UK Car CO_2 Regulations

Going nowhere fast!

October 2020

Summary

Car CO2 regulations are key to driving the supply of electric vehicles in the UK. This short paper highlights a growing risk the UK will have no regulations in place at the start of 2021 and as a result supplies of electric cars to the UK will dry up. It also highlights that the proposed regulation will lead to about a fifth less EVs being sold in the UK than is likely to have been sold if we remained a part of the existing EU scheme because of the way the Government has drafted the new rules. The Government is urged to: urgently table a corrected regulation before the end of October.

Why are sales of electric cars growing?

2020, has seen an impressive growth in electric car sales in the UK. Year to date sales of battery electric cars (BEVs) are more than double those achieved in the first 9 months of 2019 and PHEV sales nearly double despite the lockdown and recession. The shift is being driven by increasing choice, availability, marketing and offers on electric cars by carmakers. With effective tax breaks, particularly for company cars, and grants for BEV purchase and home rechargers, car buyers are increasingly attracted to zero emissions driving. For carmakers the push to increase sales of EVs has been motivated by the need to achieve EU car CO2 regulations and avoid expensive penalties. A recent report by T&E shows most carmakers are on track.

What are Car CO2 Regulations?

Car CO2 regulations are an EU law to lower CO2 emissions from cars and vans. In 2019, the target was an overly generous 130g CO2/km so no EVs needed to be sold to achieve this goal. In 2020, average CO2 emissions from new cars sold in 2020 must be below 95g CO2/km (with 95% of all new cars sold counting towards the target). To achieve this carmakers are increasing sales of EVs. In 2021, the 95g CO2/km average emissions target applies to all new cars sold, increasing the number of EVs most

carmakers need to sell to meet the goal. Failing to achieve company targets leads to heavy fines creating a strong incentive to ensure targets are met.

Does the law apply in the UK?

Yes but only in 2020. As part of the transitional arrangement the UK remains part of the EU car CO2 regulation and cars sold in the UK count towards the EU target. But in 2021 UK sales of EVs will not help carmakers achieve their EU targets. In the absence of equivalent UK regulations carmakers will have no regulatory incentive to sell EVs in the UK and this is expected to significantly constrain supply.

In order to ensure adequate supply of EVs to the UK market the Government has proposed an equivalent UK specific regulation. It first consulted on proposals in 2018 and again this summer when the Government claimed it would pursue "a future approach as we leave the European Union that is at least as ambitious as the current arrangements for vehicle emissions regulation".

Is the UK regulation equivalent to that in the EU?

No, it is much weaker. Whilst the UK has proposed the same headline target of 95g CO2/km the way in which the target will be calculated will lead to new cars sold in the UK averaging 99g CO2/km due to ways the Government has chosen to calculate the average new car emissions. There are 2 errors in the methodology which raise the emissions. Specifically the proposal will:

1. Use the average mass of cars sold in the EU to set the company targets not the average mass of cars sold in the UK
2. Allow the companies to use 3.5g/km of supercredits (free credits) to meet their goals that have already been used up under the EU system.

Incorrect M0 value

Under the UK and EU rules not every company needs to meet the 95g CO2/km target but instead has their own target which increases with the average weight of the cars it sells. A formula is used to calculate the company targets which in 2020 is:

$$\text{Specific emissions of } CO_2 = 95 + a \times (M - M_0)$$

M = average mass of the vehicles sold by the company in kilograms (kg)
M0 = the average mass of cars sold in the EU
a= 0,0333.

At present the M0 value which applies in the EU is 1,379.88 kg and this is the value the UK proposes to use. The EU M0 value is the average mass of cars sold in the EU from 2014 - 2016, but

the UK should be applying an M0 value equivalent to the average mass of cars sold in the UK today which is 46kg heavier and results in a target 1.5gCO2/km too high .

The EU regulation includes three yearly updating the M0 value as the weight of cars being sold in the EU continues to rise. The next amendment to the M0 value will be in 2022. As a result even in the EU the average CO2 emissions target of cars sold will be more than 95g CO2/km. The Government claims the decision to use the EU M0 value was to retain a level playing field with the EU regulation - in practice it has made carmakers targets higher making the UK regulation weaker.

If the UK continues to use the EU M0 value in the future when this is changed the UK will continue to set more relaxed targets (assuming the average weight of new cars sold in the UK continues to be higher than the EU average - which is highly likely).

Supercredits

The EU regulation includes a flexibility to encourage carmakers to sell more EVs. The mechanism is a supercredit whereby EVs (BEVs and PHEVs with emissions below 50gCO2/km) are counted more than once towards the target. In 2020, each car qualifying for a supercredit counts twice; in 2021 1.67 times and 2022, 1.33 times. The regulation also sets a limit that companies can use a maximum of 7.5gCO2/km of supercredits towards targets from 2020 to 2022.

T&E analysis shows that overwhelmingly companies will have used their entire 7.5 gCO2/km supercredit allowance in 2020 to reach this target. There will be no more supercredits to use in 2021 for most[1] carmakers. But the UK regulation proposes to allow all companies in the UK to use an additional 3.5gCO2/km supercredits in 2021. This double rewarding of supercredits has the effect of counting each EV sold in 2021 1.67 times in effect making it easier for the company to reach its target.

How much weaker is the UK regulation?

T&E has analysed the impact of the weakenings on the number of electric cars likely to be sold in the UK in 2021. Selling EVs is the principal way most carmakers plan to comply with the regulation. As a result of using the wrong factor average weight of cars sold in the UK (M0 factor) UK EV sales will be 14% lower than they should be. T&E forecast sales to meet the EU target 10.5% in 2020 whilst sales in the UK would be 9% as the effective target is 99gCO2/km. For the supercredit effect: T&E estimate EV sales in the EU in 2021 will be 15.3% in 2021 to achieve the target; but with the additional UK supercredits sales would be just 13.3 % in the UK.

[1] PSA, Toyota and Ford have some supercredits remaining in 2021 plus 1gCO2/km for JLR

The cumulative effect is that in the UK carmakers will only need to sell 12.1% EVs compared to 15.3% to meet the EU rules. So as a result of leaving the EU scheme a fifth less EVs will be sold in the UK.

What happens if the UK regulation is delayed?

Supplies of EVs to the UK are likely to dry up. If the regulation is not passed by Parliament there will be no regulatory incentive to sell EVs in the UK at all. Typically a regulation of this type requires 2 months to be passed through Parliament, so if the regulation is not tabled by the end of October it will not apply on the 1st January 2021 and supplies of EVs to the UK are likely to stall. The Regulation has been repeatedly promised but not delivered.

What is the solution?

The Government should table an version of the SI correcting the errors in its methodology by the end of October.

Further information

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