



# Cleaner Air Spaces

The document provides information for First Nations community leadership and building/facility operators on cleaner air spaces that can be utilized during wildfire smoke events. Additional details on cleaner air spaces can be found in Health Canada's [Guidance for Cleaner Air Spaces during Wildfire Smoke Events](#).

Wildfire smoke events can have adverse health impacts on community members, primarily due to direct and indirect smoke exposure and extreme heat. Staying indoors in clean air spaces is recommended during wildfire smoke events to reduce exposure to smoke.

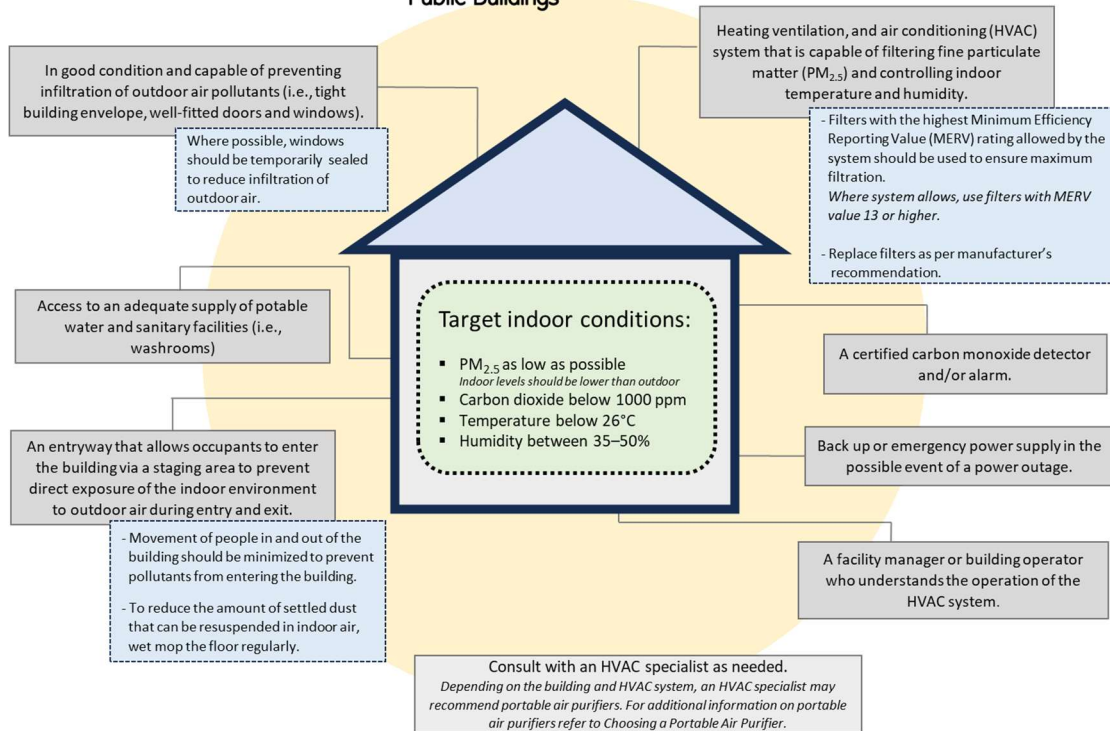
Cleaner air spaces can provide community members, especially sensitive or medically fragile individuals, relief from wildfire smoke conditions. These are indoor areas, rooms or buildings that limit infiltration of outdoor pollutants and keep the indoor air clean. In communities, buildings such as schools, community centres and band halls have the potential to be cleaner air spaces and offer relief to community members during wildfire smoke events.

Long-term care, personal care homes and health-care facilities should be given special consideration for clean air spaces as clients cannot be easily relocated in these types of facilities.



# CLEANER AIR SPACES

## Public Buildings



For guidance on food safety, waste, pest control and sanitation, consult with your community's Environmental Public Health Officers.

In certain cases, individuals may decide or be required to shelter at home during wildfire events. In these circumstances, individuals can limit exposure by preventing infiltration of outdoor pollutants and reducing other sources of indoor air pollutants within the house.

The following strategies can be employed to help protect indoor air quality:

- Close all windows and doors.  
Where possible, seal gaps around windows and doors to prevent infiltration of outdoor pollutants.
- Limit the use of exhaust fans and external vents.
- Where applicable, turn the fresh air intake off and set heating ventilation, and air conditioning (HVAC) system to recirculation mode.
  - Utilize a high efficiency particulate air (HEPA) filter, where possible.
  - It is recommended to maintain indoor temperature below 26°C.
- Avoid creating other air pollution (e.g., smoking, burning candles, gas and wood stoves, and certain cleaning products).
- Avoid vacuuming, which can stir up dust.  
Settled dust can be removed by wiping and wet mopping.
- Using portable air purifiers (with HEPA filters) can reduce indoor particulate levels.  
For additional information on air purifiers please refer to *Using an Air Purifier to Filter Wildfire Smoke*.


# Choosing A Portable Air Purifier


## CHOOSING A PORTABLE AIR PURIFIER

**FOLLOW THESE TIPS TO CHOOSE THE BEST AIR PURIFIER FOR YOUR HOME**


Air purifiers, also referred to as portable air cleaners, can help improve indoor air quality by removing small particles that can be a risk to your health. While air purifier filters can help capture some pollutants (particles, pollen, dust), the best way to improve indoor air is to remove the source of the pollutants and to ventilate with clean, outdoor air.

Before opening windows or doors, check the **Air Quality Health Index** to know the outdoor air quality conditions in your region.







Measure the dimensions of the room where you will use your air purifier and calculate the square footage. Device ratings assume an 8-foot ceiling. If your ceilings are higher than 8 feet, you will need an air purifier rated for a larger room.




Look for a unit tested by Consumer Reports or certified by the Association of Home Appliance Manufacturers (AHAM). Check for this label:






Consider selecting a unit with a lower noise rating.




Avoid devices that produce ozone as ozone can impact your health. The California Air Regulatory Board (CARB) lists units that have passed testing for ozone emissions.




Look for the suggested room size and the clean air delivery rate (CADR) on the AHAM label. Choose an air purifier sized for the room in which you will use it.

- The CADR describes how well the machine reduces tobacco smoke, dust and pollen. The higher the number, the more particles the air purifier can remove.
- Calculate the minimum CADR required for a room: as a general guideline, the CADR of your air purifier should be equal to at least two-thirds of the room's area.
- For example, a room with the dimensions of 10 feet by 12 feet has an area of 120 square feet. It would be best to have an air purifier with a smoke CADR of at least 80.




Follow manufacturer instructions for placement and operation to ensure good airflow. Generally, higher fan speeds and longer run times will increase the amount of air filtered.




Clean or replace filters as often as recommended by the manufacturer.


**MORE INFORMATION TO CONSIDER WHEN CHOOSING A PORTABLE AIR PURIFIER**




Many devices use high-efficiency particulate air (HEPA) filters. How well the unit works depends on both airflow and filter efficiency.



Some devices may also include an activated carbon or other absorbent filter. These may help to remove gases such as volatile organic compounds (VOCs).



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# WILDFIRE SMOKE 101



## Using an air purifier to filter wildfire smoke

Wildfire smoke can get inside your home through windows, doors, vents, air intakes and other openings. This can impact your indoor air quality. The fine particles in smoke can be a risk to health.

Those who are at higher risk of the health effects from wildfire smoke will benefit the most from using an air purifier, also known as a portable air cleaner, in their home. People who are at a higher risk of health problems when exposed to wildfire smoke include:

- seniors
- pregnant people
- people who smoke
- infants and young children
- people who work outdoors
- people involved in strenuous outdoor exercise
- people with an existing illness or chronic health conditions, such as:
  - cancer
  - diabetes
  - lung or heart conditions

You can use an air purifier in a room where you spend a lot of time. This can help decrease the fine particles from wildfire smoke in that room.



Air purifiers are self-contained air filtration appliances that are designed to clean a single room. They remove particles from the room they are operating in by pulling the indoor air through a filter that traps the particles.

## Choosing an air purifier

There are many kinds of air purifier available and not all air purifiers perform the same to remove indoor smoke particulates. Currently, many effective air purifiers have a High Efficiency Particulate Air (HEPA) filter.

Look for a unit certified by the Association of Home Appliance Manufacturers (AHAM).



\*CADR of your air purifier should be equal to at least two-thirds of the room's area.



Choose one that is sized for the room in which you will use it. Look for the suggested room size and clean air delivery rate (CADR) on the AHAM label. The label includes the CADR for three categories: tobacco smoke, dust and pollen. The CADR describes how well the machine reduces tobacco smoke, dust and pollen. Consider selecting a unit with a lower noise rating.

**Wildfire smoke, like tobacco smoke, contains fine particles. Use the tobacco smoke CADR as a guide when selecting an air purifier. For wildfire smoke, look for an air purifier with the highest tobacco smoke CADR that fits within your budget.**

You can calculate the minimum CADR required for a room. As a general guideline, the CADR of your air purifier should be equal to at least two-thirds of the room's area. For example, a room with the dimensions of 10 feet by 12 feet has an area of 120 square feet.

It would be best to have an air purifier with a smoke CADR of at least 80. Using an air purifier with a higher CADR in that room will simply clean the air more often and faster. If your ceilings are higher than 8 feet, an air purifier rated for a larger room will be necessary.

Avoid air purifiers and furnace/HVAC air purifiers that produce ozone, such as electrostatic precipitators and ionizers, as ozone can impact your health. Ozone generators and air purifiers that use UV light or photocatalytic oxidation also produce ozone and are not effective at removing harmful particles from the air. The California Air Resources Board (CARB) [website](#) has a list of air purifiers that are certified for electrical safety and ozone emissions.

## Getting the most out of your air purifier

To get the most out of your air purifier:

- keep your doors and windows closed.
- operate your air purifier in a room where you spend a lot of time.
- operate at the highest setting. Operating at a lower setting may reduce the noise of the unit but it may reduce its effectiveness.
- ensure that your air purifier is sized appropriately for the largest room you will be using it in.
- place the air purifier in a location where air flow will not be obstructed by walls, furniture or other objects in the room.
- position the air purifier to avoid blowing directly at or between people in the room.
- maintain your air purifier by cleaning or replacing the filter as recommended by the manufacturer.
- reduce sources of indoor air pollution, such as smoking, burning incense or candles, using wood stoves and using cleaning products that can emit high levels of volatile organic [compounds](#).

**If you have an HVAC system, you can help remove fine particles from your indoor air by:**

- installing a high quality air filter and replacing it according to manufacturer's instructions
- running your furnace fan often to filter indoor air

**For more information on topics related to wildfire smoke and health, please visit [Wildfire smoke and your health](#).**

**For guidance on indoor ventilation and the use of air purifiers during the pandemic, please visit the [guidance on indoor ventilation](#) page.**

# Detailed text on Cleaner Air Space

Buildings utilized as cleaner air spaces should be:

- In good condition and capable of preventing infiltration of outdoor air pollutants (i.e., tight building envelope, well-fitted doors and windows).
  - Where possible, windows should be temporarily sealed to reduce infiltration of outdoor air.
- Equipped with a heating ventilation, and air conditioning (HVAC) system that is capable of filtering fine particulate matter (PM<sub>2.5</sub>) and controlling indoor temperature and humidity.
  - Use filters with the highest minimum efficiency reporting value (MERV) rating allowed by the system to ensure maximum filtration.
  - A filter with MERV value 13 or higher is recommended.  
Ensure the HVAC system is capable of handling a pressure drop from installing a filter stack of MERV 13 or higher.
  - Replace filters as per manufacturer's recommendation.
  - Maintain indoor temperature below 26°C and humidity between 35–50%.
  - Consult with an HVAC specialist as needed.  
Depending on the building and HVAC system, an HVAC specialist may recommend portable air purifiers. For additional information on portable air purifiers refer to *Choosing a Portable Air Purifier*.
- Equipped with a certified carbon monoxide detector/alarm.
- Equipped with an entryway that allows occupants to enter the building via a staging area to prevent direct exposure of the indoor environment to outdoor air during entry and exit.
  - Movement of people in and out of the building should be minimized to prevent pollutants from entering the building.
  - Wet mop the floors to reduce the amount of settled dust that can be resuspended in indoor air.
- Have access to an adequate supply of potable water and sanitary facilities (i.e., washrooms).
- Connected to emergency power in the possible event of a power outage.
- Staffed with a facility manager/building operator who understands the operation of the HVAC system.

For additional details on cleaner air spaces refer to the [Health Canada's Guidance for Cleaner Air Spaces during Wildfire Smoke Events](#)