



28th August 2018

New research from the REA suggests a much lower number of unwarranted vehicles would be impacted by the introduction of E10

Last month, the Department for Transport issued a consultation on measures to introduce E10 fuel in the UK¹. It is recognised by the Government that E10 is a must if we are to hit our climate targets, but the proposals outlined lack the necessary powers to make it a reality.

Adding more renewable biofuels to petrol is one of the quickest, cheapest and most effective ways we can decarbonise our transport sector. The electricity market has seen a huge increase in renewables, from around 1% in 2010, to nearly 30% today. In that same time, transport has remained stubbornly held at around 4%. There are many paths and technologies we need to pursue if we are serious about cleaning and greening our transport sector, such as more efficient engines, promoting walking and cycling, as well as improving our public transport.

Electric vehicles are increasing in popularity, although from a low base. It is clear that petrol is going to part of the energy mix for some time to come and we cannot afford to leave this area unreformed. This is why so many countries have introduced E10, with many more blending even more. E10 would double the amount of renewable ethanol into the fuel mix, instantly decreasing the emissions of the UK fleet.

There is also wide agreement that costs should not fall on those who can afford it least, but analysis in this area has been limited; something this paper looks to build on.

¹ [E10 petrol, consumer protection and fuel pump labelling. Published 20 July 2018. Department for Transport.](#)

What is being proposed?

The Government is proposing to mandate that fuel retailers continue to supply 95 RON E5 Petrol² until at least 2021, to protect those motorists that own petrol cars unwarranted for E10. This is in contrast to other EU member states where the protection E5 grade is supplied as the 98 RON fuel to encourage uptake of 95 E10.

The DfT consultation proposes this to protect the minority of motorists whose “main household vehicle”³ is not warrantied for using E10⁴, as these would be forced to use the more expensive 98 RON grade. This is likely to increase their average annual fuel bill by around £60⁵. Moreover, it is claimed that the policy would disproportionately impact the poorest motorists, with the DfT referencing data from the National Travel Survey (NTS) that indicates that 65% of drivers of English cars more than 16 years old earned less than £20,000 per year.

How many unwarranted cars in the UK are likely to be the main household vehicle?

The consultation identifies 450,000 unwarranted cars in the UK, less than 25 years old and therefore likely to be the main household vehicle⁶, yet it is unclear where that figure originates, nor does it account for those vehicles under 25 years old that are likely to be classic cars or hobby vehicles.

To offer greater insight, the REA has analysed a dataset recently published by the RAC Foundation⁷, which provides a detailed breakdown of the 868,000 unwarranted cars in the UK. The RAC Foundation data comprises publicly-available E10 vehicle compatibility data matched with DVLA registration data (showing where those vehicles are registered) and MOT data (showing their mileages).

The data indicates that cars likely to be main household vehicle (e.g. Rover 25, Nissan Micra etc.) have scrappage rates of around 60% over a 3 year period while classic and vintage cars (e.g. Triumph Herald, Morris Minor etc.) have scrappage rates close to 0%. Those vehicles that may fit into both

² Petrol terminology

- 95 RON is the regular petrol grade of petrol often referred to as “premium unleaded” at the pump.
- 98 RON is the premium grade of petrol often referred to as “super unleaded” at the pump.
- E5 is unleaded petrol with a 5% ethanol content and can be supplied as either the 95 RON grade (95 E5) or the 98 grade (98 E5)
- E10 is unleaded petrol with a 10% ethanol content and can be supplied as either the 95 RON grade (95 E10) or the 98 grade (98 E10)

For clarity, in this paper we refer to fuels by both their Research Octane Number (RON) and ethanol content. Thus, the ‘regular’ unleaded petrol grade currently supplied in the UK is 95 E5.

³ Footnote 18 of the E10 consultation

⁴ “unwarranted cars” refers to petrol cars that have not been warrantied by the manufacturer to run on E10. In some cases, the manufacturer will not have tested the vehicle in question because the issue of E10 was not a consideration at the time.

⁵ Based on a 9pppl increase and an average annual mileage for petrol vehicles of 6,500 miles. (There is evidence to suggest lower income households have lower annual average mileage, in which case less the increase would be less than this.)

⁶ Footnote 18 of the E10 consultation

⁷ [RAC foundation. 2018. The impact of introducing E10 petrol](#)

categories depending on age or class of vehicle (e.g. VW Golf, Mazda MX5) typically have scrappage rates between 20% and 40% over 3 years.

The data shows that in 2017, there were 175,000 unwarranted cars in the UK with a scrappage rate above 40% and which can therefore be assumed to be essential family vehicles. There were also just over 150,000 cars have scrappage rates of between 20% and 40%. If we assume around half of these cars are likely to be main household vehicles, this provides a total of **250,000 main household vehicles** in the UK unwarranted for using E10. This is almost half the number suggested by the DfT. This is anticipated to reduce to around **125,000 vehicles by 2020** when assuming RAC vehicle departure (i.e. scrappage rates). This represents **less than 1% of the petrol vehicle parc**.

The ownership characteristics of unwarranted cars in use as the main household vehicle

The REA has several concerns regarding the use of NTS data for demonstrating that unwarranted main household vehicles are predominantly owned by the poorest motorists. Firstly, it is widely regarded that the NTS data has several deficiencies; it lacks robust coverage of business mileage and does not cover motorists in Scotland or Northern Ireland.

Secondly, the assumption that those individuals earning under £20,000 per year represent the poorest motorists is not in many cases a reasonable assumption. For those family members who are not the main earner in a household, whether it is a stay-at-home parent, a parent working part time or a child/student of driving age, their salary will not be representative of their socio-economic background. With less than 50% of UK families having both adults in full-time employment, it is likely that a significant portion of the 65% of motorists with cars more than 16 years old and earning less than £20,000 per year are not within the poorest demographics of the UK⁸.

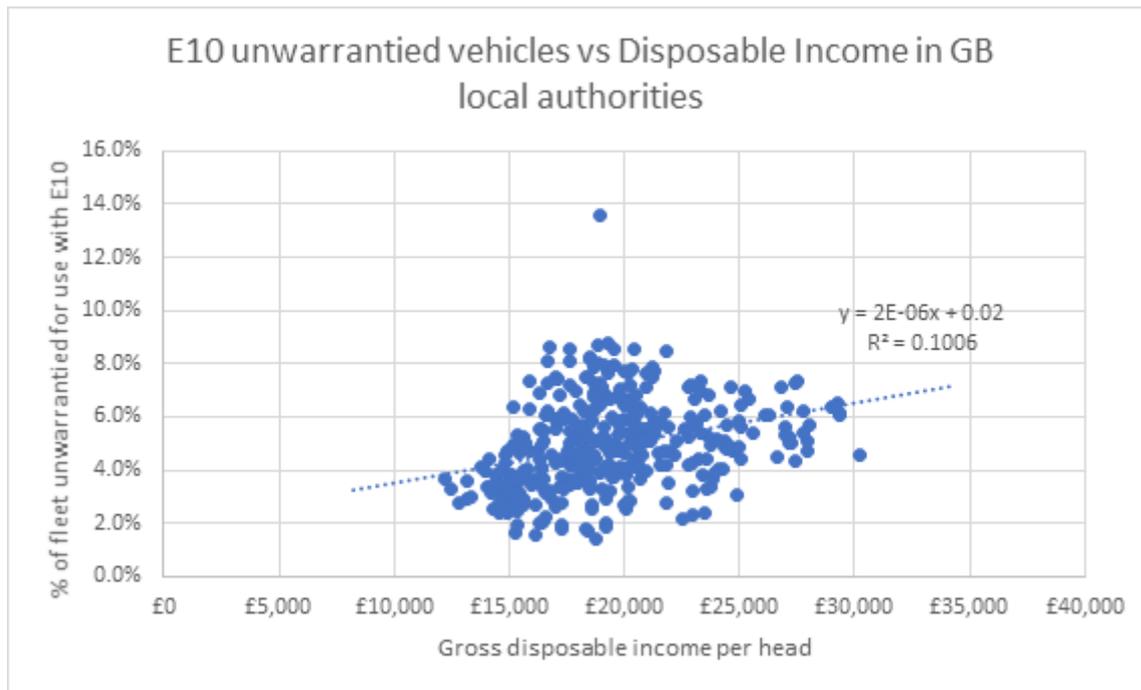
The RAC Foundation study does not directly address the socio-economic background of owners of unwarranted cars. It suggests further work on this could be performed “but one would need to look at the DVLA data at a more granular level (Lower Super Output Area) to see if there are any socio-economic or geographic factors related to high levels of non E10 compatible vehicles”.

The REA has sought to explore this by modelling against other indicators of affluence to provide an insight into the general wealth of populations where such vehicles are more likely to be found.

By comparing the percentage of unwarranted vehicles per Local Authority with the Office of National Statistics data on average gross disposable income per head⁹, it is apparent that unwarranted cars are statistically more likely to be found in wealthier local authorities than poorer ones.

⁸ [Working Families. 2017. The Modern Families Index](#)

⁹ [Office for National Statistics. 2018. Regional gross disposable household income by local authority. NB seven Local Authorities were removed from this analysis, as they were outliers in terms of average gross disposable household incomes \(at over £32k\), but this does not impact on the conclusion. The correlation is relatively weak \(R2= ~0.1\) when analysed using regression analysis, but it remains very significant \(P<0.0001\).](#)



These findings closely align to a recent publication by the APPG group for E10¹⁰, which compares the petrol vehicle parcs in the 5 most affluent local authorities in the UK and the 5 least affluent. The study found that wealthier households are more likely to own classic cars or second-choice vehicles used sparingly as a hobby and that those households are more likely to retain older vehicles possibly passing them onto their offspring rather than trading them in for a more modern vehicle.

Both this and the APPG paper demonstrate the deficiencies in the data and calls into question both the DfT's estimates of the number of essential unwarranted vehicles and its conclusion that its preferred option protects poorer motorists.

It is important that a more robust statistical analysis is undertaken by the DfT to ensure that any policy concerning the deployment of E10 is built on a sound evidence base.

As the consultation makes clear, the Government is keen to see E10 petrol introduced and there is an acknowledgement that the proposal is likely to deter the market from moving voluntarily to supply E10. The misplaced concerns over the minority have led to a proposal which undermines a policy that would save money for the majority and help the environment.

The consequences of a failed or sub-optimal introduction of E10 are;

- the environmental and air quality benefits of E10 would not be realised
- the cost to the UK motorist as a whole is increased, as other more expensive and in some cases less sustainable means of meeting the Renewables Obligation will be required (e.g. crop based biodiesel or buying out of the obligation (which brings no environmental benefit at all).
- there would be no incentive for the most polluting vehicles to be taken out of use

¹⁰ [The All-Party Parliamentary Group for Bioethanol. 2018. Unwarranted Caution: A study on the age of vehicles in the UK, their sociodemographic distribution, and the implications for the introduction of E10](#)

- inferior environmental performance from the 2.7m (and growing) number cars for which E10 is the optimum reference fuel.

Given our belief that the number of main household vehicles that would be impacted is much lower than Government estimates and that there are policy measures that could offset the impacts, the REA suggests that Government should reconsider its route forward for E10. We will be elaborating on this in our response to the consultation.