

Asphyxiation

Colin Brown takes a look at the proposed Zero Emission Vehicle Mandate, the UK Government's proposed trading scheme to enforce the demise of the internal combustion engine on our roads.

I cannot count the number of times I have heard voices talk about how the forthcoming end of ICE vehicle sales won't affect them. There is an air of resignation that manifests in comments such as 'by then I will be lucky to still be alive let alone still riding'. 2030 is only seven years away, but I would urge people to educate themselves on what will happen in the next seven years. If you believe that it will be business as usual for the next few years - or you have a master plan to buy a new ICE vehicle in December 2029 to 'see you out', you need to think again.

The government is hell-bent not just on killing off the ICE engine; it intends for it to be a slow and painful death. It will be a gradual suffocation of the market for ICE vehicles.

The ZEV mandate as proposed is currently aimed at cars and vans. Let's not waste time pretending it won't be hurriedly applied to motorcycles once they have plucked up the courage to announce that they have ignored responses to the consultation covering motorcycles.

How is this ZEV mandate going to work?

The mandate is applied to the manufacturers and relates to the numbers of vehicles they register in the UK each year. Manufacturers will be given proportional quotas – only allowing a certain percentage of their sales to include ICE engines. So, unless they qualify as a small volume manufacturer (that is they sell less than 2,500 vehicles per year) they will face fines if they sell too many petrol and diesel vehicles.

These quotas will ratchet up over the coming years, starting in 2024. Yes, you read that right – the plan is for this to start next year. This is not something to think about in five years' time, it is happening right now.

For cars the proportion of BEVs that must be sold by each manufacturer is 22% in 2024. This then rises to 28% in 2024, 33% in 2026, then 38%, 52%, 66% and 80% in 2030. Why only 80% you ask – well this is to allow hybrids to continue till 2035. So already you see we cannot think we will all buy hybrids either as only 20% of sales will be allowed to be hybrids in 2030, reducing annually to 16% in 2031, 12% in 2032, 8% in 2033, 4% in 2034 and absolute zero in 2035. And yes, this diminishing sales quota is for hybrid only, not conventional ICE vehicles. They state that from 2030 – 34 any non-ZEV vehicles sold must have "significant zero emission capability" though they admit they are not really sure yet what significant is! I wouldn't view this as a loophole to allow carbon neutral fuels and certainly with a four-year window that diminishes in size through that period, it would be of no significance.

The percentages for vans differ slightly from those for cars, but the concept is just the same.

Now this is a very simplified explanation of the system. When you dive into the detail of how this works you find a vastly complex mechanism of credits that can then be traded by manufacturers, routes to borrow and bank credits, as well as derogations and more red tape. This introduces a whole new market in credit certificates that will inevitably generate profit margins for those who

learn how to game the market. The system is certainly not going to be elegant. The legal framework for this trading scheme comes from the Climate Change Act. Unfortunately, that also means that the legal powers are devolved. The exact detail can, and probably will, vary in England, Scotland, Wales and Northern Ireland. Why make something simple when it can be a bureaucrat's wet dream?

Imagine a massive game of musical chairs played at the end of each year where every ICE vehicle sold in the last 12 months is a player and Government issue a dwindling number of chairs to the manufacturer teams each year. The manufacturers who already know how many cars they have sold for the year get to move the chairs around doing deals and selling chairs amongst themselves (and there is no cap or regulation on what they charge when selling a chair). Any cars sold that don't have a chair to sit on when the music stops earns a fine for its manufacturer. And this game could have slightly different rulebooks in parts of the devolved administrations.

The fine for each car without a seat is proposed to be £15,000, and for each van £18,000. You can deduce that the Government has calculated that the average manufacturing cost difference between equivalent ICE and battery cars is around £15,000.

These fines will of course be passed on to the consumer one way or another.

The net effect as far as I can see is a disincentive for manufacturers to reduce BEV prices as they can force sales of those vehicles by increasing the cost of ICEVs. If we keep buying ICEVs and leave the BEVs on the shelf, the manufacturers will cover the cost of their fines by raising the sale price of the ICEVs. As we approach 2030 the cost of an ICEV will probably surpass the equivalent BEV. So, if you want to buy a banker vehicle to see you out, my advice would be do it now and rent a lock-up for storage.

One aspect that made me cringe was the claim that the ZEV mandate will help the consumer get better electric vehicles. To qualify as a ZEV, they propose that a vehicle must emit no CO₂ or 'any other targeted greenhouse gases' at the exhaust, have a minimum range of 120 miles according to the WLTP test standard, and meet certain minimum warranty requirements to ensure a 'consistent and predictable consumer experience'. A minimum range of 120 miles according to the WLTP test standard? WLTP is Worldwide Harmonized Light Vehicles Test Procedure - the consultation document itself admits: "Real-world ranges are typically 10%-30% below WLTP ranges; therefore, a 120 mile WLTP requirement would translate into a real-world driving range of approximately 95 miles."

So great to hear that we are being guaranteed a car with a 95 mile range! But that is only for year one. The warranty would require the battery to retain 70% capacity for 8 years or 100,000. So, in 8 years' time you are only guaranteed a 66 mile range, and then only if you do less than 12,500 miles per year.

And think about how this would apply to motorcycles – I assume the range requirement would be smaller. A bike like the Super Soco TC Max has an advertised range of 60 miles and costs around £4,500. This would not qualify as a ZEV under the proposed ZEV mandate. To get to a 120 mile range you need to be looking at something like the Zero SR which costs around £20,000. I expect that any change to the ZEV mandate to accommodate motorcycles will do nothing to deliver affordable electric motorcycles that meet our needs. It is not hard to see how this ZEV mandate is going to impact the economics of motorcycling, and it does not look good.

What about the claimed benefits in the cost benefit analysis that accompanies the consultation? Having scanned it I quickly saw holes in the claims. The headline is that the preferred option ZEV mandate will offer “high value for money, with a social Net Present Value ranging from £44bn - £96bn, as well as supporting growth and employment in the low-carbon economy.” However, the analysis admits: “There may be costs associated with the electricity grid, to the extent that the policy leads to greater peak demand for electricity and requires grid reinforcement; there may be indirect costs to downstream businesses (e.g. car dealers); finally differences in the production emissions of ZEVs and ICEVs are not quantified. These impacts are highly uncertain, however future analyses will aim to expand the evidence-base ahead of the Government Response Cost Benefit Analysis.” That last sentence, in plain English, should read “We don’t have a clue what the full cost is but hopefully we will fudge some figures when its too late for anyone to change the outcome.”

How can these costs not be included in the analysis? Why are they making policy decisions of this magnitude before they have this analysis?

I would also point to the fact that the benefit calculation is based on the societal cost of carbon emissions, a number that even the Biden administration is re-evaluating based on the growing acceptance that the most extreme models are implausible. This means that the so-called ‘cost of carbon’ is being downgraded in the US. There is no evidence that the Climate Change Committee in the UK, is doing a similar re-evaluation.

The cost benefit analysis estimates for the net benefit have a range – Low, Best Estimate and High. The figures quoted are Low: £-31bn, High: £184bn, Best Estimate: £44bn. Yes, you did read that right the Low estimate is a negative number, or what in the real-world language we call a net cost. Bearing in mind that there are significant costs that were not factored into their analysis, I would suggest that the names for the three estimates should be “Optimistic” £-31bn (hopefully you won’t spot the minus sign), “What we think we can get away with claiming” £44bn and “The low end of António Guterres rhetoric” £184bn.

In conclusion, stop thinking this won’t affect you – it will in ways you may not expect and a whole lot sooner than you want to think.