

Cleaner Air Space

CHECKLIST



Smoke from wildfires produces a variety of pollutants that can have an impact on human health. Exposure to these pollutants may be reduced by choosing to remain indoors during a wildfire event and taking steps to limit infiltration of these pollutants, while controlling other factors associated with poor indoor air quality. The following are recommendations for selecting or retrofitting a building to be used as a cleaner air space and operational considerations during a wildfire event.

Preparing the cleaner air space:

- Select a central heating, ventilation, and air conditioning (HVAC) system that is capable of filtering fine particulate matter (PM_{2.5}), and controlling temperature, relative humidity, and air exchange rate. An HVAC specialist may also recommend additional air filtration or air conditioning equipment for use during a wildfire smoke event, where necessary.
- If available, consider having a vestibule or other entryway that does not directly expose the indoor environment to outdoor air, to limit infiltration of pollutants during entry and exit.
- Create a tight building envelope (i.e., well sealed doors and windows) to prevent infiltration of pollutants from outdoor air.
- Install carbon monoxide (CO) alarm(s), preferably those featuring a low-level digital display showing real-time readings.
- Install PM_{2.5} monitors to allow simultaneous measurement of indoor and outdoor levels.
- Ensure adequate space is available to accommodate the highest capacity of occupants.
- Ensure suitable electrical capacity to handle additional equipment.
- Consider emergency power in the possible event of a power outage, keeping in mind to locate any generators away from the building and downwind of any clean air intakes.



During a wildfire event:

- Assign a facility manager who has an understanding of the HVAC system operation and the air distribution of the building, and can monitor indoor and outdoor pollutant levels and control the environmental conditions.
- Use filters for the HVAC system with a minimum efficiency reporting value (MERV) rating of 13 or more to remove $PM_{2.5}$. Ensure replacement filters are available. Replace filters as required. Odour-removing filters may be considered for occupant comfort.
- Consider using portable air cleaners with high efficiency particulate air filters.
- Recirculate the air when outdoor conditions are poor and draw in fresh air when the smoke plume abates to reduce the levels of pollutants trapped indoors, such as carbon dioxide (CO_2).
- Evacuate immediately if the CO alarm sounds. Consider using monitoring alarms with low-level displays and take appropriate action as recommended. Evacuation procedures should be planned in advance.
- For buildings with a kitchen or cafeteria, limit cooking and using exhaust fans to periods when outdoor smoke levels are low. Individual HVAC air handling systems may need to be adjusted or curtailed when the building is used as a cleaner air space, as determined by an HVAC specialist or facility manager.
- Strive for a humidity level of 35 to 50% and a temperature of 26 °C or lower, using air conditioning and dehumidifiers.
- Minimize movement of people in and out of the building.
- Wet-mop the floors and other surfaces to reduce the amount of settled dust that can be resuspended in indoor air.