

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.**

Title of Research Project: Research and evaluate the use of wastewater contaminant fees

1. The purpose of the project is:

To review pricing strategies in other jurisdictions that charge for a wide range of contaminants other than biochemical oxygen demand (BOD), total suspended solids (TSS), and volume, and to evaluate these strategies in the Metro Vancouver context. This will be achieved by:

1. Review similar pricing strategies from other jurisdictions around the world,
2. Evaluate how these pricing strategies were developed including how the unit costs were developed,
3. Evaluate the pros and cons of each approach in the Metro Vancouver liquid waste context.

Metro Vancouver wishes to investigate options to develop a fee system for contaminants other than BOD and TSS. Current industrial permit holders that have low BOD and TSS discharges but high metals pay a significantly lower Industrial Treatment Fee even though they may make up a significant portion of the plant load for these other contaminants. In addition, Metro Vancouver conducts significant monitoring in the wastewater system and receiving environment for metals, pharmaceuticals and other parameters of concern. A fee structure could help recover some of these costs from the dischargers of these contaminants.

2. How will this project make a contribution to regional sustainability?

Wastewater entering each of the region's wastewater treatment plants must be treated prior to discharge to the environment. These treatment plants are designed to remove BOD and TSS. However, Metro Vancouver is required to meet quality objectives for metals and other parameters in both the wastewater treatment plant discharges and in biosolids management. A reduction of these contaminants at source will ensure that they do not enter the environment.

Presently, Metro Vancouver recovers costs for BOD, TSS and volume from permitted industry. Fees are structured to act as an economic instrument to drive change in discharge quantity and quality. Economic instruments are tools that allow industry to make the most cost-effective choice on how they will meet compliance and can act as an incentive to significantly reduce their discharge. Currently, there are no fee structures in place in the region for other wastewater contaminants (e.g. metals).

3. Outline the scope of project including how the scholar's work will be used by Metro Vancouver:

- Conduct a literature review of 3-5 jurisdictions primarily focused on the following regions:
 - Europe (European Union or specific countries)
 - Australia (New South Wales and/or Sydney Water)
 - North America (Capital Regional District, BC Ministry of Environment or others)
- The literature review will look for other jurisdictions (3-5) that have developed and implemented a fee structure to charge dischargers for the release of a wide variety of contaminants (other than BOD and TSS). The review should be for discharges to sanitary sewer but the discharge to other media such as to air or directly to the aquatic environment could be considered.
- The review will look at the basis for the fees and/or unit rates.
 - What is the basis for the fee structure? Are the unit rates based on toxicity? Risk? etc.
 - What costs are they recovering? (i.e. Sampling and analysis? Special studies? Treatment and/or disposal?)
 - What was the impact of the fee structure on discharges? (if available)
 - How much income was generated?
- Analysis of the methodologies for each of the reviewed fee models as to the effectiveness of the model and its possible applicability to Metro Vancouver industrial fees.
- Develop a strategy on how Metro Vancouver can develop a similar initiative including the information and data required to develop these new contaminant fees

4. Project Deliverables:

- Literature review
- Written report highlighting
 - findings of the literature review
 - analysis of the pros and cons of each of the reviewed jurisdictions from a Metro Vancouver liquid waste context.

5. Identify the required/preferred skill set and knowledge base for the ideal Scholar.

- Excellent research and writing skills
- Strong analytical skills
- Ability to work independently
- Demonstrated time management skills
- Deadline oriented
- Familiarity with benchmarking methods and tools
- Experience with financial modelling and analysis
- Demonstrated interest in sustainability
- Excellent presentation skills

The candidate should have a knowledge of economics with some understanding of the development and use of user-fee structures and economic instruments to effect change or influence discharge behaviour through impacts on market signals. Wastewater knowledge would be an asset, but is not necessary.

6. Identify specific requirements required for completing this project (if any)

- Must be able to travel to Metro Vancouver's head office in Burnaby for check in meetings
- Access to own laptop and software (MS Word and Excel)

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.