

The smoke derived from wood burning contains more than one hundred chemical compounds that can be dangerous to your health. Therefore, it is important to insure your protection and that of the environment. The following information explains the risks related to wood burning and gives tips on how to reduce the pollution caused by this activity.

Some compounds like Polycyclic Aromatic Hydrocarbons (PAH), dioxin and furan are carcinogenic. Others like nitrous oxides and Volatile Organic Compounds (VOC) are irritants that can increase respiratory problems. Carbon monoxide causes acute intoxications that can be fatal.

Wood smoke also contains fine particles that make their way deep inside the lungs. In addition to being irritant these carry with them other contaminants that affect your health. Because of its smallness, this type of particle enters your house even if doors and windows are closed.

Some studies have shown that the pollution caused by wood burning is at times more important than the pollution from transportation.



**« that which we pollute, we breathe »**

Environment Canada

## WHO can be most AFFECTED?

- Children, the elderly and people with cardiac or respiratory diseases, asthma or allergies.
- People who like to take walks or who practice jogging should not go outdoors when the air pollution is high, to avoid breathing in more fine particles.

**THE EFFECTS ON HEALTH are related to the QUANTITY of smoke inhaled and the DURATION of exposure.**

### Exposure to wood smoke:

- Reduces respiratory and pulmonary functions and capacities;
- Aggravates cardiac and respiratory diseases;
- Causes eye irritations, provokes headaches and allergy episodes;
- Increases the frequency of children's respiratory diseases, including severe infections such as pneumonia, bronchitis and bronchiolitis;
- According to recent data, an exposure over a long period of time is not only the cause of acute and chronic respiratory diseases like sinusitis, pneumonia, asthma, bronchitis and emphysema, but it can also induce certain forms of cancer (nose, lung, throat, blood and lymph).
- Experiments with rats have shown that a one hour exposure during 5 days

decreases by 90 % the efficacy of the immune system for 10 days. This translates into a decreased resistance to infections and a relative inability to combat them.

## According to Environment Canada

### DID YOU KNOW THAT:

- **The gases produced by wood stoves and fireplaces contribute to CLIMATIC CHANGES.**
- **Residential wood burning is responsible for 25% of all Volatile Organic Compounds (VOC) released in Quebec.**
- **Wood smoke reduces visibility thereby causing risks to citizens' safety.**
- **3 cords of wood are required, on average, to heat a home. This is the equivalent of more than 15 MATURE TREES.**
- **Using a conventional wood stove for 9 hours, or an EPA-certified wood stove for 2.5 days, sends in the atmosphere as many toxic emissions as an automobile in one year.**

**It is possible to pollute less and save energy while using wood burning, but some conditions must be met. Here is some important ADVICE to reduce the pollution caused by wood burning:**

- Buy a stove or a fireplace phase II certified;
- Choose the smallest stove that can fulfill your needs;
- Fresh air from outside should supply the stove or the fireplace (to prevent the loss of warm air from the house);
- Select hard wood like beech, maple or birch which has been dried for at least one year in the open-air;
- Use logs having a diameter between 10 to 15 cm and put them on live coals previously set;
- Use virgin paper, cardboard or kindling to start the fire;
- Be sure that there is enough air coming into the combustion chamber to destroy nearly all gases;
- Increase the air entry before adding wood, then reduce the air entry after 15 to 30 minutes;
- Add only small quantities of wood each time;
- Accumulate charcoal for heating throughout the night by adding logs frequently instead of filling up the stove or fireplace;
- Increase the efficiency of your system by using a fan to disperse the hot air towards other rooms of the house.

## WARNING SIGNS

**Certain clues provide an idea on the efficiency of the combustion system; is the combustion good?**

- If the flames are bright, yellow and blue, the combustion is good;
- If you see smoke coming out of the wood, or if the flames are long and lazy, the combustion is not right. The air entry should be increased;
- A burning wood odour in the house indicates that combustion gases are being returned inside. This represents a danger of intoxication;
- If the smoke coming out of the chimney is not white, the combustion is incomplete and the air entry should be increased.

## WHAT TO AVOID

- Using wood dried from an oven (construction wood), or green wood (fresh cut tree);
- Burning printed paper or printed cardboard.

## WHAT YOU SHOULD NEVER DO

- Use a wood burning device when the weather is humid, cloudy or foggy;
- Use a wood burning device during summer or when it is hot;
- Burn garbage or junk (printed paper, construction materials, treated, stained or painted wood, presswood or plywood and plastic);

- Fill the stove or the fireplace to more than half its volume capacity.

## IF I AM NOT A STOVE OR A FIREPLACE USER, IS THERE SOMETHING I CAN DO?

**If you feel that your right to breathe fresh air is not respected, here is what you can do :**

- **Contact l'Association pour l'air pur (ALAP) or other environmental groups and claim your right at the proper authority level.**
- **Denounce garbage burning. Phone the Direction Régionale du Ministère de l'Environnement (Lanaudière) at (450) 654-4355**

## THE TIME HAS COME FOR ALL OF US TO ADOPT RESPONSIBLE BEHAVIORS TO IMPROVE AIR QUALITY

### THE FOLLOWING ARE SOME INTERESTING WEB SITES:

CUM (Communauté urbaine de Montréal) : [www.cum.qc.ca](http://www.cum.qc.ca)

Direction de la santé publique Montréal-Centre : [www.santepub-mtl.qc.ca](http://www.santepub-mtl.qc.ca)

Environnement Canada : [www.ec.gc.ca](http://www.ec.gc.ca)

## INFORM YOUR FRIENDS AND YOUR FAMILY ABOUT THE WAYS TO REDUCE THE POLLUTION CAUSED BY WOOD BURNING

## WE MUST ACT NOW! TO PRESERVE OUR HEALTH AND OUR QUALITY OF LIFE

### Association pour l'air pur

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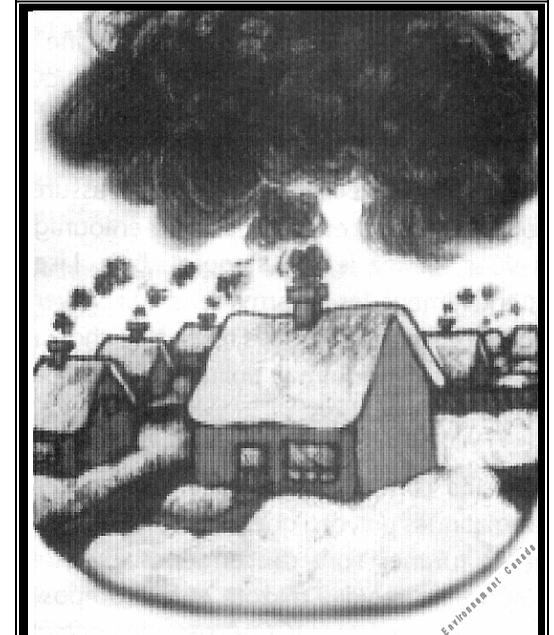
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## WOOD SMOKE AFFECTS HEALTH

ARE YOU AMONG THOSE MOST AT RISK ?

**Air pollution caused by wood combustion has become a PUBLIC HEALTH PRIORITY**

This pamphlet was created by l'Association pour l'air pur (ALAP) with the collaboration of La Direction de la Santé Publique de la Régie Régionale de la santé et des services sociaux de Lanaudière, Health Canada, Environment Canada and the Conseil Régional de l'Environnement de Lanaudière (CREL).