

Wood provides a local, renewable and affordable heating fuel for many Vermonters. In fact, 38% of Vermont homes burn wood for heat, either as their main or second source of heat.

Using an older stove or not burning wood properly can result in poor air quality both inside and outside your home, which can cause health problems. Following a few simple steps will reduce air pollution, burn less wood, and save you money.



1. Burn dry wood.

Wood that isn't properly dried won't burn easily and will produce a lot of smoke.

- “Season” split cord wood for six months to one year before you burn it by stacking it off the ground in a pile or in a wood shed. Keep the pile covered while allowing for plenty of air flow.
- Use a moisture meter or look for other signs of dryness—such as cracking on the ends of the logs or a hollow sound when two pieces are knocked together.
- Burn cord wood when its moisture content has dropped to 15 to 20%.

2. Maximize your stove's efficiency.

- **Start your fire from the top down.** Stack larger logs on the bottom, then thinner logs, and add sticks, birch bark or wood chips on top. Light the top of the pile.
- **Burn it hot—a hot fire is a cleaner fire.** Use a stack thermometer to monitor the temperature. A hot fire produces little-to-no visible smoke. In very cold weather, you may see harmless water vapor.
- **Only burn dry, natural wood.** Burning trash, plastic or treated wood releases dangerous fumes, and it's illegal.
- **Don't let it smolder.** A smoldering fire doesn't give off much heat, wastes fuel, creates

excessive smoke, and builds up creosote in your chimney. Don't overload the fire box or close the damper. For overnight use, burn it hot in the evening and re-light it in the morning.

3. Switch to a cleaner, more efficient stove

Modern wood stoves are certified by the EPA (Environmental Protection Agency). They reduce wood smoke and burn less wood for the same level of heat as older stoves. Older, uncertified stoves should be recycled or thrown away.

Pellet stoves are even more efficient and generate less pollution and wood ash. Wood pellets have a very low moisture content that provides a cleaner, more consistent fire. Pellet stoves can be loaded with several days' worth of pellets that are automatically fed to the fire. Ask your stove dealer to recommend a quality pellet brand suited for your stove.

4. Seal air leaks and add insulation.

Seal and insulate around doors, windows and electrical outlets to stay comfortable and spend less money on heating and cooling. This also helps keep outdoor air pollutants outside.

5. Maintain your stove and chimney.

Make sure your stove is installed and serviced by a professional and your chimney is swept once a year to clean out any accumulated creosote, which is a fire hazard.



How Wood Burning Can Affect Your Health

Wood smoke contains small particles and pollutants. Breathing it in can cause lung and eye irritation, headaches, asthma attacks, acute bronchitis, and other breathing difficulties. It can also cause health effects over the long-term—such as reduced lung function, chronic bronchitis, heart conditions, and even premature death.

People most affected by wood smoke include:

- Babies and children
- Older adults
- Anyone with existing heart or lung conditions

You also may be affected by wood smoke when you go outside or from the air that comes into your home through doors, windows and cracks. In winter, outdoor pollution tends to be worst at night, especially on the coldest nights when the sky is clear and wind is calm. Air quality conditions

usually improve later in the day after the sun comes up, but can sometimes stay poor for several days in a row. During these conditions, air pollution tends to be worse in low-lying valleys surrounded by hills or mountains.

Protect Your Health from Wood Smoke

- **Improve ventilation and filtration.** Proper ventilation exchanges stale indoor air for fresh, filtered air. Some heating and cooling systems or standalone systems—such as heat recovery ventilators—vent and filter indoor air.
- **Install air purifiers.** High efficiency particulate air (HEPA) filters are available for \$50 to \$300. Be sure to clean and replace filters regularly.
- **Use an indoor air monitor.** It can help alert you to activities that worsen air quality. Many options are available for \$100 to \$200.
- **Install smoke and carbon monoxide detectors.** Carbon monoxide is a colorless, odorless gas that can cause sickness and death. It can come from wood burning stoves and fuel-burning appliances that aren't venting properly.
- **Reduce outdoor activity and unnecessary wood burning when air quality is poor.** This is especially important for people sensitive to wood smoke. See the resources below to help you find out when air quality conditions are poor.

To Learn More

Asthma and other lung diseases, including treatment and management strategies:

- Vermont Asthma Program: healthvermont.gov/prevent/asthma or 802-863-7330

Weatherization and efficiency improvements:

- Vermont Weatherization Program: dcf.vermont.gov/benefits/weatherization
- Efficiency Vermont: efficiencyvermont.com

Wood burning wood information, including clean burning tips and assistance programs:

- Dept. of Forests, Parks and Recreation: fpr.vermont.gov/forest/wood_biomass_energy
- BurnRight Vermont: burnrightvermont.org
- Dept. of Environmental Conservation: dec.vermont.gov/air-quality/compliance/owb

Air quality conditions in Vermont: airnow.gov and **sign up for alerts:** enviroflash.info/signup.cfm