

On a cold night, most people consider a well-tended fire to be one of the most wholesome pleasures that humanity has produced.

A fire, burning safely within the confines of a fire pit or chimnea is a visible and tangible source of comfort to many of us.

We love everything about it: the warmth, the beauty of its flames, and—unless one is allergic to smoke— the smell that it imparts to the surrounding air.

I am sorry to say that if you feel this way about a wood fire, you are not only wrong, but dangerously misguided.

I mean to seriously convince you of this—so you can consider it in part a public service announcement—but please keep in mind that I am drawing an analogy.

Because wood is among the most natural substances on earth, and its use as a fuel is universal, most people imagine that burning wood must be a perfectly benign thing to do.

Breathing air scented by wood smoke seems utterly unlike puffing on a cigarette, or inhaling the exhaust from a passing truck.

But this is an illusion.

Here is what we know from a scientific point of view: There is no amount of wood smoke that is good to breathe.

It is at least as bad for you as cigarette smoke, and probably much worse.

(Studies have actually found it to be many times more potent as a carcinogen.)

It is also mutagenic, (a **mutagen** is a physical or chemical agent that changes genetic material, usually DNA, of an organism)

and teratogenic, (a **teratogen** is an agent that can disturb the development of the embryo or fetus).

plus it is inevitably irritating and damaging to the respiratory system.

Most of the particles generated by burning wood are smaller than one micron—a size believed to be most damaging to our lungs.

In fact, these particles are so fine that they can evade our mucociliary defenses and travel directly into the bloodstream, posing a risk to the heart.

Particles this size also resist gravitational settling, remaining airborne

for weeks at a time.

Once they have exited your fire pit or chimnea, the toxic gases (e.g. benzene) and particles that make up smoke freely pass back into your home and into the homes of others.

(Research shows that nearly 70 percent of chimney smoke re-enters nearby buildings.)

Children who live in homes with active fireplaces or woodstoves, or in areas where wood burning is common, suffer a higher incidence of asthma, cough, bronchitis, nocturnal awakening, and compromised lung function.

Among adults, wood burning is associated with more-frequent emergency room visits and hospital admissions for respiratory illness, along with increased mortality from heart attacks.

The inhalation of wood smoke, even at relatively low levels, alters pulmonary immune function, leading to a greater susceptibility to colds, flus, and other respiratory infections.

All these effects are borne disproportionately by children and the elderly, but certainly affect everyone.

The unhappy truth about burning wood has been scientifically established to a moral certainty: That nice, cozy fire inside or outside your home is bad for you.

It is bad for your children. It is bad for your neighbors and their children

If you are burning wood in Canada or any other developed nation, you are most likely doing so *recreationally*—and the persistence of this habit is a major source of air pollution in cities throughout the world.

In fact, wood smoke often contributes more harmful particulates to urban air than any other source.

I suspect that many of you have already begun to marshal counterarguments.

Here is one: Human beings have warmed themselves around fires for tens of thousands of years, and this practice was instrumental in our survival as a species.

Nothing is more natural to us than burning wood to stay warm. True enough.

But many other things are just as natural— such as dying from scores of diseases that are now preventable. Breathing the fumes issuing from your neighbour’s chimnea or fire pit now falls on the wrong side of that divide.

The case against burning wood is every bit as clear as the case against cigarettes, first or second hand. Indeed, it is even clearer, because when you light a fire, you needlessly poison the air that everyone around you for miles must breathe.

But, even if you reject every intrusion of the “nanny state,” you should agree that the recreational burning of wood is unethical and should be illegal, especially in urban areas. By lighting a fire, you are creating pollution that you cannot dispose of.

It might be the clearest day of the year, but if someone burns a sufficient quantity of wood, the air in the vicinity of your home will resemble a bad day in Beijing.

Your neighbors should not have to pay the cost of this archaic behaviour by anyone. Therefore, even libertarians should be willing to pass a law prohibiting the recreational burning of wood.

Most people I meet want to live in a world in which wood smoke is harmless. Indeed, they seem *committed* to living in such a world, regardless of the facts. To try to convince them that burning wood is harmful—and has always been so—is somehow counter-intuitive. The ritual of burning wood is simply too comforting and too familiar to be reconsidered (so say some) It has to be benign they will argue.

And yet, the reality of our situation is scientifically unambiguous:

If you care about your own, your family's health and that of your neighbors,
then the sight of a glowing fire in your neighbour's backyard should be about as comforting as the sight of a large diesel engine idling out there.
It is time to break the spell, and burn nothing at all!