



# Embodied Carbon in Cars

By Dave Green

As you progress along a carbon reduction journey it is often very difficult to decide if you are doing the 'right thing'.

For example:

- If you are considering a car, do you buy an Electric Vehicle (EV)?
- How do the overall carbon emissions associated with buying and running an EV compare to a petrol/diesel car?

The answer is 'it depends'!

A broad-brush analysis shows that the 'embodied carbon' of an EV is higher than a small petrol/diesel (12-14 tonnes v 6.7-8.5 tonnes). Embodied carbon refers to the carbon dioxide emissions associated with a product's manufacture.

However, as you drive the car, the carbon dioxide emissions associated with running it (mainly the average CO<sub>2</sub> associated with generating the electricity used to charge it up) are significantly less than burning petrol/diesel and eventually there is a crossover point where it is better from a carbon emission point of view to run an EV.

The mileage this occurs at varies but is typically around 30 000 – 40 000 miles at the moment. In other words, it is better for your carbon footprint to buy an EV rather than petrol/diesel after driving around 30-40 000 miles.

This crossover mileage will decrease as the National Grid de-carbonises further.

Also, if you are a low mileage driver looking to replace an existing petrol/diesel car it might be better to wait and continue running your existing car rather than get an EV from an overall carbon footprint perspective.

Of course, the best solution is to not run a car at all and use public transport, bike or walk. We need cheaper and better public transport and better cycle ways!