

George Monbiot

Burning Shame

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Woodburning stoves are a beguiling but disastrous mistake.

By George Monbiot, published in the Guardian 27th December 2022

It's shame that has stopped me writing about it before. The shame of failing to think for myself and see the bigger picture, which is more or less my job description. Instead, I followed the crowd.

In 2008 I was refitting my house. It was a century old and poorly built. Insulating it and installing efficient appliances was expensive but straightforward, and the decisions I made were generally good ones. But the toughest issue was heating. The technology that had seemed to show most promise a few years before – [domestic fuel cells](#) – hadn't materialised. Domestic heat pumps (which are now more accessible) were extremely expensive and scarcely deployed in the UK. That left only two options: gas or wood. I wanted to unhook myself from fossil fuels. So I went with wood.

At some expense, I fitted three wood burners and the steel flues required to remove the smoke. I would buy the wood locally, from a contractor I knew.

I began to doubt my choice when the first load arrived. It consisted of the knotty, lichen-encrusted branches of what must have once been a venerable oak. I later heard that, as the price of firewood had risen, some contractors employed to keep the roads clear had been widening their definition of unsafe trees, and cutting more zealously. So rather than using trees that would have been felled anyway, I might have been commissioning ecological destruction.

Then I found that the stoves, when I opened them, made me cough, and seemed to exacerbate my asthma. Worse, when I shut down a stove to trickle some heat through the house at night, the chimney released a cloud of black smoke and soot. I knew it couldn't be healthy, but imagined it was less harmful than the smoke from fossil fuels, especially car

engines.

I now know, thanks in large part to the dedicated reporting of the Guardian environment editor, Damian Carrington, that I couldn't have been more wrong. [Wood smoke is astonishingly harmful](#). Though only 8% of households in the UK (mostly wealthy ones) have a wood-burning stove, they release more small particulates (the most dangerous pollutants) than all the vehicles on the road. Even a modern, approved, “eco-friendly” wood burner [produces 750 times](#) as many fine particulates as a heavy goods vehicle.

We have [some figures](#) for the deaths believed to be caused by outdoor air pollution: between 26,000 and 38,000 a year in England. But we have no data on the impact of indoor air pollution, of which wood-burning stoves, in the homes that have them, are by far the biggest source. Every time you [open the stove door](#) to refuel, your home is flooded with tiny particulates, accompanied by [other toxins](#), including benzene, formaldehyde and polycyclic aromatic hydrocarbons, pushing pollution levels [way above](#) World Health Organization guidelines.

These poisons can affect [every organ in the body](#). Tiny particles pass straight through your lungs into the bloodstream. Wherever they lodge they cause harm. They're associated with a wide range of cancers, heart and lung disease, strokes, dementia and the loss of intelligence. They age your skin and damage your liver. They harm foetuses in the womb and children's development. It's especially ironic to find wood burners in the homes of people who buy only organic products, to reduce the chemical load on their bodies. Burning wood is consistent with the “naturalness” of this approach, but what we deem to be “natural” (a term we often use to mean old) is not always best.

What I should have done, as I slowly became aware of the facts, was to write about it. But that would have meant admitting to myself what an expensively bad decision I had made. Instead, while I lived in that house for the following four years, I quietly froze, scarcely using either the stoves or the old gas central heating system. I am now convinced that the sale of wood-burning stoves and [pellet boilers](#) should be banned, and their use phased out (with help for the [very few people](#) who don't have an alternative source of heating). Let's face it, if wood burning were mostly a working class habit, it would probably have been banned already.

Today, it would be an easier decision to make. For the same budget I could buy an [air source heat pump](#). But what would I have done in 2008, knowing what I now know? There were no good options. But the better choice, I think, would have been to install a highly

efficient gas boiler and use it as sparingly as possible.

Even fossil fuels, terrible as their impact is, are less damaging than the public health disaster to which I contributed, and to which other well-meaning people still contribute. We have a duty, to ourselves and others, to acknowledge our mistakes.

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