

UBC SUSTAINABILITY SCHOLARS
Summer 2018

Research Project Title

Corporate Energy Step Code Policy for New Buildings and Major Renovations

Goal or Operations Plan objective

The Township of Langley's Sustainability Vision is to build a legacy for future generations by leading and committing the community to a lifestyle that is socially, economically, and environmentally balanced.

Echoing this vision, the Township strives to be energy efficient in the delivery of Township services, to have a culture of energy conservation that is supported by Council and staff in all departments, to be a leader in the community for energy conservation and emission reductions, and to be accountable for these commitments in its corporate operations.

The Township would like to develop a corporate building energy policy for new and major renovations for city-owned and operated buildings. The project will be mainly focused on creating a corporate building policy that focuses on BC Energy Step Code adoption for Township Part 3 buildings.

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 of Langley plans to develop a corporate policy that focuses on the energy components of new buildings and major renovations. To generate this policy, the Township is interested in understanding what green building standards and certifications exist and what other municipalities in the region have adopted into their corporate operations. The Township is specifically interested in the adoption of the new BC Energy Step Code standard for Part 3 buildings and how this could be adopted into a corporate building policy.

- Research various green building standards/policies and certifications (BC Energy Step Code, Net-Zero, Energy Star, Passive House, etc); including what building policies have been or will be adopted by other local governments and private enterprises.
- Conduct a thorough analysis of BC Energy Step Code work completed to date, including reports, costing studies, etc.
- Assist Sustainability Specialist in developing a report and financial business case for building to specific steps within the BC Energy Step Code for Part 3 corporate buildings. Staff will work with scholar to show lifecycle cost comparisons of building to BCBC and Step Code levels.

This project would provide both short and long term value to the Township. The scholar's work would have immediate practical value and would help the Township achieve the following:

- Learn from researched best practices and strategies;
- Help the Township find the best fit for a corporate building energy strategy;
- Begin transforming business practices;
- Provide a foundation for a Corporate Energy Step Code Policy.

The scope of the scholar's work is broken down as follows:

1. *Research various green building standards/policies and certifications (BC Energy Step Code, Net-Zero, Energy Star, Passive House, etc); including what building policies have been or will be adopted by other local governments and private enterprises.*
 - Summarize best practices, framework structures (especially from a local government perspective), leading thought on the certifications, incremental cost to build to such standards, effective strategies, and resources;
 - Conduct interviews with other local governments that have implemented building energy policies. Interviews should gather incremental costs to build to specific energy standards, energy savings realized over-time, other benefits associated with building energy policies.

Submit applications here: <http://bit.ly/2DC2jpP>

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- Review all BC Energy Step Code research on Part 3 buildings, and where applicable speak with Step Code network/BC Hydro.
- 2. Lifecycle Costing & Green Building Policy: *Assist Sustainability Specialist in creating a lifecycle costing tool and establishing building energy standards*
 - Assist Sustainability Specialist in gathering the information necessary to inform a lifecycle costing tool approach for new buildings and infrastructure that includes the energy costs to operate the building throughout its life compared to the incremental cost to build to a higher energy efficiency standard than the BC Building Code;
 - Assist Sustainability Specialist in establishing a Corporate Energy Step Code Policy for new buildings and major renovations that target a reduction in energy consumption relative to BC Building Code.

Deliverables

- A final report that summarizes research on best practices, interview results from local governments and private enterprises, recommendations on framework strategies, and a section detailing the lifecycle costing information.
- Executive Summary for the UBC Sustainability Scholars online project library

Time Commitment

Completing the 250 hours of work will require approximately 2 days of work per week from May 1 to August 10. 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.

Skill set/background required/preferred

This section will be used by UBC to match students with your project. Please be as specific as possible in describing the skillsets, which will be used by UBC in shortlisting applications.

- Excellent research and writing skills;
- Experience with financial modelling and analysis;
- Strong communication skills - experience conducting interviews is considered an asset;
- Ability to work and excel with minimal supervision;
- Familiarity with quantitative and qualitative research methodologies and implementation;
- Demonstrated interest in sustainability and energy through education and/or practical experience;

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