Wood Smoke Facts, Myths & Misconceptions

**Myth**

Wood smoke is not harmful

The negative health effects of wood smoke have been extensively documented in hundreds of scientific studies. Pollution generated by wood burning is associated with an array of health problems — from a runny nose and coughing, to bronchitis, asthma, emphysema, pneumonia, contributing to premature death.

**Fact**

Smoke contains tiny particles that are carcinogenic to humans. The fine particle pollutants from wood burning are so small that they infiltrate even the most well-insulated and weather-stripped homes. Studies show that particle pollution levels inside homes reach up to 70% of the outdoor pollution levels.

**Myth**

Pollution from wood burning is not significant enough to affect air quality

In the Central Okanagan, 30% of air pollution comes from residential wood burning appliances and another 8% from open burning overall. 38% is a significant amount of air pollution that we can play a role in reducing!

**Fact**

“| Sources of Fine Particulate Pollution |
---|---------------------|
32% | Industrial sources |
30% | Residential wood burning |
23% | Point sources (localized source of pollution) |
6% | Other open & miscellaneous sources |
2% | Off-road vehicles |
1% | Incineration & prescribed burning |
1% | Other non-industrial sources |
2% | On-road vehicles |
32% | | |
2% | Rail |
3% | On-road vehicles |
1% | Other non-industrial sources |
3% | | |
23% | Point sources (localized source of pollution) |
6% | Other open & miscellaneous sources |
2% | Off-road vehicles |
1% | Incineration & prescribed burning |
1% | Other non-industrial sources |
2% | On-road vehicles |
32% | Industrial sources |

**Misconception**

Wood is more cost effective than other fuels

Depending on your house’s characteristics, there are other inexpensive options like natural gas. Fireplaces are inefficient; residents would have to burn more wood to heat their homes using a fireplace than using a wood appliance. If you must choose wood burning as your source of heating for your home, the EPA-certified wood burning appliances heat more efficiently, using about 1/3 less wood and creating 90% less smoke.

**Fact**

Comparative Home Heating Costs Using Different Fuels

- Softwood
- Hardwood
- Propane
- Natural Gas
- Oil
- Electricity

Note: “New” means houses built after 1990, and “old” means houses built before 1990.

For more information, please visit www.regionaldistrict.com/airquality
Wood burning fireplaces are a safe way to heat homes

**misconception**

Wood burning fireplaces are a safe way to heat homes

**fact**

Wood burning appliances are safe only when used properly. In 2007, Fire Losses in Canada reported 131 fires in BC that were related to wood heating.

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**Wood Smoke Facts, Myths & Misconceptions**

**AREA OF ORIGIN**

<table>
<thead>
<tr>
<th>AREA</th>
<th>FIRES</th>
<th>%</th>
<th>DEATHS</th>
<th>INJURIES</th>
<th>$ LOSSES</th>
</tr>
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<tbody>
<tr>
<td>Kitchen</td>
<td>556</td>
<td>26</td>
<td>1</td>
<td>37</td>
<td>14,170,221</td>
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<tr>
<td>Living room</td>
<td>204</td>
<td>10</td>
<td>11</td>
<td>21</td>
<td>17,819,916</td>
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<tr>
<td>Bedroom</td>
<td>169</td>
<td>8</td>
<td>6</td>
<td>18</td>
<td>11,286,367</td>
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<tr>
<td>Chimney, masonry/factory built, metal: flue-pipe, gas-vent</td>
<td>131</td>
<td>7</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Outside Area</td>
<td>154</td>
<td>8</td>
<td>0</td>
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<td>Exterior wall</td>
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<td>4</td>
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<td>2</td>
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<tr>
<td>Exterior roof</td>
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<td>0</td>
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<td>Vehicle, Garage, Carport</td>
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<td>3</td>
<td>0</td>
<td>3</td>
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<td>Laundry area</td>
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<td>3</td>
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<td>Heating equipment room</td>
<td>50</td>
<td>2</td>
<td>0</td>
<td>1</td>
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<tr>
<td>Exposure (including smoke damage)</td>
<td>50</td>
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<td>0</td>
<td>1</td>
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<tr>
<td>Washroom</td>
<td>47</td>
<td>2</td>
<td>0</td>
<td>3</td>
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<td>Ceiling &amp; roof/ceiling space (inside)</td>
<td>46</td>
<td>2</td>
<td>0</td>
<td>3</td>
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<td>All Other Area of Origin (each 1% or less)</td>
<td>359</td>
<td>15</td>
<td>0</td>
<td>20</td>
<td>94,690,119</td>
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<tr>
<td>Unknown</td>
<td>113</td>
<td>5</td>
<td>5</td>
<td>3</td>
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<td><strong>TOTAL</strong></td>
<td>2,118</td>
<td>99</td>
<td>23</td>
<td>120</td>
<td>219,292,872</td>
</tr>
</tbody>
</table>

*Home Fires in BC by Major Areas of Fire Origin - 2007*

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**Relative Emissions of Fine Particulate**

- **Fireplace Uncertified Woodstove**
- **EPA Certified Woodstove**
- **Pellet Stove**
- **Oil Furnace**
- **Gas Furnace**

- **Level of fine particulate emissions (lbs/MMBtu) from various heat sources, based on the US EPA data and diagram for the 1988 standards**

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**After gas and electric heating, EPA certified wood appliances are the solution!**

Gas and electric heating options are the safest solution. EPA certified wood stoves are efficient, but still produce smoke, which affects local air quality. In order to reduce the amount of smoke released during wood heating, follow these three steps:

1. **Firewood with less than 20% moisture content is required by law and produces less smoke than wet wood**
2. **Regular maintenance is recommended for optimal performance and output of your wood burning appliance**
3. **EPA emissions certified appliances are required by law in the Central Okanagan since 1998.**

For more information, please visit [www.regionaldistrict.com/airquality](http://www.regionaldistrict.com/airquality)