

To: Regional and Corporate Services Committee
From: Elias Ross, Environmental Services Coordinator

Date: 2024-04-11
File No: 9050-20-18020

Subject: Do-It-Yourself Indoor Air Cleaner Workshops

INTENT

The report is intended to advise the Fraser Valley Regional District Board of information pertaining to upcoming Do-It-Yourself Indoor Air Cleaner Workshops. Staff is not looking for a recommendation and has forwarded this information should members want more clarification or to discuss the item further.

BACKGROUND

Wildfire smoke is a harmful mixture of air pollutants that can have detrimental impacts on the health of communities throughout the Fraser Valley Regional District (FVRD). It is a large contributor to some of the worst air quality days and is a key factor in many of the region's air quality advisories. Smoky skies may lead to an increase in human exposure to fine particulate matter (PM_{2.5}), one of the most harmful pollutants to human health. PM_{2.5} can even result in unhealthy exposure levels within indoor environments if safety measures are not taken.

During an air quality advisory for particulate matter, messaging from the FVRD typically includes the following recommendations for residents to reduce the impacts of smoke:

- A tightly-fitted, multi-layer mask can reduce exposure to fine particulate matter
- Limit outdoor exercise to reduce the amount of air pollution you inhale
- Drink plenty of water and stay cool
- Run a portable air cleaner with a HEPA filter to reduce your exposure to air pollution.

Use of a high efficiency particulate air (HEPA) filter¹ can be very effective at removing smoke particles from indoor spaces. Homes with modern heating and cooling systems such as central air furnaces or heat pumps often have HEPA filtration systems built into them. However, many residential buildings do not have a HEPA filtration system and may also have a less-sealed building envelope that allows more smoke to enter. Portable air purifiers can be effective, but can also be expensive.

DISCUSSION

Simon Fraser University's Pacific Institute on Pathogens, Pandemics and Society (PIPPS) is a new interdisciplinary research institute based out of their main campus in Burnaby. They focus on research

¹ BC CDC (2023). http://www.bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/Health-Environment/BCCDC_WildFire_FactSheet_HealthEffects.pdf

and education with regards to infectious diseases, public health, and environmental contaminants. One of their current programs is hosting do-it-yourself workshops across the province to help reduce PM_{2.5} levels from wildfire smoke within indoor environments. Participants learn about air quality, the importance of reducing smoke exposure, and how to build an effective air purifier using a box fan, a filter, and tape. Participants take the air purifier they make home with them at the end of the workshop. These Do-It-Yourself Indoor Air Cleaners can remove more than 85% of airborne PM_{2.5} **from one's house**².

PIPPS researchers are utilizing these workshops to not only reduce smoke exposure, but also to examine effective ways to protect residents from wildfire smoke, if and how air purifiers are used, and how frequently filters need to be replaced.

In collaboration with Fraser Health and FVRD air quality staff, SFU will be hosting workshops in Abbotsford and Chilliwack this year, within the last week of May in preparation for the upcoming wildfire season. Workshops for additional communities are being planned for future years. The workshops can accommodate up to 90 participants in total. Each workshop is open for around 2 hours, with participants being able to drop in for approximately an hour of that period. Workshops will be promoted through use of social media, community networks, and posters.

COST

Funding from the regional air quality budget (401) is being utilized to assist with the cost of materials for these workshops. A maximum of \$7,500 has been included in the 2024 budget for this purpose.

CONCLUSION

FVRD staff are assisting researchers from Simon Fraser University to conduct a series of workshops this year within the region to increase awareness about air quality and to help reduce exposure to indoor particulate matter, particularly during wildfire season. The workshops align with **the goals of the FVRD's Air Quality Management Plan** (Goal #1 – to improve community and ecosystem health impacted by exposure to air contaminants). **They also align with the FVRD's 2023-2026 Strategic Plan**, which includes **a priority to collaborate with others to "implement initiatives aimed at enhancing the region's resiliency and capacity for adaptation in the face of unavoidable climate change"**.

COMMENTS BY:

Stacey Barker, Director of Regional Services/Deputy CAO: Reviewed and supported.

Kelly Lownsbrough, Director of Corporate Services/CFO: Reviewed and supported.

Jennifer Kinneman, Chief Administrative Officer: Reviewed and supported.

² US EPA (2024). <https://www.epa.gov/indoor-air-quality-iaq/what-merv-rating>