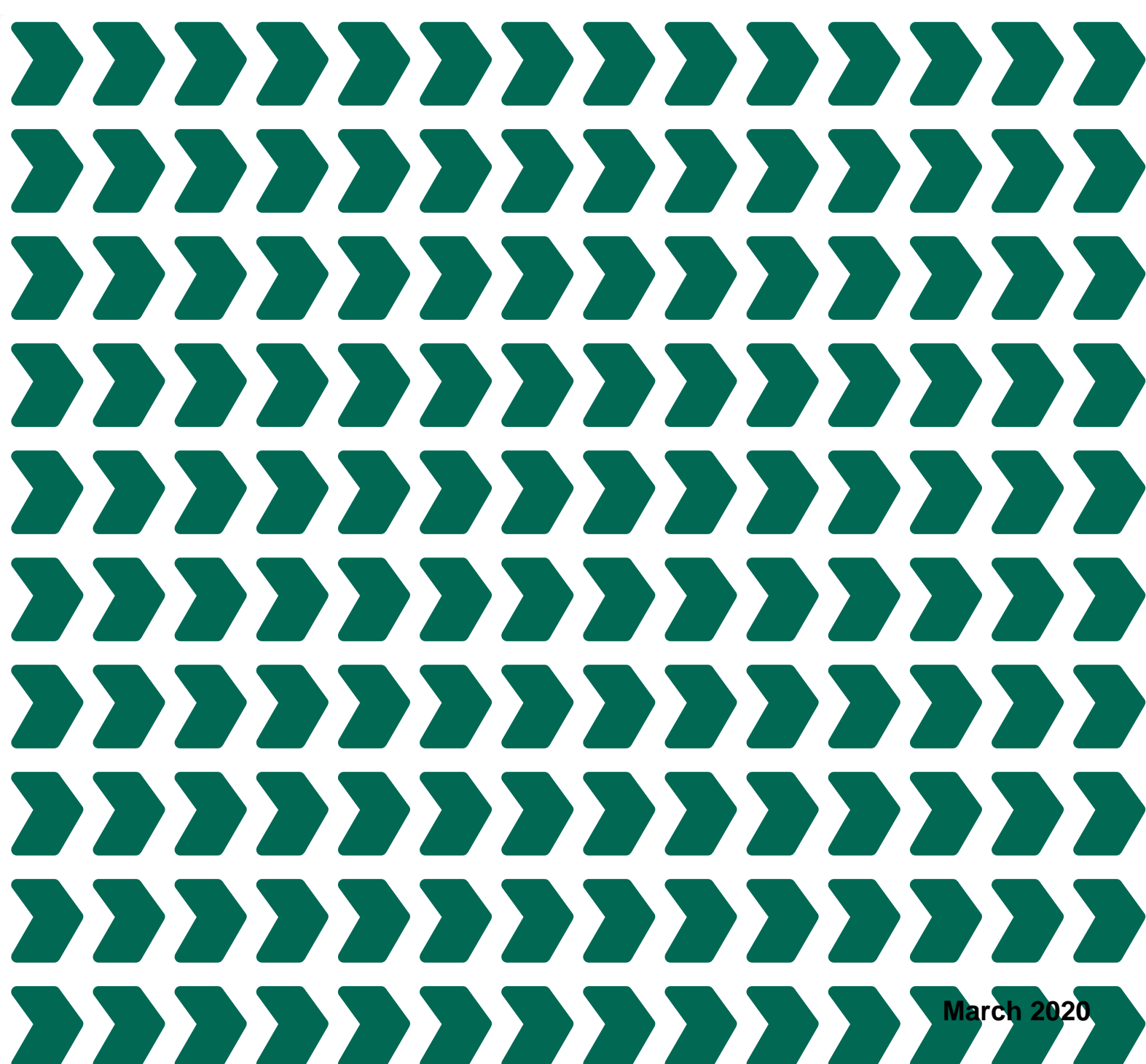




Department
for Transport

E10 Petrol and Consumer Protection: Response to 2018 Call for Evidence

Moving Britain Ahead



March 2020

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Executive summary

Introduction

- 1 In July 2018, we published a call for evidence asking whether and how best to introduce petrol with up to 10% ethanol (E10) in the UK. The document also included a consultation on the introduction of new fuel labelling requirements. We published a separate response to the labelling consultation in February 2019.
- 2 The call for evidence asked for feedback on whether introducing E10 as an additional grade of petrol, alongside the current E5 standard "premium" grade and higher octane "super" grade, would help fuel suppliers meet their Renewable Transport Fuel Obligation (RTFO) targets.
- 3 The aim of the proposal was to ensure that motorists with vehicles not approved for use with E10 could still access E5 (petrol with up to 5% ethanol) in the premium grade, while those with compatible vehicles could choose to fill up with a greener petrol at larger filling stations. Introducing E10 could help the UK meet emissions reductions targets while also supporting the UK ethanol industry and the agricultural sector that supply ethanol production facilities.

Responses

- 4 We received 100 responses to the consultation from a variety of stakeholders and members of the public. These included fuel suppliers, biofuel producers, fuel retailers, motoring organisations and heritage vehicle enthusiasts.
- 5 There was broad support for the introduction of E10, particularly from biofuel producers and fuel suppliers, but they did not agree that the proposed approach would be effective.
- 6 The main concerns related to the cost and time associated with the upgrades to the domestic infrastructure which would be needed to provide a third grade. Fuel suppliers and retailers were clear that the UK fuel sector is highly optimised around supplying two grades of petrol and two grades of diesel. Introducing a third grade of petrol would require upgrades at each stage of the supply chain, and those upgrades would take at least two to three years to complete.
- 7 Biofuel producers were also concerned that if E10 were introduced as an additional choice at some filling stations, it would not achieve a significant market share and therefore its contribution to emissions reductions would be limited.
- 8 Motoring organisations were supportive of the intention to keep E5 in the premium grade available, though some cautioned that the costs of such an approach would be passed on to consumers. They also highlighted that, given the timeframe for new infrastructure to be completed, many of the everyday vehicles that are not cleared to use E10 would likely have been scrapped by the time E10 could be introduced. This would significantly reduce the need to keep E5 in the premium grade available.

- 9 Classic car owners, and other respondents that depend on low ethanol fuel, were clear that an E5 grade must remain available for as long as possible. Many stated they would prefer this to be via the high octane super grade, as this is compatible with all petrol engines.

Next Steps

- 10 The responses and evidence provided by respondents to the call for evidence suggests that on balance introducing E10 as an additional range would be unlikely to deliver the desired outcomes (including emission savings) in a cost-effective manner. We therefore do not propose to continue with this approach.
- 11 Instead, we are issuing a new consultation which proposes that E10 should be introduced as a direct replacement for the current E5 premium petrol grade. E5 would remain available in the high octane grade for those that need access to lower ethanol petrol. The new consultation has been published at the same time as this document.
- 12 Subject to the responses received and any legislative process, this could result in E10 being introduced at forecourts during 2021. This would also allow for sufficient time to provide notice to motorists and the fuel sector ahead of the change being implemented.

1. Introduction

The Consultation

- 1.1 In July 2018, the Government published a consultation and call for evidence covering two issues related to the supply and sale of biofuel in the UK:
 - Part 1 was a call for evidence requesting information on whether and how best to introduce E10 petrol, and how to ensure ongoing availability of the current E5 petrol grade were this to happen. The call for evidence was split into two sections: Part 1A was about how to ensure the continued supply of E5 petrol and Part 1B was about how to introduce E10 in the UK.
 - Part 2 was also split into two sections. Part 2A comprised a consultation on the introduction of fuel labels in line with the 2014 Alternative Fuel Infrastructure Directive. The Directive requires EU Member States to implement standardised fuel labels at filling stations, on new motor vehicles and at vehicle dealerships. The consultation asked how this would be best achieved in the UK. Part 2B sought views on the wording of the consumer message on the fuel label for E10.
- 1.2 The original consultation is available here: <https://www.gov.uk/government/consultations/e10-petrol-consumer-protection-and-fuel-pump-labelling>.
- 1.3 This Government Response relates to Part 1 and 2B: E10 petrol, consumer protection and the E10 consumer message.
- 1.4 We published a response in relation to Part 2A on 27 February 2019. It is available here: <https://www.gov.uk/government/publications/road-fuel-labelling-government-response>.

Who Responded

- 1.5 In total, the Government received 100 responses to Parts 1 and 2B of the consultation and call for evidence. These included 42 responses from organisations with the remainder from private individuals. The Government thanks everyone who responded to the consultation and call for evidence. We value the evidence and opinions submitted and have taken these into consideration in developing the policy further.
- 1.6 The responses can be grouped as follows:

Type of organisation	Number of respondents
<i>All Party Parliamentary Group</i>	1
<i>Biofuel Supplier</i>	7
<i>Fuel retailer</i>	1
<i>Fossil fuel supplier</i>	6
<i>Hydrogen fuel supplier</i>	1
<i>Motoring organisations</i>	11
<i>Private Individual</i>	57
<i>Public Private Group</i>	1
<i>Trade Associations</i>	15

- 1.7 All responses to the call for evidence have been recorded, analysed and common issues and themes identified. They have been used to inform our decision on the next steps.
- 1.8 This document comprises a summary of the responses. An overview is provided in Chapter 2, with more detailed analysis for each question provided in Chapter 3.

Next Steps

- 1.9 The feedback from the call for evidence has been used in formulating a focused consultation on the introduction of E10 in the UK. This has been published at the same time as this Government Response document.

2. E10 Petrol and Consumer Protection: Summary

Overview of the Call for Evidence

Background

- 2.1 E10 petrol is the term given to petrol which is blended with up to 10% renewable ethanol. Currently, all petrol sold in the UK contains up to 5% renewable ethanol, known as E5. Moving to E10 petrol could help reduce overall CO₂ emissions from petrol vehicles. In 2017/18, 744 million litres of ethanol were blended into petrol in the UK, saving around 880,000 tonnes of CO₂. The introduction of E10 could potentially increase that figure by another 700,000 tonnes.
- 2.2 In April 2018, the Government increased targets under the RTFO to meet both domestic and international climate change and renewable energy targets. While E10 is not required to meet these new targets, introducing E10 could be a means for fuel suppliers meet their obligations cost-effectively.
- 2.3 However, E10 is not approved for use in all petrol cars. While the vast majority of vehicles in use today are approved by to be fuelled with E10, a small proportion of older vehicles would need to continue to use E5.

Proposals - Consumer Protection

- 2.4 Part 1A of the call for evidence included proposals on how to keep E5 available should E10 be introduced. The petrol grade that ensures E5 remains available is referred to as the "protection grade". The proposals in part 1A were designed to be compatible with the draft policy presented in part 1B which proposed to introduce E10 alongside the two grades of petrol currently available, the premium and super grades¹.
- 2.5 The options presented in relation to the protection grade were:
 - **Option 1 (preferred option):** Larger filling stations² would be required to ensure E5 remains available in the cheaper premium grade, until at least 31 December 2020.
 - **Option 2 (alternative option):** Larger filling stations would be required to ensure E5 remains available, but they could choose whether to retain it in either the premium or super grade.
- 2.6 The preferred option was for E5 petrol to remain available in the cheaper grade for the time being for those motorists that need to use it in their everyday vehicles. With

¹"Premium" is the term used for normal 95 octane unleaded petrol, available from all filling stations that most consumers use. "Super" is the term for higher 97-99 octane unleaded petrol, available from some petrol stations and which retails typically at 8-10 pence more than "Premium".

² "Larger filling stations" would be defined as those selling more than 3 million litres of fuel per year (both petrol and diesel) and that supply at least two grades of petrol.

the number of vehicles not approved for E10 use declining as older vehicles are scrapped, this was proposed to apply until the end of 2020, when the need for E5 to remain available in the cheaper grade would be reviewed.

- 2.7 Option 2 provided greater flexibility to fuel retailers but meant E5 would not necessarily be available in the cheaper grade.
- 2.8 The call for evidence also asked for alternative suggestions that would ensure E5 availability, views on how long the protection grade should run and whether the criteria for "large filling stations" would be appropriate.

Proposals - E10 petrol

- 2.9 Part 1B of the call for evidence sought views on whether and how best to introduce E10 in the UK. The call for evidence suggested a route whereby E10 could be introduced as an additional choice for consumers, in addition to the two petrol grades currently available on the market. It asked questions on the commercial challenges to such a policy at each point in the supply chain and sought views on how such a policy could be implemented.
- 2.10 The call for evidence suggested that larger filling stations, with the capacity to sell a third grade from some dispensers, could be required to sell a range of fuels including both E5 and E10 in the premium grade. Retailers would consequently have the choice of either replacing their current super grade fuel with E10 or adding E10 to the existing range. This would mirror the consumer choice in countries like France and Germany, which see three grades of petrol widely available.

Summary of the Responses to the Call for Evidence

- 2.11 As set out above, the call for evidence presented questions both on whether and how best to introduce E10, and how to ensure access to E5 is maintained. These two points are intrinsically linked, and policy on one area must be compatible with policy on the other.
- 2.12 Many respondents provided general feedback on the policies proposed within a variety of answers. This section will summarise that general feedback and set out the next steps. A more detailed summary of the individual questions and responses follows in Chapter 3.
- 2.13 The overall preferred policy option presented in the call for evidence was to introduce E10 in a manner that also allowed E5 to remain available in the premium grade throughout the country. The call for evidence sought views on whether the largest filling stations could offer E10 as an additional grade, while also being required to sell E5 in the premium grade.
- 2.14 The responses from those involved in fuel retail, distribution and supply all raised significant concerns as to the costs and complexity that introducing a third petrol grade would place on the UK supply chain. Respondents highlighted that the UK is highly optimised for a two-grade system, with infrastructure at all levels designed around a main petrol grade supplying around 85% or more of the market, and the more expensive super grade supplying up to 15%.
 - **Forecourts** - All forecourts in the UK are currently designed to supply up to two grades of petrol. While some could supply a third grade from some nozzles, there is no consistent metric that can be used to define this type of forecourt, as tank storage set-ups vary greatly. Adapting sites to take a third grade would be costly

and could take more than two years given the need for environmental permits and other permissions.

- **Distribution network** - Respondents suggested that the introduction of a third grade would affect how reliably and efficiently petrol could be distributed to forecourts around the country. Currently, with the two-grade system, predicting required volumes at forecourts, and keeping forecourts adequately stocked, is relatively simple given well-understood consumer demand for both the main premium grade, and the super grade. Switching to an additional E10 version of the premium grade would create less predictable demand, with less capacity in each grade to ensure supply continuity. Deliveries may have to be made more frequently and less efficiently.
- **Supply terminals** - As with other areas of the supply chain, supply terminals are also optimised around the supply of two petrol grades. Respondents suggested that new storage tanks would need to be installed to accommodate a third petrol grade. This would be both costly and take at least two years when permitting and construction timescales are considered.

2.15 Those involved in fuel retail also raised the issue of consumer acceptance. It was suggested that encouraging consumer uptake of E10 would be challenging while E5 in the premium grade remained widely available. As a result, introducing E10 in this manner could lead to a very low uptake, similar to that experienced in Germany, where E10 accounts for only around 10% of the market. Such a scenario would incur costs for the fuel industry, likely passed on to consumers, while not delivering significant additional biofuel blending and greenhouse gas (GHG) emission savings.

2.16 Support for the preferred policy option came in particular from motoring organisations, who highlighted the benefits in keeping 95 E5 available for those that would need it. They highlighted the needs of motorists who drive older, but not classic or cherished vehicles, which may not be approved to use E10. These are generally family cars from the late 1990s and early 2000s. In 2019, there were around 400,000 vehicles on UK roads that fall into this category. However, the number of these vehicles is falling as they reach the end of their economic life. Some stakeholders suggested that these vehicles may be driven by those least able to afford an increase in petrol costs. Therefore, keeping E5 available in the cheaper premium grade was a valued policy to some respondents.

2.17 In contrast, other groups asserted that cars not approved to use E10 use are now in rapid decline, with the majority around 15 years old. Cars of this age are regularly scrapped as they reach the end of their economic life. Respondents also referred to studies indicating that there was no clear link between ownership of E10 incompatible vehicles and less affluent areas. Some also argued that these older vehicles were more polluting than modern alternatives. Consequently, the Government should not prioritise policies that would keep costs low for those doing significant mileage in older vehicles.

2.18 Respondents also included classic vehicle enthusiasts, and those involved in private aviation. These stakeholders highlighted the need for low ethanol petrol to remain available in the future, and were keen to see any protection grade extended well beyond the end of 2020. It was also suggested that keeping E5 available in the high octane super grade would ensure that all classic vehicles could use it, as many need to be run on fuel of at least 97 RON.

Summary of the Government Response

- 2.19 The Government is grateful for all the responses and alternative suggestions provided by respondents on the subject of an E10 introduction and the E5 protection grade. We have used these responses to help shape our proposed next steps in relation to E10.
- 2.20 The responses received are clear that adding E10 as an additional choice to the existing two petrol grades commonly available would be costly and complex, and would take a significant period of time to deliver. At the same time, it would not guarantee a significant uptake of E10 and therefore not deliver the increased flexibility for fuel suppliers to ensure they can meet their renewable fuel obligation in the most efficient manner, both in terms of CO₂ reductions and cost. The Government, therefore, does not propose to introduce a requirement for filling stations to stock both E5 and E10 in the premium grade.
- 2.21 Alongside this document, we have published a new consultation looking at how E10 could be introduced in the UK as the main petrol grade, largely replacing E5 in the premium grade. The consultation also proposes that access to E5 petrol could be maintained in the super grade, as advocated by fuel suppliers and vehicle enthusiasts alike. This would ensure vehicles not compatible with E10 still have access to E5.
- 2.22 The consultation sets a timeline that focuses on ensuring that any Government initiated roll-out of E10 is done so with significant notice for consumers. Under this timeline, E10 would be introduced in 2021 at the earliest, when we expect non-cherished vehicles not approved for E10 use to account for less than 1% of the vehicle parc.

3. Detailed Summary of Responses

Part 1A - Maintaining E5 as a Protection Grade

3.1 Consultees were asked the following questions:

Question 1: Do you favour option 1, option 2 or an alternative means of ensuring ongoing E5 availability? Please provide your reasoning.

Total responses	Option 1	Option 2	Other
65	22	22	21

3.2 Option 1 referred to in the question was to retain availability of 95 E5 at larger fuelling stations. This would have seen E5 available in the premium grade at fuelling stations that supply two grades of petrol and had a throughput of three million litres in the previous year.

3.3 Option 2 would have given fuel retailers flexibility over which grade they retained E5 in.

Summary of Responses

3.4 Respondents were almost equally split between those that favoured option 1, those that preferred option 2 and those that made alternative suggestions.

3.5 Those that indicated a preference for option 1 largely comprised private individuals and motoring organisations, who valued keeping the current standard petrol grade available. These groups were concerned about lack of access to E5 petrol, should E10 be introduced, and saw benefits in E5 access being maintained in the cheaper grade, particularly for those that can least afford to purchase the more expensive super grade. A motoring organisation qualified their support stating that it would only be acceptable if the policy did not increase fuel prices across the board due to increased costs in the supply chain.

3.6 In contrast, respondents who favoured option 2 and those that suggested alternative measures all stressed concerns in relation to option 1. The two groups were largely comprised of fuel of suppliers, retailers and their trade associations as well as some private individuals. Their concerns were related to the proposals for E10 in part 1B of the consultation, notably the challenges of keeping E5 available in the premium grade in case of an E10 roll-out. These concerns are discussed in further detail in relation to the questions in part 1B of the call for evidence below.

3.7 Those respondents that favoured option 2 referred to the flexibility offered by this option, whereas supporters of alternative approaches argued for E5 to be maintained in the super rather than the premium grade.

3.8 Fuel suppliers, for example, suggested that introducing E10 in the cheaper grade and keeping E5 available in the super would make for the simplest and least confusing choice for the motorist. Some classic car owners also supported this approach on the basis that many classic cars need higher octane, low ethanol fuel, and that E5 should therefore be maintained in the super grade.

Government Response

- 3.9 In view of the concerns raised by stakeholders in relation to option 1, the Government does not consider that requiring fuel retailers to keep E5 available in the premium grade is the best way to ensure E5 availability in case E10 is introduced.
- 3.10 Any regulations relating to the continued supply of E5 must be compatible with the supply situation of E10, whether by regulation or otherwise. Our new consultation consequently takes into account the points made by stakeholders in this call for evidence.

Question 2: Do you agree that a protection grade for Premium unleaded 95 octane should initially run until 31 December 2020? If not, what date would you recommend?

Total responses	Yes	No
68	11	57

Summary of Responses

- 3.11 Most respondents did not agree that the protection grade proposed in the call for evidence should run until the end of 2020. Of these, the majority requested a longer period, arguing that many vehicles that need E5 petrol will still be in use when the regulation would expire. Dates suggested ranged from 2023 through to 2050. Other respondents disagreed with the date on the grounds that no protection grade should be employed and fuel supply decisions should be left to the market.
- 3.12 Those in support of the proposed date included fuel suppliers, trade associations, private individuals and a motoring association. Fuel suppliers were supportive on the basis that, following the expiry, the decision whether to continue to supply E5 would be left to the market. Private individuals supporting the date qualified this by stating they would need time to adapt their cars and that the date may need extending.

Government Response

- 3.13 In light of responses provided, we have reviewed our policy in relation to timeframe in which the protection grade would apply. This is covered in more detail in the new consultation published alongside this response document. The new consultation proposes that the protection grade should run for at least five years after E10 is introduced, which is the longest period that a regulation can reasonably be made before it requires review. This does not preclude that, subject to the review, the protection grade could be extended further.

Question 3: Do you agree that the protection grade should apply to filling stations that supply two grades of petrol and more than 3 million litres of all fuel (petrol and diesel) in the previous calendar year? If not, please explain whether you disagree with the volume or if there are better ways of distinguishing which forecourts it should apply to.

Total responses	Yes	No
56	20	36

Summary of Responses

- 3.14 The majority of respondents disagreed with this statement. This included fuel suppliers, trade associations, motoring associations and private individuals. They referred to a variety of reasons. Many cited overall concerns around E10, rather than specific concerns relating to the protection grade proposals. Others highlighted the complexity of combining the proposed protection grade, and the mechanism for E10 introduction proposed in part 1B of the call for evidence.
- 3.15 In terms of the thresholds proposed, five responses suggested that the threshold was too high with two respondents suggesting 1.5 million litres may be more suitable to ensure more filling stations are covered. Two respondents suggested that if E10 was mandated, a minimum threshold would not be required as all filling stations should ensure that the super grade they offer would be E5. One respondent stated that the threshold should be 6 million litres as the average throughput is 6 million litres and rising.
- 3.16 Those in support of the thresholds included fuel suppliers, private individuals, a motoring association and a trade association. The main reasons for this support given were:
 - Setting the level at three million litres of fuel would provide flexibility to smaller petrol stations in rural areas.
 - Requiring only those that supply two grades of petrol to comply means that forecourts would not need to fund expensive infrastructure upgrades to supply an additional grade.
- 3.17 One fuel supplier qualified their support however by saying the geographical coverage might not be appropriate and that further work should be done to understand the situation.
- 3.18 Responses to this question also raised general issues, stressing that the protection grade should ensure E5 remains available across the UK. They argued that rural areas would need to be sufficiently covered to make sure that owners of vehicles not approved for E10 use would not have to make long journeys to find compatible fuel.

Government Response

- 3.19 The Government welcomes the responses received and notes the issues raised. Any decision relating to the protection grade must be compatible with the policy for introducing E10. The consultation published alongside this Government Response makes further proposals on how E10 could be introduced and as to the design of the protection grade, taking into consideration the responses to this call for evidence.

Part 1B - Call for Evidence: Introduction of E10 Fuel in the UK

3.20 The Government sought views on commercial barriers to the introduction of E10 petrol and asked the following questions:

Question 4: What are the commercial barriers to introducing E10 in the UK?

Summary of Responses

3.21 Respondents provided information on a number of barriers, with the points made often covered in more detail in the responses to the other questions. However, the responses to this question provided an overview of the issues surrounding the introduction of E10. Respondents highlighted in particular the following issues (with the number of responses that referred to them added in the table below):

Blend wall barrier	Consumer acceptance issues	Competition law	Incentive provided by biofuel targets	Supply costs and risks
8	25	10	6	16

- Blend wall barrier:** The E5 "blend wall" was highlighted as a major commercial barrier to the roll-out of E10. Fuel with more than 5% ethanol must be labelled E10, together with a warning that the fuel may be not be suitable for all vehicles. This provides a disincentive for fuel suppliers to blend above this level given there is a risk of consumer rejection (see also below). Fuel retailers highlighted that no single retailer wanted to be the first to increase ethanol blending above 5% as it could put them at a commercial disadvantage against their competitors. This was presented as an argument for a Government intervention to mandate E10 in order to remove the competition element.
- Consumer acceptance issues:** It was highlighted that the consumer case for E10 is not compelling. While using E10 reduces overall CO₂ emissions, it contains marginally less energy and so would result in a small decrease in vehicle miles per gallon (MPG). It is also not compatible with all petrol vehicles, and while this is limited to a relatively small proportion of the UK vehicle parc, communicating this to consumers is considered challenging. Introducing E10 would therefore require a significant communications effort to ensure consumers are reassured, and informed as to any potential vehicle compatibility issues.
- Competition law and co-ordination:** The combination of the blend wall and consumer acceptance issues create a broader barrier relating to industry co-ordination and competition law. Fuel suppliers and retailers were clear that a simultaneous introduction across the market is desirable for consumers and industry. However, owing to competition law concerns, suppliers and retailers could not discuss a coordinated introduction without a Government mandate.
- Lack of incentive provided by biofuel targets:** Respondents noted that the current RTFO targets can be met without E10 by increasing biodiesel blending only. The targets therefore would not be sufficient to promote an introduction of E10. Only if the obligation level would be increased further, an E10 introduction may be necessary to achieve the targets.

- **Supply costs and risks:** Fuel suppliers and retailers also pointed out that supplying E10 would lead to a significant increase in infrastructure costs if it were to be added as an additional choice. Any effort to introduce it as an additional grade would increase costs and complexity at every point in the supply chain. In contrast, introducing E10 as a replacement for the current E5 premium grade would be more cost-efficient. It was explained that in the current UK fuel supply system the premium grade accounts for around 95% of the market, with the super grade making up the remaining 5%. The system could flex and provide a supply ratio of around 85% in the premium grade, and 15% in the super grade. Any policy that required either three grades, or changed the market beyond a 85/15 split, would however add costs and complexity.

3.22 Some respondents highlighted concerns around the use of biofuels in general, highlighting adverse impacts, competition for resources and the use of crops rather than waste for biofuel production (see also question 5 below for more detail).

Government Response

3.23 The Government values the feedback on the key barriers to introducing E10.

3.24 We recognise that the E5 blend wall restricts flexibility in how biofuel is supplied in order to meet RTFO targets. As petrol is already blended towards the 5% maximum for E5, increases to the RTFO targets are currently met via increased biodiesel blending. Were the E5 blendwall removed, petrol could be more readily blended with up to 10% ethanol.

3.25 While the regulatory framework already allows for a market-led introduction of E10, the Government notes the industry's preference for a co-ordinated roll-out led by Government as a means to overcome commercial barriers. Such Government intervention could also help provide the basis for a smooth transition to E10 petrol. The responses received to the call for evidence were clear that introducing E10 as an additional grade would be challenging and costly. As a consequence, a new consultation published alongside this Government Response contains proposals that would see a switch to E10 petrol in the main grade, while E5 would be maintained in the super grade.

3.26 The Government agrees that a comprehensive communications campaign ahead of any roll-out of E10 is important to ensure consumers are informed about their vehicle's compatibility, explaining also the benefits and challenges of the move to E10.

3.27 While blending ethanol into petrol does decrease MPG slightly, owing to the lower energy content of ethanol compared to pure petrol, the difference between E5 and E10 petrol is expected to be between 1 and 2%. This is less than the impact of driving with under inflated tyres or roof bars. It is important to note that even with this decrease in MPG accounted for, the equivalent CO₂ savings from using E10 are still around 2% compared to E5. If rolled out across the UK this could be the equivalent of taking around 350,000 petrol cars off the road.

Question 5: Do you agree in principle that supplying E10 could make delivery of the RTFO more cost effective?

Total responses	Yes	No
40	21	19

Summary of Responses

- 3.28 There was an almost even split between those who agreed and disagreed that E10 could make the delivery of RTFO more cost-effective, with a slight majority agreeing. However, only a handful of responses included substantive explanations for their position.
- 3.29 The majority of reasons provided in support were from biofuel and fuel suppliers. The main arguments were:
- The RTFO market mechanism is limited by the existing E5 blend wall. This artificial barrier is preventing higher ethanol blending levels, and therefore suppliers are not able to choose the most cost-effective compliance route for their biofuel obligations.
 - Ethanol prices have been below gasoline prices, meaning a litre of E10 could be cheaper to supply than a litre of fossil petrol.
 - It was also raised that, in terms of carbon emission savings, biofuel blending is generally cheaper than equivalent measures to encourage electric vehicle uptake, particularly when liquid fuel taxation is taken into account.
- 3.30 Those that disagreed were largely from motoring organisations and private individuals. They highlighted a number of issues:
- Ethanol contains around a third less energy than fossil petrol and therefore reduces the MPG that drivers may achieve. This increases fuel costs to motorists.
 - Were the new fuel to be poorly received by the public, and uptake remain low, the costs of introduction could represent poor value for money. Costs incurred by suppliers and retailers would be passed on to fuel consumers as a whole with little benefit.
 - As most bioethanol is currently derived from crops like wheat, sugar beet and corn, concerns were raised that increased crop demand from bioethanol production could lead to increase food prices.

Government Response

- 3.31 The Government notes the support, particularly from some fuel suppliers, that E10 could help with meeting RTFO targets as well as the concerns raised by other respondents. These factors have been considered in developing the new consultation, with the costs and benefits analysed in a new impact assessment, published alongside this document.
- 3.32 In relation to the concerns about the energy content and cost-effectiveness of E10, as set out in paragraph 3.27 above, even taking the lower energy content of ethanol into account, E10 could deliver further GHG savings.
- 3.33 With regard to the food versus fuel debate, the RTFO already includes a "crop cap" to limit the number of crops that can be used to provide renewable fuels. It is also important to recognise that ethanol feedstocks, like wheat and corn, are less sensitive to land use change impacts than oilseed crops used in crop biodiesel production. The use of crop biodiesel in the UK is minimal given incentives provided to waste-based biofuels.
- 3.34 Respondents also referred to Government policy on electric vehicles. While biofuels, particularly for use in cars and motorbikes, are an important transition fuel, electric vehicles will be needed to achieve long term targets like net zero by 2050. As a result, we will continue to support this vital emerging market.

Question 6: Do you agree that requiring the introduction of E10 as an additional choice for consumers would be an effective way to introduce E10 in the UK?

Total responses	Yes	No
57	25	32

Summary of Responses

- 3.35 The majority of respondents suggested that introducing E10 as an additional choice for consumers would not be an effective policy to introduce E10 in the UK.
- 3.36 This view was expressed by fuel suppliers, trade associations, motoring associations and private individuals. The arguments provided focused on both the complexity and cost of bringing an additional fuel grade to market (see also answers to questions 9 to 11 below) and the difficulty in growing demand for a new grade alongside the existing premium and super grade offering.
- 3.37 Stakeholders highlighted that, given the choice, most motorists would continue to choose the fuel they know and trust, rather than elect to use a new grade. While E10 could be marketed as a "greener" alternative, there is little additional incentive to encourage motorists to switch from the current 95 E5 grade, if it remains available. Respondents suggested that without a significant price differential between E10 and 95 E5, the market could remain small. While fuel pricing is based on a number of factors, it was suggested a duty differential would be required to ensure a discount at the pumps could be offered for E10. Examples were quotes from similar introductions in France and Germany that have led to lower than expected uptake of E10. Such a scenario in the UK was highlighted as a particular concern if fuel retailers, suppliers and blenders had invested significant capital in achieving a three-grade market, only for it to stagnate at low levels of uptake. Crucially, such an outcome would also not produce the CO₂ reductions and RTFO flexibility E10 would be expected to deliver.
- 3.38 Those that supported the proposal included private individuals and motoring organisations citing the benefits of keeping E5 available in the premium grade. They highlighted that a key benefit of this approach would be that motorists whose vehicle is not approved for E10 use could still purchase E5 in the cheaper premium grade. If these motorists needed to buy the more expensive super grade, this could increase fuel costs by around 10p per litre. Such a price increase would make little difference to annual fuel costs for cherished and classic vehicles with low mileage which constitute a substantial share of the vehicles not approved for E10 use. However, it would also affect a number of family cars from the late 1990s to early 2000s family cars. Respondents argued that in many cases these cars are likely owned by those least able to afford either the price increase, or to change vehicle.

Government response

- 3.39 The Government recognises the conflicting arguments that have, to date, dominated the E10 debate in the UK. We must balance the benefits that E10 could deliver with the impact on motorists and the fuel sector.
- 3.40 Following the responses to the call for evidence, it is clear that the benefits of E10 could not necessarily be realised if E10 is introduced as an additional choice. For E10 to deliver significant carbon savings and create flexibility for fuel suppliers

meeting RTFO targets, there would need to be a high level of uptake of E10. Adding E10 as an additional choice would likely limit uptake as many motorists would continue to use normal E5 given the choice. In addition, rolling out E10 as a third grade would be expensive and challenging for the fuel sector, possibly increasing costs for all motorists without delivering the expected benefits. For these reasons, we are not proposing to require fuel retailers to stock both E10 and E5 in the premium grade.

- 3.41 In a new consultation, the Government therefore sets out proposals that would see E10 replace the normal premium E5 fuel, with E5 remaining available in the super grade for those that need it. To ensure consumers and industry have sufficient time to adjust, it is not proposed that such a policy would be implemented before 2021.
- 3.42 Further details on these proposals can be found in the new consultation.

Question 7: Could filling stations with more than four tanks supply E10 as well as 95 E5? If not, why, and what would the appropriate number of tanks be that would permit this?

Total responses	Yes	No
40	17	23

Question 8: Is the number of tanks the best way to define filling stations that could supply E10 alongside their current fuel range? If not, what would be a more appropriate metric?

Total responses	Yes	No
36	19	17

Question 9: What would the challenges and costs be to fuel retailers to sell an additional grade of fuel at appropriate filling stations?

- 3.43 Questions 7 and 8 in the call for evidence focussed on whether the number of tanks would be the best way to define filling stations that could offer E10 as an additional grade (with four tanks proposed as the threshold). Question 9 asked about general challenges for filling stations. For simplicity, we will review responses to questions 7,8 and 9 together.

Summary of Responses

- 3.44 Responses to questions 7 and 8 were split between those that considered that four tanks would be the right indicator to determine whether filling stations could offer E10 as an additional grade and those that disagreed with it.
- 3.45 However, substantive responses for both questions were mainly received from fuel retailers and fuel retail trade associations, which pointed out some of the challenges. In respect of question 7, they highlighted that whether a filling station could easily accommodate an extra petrol grade was dependent on various factors in addition to the number of tanks. The capacity of the different tanks, and how they are connected to the various fuel dispensers would equally dictate how easily an additional petrol grade could be added.

- 3.46 Fuel retailers explained that older sites are more likely to have a number of tanks, all with a smaller capacity, while newer sites are more likely to have been designed around supplying no more than two grades of petrol and two of diesel.
- 3.47 The responses to questions 7, 8 and 9 were clear that any new requirement that led to significant changes to onsite filling station set-up would be both costly and take time to deliver. Petrol tanks are generally located underground beneath the concrete forecourt. Adding tanks or making changes to the configuration would require significant investment, disruptive works and the need for permissions and permits to be applied for and granted. As a result, any need to make this type of infrastructure upgrade would be expensive and have a long lead time to delivery.
- 3.48 Those that agreed that sites with more than four tanks could supply an additional grade of fuel (question 7), and those that agreed that the number of tanks was the best metric (question 8), did not provide additional supporting information. Some respondents suggested however that existing tanks could be sub-divided, acknowledging that certain reconfiguration would still be required.
- 3.49 As well as the infrastructure challenges and costs explored above, responses to question 9 also highlighted other issues that retailers would face if E10 was introduced as a third petrol grade:
- **Impact on smaller forecourts:** Respondents noted that smaller forecourts are declining and larger forecourts increasingly dominate the market. Any regulatory burden that might disproportionately affect smaller forecourts therefore could lead to further closure of sites, particularly in rural areas. The investment required to stock an additional grade could consequently act as barrier to some sites continuing to operate. It was also highlighted that other regulations, particularly in relation to electric vehicle charging infrastructure, are already having an impact on some sites.
 - **Supply resilience:** Respondents suggested that filling stations stocking a larger range of fuels, each at a lower capacity, could have impacts on supply resilience and restocking. This issue will be covered in more detail as part of question 11.

Government Response

- 3.50 Government understands that any need to install additional underground fuel storage or make significant changes to on-site configuration could incur significant costs and that the arranging of the required planning permissions and permits could lead to long lead times before changes could be made. In considering whether the Government should require certain filling stations to stock an additional grade of petrol (E10), it was important that this could be achieved without the need for major re-configuration of existing sites.
- 3.51 The responses indicate that it might not be possible to draft a simple definition for sites that would be able to add an additional grade relatively easily and at limited cost. Any definition would either apply to very few filling stations, and therefore would not lead to E10 being rolled out to an appreciable level or would include many sites that would need to undertake costly and lengthy upgrade works. As we intend for E10 uptake to increase over time, with the gradual phasing out of 95 E5, a three-petrol grade system would only be needed for a relatively short time, and therefore these upgrades would not be an efficient or attractive investment for industry.
- 3.52 As a result, we are not proposing that E10 would need to be stocked as an additional grade to the current fuel range and will not be further developing a definition for suitable sites. The new consultation outlines policy proposals which would see E10

replace 95 E5, and therefore the UK system would remain structured around a two petrol grade system.

3.53 Further details are included in the new consultation document, which has been published at the same time as this Government Response document.

Question 10: Would a requirement to sell E10 at appropriate filling stations affect fuel refiners/blenders? What would the challenges and costs be?

Total responses	Yes	No
20	18	2

Question 11: Would a requirement to sell E10 at appropriate filling stations affect storage and distribution? What would the challenges and costs be?

Total responses	Yes	No
28	25	3

3.54 Questions 10 and 11 focused on how the requirement to sell E10 might impact on different parts of the supply chain. We will summarise the responses to both questions together.

Summary of Responses

3.55 The majority of respondents agreed that introducing E10 as an additional grade would affect fuel refiners and blenders, and the storage and distribution of fuel around the UK. They gave the following reasons for this:

- The costs of investment to make both E5 and E10 available would be very high;
- The new infrastructure required would need new planning permissions and permits;
- Distribution of fuels would be more challenging to maintain stocks; and
- Infrastructure changes would take significant time, this means at least two years.

3.56 Similar to the responses to the previous questions, the substantive responses highlighted that the UK fuel system is heavily optimised around supplying two grades of petrol, which currently take up market shares of about 95% and 5% respectively. Respondents considered it possible that the existing system could supply up to around 15% of fuel via the super grade. However, due to infrastructure capacity, it be difficult to maintain consistent stocks of the super grade should demand exceed 15%.

3.57 Respondents explained that filling stations often use smaller sub-divided storage tanks for the super grade. Fuel delivery timetables and tankers would have been optimised around supplying the premium grade in large volumes, and the super grade in comparatively smaller volumes. Any change to this set-up to introduce a third grade would therefore require significant investment at each point of the supply chain.

3.58 At the refineries and blending terminals, there would be additional challenges and costs. Respondents explained that in order to blend E10 in the most cost-efficient manner, a new custom Blendstock for Oxygenate Blending (BOB) would need to be

produced. This ensures that when the ethanol (the main oxygenate) is blended with the BOB, the fuel would meet quality specifications in a cost-efficient manner. At present, many sites would not have the capacity to store an additional BOB and would therefore need to create a "dual BOB" that could be blended into both E5 and E10. While this is technically possible, the fuel ingredient costs are higher. This would therefore be less cost efficient. In both cases, adding an additional grade would lead to higher costs either because additional storage would be required for a bespoke BOB or because of higher ingredient costs for a dual BOB.

- 3.59 Respondents also suggested additional blending facilities would need to be procured along with additional tank capacity at terminals for the additional grade. This would require new pipework and loading arms to be installed. Respondents pointed out that if the additional grade required more regular deliveries to filling stations, procurement of additional fuel tankers might also be necessary. They highlighted that more deliveries could also lead to an increase to road traffic and emissions. One fuel supplier estimated it could require them to make circa £10 million investment to adapt to an additional petrol grade.
- 3.60 Concerns were also raised in terms of supply resilience. It was suggested that in increasing the range of fuels available, the stocked volume of any single grade could decrease, meaning it would need to be resupplied more often. This could be compounded by having less predictable demand. Currently, fuel demand between the two available grades is consistent and predictable. In contrast, with two competing premium grades and uncertainty as to how consumers would react to a new fuel, it could be more difficult to predict demand for the different fuels and therefore ensure sufficient stock is carried by forecourts at all times.
- 3.61 The responses stating there would be no impact to the fuel supply chain came from private individuals and a motoring association. The only substantive response suggested that there should be no issues as it had been achieved elsewhere in Europe and so should be relatively simple in the UK.

Government Response

- 3.62 It is clear that the scale of challenge and the required costs to adapt to an additional grade mean any benefits of seeing E10 introduced at some filling stations would be mitigated by the costs and time scale required to achieve this change.
- 3.63 As a result, in our new consultation we are now considering how E10 could be introduced as a direct replacement for the current 95 E5 grade and maintaining E5 supplies via the super grade only thereby minimising the need to upgrade existing infrastructure.

Question 12: Would a requirement to sell E10 at filling stations with more than four tanks have significant geographical discrepancies and challenges, particularly in relation to Northern Ireland? If so, what would be the challenges and how could they be mitigated?

Total responses	Yes	No
25	23	2

Summary of Responses

- 3.64 A clear majority of respondents agreed there would be significant geographical discrepancies and challenges if E10 was to be introduced, with only two respondents disagreeing with this statement.
- 3.65 The main concerns related to smaller filling stations and rural areas. It was highlighted that smaller filling stations may become uneconomical to operate if they are required to invest in infrastructure to supply an additional grade.
- 3.66 Given the proposed threshold of four tanks to determine obligated filling stations, respondents suggested smaller filling stations may be incentivised to remove tanks. Doing so would ensure they were below any threshold, and therefore stop supplying super grade fuels in order to avoid the costs associated with adding an additional grade. This could also affect profitability and their future ability to stock additional fuel grades should E10 become more widely available.
- 3.67 The responses were also clear that without further detail on precisely who the requirement would fall on, it is difficult to predict how E10 distribution might vary geographically.

Government Response

- 3.68 The responses highlight the need to carefully consider how different policy options may affect different geographical areas of the UK both in terms of fuel distribution and impacts on costs and profitability of filling stations.
- 3.69 The Government has taken these issues into consideration when developing the new consultation, including questions on how to best ensure E5 remains widely available.

Question 13: Given the need to keep 95 E5 available, do you agree with the general approach of making E10 available at suitable filling stations? If not, what would be your preferred solution?

Total responses	Yes	No
49	17	32

Summary of Responses

- 3.70 Two third of respondents did not agree with the proposed approach to make E10 available at suitable filling stations. These included fuel suppliers, trade associations and a private individual. Most of these respondents, including fuel suppliers and retailers, highlighted that the introduction of E10 is a commercial matter, but a successful introduction would require the Government to mandate its introduction in place of the current premium fuel. In such a scenario, the super grade should be required to remain E5 under the protection grade regulations. Respondents pointed to positive experiences in Belgium and Finland.
- 3.71 One fuel supplier highlighted that the number of vehicles not approved for E10 use is small and diminishing. Therefore, requiring expensive changes to the fuel supply system would not be appropriate, as they would no longer be needed in the relatively near future. It was also suggested that many of the vehicles which would benefit from the availability of E5 in the premium grade are likely to be older and more polluting vehicles, both in terms of carbon dioxide, and air quality concerns.

- 3.72 One respondent suggested that Dutch proposals on the introduction of E10 in the Netherlands, where 50% of pumps would have to provide E10, could be an appropriate model to follow in the UK as it leaves space for E5 to remain, though at the discretion of fuel suppliers.
- 3.73 It was also stated that adding another blend of fuel for consumers was a poor decision and the choice should be simplified for the consumer. The adding of an additional grade would not be cost-effective and would not achieve substantial market uptake.
- 3.74 Those respondents that agreed with the general approach included private individuals as well as a motoring organisation and a trade association. Their responses highlighted the benefits of ongoing availability of E5 in the premium fuel under the proposals. This would ensure motorists that need E5 would still be able to access it at a lower price. They also stressed that E5 should remain available for as long as possible to ensure those that drive classic and heritage vehicles continue to have access to appropriate fuel in the future. One private individual also stated that E10 should be available at major fuelling stations at a favourable rate as in France.

Government Response

- 3.75 It is clear that those involved in fuel supply do not agree that adding an additional grade at certain filling stations is the best way for E10 to be introduced. While there are benefits in terms of keeping E5 available in the premium for those that need it, this group is becoming smaller over time such that the costs of achieving this goal outweigh the benefit it delivers.
- 3.76 The responses highlight that replacement of the standard 95 E5 grade with E10 could be a significantly more efficient route to bring E10 to market, which is also likely to drive high levels of E10 uptake.
- 3.77 As a result, we are now considering whether this approach should be implemented in the UK in a new consultation, published alongside this Government Response.

Part 2B - E10 Information Label: The Biofuel (Labelling) Regulations

- 3.78 The consultation also included a question concerning the consumer message that must be displayed at the point of sale on filling station forecourts. This message, which is required by the Biofuel (Labelling) Regulations 2004 (as amended), is currently drafted as:

“Not suitable for all vehicles: consult vehicle manufacturer before use”

- 3.79 In the consultation we proposed to amend this to:

"Suitable for most petrol vehicles registered since 2000"

- 3.80 Consultees were asked:

23. Do you agree with the proposed change to the wording? If not, why, and can you suggest a suitable alternative?

Total	Yes	No
35	17	18

Summary of Responses

- 3.81 Respondents were almost equally split as to whether they agreed with the proposed change to the wording.
- 3.82 Those that supported the proposed new wording generally qualified their support by suggesting that the Government should ensure that more detailed advice on compatibility of vehicles is provided in addition to the message. Others suggested that "check before use" or words to that effect, should be added to the end.
- 3.83 Those that disagreed also suggested the wording would be improved and made similar suggestions to those who supported the proposed wording. Generally, they advocated checking with the vehicle manufacturer, but some cautioned that this may not always be possible, for example, if that manufacturer was no longer in business.
- 3.84 Between both groups, a range of dates for compatibility descriptions were suggested. Some suggested 2011 as the date when all cars are compatible, some preferring the 2000 date as for when most cars were compatible, and some suggesting both dates should be used.

Government Response

- 3.85 It is clear that some form of E10 consumer message should be displayed at the point of sale, however there is no clear consensus on the wording of that message.
- 3.86 In addition to the feedback from stakeholders, we have also been looking closely at the individual models of vehicles which are not approved for use with E10, and their prevalence, to help understand how best to communicate the compatibility picture to motorists.
- 3.87 Based on the above we have decided to include a new suggested wording in the new E10 consultation document published alongside this Government Response.

Next Steps

- 3.88 We would like to thank all those who responded to call for evidence. This has helped us to develop our policy in relation to E10 petrol and labelling. The new consultation has been published at the same time as this document.