

Summer 2022 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](#) to confirm your eligibility before applying.

Applications close at midnight on Sunday January 30, 2022.

Research Project Title: Review and cost analysis of low-emission alternatives to open-air burning of residential vegetative waste for the Metro Vancouver region

Project Background & Overview:

The Metro Vancouver Regional District (MVRD, operating as Metro Vancouver) consists of 21 municipalities, one Electoral Area and one Treaty First Nation. Metro Vancouver is responsible for managing air quality in the region and regulating the discharge of air contaminants under the authority delegated by the Provincial government in the British Columbia Environmental Management Act (EMA).

Metro Vancouver is developing a proposed emission regulation on open air burning of vegetative debris in an effort to reduce air emissions from the burning of branches, leaves, and other residual plant material from agricultural, residential, land clearing, and forestry activities. Air contaminants in smoke from burning of vegetative debris, such as fine particulate matter (PM_{2.5}), volatile organic compounds (VOC), nitrogen oxides (NO_x), and polycyclic aromatic hydrocarbons (PAH) have negative impacts on human health; there is no known safe level for some of these substances. Smoke is a significant source of greenhouse gases (GHG) and short-lived climate forces that accelerate climate change. Smoke from burning vegetative waste also contributes to degraded visual air quality.

This project lies within the framework of policies and regulations supporting alternative methods of managing vegetative waste from residential properties other than open-air burning. It aligns with the regional targets under Metro Vancouver's Clean Air Plan adopted in September 2021:

1. Reduce regional greenhouse gas emissions by 45% from 2010 levels by 2030.
2. Air quality in the region is continually improving, protecting human health and the environment, by ensuring that:
 - a. Ambient air quality meets or is better than the ambient air quality objectives and standards that are regularly updated by Metro Vancouver, the BC Government and the Government of Canada; and
 - b. The amount of time that visual air quality is classified as "excellent" is increasing.

The findings from this project will be directly applicable to fulfilling 'Strategy 5.1 Reduce Residents' Exposure to Harmful Air Contaminants' under the Clean Air Plan.

Project description

The purpose of this project is to improve understanding of the feasibility and cost of current and potential residential vegetative waste management practices that reduce emissions from open-air burning of vegetative debris on residential properties.

The research will identify cost-effective waste management services and practices that member jurisdictions and residents could implement within the next few years as alternatives to open-air burning of vegetative debris.

Project scope

The proposed project will require the Scholar to:

1. Research current jurisdictional policies and practices in Metro Vancouver that support alternatives to open-air burning of vegetative waste for residential properties in member jurisdictions with an important agricultural land base and in member jurisdictions outside the Urban Containment Boundary, based on municipal website information and reaching out to available staff if needed (with support from Metro Vancouver staff), including any information on costs borne by service providers and service users.
2. Review vegetative waste management programs applicable as alternatives to open-air burning on residential properties in 3-5 suburban or rural communities in British Columbia and/or the Pacific Northwest, and present information on program costs borne by service providers and service users.
3. Evaluate the availability, feasibility (ease and accessibility), and costs of services for alternatives to open-air burning of vegetative waste for residential properties in the Metro Vancouver region compared to open-air burning (e.g., green waste curbside collection, seasonal yard cleanups, composting, mulching, mobile chipping service, and discounted tipping fee for residential drop-off of yard waste) and identify possible synergies with the management of agricultural and land clearing vegetative debris.
4. **Time permitting:** prioritize potential policies or programs to be implemented by Metro Vancouver or member jurisdictions to reduce residential backyard open-air burning based on availability, feasibility, and cost.

Metro Vancouver will apply the findings from this project to:

- promote increased use of low-emission vegetative waste management practices as alternatives to the use of open-air burning as a disposal method,
- collaborate with member jurisdictions to reduce economic and practical barriers that prevent residents from reducing, reusing, or recycling residential vegetative debris,
- encourage beneficial and sustainable use of vegetative debris by residents, municipalities, businesses, and industries in a way that minimizes emissions from waste management,
- contribute to the potential development of communication and education materials to help municipalities and residents manage vegetative debris more sustainably,
- reduce emissions of harmful air contaminants emitted from open-air burning activities that can impact public health, the environment, and climate change.

Deliverables

A final report (or executive summary) for the online public-facing [Scholars Project Library](#) that would contain a summary of the work completed, including:

- Review of jurisdictional programs and policies for waste reduction and recycling of residential vegetative waste within the Metro Vancouver region and in other jurisdictions, to avoid open-air burning.
- Analysis of availability, feasibility and cost for residents and member jurisdictions of open-air burning and alternative waste management practices and services for residential vegetative waste.

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- **Time permitting:** Prioritization of potential policies or programs that could be implemented by Metro Vancouver or member jurisdictions to reduce residential open-air burning,
- List of any references used for the research.

It is expected that a draft report will be provided for review by Metro Vancouver prior to completion of the final report. A presentation summarizing main findings of the project might be requested before the end of the project.

Time Commitment

- This project will take 250 hours to complete.
- This project must be completed between May 2, 2022 and August 12, 2022
- The scholar is to complete hours between 9 am and 5 pm, Monday to Friday, approximately 17 to 20 hours per week.

Required/preferred Skills and Background

- Excellent research and writing skills
- Demonstrated interest in sustainability
- Familiarity with research methodologies and survey techniques
- Community engagement experience
- Familiarity conducting focus group research
- Strong analytical skills
- Ability to work independently
- Deadline oriented
- Project management and organizational skills
- Familiarity with Environmental Economics, cost analysis is an asset
- Comfortable interacting with strangers to conduct public/in person surveys
- Familiarity preparing feasibility studies
- Experience with financial modelling and analysis
- Background in Environmental Engineering, Planning, Resource Management is an asset
- Familiarity with air quality issues in the Lower Fraser Valley.
- Excellent written English.
- Excellent communication skills.

Applications close **midnight Sunday January 30, 2022**

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 19. [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>