

Clean air

Many of us want clean air. In past ages people paid a health price for industrialisation, and for keeping their homes warm with coal fires. Soot, particulates, smoke and dangerous gases came from factory chimneys and from domestic heating and cooking.

In more recent times there has been a successful and concerted effort to clean our air. Coal fires were replaced with gas and electric heating. Factory chimneys are now strictly monitored and dangerous emissions are contained or rendered harmless.

The Green movement urges us to do better. They would like us to switch away from gas boilers at home, and wish to cut the impact of transport on air quality. If you live near a main road or major airport or railway line with diesel trains there can be dirt in the air.

The issue of small particles of material that can damage lungs is no longer a question of too many diesel cars as some suggest. The modern Euro 6 standard diesel car is only allowed to put out 0.0045gms per km travelled. This is such a low level that it is difficult to measure whether it is there or not, and is the same limit as for petrol cars. There are still some old diesel buses, lorries and cars that do emit higher levels of particulates.

The more important sources of particles from transport now comes from tyre wear and brake dust. These are often more severe in heavier vehicles. Buses and heavy trucks are likely to generate more than a car. Electric cars generate at least as much as petrol and diesel, and if they have heavy batteries for range and performance reasons they may create a bit more tyre wear from greater weight. There are also dust and particles in tube stations and mainline stations. The quantity of tyre and brake dust may well be more than 1000 times higher than the tiny amounts from a modern diesel or petrol exhaust.

It would be good for more work on tyre materials and brake friction to see how these particles can be reduced. Switching to electric cars does not fix this – it is a common problem for all transport. Even a bike has brake pad and tyre wear.