



# Discussion Paper on a Potential Regulatory Initiative to Reduce Residential Wood Smoke in Metro Vancouver

## Introduction

Metro Vancouver is responsible for managing air quality in the region under authority delegated from the Provincial government in the *Environmental Management Act*. Metro Vancouver is committed to protecting the environment and managing the discharge of air contaminants, including smoke from indoor residential wood burning.

Wood smoke is a mixture of fine particles and many gases, including toxic air contaminants. Fine particles are associated with chronic and acute respiratory and cardiac issues, particularly for children, the elderly, and people with lung and heart conditions. Wood smoke causes concern for many Metro Vancouver residents, resulting in complaints primarily during the fall and winter months.

Sources of wood smoke include indoor and outdoor residential wood burning, commercial woodfired ovens, campfires, outdoor burning due to land clearing and agricultural pest management, as well as wildfires. Indoor residential wood burning is the largest source of harmful fine particles in the region, producing more than a quarter (27%) of the fine particle emissions on an annual basis. Furthermore, since heating with wood is generally limited to the fall and winter months it is likely that wood smoke contributes an even larger proportion of the fine particles that residents inhale on a seasonal basis. In addition, in the more densely populated parts of the region, wood smoke emissions occur in closer proximity to people's homes and the smoke from a single chimney may be impacting more people.

## Purpose

This discussion paper provides information about the effects of smoke from residential wood burning in Metro Vancouver, voluntary and regulatory measures adopted in Metro Vancouver and other jurisdictions to address wood smoke concerns, and summarizes the regulatory options available to further reduce wood smoke from residential wood burning.

This discussion paper has been prepared for people interested in wood smoke and indoor residential wood burning in Metro Vancouver. Groups with a special interest in these topics may include:

- Public health experts;
- Wood burning appliance manufacturers and retailers;
- The Hearth, Patio and Barbecue Association;
- Wood energy technicians;
- Local fire departments;
- Members of the public who burn wood in their homes; and
- Members of the public impacted by residential wood smoke.

Representatives of communities including the special interest groups identified above will be invited to participate in meetings or facilitated online meetings during February and March 2017. These meetings will allow Metro Vancouver to receive feedback on the options for regulating wood smoke from indoor residential wood burning described in this discussion paper.

## Defining the problem

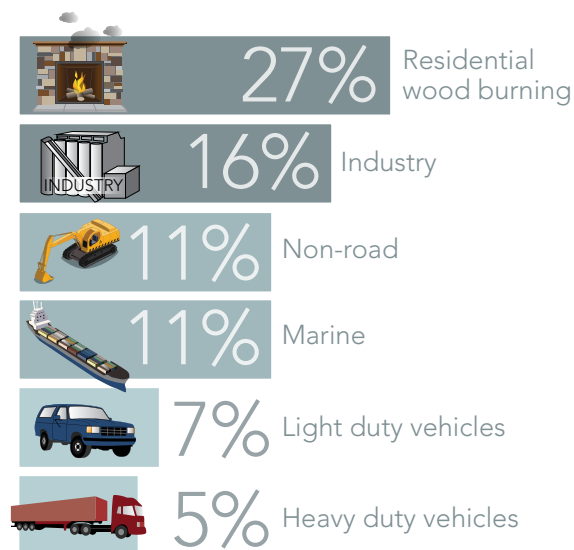
### Effects of wood smoke emissions

Residential wood burning is widespread in rural and urban areas across the region. Because of the population density in Metro Vancouver, wood smoke from a single source tends to impact more people than in more rural areas of the province. Monitoring studies have demonstrated that wood smoke contributes to measured levels of fine particles in residential neighbourhoods in Metro Vancouver. The regional ambient air quality monitoring network has shown higher levels of fine particles occurring in the evenings in the fall and winter. In winter, periods of air stagnation and reduced dispersion of air pollutants can lead to high localized concentrations of fine particles in residential areas.



Higher levels of fine particles close to where people live can exacerbate chronic and acute health conditions, such as asthma attacks and heart disease, and can contribute to premature death. There have been cases in the region where the rate of emergency room visits due to chronic obstructive pulmonary disease and related conditions increased sharply among residents in the days following measurements of high levels of fine particles at nearby air monitoring stations.

In addition to health impacts, wood smoke has a distinctive odour and can negatively affect residents' use and enjoyment of their environment, particularly in densely populated neighbourhoods. Metro Vancouver receives complaints and requests for help to address wood smoke emissions from members of the public and interest groups.



## Guiding principles

A regulatory strategy to address wood smoke emissions in Metro Vancouver would aim to:

- Minimize the risk to public health from emissions of residential wood smoke;
- Minimize the contribution of residential wood smoke to fine particle emissions in the region;
- Address concerns expressed by members of the public about residential areas prone to residential wood smoke;
- Require the use of best practices such that only clean burning occurs, under circumstances where residential wood burning appliances are authorized to be operated; and
- Prevent undue burden or hardship for vulnerable members of the population who use wood burning as their primary source of heat, while maintaining the integrity of the objective of protecting human health.

## Working within the legislation

Provisions in *Greater Vancouver Regional District Air Quality Management Bylaw No. 1082, 2008* (Bylaw 1082) place restrictions on fuels burned and on operation of residential wood-burning devices. However, these restrictions have not fulfilled their intended purpose of significantly reducing emissions from residential fireplaces or stoves. Additional voluntary and regulatory measures to reduce residential wood smoke in Metro Vancouver would provide safeguards to minimize impacts on air quality and health.

Metro Vancouver hosts wood heat workshops which aim to encourage cleaner burning practices and operates a wood stove exchange program which, since 2009, has facilitated nearly 400 replacements of fireplaces or older, more polluting wood stoves with lower-emitting alternatives. In 2015, Metro Vancouver initiated an air quality bulletin pilot project to advise the public when localized air quality degradation is occurring to encourage voluntary reductions in emissions. While these educational initiatives have reduced emissions of fine particles and will continue to do so, more robust regulatory initiatives are needed to further reduce harmful emissions of fine particles.

Some municipalities in Canada have regulated emissions from residential wood burning appliances in recent years, including the City of Montreal in 2015<sup>1</sup>, the City of Port Alberni in 2012<sup>2</sup> and the Town of Smithers in 2006<sup>3</sup>. These bylaws allow the operation of wood burning appliances as long as they meet specified emissions performance criteria. Some of these bylaws include prohibitions around the use of wood burning appliances during periods when air quality is degraded.

1 Ville de Montréal By-law 15-069, By-law Concerning Solid-Fuel-Burning Devices and Fireplaces, <http://ville.montreal.qc.ca/sel/sypre-consultation/afficherpdf?idDoc=26633&typeDoc=1>.

2 City of Port Alberni Bylaw No. 4802, A Bylaw to Regulate Emissions from Solid-Fuel Burning Appliances, [http://www.portalberni.ca/sites/default/files/bylaws/4802\\_SolidFuelBurning\\_tm.pdf](http://www.portalberni.ca/sites/default/files/bylaws/4802_SolidFuelBurning_tm.pdf).

3 Town of Smithers Wood Burning Appliance Smoke Control Bylaw No. 1520, <http://www.smithers.ca/uploads/town/pdfs-auto-display/bylaws/BL%201520%20WOOD%20BURNING%20APPLIANCE%20SMOKE%20CONTROL.pdf>.



## Potential changes

Metro Vancouver is seeking preliminary input from focus groups representing different perspectives to inform the development of policies to control wood smoke from residential burning. At this time, the potential policy options that Metro Vancouver seeks input on include:

- Restrictions on operating residential wood burning appliances based on emissions performance criteria;
- Exemptions from such restrictions under certain conditions, such as a lack of other sources of comfort heating, economic hardship, distance from neighbours, and exceptional events;
- Use of indicators of excessive smoke production; and
- Additional restrictions that may be applied during periods of degraded air quality.

The GVRD Board will receive a summary of the input from these preliminary discussions, which will be considered in the development of proposed policies for further consultation. Proposed policies will be presented in an intentions paper for broad public consultation.

## Providing Comments on the Potential Regulatory Initiative

Metro Vancouver will meet with public health authorities, researchers, and municipal fire department staff, and will also host three facilitated online meetings with focus groups with a range of perspectives in February and March. Recordings of the online meetings will be posted on Metro Vancouver's website for interested parties that are unavailable on the meeting dates, along with this discussion paper, a survey, and a feedback form to invite feedback from a broader audience.

The focus groups will consist of members of the public and representatives of groups identified as having an interest in the regulation of residential wood burning to minimize smoke emissions. If you would like to be considered for participation in the focus group discussions, or if you have any questions or comments regarding the preliminary discussions, please contact us by email at [RWB@metrovancover.org](mailto:RWB@metrovancover.org) or call 604-432-6200.

Metro Vancouver will consider all feedback when developing an intentions paper, which would describe a proposed regulatory framework for managing wood smoke from indoor residential wood burning. Feedback will be considered until the GVRD Board makes a decision on a potential bylaw regulating residential wood burning.

Metro Vancouver staff and contractors will treat comments received with confidentiality; please note that comments you provide and information that identifies you as the source of those comments may be publicly available if a freedom of information (FOI) request is made under the Freedom of Information and Protection of Privacy Act.

Thank you for taking the time to consider and provide input on these potential changes to residential wood smoke management in Metro Vancouver.