largest source of corporate greenhouse gas emissions, accounting for 38% of emissions. As part of the Township's commitment to supporting efficient, low carbon electrification, a Lifecycle Costing Tool is planned for selecting new vehicles to accelerate the adoption of low-emission vehicles.

A Life Cycle Costing Tool is essential for building the business case for selecting electric vehicles (EVs) over combustion engine vehicles (CEVs). EVs have large capital costs compared to CEVs, even after available incentives. Therefore, a strong financial case is essential to obtaining budget approvals for these large capital investments. The Township needs a tool that is designed for our specific fleet and financial parameters, allowing for comparisons between EV models and CEVS, the model will have to look at capital vehicle costs, available incentives, fuel costs, and maintenance costs.

The Scholar's work will commence the creation of the Lifecycle Costing Tool and, depending on the recommendations made in the research phase, may include either the acquisition or the development of the actual tool. The Scholar's work will be broken down as follows:

1. Best Practice Research: conduct research on other organizations in North America that are using a Lifecycle Costing Tool and find what lessons can be learned from them. Include general research on available software.

2. Stakeholder Engagement: liaison with internal and external stakeholders to determine necessary components for the tool. Key stakeholders will include Fleet and Finance; the Scholar will need to meet with these departments to determine how vehicles are procured, budgeted for, and maintained in the Township.

3. Recommendation: work with Township staff to determine a course of action based on the research above. Broadly, the recommendations will be to either:

   i.   acquire an existing technology; or

   ii. develop an in-house tool

4. Development: based on the action proposed above and as time permits, complete final work on the tool. Either course of action will require the Scholar to work with the tool, providing examples of comparisons between EVs and CEVs (e.g. Nissan Leaf and Toyota Corolla) and different EV models (e.g. Nissan Leaf versus Kia Soul). This will include either:

   i.   working with internal departments to acquire technology, train relevant staff, input data, and assist in using the software to plan vehicle upgrades; or
   ii. designing and developing an in-house tool

Deliverables
Note that a final deliverable (either a full report or, if the report contains confidential information, an executive summary) is required by the end of the program (August 12, 2019). The deliverable will be archived in the online public-facing Scholars Project Library.

- A final report containing a summary of best practices, stakeholder feedback, and recommendations.

- As applicable, an acquired or in-house tool with data input ready for use by Township staff.

Time Commitment
- This project will take 250 hours to complete.
- This project must be completed between April 29 – August 12.
- The Scholar is to complete hours between 8:30am-4:30pm, Monday to Friday, approximately 20 hours per week. The Township may be able to accommodate a flexible work schedule; however, it is preferred that the scholar spend at least one consistently scheduled day per week at the Township's Operations Centre where a work space will be provided for the scholar throughout the term.

Required/preferred Skills and Background

- Excellent research and writing skills
- Familiarity with computer programs is essential;
- Ability to work and excel with minimal supervision;
- Experience with fleet software or financial modelling tools is an asset;
- Strong communication skills - experience conducting interviews is considered an asset;

Applications close **midnight Monday February 25**.
Apply here:
https://sustain.ubc.ca/student-opportunities

To learn more about the program here:
https://sustain.ubc.ca/ubc-sustainability-scholars-program

Read the application guidelines to confirm your eligibility to participate in the program here:
https://sustain.ubc.ca/student-opportunities

Contact Karen Taylor at sustainability.scholars@ubc.ca if you have questions.