

What a lovely fire.

The bad news and the good news.

On a cold and miserable day what can be nicer than to curl up in front of wood burning in a stove? It saves burning oil or gas or using electricity, it uses what would otherwise often be a waste product from pruning and after all the wood is only returning CO² absorbed from the environment, so it must be making a zero contribution to Climate Change.

Well, things may not be that simple.

Whilst burning biomass, i.e. wood and other burnable crops, is returning CO² to the environment it may take many decades for that to be absorbed by new growth so in the short and medium term it is increasing atmospheric carbon dioxide. The other main pollutant is smoke containing small particles, called PM2.5 as they are smaller than 2.5microns.

Seven years ago, a young girl died in South London from asthma. The coroner said air pollution was a contributing factor. The main culprits were Nitrous Oxides from vehicle exhausts and tiny particles called PM2.5. which are small enough when breathed in to penetrate deep in the lungs and into the bloodstream. They also include the tread from tyres and dust from brakes and clutches. They also are a by-product of burning fossil fuels like oil, coal and wood. When ordinary coal was burnt it produced the infamous London smog, which was acknowledged to kill thousands of people each year. Thus, smoke controls were implemented in the 50's in cities and large towns to only permit smokeless fuels. In fact, they were less rather than no smoke but the particles were small so were less obvious.

The availability of natural gas since then reduced the need for dirty fuels. The lure of a blazing fire and the caché of burning something "natural" led those who could afford it to install a wood burning stove. So many stoves were installed in cities that the pollutants pushed up the chimney were similar in quantity to those created by vehicles. The new Low Emission Zones to clean up our air, are significantly reducing urban pollution due to vehicles (in London by 26%) but it is being maintained in many suburban areas by increased use of wood burners.

In rural areas and small towns where access to wood is relatively cheap or even free, wood burning has existed for ever. New homes, with chimneys, are also often retro fitted with them. We do not generally believe our air is polluted in the country side although we can often smell that it is. Ammonia from farmed animals and fertilizer, vehicle fumes and smoke from wood burners can often be smelt in the open doing no good to our health. Respiratory diseases and conditions, along with cancers are the most common results of breathing in wood smoke. When adding fuel or cleaning the stove users are breathing in the particles. Outside, neighbours are being subjected to these "toxins". That lovely smell of wood smoke is a warning. Children are even more susceptible than adults.

Recent research has come up with even more worrying results. Waste timber from building works and removed from fences, etc is usually protected from rot by impregnation with chemicals including arsenic. The presence of arsenic in the bodies of those using wood burners and those who live in areas of dense usage is increasing and accumulates and accumulates in nails and hair where it can be tested for accumulation. If burning treated timber, it is even higher. It will be interesting to see whether green vegetables and fruit grown in otherwise organic conditions have arsenic on the skin from nearby wood burning.

In London the Mayor has recently introduced regulations and guidance for new, extended and refurbished buildings which sets acceptable emissions at such low levels that wood burners will not be permissible. He now expects all new builds to have installed heat pumps, solar panels and storage and EV chargers if cars can access the property. In the meantime, government has decided not to ban wood burners but rely on the good sense of their users, so no change there.

The bad news is if you can see a real flame, we know that it will be giving off contaminants which can damage your health. The good news is, we can all do something about it. Alternatives are available but. Go to <https://www.greenixworth.org.uk> to find alternative ways of heating your home. Or visit Ixworth library on the first Saturday of March or April, between 10.15 and 12.00 to find out more from the Green Ixworth team.

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