GREENEST CITY SCHOLARS PROGRAM
UBC Sustainability Scholars Program, Summer 2018

Research project title
Developing an air quality particulate matter emissions inventory for the City's fleet

Research supports the following policies -

☒ Greenest City Action Plan
Specific goal area: Clean Air – Always meet or beat the most stringent air quality guidelines from Metro Vancouver, British Columbia or the World Health Organization.
☒ Green Operations

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

Scope of work:

- Research particulate matter emissions from diesel, gasoline and natural gas vehicles.
- Develop a method for quantifying the particulate matter emissions for various vehicle types (light duty, heavy duty, heavy equipment, etc.) and fuel type.
- Undertake a review of the particulate matter emissions from the existing City of Vancouver fleet including approximately 2,000 rolling stock units encompassing light, medium and heavy duty vehicles and equipment.
- Develop a particulate matter emissions inventory for the City of Vancouver fleet.
- Identify key sections of the City of Vancouver fleet that would lead to highest reduction in particulate matter emissions through replacement with new engine emissions technology.
- Develop a projection for particulate matter emissions by 2020, 2030 and 2050 with known new and future engine emissions technology.

Why this work is of value:

- Understanding the air quality impact of the City of Vancouver fleet and potential options for particulate matter emissions reductions is a key step in achieving the Clean Air goal in the Greenest City and Green Operations Action Plans.

Deliverables

- A final report containing a summary of the Scholar`s completed work with recommendations, complemented by a final presentation to key stakeholders. The report should include:
  - Summary of particulate matter emissions inventory and key areas of concern
  - Summary of the future particulate matter emissions projection
- An Excel inventory of particulate matter emissions that can be updated by City staff
- Final report or executive summary for the UBC Sustainability Scholars online project library.

Time Commitment

- This project will take **250** hours to complete.

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

- This project must be completed between ***April 27 and August 10th***
- The scholar is to complete hours between ***8 am to 4 pm Monday-Friday***, approximately **16** hours per week.

Work location: Manitoba Yards – EQS Building (250 West 70th Avenue)

Skill set/background required/preferred

☒ Excellent research and writing skills.
☒ Demonstrated interest in greenhouse gas emissions reduction work.
☒ Strong technical writing skills.
☒ Strong analytical skills.
☒ Ability to work independently.
☒ Demonstrated time management skills.
☒ Deadline oriented.
☒ Familiarity with Excel
☒ Familiar with concepts and practices of measuring vehicle particulate matter emissions

Additional Project Needs

- **Experience with SQL databases would be an asset**

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