

Measures for introduction of E10 petrol

Lead department	Department for Transport
Summary of proposal	The proposal is to require all 95 octane fuels to contain more than 5.5% ethanol and be labelled as E10, to reduce greenhouse gas emissions.
Submission type	Impact assessment (IA) – 14 December 2020
Legislation type	Secondary legislation
Implementation date	September 2021
Policy stage	Final
RPC reference	RPC-DfT-4451(2)
Opinion type	Formal
Date of issue	13 January 2021

RPC opinion

Rating ¹	RPC opinion
Fit for purpose	The IA's assessment of the direct impacts on business and the analysis of the impacts on small and micro businesses (SMBs) is sufficient. It includes a good discussion of potential disproportionality of impacts on SMBs. The IA correctly identifies additional fuel costs as a direct impact of the proposal and includes those costs in the EANDCB. The Department has improved the IA in response to comments provided previously by the RPC.

Business impact target assessment

	Department assessment	RPC validated
Classification	Qualifying regulatory provision (IN)	Qualifying regulatory provision (IN)
Equivalent annual net direct cost to business (EANDCB)	£11.6 million	£11.6 million (2019 prices, 2020 pv)
Business impact target (BIT) score	£58.1 million	£58.0 million
Business net present value	-£100.0 million	
Overall net present value	-£997.2 million	

¹ The RPC opinion rating is based only on the robustness of the EANDCB and quality of the SaMBA, as set out in the [Better Regulation Framework](#). The RPC rating is fit for purpose or not fit for purpose.

RPC summary

Category	Quality	RPC comments
EANDCB	Green	The Department correctly identifies additional fuel costs as a direct impact of the proposal and includes those costs in the EANDCB. The Department has made good use of industry consultation and other evidence and provides a detailed explanation of how it has arrived at its estimates.
Small and micro business assessment (SaMBA)	Satisfactory	The IA provides a good discussion of disproportionality of impact on SMBs and addresses issues of exemption and mitigation satisfactorily at annex D.
Rationale and options	Good	The IA includes a good explanation of the need for government intervention. It addresses why other options, such as different levels of bioethanol or specifying a minimum level of octane, have not been taken forward in the IA.
Cost-benefit analysis	Good	The IA monetises non-business impacts. The IA would benefit from additional explanation around the negative net present value (NPV) and how the proposal fits into the government's overall carbon reduction policy.
Wider impacts	Satisfactory	The IA addresses wider impacts, including areas such as risk, costs to non-business consumers and international aspects raised previously by the RPC.
Monitoring and evaluation plan	Satisfactory	The IA now includes a short monitoring and evaluation plan at annex D.

Policy Detail

Description of proposal

Ethanol is a biofuel that can be blended into petrol to reduce greenhouse gas emissions. In the UK, petrol is currently blended with no more than 5 per cent ethanol, a grade known as E5. Increasing this percentage to 10 per cent, a grade known as E10, has been permitted under fuel standards since 2013. A “first mover” risk in the UK has prevented fuel retailers from unilaterally introducing the new grade and concerns around competition law are also potentially hindering a co-ordinated industry-led roll-out. These factors mean it is unlikely that E10 will be introduced in the UK without government intervention. The proposal is for all 95 octane fuels to contain more than 5.5% ethanol and be labelled as E10.

Impacts of proposal

Overall: The proposal has an NPV of -£1,032 million (-£997.2 million in 2019 prices/2020 present value). This figure has changed from -£522 million at the consultation stage due to biofuel prices increasing whilst fossil fuel prices have remained static, meaning the net costs of increasing biofuel content have increased.

Costs: The policy will result in two main costs to consumers. First, the reduced energy content of fuel is estimated to increase fuel costs for petrol car users by 2.3 per cent, resulting in an overall increase in costs to users of £701m (over ten years in present value terms). Second, it will result in estimated costs to incompatible vehicle owners (from having to buy ‘super’ grade petrol meeting the E5 fuel specification) of £169 million. These amounts, together with extra fuel duty costs and transition costs of fuel labelling and communications, result in an estimated aggregate cost of £927.5 million over ten years in present value terms.

Benefits: Without changes to the Renewable Transport Fuel Obligation (RTFO) targets, the IA estimates greenhouse gas (GHG) emission savings would be reduced by 2.4MTCO₂e, giving a negative monetised benefit of -£158m. This is because the ethanol is expected to displace waste-derived biodiesel, which has higher GHG savings. The policy will also result in a fuel duty savings of £53m for businesses (and a corresponding reduction in fuel duty income to government), giving an overall monetised benefit of -£105m.

Under ‘non-monetised benefits’, the IA provides a justification for implementing the policy despite the negative benefit: *“a likely future RTFO target increase would allow E10 to deliver increased carbon savings compared to the current targets (as it would mean ethanol replaces fossil fuels instead of waste-derived biodiesel). The introduction of E10 would also lead to improved market conditions for domestic ethanol producers. Without such a change, there is a risk that UK domestic plants could be permanently closed. Losing these facilities now would impact the agricultural sector as ethanol production is a key feed-wheat market in the North East of England. The industry also supplies key by-products including high protein*

animal feed and stored CO₂, which is classed as critical national infrastructure.”
(page 3).

Engagement with the RPC

The Department has helpfully responded to points made by the RPC at consultation stage and in pre-final stage submission engagement. This is explained in more detail under each section below.

EANDCB

Distinguishing between impacts on businesses and non-businesses

Some of the costs in the two main categories above fall on businesses and all the relatively small transition costs fall on fuel retailers. Overall, the IA estimates about £100 million will fall on business, resulting in an EANDCB figure of £11.6 million, which is lower than at consultation stage. In response to the RPC’s prior comments, the Department has revised its estimation of costs to business, apportioning the increased cost to fuel users and taking out the proportion of costs estimated to fall on private motorists.

Justification of central estimates

In our prior comments, we asked the Department to further justify the use of the mid-point of the range as its central estimate. The Department has amended the central scenario based on the calculated probability of a full E10 deployment (paragraphs 206 and 254). The central scenario now assumes an average of 8.3% ethanol blending over the 10-year assessment period based on historic biofuel prices.

SaMBA

The Department provides a sufficient SaMBA at annex D. It addresses exemption of SMBs, disproportionality of impact and possible mitigation. The IA acknowledges that small filling stations, with limited fuel tank capacity, may face disproportionate burdens and discusses mitigation in some detail. The SaMBA or assessment of wider impacts would benefit from addressing whether such smaller businesses are more likely to be in rural locations and, if so, discussing impacts on these areas.

Rationale and options

Rationale

The IA provides a detailed explanation of the need for government intervention, setting out the environmental consequences as well as commercial barriers referring to ‘first-mover disadvantage’ and industry concern that competition law may prevent a non-regulatory solution. The Department reports that all relevant stakeholders

have made it clear that a UK wide introduction can only realistically be achieved via a government mandate and that fuel suppliers and retailers support the approach.

The RPC asked the Department at consultation stage to further explain the rationale for the proposal given the substantial negative NPV, including a negative monetised carbon saving. The Department has sought to explain how this proposal contributes to wider policy objectives, noting that the roll-out of E10 will provide more flexibility to meet and increase RTFO targets. The IA helpfully includes analysis of how E10 costs compare to other policy measures that may be required to meet carbon budget 5 (figure 3 and paragraph 48 onwards). However, the IA would benefit significantly from explaining further how the specific measure is consistent with delivery of broader policy objectives and related measures in this area, in particular how the Department will be able to demonstrate that this particular policy has had a positive environmental impact.

The Department also refers to the proposal being intended to help support the UK bioethanol industry. The IA would benefit from addressing more explicitly whether this is seen primarily as a wider benefit of the proposal or whether there is a specific industrial or regional, in addition to environmental, policy aspect to the proposal.

The IA recognises that ethanol producers have been listed as critical national infrastructure for their role in producing stored CO₂ (which is used in a range of sectors, including the nuclear and food and drink industries).

Options

The Department undertook an earlier call for evidence consultation where it explored options further. It has now helpfully explained why the IA does not assess other options, such as different levels of bioethanol or specifying a minimum level of octane.

Cost-benefit analysis

Explaining the negative NPV

As noted above, the IA would benefit from providing further explanation and context for the substantial negative NPV (which includes a negative monetised carbon saving), in particular why this proposal is seen as a necessary contribution to an overall policy that yields net benefits to the UK.

Time opportunity costs

In response to our previous comments, the Department has now addressed the time cost to consumers and transport businesses of refuelling more frequently. The Department explains that the 2.3 per cent reduction in mileage from a full tank of fuel is unlikely to mean any measurable change in refuelling frequency over a given period. Further discussion of this issue has been included in annex D of the IA.

Treatment of tax impacts

The IA assumes that businesses claim the value added tax (VAT) back on eligible fuel expenditure. The Department explains that the increase in VAT costs to businesses will be very small (20 per cent of the 2.3 per cent increase in fuel costs) and therefore it has not analysed how likely a business is to reclaim VAT on petrol costs. The Department has not monetised the administrative cost of doing so, as businesses will also be claiming back VAT on fuel in the 'do nothing' scenario. Fuel duty cannot be reclaimed by business and is included in estimates of business costs, but these net off to zero in the NPV calculations as they are a transfer from business to government. We believe the IA's approach to analysing tax impacts is reasonable.

Move away from oil-based transport fuel

The IA discusses the impact of electric vehicles (and increased fuel efficiency) on reducing demand for conventional fuels, such as petrol. This fall is factored into the baseline scenario (figure 5, page 23). The IA would benefit from some further discussion of the switch away from oil-based transport fuel, perhaps including sensitivity analysis for years towards the end of the 10-year appraisal period.

Wider impacts

Environmental impacts

As noted above, the Department provides a monetised assessment of impacts on GHG emissions. The IA would benefit from explaining explicitly that it has taken account of increase in fuel consumption in their assessment of the impact on GHG emissions and, as noted above, explaining more fully how this measure fits into a broader policy that will deliver GHG emission savings.

Cost of communications campaign

The Department has now included costs associated with a communications campaign, as it is likely that most fuel retailers/suppliers will participate. Although the plan remains for government to develop and lead on the communications aspect of E10, the fuel sector will bear the costs associated with printing and distributing posters and leaflets, which are now included in the IA. The estimates have been checked with industry stakeholders.

International and other wider impacts

The Department explains that no international impacts, for example on foreign vehicles travelling in the UK, are expected as E10 is already used in most other northern European countries.

The Department has also addressed (at annex D) a number of potential wider impacts raised by the RPC, for example on vehicle performance and increased release of ozone due to storage vaporisation, explaining why none of these issues are likely to arise with the fuel specifications proposed.

The Department has provided a qualitative assessment of the impact of the measure on the UK bioethanol industry.

The IA focusses on impacts on the fuel supply industry but would benefit from additional focus on the sectoral impact on haulage and distribution businesses.

Risk

The Department has helpfully added a risk assessment of option 3 (paragraph 249) and has updated delivery risks sections for each option.

Covid-19 impacts

The IA includes a brief discussion of possible Covid-19 related impacts, concluding that it expects significant recovery of the fuel and biofuel sectors towards normal volumes by the time of the measure's introduction in September 2021. This part of the IA would benefit from consideration of the possible impact of Covid-19 on working patterns and fuel consumption by businesses in the medium to long-term.

Monitoring and evaluation plan

As noted above, the Department outlines significant delivery risks associated with the proposals. The IA also now includes a short monitoring and evaluation plan at annex D. This states that the policy will be monitored closely via the existing reporting mechanism within the RTFO scheme.

For further information, please contact regulatoryenquiries@rpc.gov.uk.