



A set of messages and FAQs were developed in 2013 following the publication of the new BS EN 228 standard incorporating E10. These have been amended as below. The Group are asked to consider these amendments in the light of developments in the AFID & E10 Communications Strategy.

Renewable transport fuels and E10 petrol

The need for low carbon road transport

26% of all UK greenhouse gas (GHG) emissions come from transport, having risen 5% since 2013 and now standing at their highest level since 2009. (Committee on Climate Change, 2017 - <https://www.theccc.org.uk/publication/2017-report-to-parliament-meeting-carbon-budgets-closing-the-policy-gap/>).

In recognition of the need to bring UK GHG emissions from road transport under control, a number of complementary initiatives, supported by all stakeholders in the industry, have been adopted. These include reductions in vehicle mileage, driver training, intelligent vehicle operation and reductions in fuel consumption achieved through continuous improvement in vehicle efficiency. There are also significant reductions in GHG emissions to be made through the use of lower carbon fuels.

While electric and gaseous fueled vehicles are growing in importance, the road transport sector is still dominated by vehicles running on the traditional liquid fuels of diesel and petrol. The Government has acknowledged that this will be the case for many years to come, even taking into account its proposed ban on the sale of new petrol and diesel cars and vans by 2040. Initiatives to reduce the carbon intensity of diesel and petrol fuels have the potential to deliver very significant reductions in UK road transport GHG emissions.

Renewable transport fuels

Currently the most widespread method of reducing GHG emissions from liquid road fuels is the use of renewable transport fuels, either blended into regular fossil fuels or used at higher concentrations in dedicated vehicle fleets. Such fuels can reduce the GHG impact of road fuels through the absorption of CO₂ from the atmosphere which occurs as the renewable fuel source is grown. Renewable transport fuels are also often produced from waste products, such as used cooking oils, and from by-products and residues.

Currently two thirds of passenger cars on the UK's roads operate on petrol so reducing the carbon intensity of petrol in the UK market has the potential to make a substantial GHG saving. Bioethanol is an alcohol which can be blended with petrol to reduce the CO₂ impact of petrol.

At a European level the Renewable Energy Directive (RED) and the Fuel Quality Directive (FQD) have been introduced in order to increase the usage of renewable fuels in the transport sector. In the UK this has been implemented through the Renewable Transport Fuels Obligation (RTFO), first introduced in 2008. In September 2017, the Government published its response to the Consultation on proposed amendments to the RTFO which are intended to increase targets for the supply of renewable transport fuels from April 2018. The Government has set out a 15-year strategy for renewable transport fuels in this response and leaving the EU is not expected to have a material effect on the direction of the policy (<https://www.gov.uk/government/publications/renewable-transport-fuel-obligations-order-government-response>).

E10 petrol

Road fuels are very carefully controlled and the specification of fuels is currently defined at a European level. In 2012 the specification for petrol was changed to increase the maximum level of ethanol allowed from 5% to 10% by volume. Any fuel sold to the new specification will be clearly

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labelled on the dispenser as 'unleaded petrol 95 E10' (see Specific E10 FAQs) and new matching labelling requirements for both fuel pumps and new vehicles will make clear which fuel is appropriate for which vehicle.

The following frequently asked questions are working documents compiled by members of the LowCVP in order to help provide clear information to relevant stakeholders and answer any questions about E10 petrol. Please contact the LowCVP if you have any specific questions or comments.

Frequently Asked Questions

- [General FAQs](#)
- [Specific E10 FAQs](#)

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General FAQs

1. What is the Low Carbon Vehicle Partnership (LowCVP)?

The [LowCVP](#) was established in 2003 to bring the key stakeholders together to take a lead in accelerating the shift to low carbon vehicles and fuels in the UK and to help ensure that UK business can benefit from that shift. It has approximately 200 member organisations from the automotive and fuel industries, the environmental sector, government, academia, road user groups and other organisations with a stake in the low carbon vehicles and fuels agenda.

The LowCVP is providing a coordinating function to develop and deliver public information designed to support the industry and ensure that any market confusion is avoided, should E10 petrol be introduced into the UK.

2. Why are renewable fuels used in the transport sector?

Transport is now the largest emitting sector in the UK economy of damaging greenhouse gas (GHG) emissions, accounting for 26% of total GHG emissions. Transport emissions have increased since 2013 and are now at their highest level since 2009. (Committee on Climate Change, 2017 - <https://www.theccc.org.uk/publication/2017-report-to-parliament-meeting-carbon-budgets-closing-the-policy-gap/>)

The UK is committed to reducing GHG emissions, including those from road transport, and has introduced mandatory reduction targets under the Climate Change Act, 2008 which sets out the UK's carbon reduction ambitions to 2050 through 5-yearly Carbon Budgets. The Committee on Climate Change has identified that renewable fuels should play a part in meeting these Carbon Budgets.

Until the UK leaves the European Union the UK is also bound by the terms of the Renewable Energy Directive (RED) and the Fuel Quality Directive (FQD) which mandate renewable fuel usage in order to reduce GHG emission from transport.

The UK introduced the Renewable Transport Fuels Obligation (RTFO) in 2008 to meet both its internal and external obligations to reduce GHG emissions from transport. In carbon terms, renewable fuels delivered thus far under the RTFO are equivalent to taking over a million cars off UK roads each year.

In September 2017, the Government published its response to the Consultation on proposed amendments to the RTFO which are intended to increase targets for the supply of renewable transport fuels from April 2018. In this response the Government re-affirms its support for the continued use of renewable transport fuels, and sets out a 15-year strategy for renewable transport fuels, intended to coincide with the 3rd, 4th and 5th Carbon Budgets under the Climate Change Act up to 2032. According to the Government, as demand for travel continues to grow, we need to decarbonise transport more rapidly to meet these future Carbon Budgets. (<https://www.gov.uk/government/publications/renewable-transport-fuel-obligations-order-government-response>).

3. Do we need renewable transport fuels?

Transport is currently estimated to be responsible for 26% of the GHG emissions in the UK, a 5% rise since 2013 with emissions now at the highest level since 2009. According to the UK Committee on Climate Change, GHG emissions from transport must fall by 44% in the period to 2030 if the UK is to meet its mandatory climate change reduction targets. Renewable transport fuels must make up 11% of the UK's transport fuel use. (<https://www.theccc.org.uk/publication/2017-report-to-parliament-meeting-carbon-budgets-closing-the-policy-gap/>)

While electric and gaseous fueled vehicles are growing in importance, the road transport sector is still dominated by vehicles running on the traditional liquid fuels of diesel and petrol. As we transition to electric cars, we will continue to need low carbon liquid and gaseous fuels for decades to come. There are no technology 'silver bullets' to reduce the GHG emissions of road transport and

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internal combustion engines will continue to require sustainably sourced and low carbon renewable transport fuels to reduce GHG emissions from both the new and the existing vehicle fleet. In recent years consumers have turned increasingly to hybrid vehicles running on a mix of electricity and fossil fuels. 90% of hybrid sales are petrol/electric vehicles and the petrol element also needs to be decarbonised.

4. Can biofuels reduce GHG emissions in road transport?

In the latest period for which statistics are available (April 2016 – April 2017) 1,541 million litres of biofuel were supplied in the UK representing 3% of total road transport fuel. 49% of this was bioethanol with an average GHG saving of 66% versus fossil fuels. (Source: DfT RTFO Year 9, Report 5 – April 2016-October 2017 - <https://www.gov.uk/government/statistics/biofuel-statistics-year-9-2016-to-2017-report-5>)

Bioethanol offers significant GHG savings compared with petrol refined from crude oil. While average savings from bioethanol are 66%, UK sourced bioethanol has the potential to achieve in excess of 90% GHG savings. It is estimated that blending a further 5% of bioethanol into petrol would save an additional 0.76 million tonnes of carbon from road transport (“Successfully deploying E10 petrol” - [http://www.lowcyp.org.uk/assets/reports/Successfully%20Deploying%20E10%20Petrol%20\(LowCV%20final%20report\).pdf](http://www.lowcyp.org.uk/assets/reports/Successfully%20Deploying%20E10%20Petrol%20(LowCV%20final%20report).pdf)).

5. What is the impact of indirect land use change (ILUC)?

It has been argued that increased demand for renewable transport fuels in the EU has the potential to displace a proportion of existing agricultural activities thus contributing indirectly to land use change (ILUC) and increased carbon emissions. This phenomenon, which cannot be observed and can only be modelled, has been extensively studied. The latest study shows that the potential ILUC effects from bioethanol feedstocks, such as sugar and feed wheat are small and the contribution of these types of renewable transport fuels can be increased without ILUC risks (<https://www.ecofys.com/en/blog/indirect-land-use-change-from-biofuels-explained/>).

In order to take into account the potential risk of indirect land use change effects the Government’s proposed amendments to the RTFO also include the introduction of a cap on renewable transport fuels made from crops, to be reduced over time. When introduced this measure will more than adequately cover any ILUC risk so that, for bioethanol, ILUC impacts will be reduced to zero. (<https://www.gov.uk/government/publications/renewable-transport-fuel-obligations-order-government-response>).

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Specific E10 FAQs

1. What is E10 petrol?

E10 petrol is a new fuel specification for petrol powered vehicles and equipment. The E10 petrol fuel specification has the same quality standards as the current regular unleaded 95 petrol but allows for the inclusion of up to 10% ethanol, whereas the current regular unleaded 95 petrol includes only up to 5% ethanol.

Ethanol is a form of alcohol, which is obtained through the fermentation and distillation of various feedstocks, such as grains, sugars, straw or forest residues. In addition to ethanol there are a number of other renewable and sustainable fuels which have similar properties and effects on the vehicle as ethanol. For simplicity these are all referred to as E10 petrol.

2. Why is E10 petrol being introduced?

The transport sector is now the greatest emitter of carbon (GHG emissions) in the UK economy (<https://www.theccc.org.uk/publication/2017-report-to-parliament-meeting-carbon-budgets-closing-the-policy-gap/>). The UK Climate Change Act demands that we reduce our carbon emissions by 80% on 1990 levels by 2050 and with emissions still rising from transport, these must be brought back under control. In the medium to longer term the electrification of road transport will reduce emissions, but this process is only now getting under way and will take time to make a material difference to emissions.

Until the UK leaves the European Union, there are also mandatory European targets to introduce renewable fuels into the road transport sector in order to reduce the GHG emissions of transport. Renewable transport fuels are one of the very few ways to reduce emissions in the short to medium term and to meet internal and external targets.

Currently E10 petrol is the simplest and most cost-effective method of introducing a greater volume of renewable bioethanol into the UK market. However, current regular unleaded 95 petrol already includes 5% bioethanol and this cannot be increased to deliver greater carbon reductions unless E10 is introduced. E10 is compatible with the vast majority of current vehicles.

3. What is the difference between E10 and unleaded petrol?

E10 petrol meets the same quality standards as current unleaded petrol 95 except that a greater volume of renewable fuels may be blended into it. This specification of petrol is being introduced across Europe, including France, Germany, Belgium, Holland (++++?) and Finland where the fuel has been available since 2011.

4. What is the current standard for petrol?

The quality of petrol is controlled by the British Standard, BS EN 228. This British Standard has been in use since 1967, in various forms, and has undergone many changes. The latest revision defining E10 petrol, which allows for blends of ethanol in petrol of up to 10% by volume, an increase from 5%, was agreed in 2012 and published in the UK in March 2013. Currently in the UK the decision on whether and when to introduce higher ethanol blends is a matter for each fuel supplier.

5. Which vehicles are compatible?

The Society of Motor Manufacturers and Traders (SMMT) has been working with its members, the vehicle manufacturers, to develop a detailed list for all models of car in the UK, both new and old, which are compatible with E10 petrol and those which are not. The SMMT will continue to coordinate the data from the manufacturers to ensure that the list is maintained and up to date.

E10 petrol is petrol blended with bioethanol and can only be used in petrol cars and should not be used in diesel vehicles. 94% (???) of passenger cars registered in the UK are unaffected by the

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introduction of E10 petrol. Many of the vehicles which are not compatible were registered before 1997 and may be historic or low mileage vehicles.

Manufacturers have been making vehicles compatible with E10 petrol since the 1990s and many volume brands have been selling fully E10 petrol compatible vehicles for several years.

6. Will there be any change to the performance of my car if I use E10 petrol?

Cars that are fully compatible with E10 petrol (as defined on the compatibility list – see Q 5.) will not see any deterioration in performance. Since March 2016, E10 has been the reference fuel used in type approval fuel consumption and emissions testing – which means that cars not running on E10 will get a sub-optimal performance compared to official figures.

E10 petrol has the same minimum octane rating as existing grades of unleaded.

If fuel use is measured, a slight increase in volumetric fuel consumption may be experienced of approximately 1-2%. This is because ethanol has a lower energy content than petrol, but a higher oxygen content which improves the combustion process. However, in practice, other factors such as driving style and vehicle maintenance have a much greater impact on fuel consumption.

7. Will I have to use E10 petrol?

No. The existing grade of unleaded petrol is likely to be available whilst demand for it continues although this might not be the case on every petrol station forecourt.

8. When is E10 petrol being introduced?

The new standard for E10 petrol was published in March 2013. Different retailers may choose to introduce E10 petrol on different timescales, therefore availability of E10 petrol may vary by geographical area and branded outlet.

E10 petrol will be clearly labelled at the dispenser. The standard marking for all dispensers using the new E10 petrol grade is set out in the British Standard, and will follow the form below:

**UNLEADED
PETROL
95 E10**

Not suitable for all vehicles: consult
vehicle manufacturer before use
BS EN 228

The '95' in the label refers to the minimum octane rating, RON, of the fuel.

9. Will my ...

i. car run on E10 petrol?

Diesel vehicles cannot use E10 petrol.

If you have a petrol car you should check the latest version of the official UK car compatibility list which will be available before E10 is introduced, or contact your manufacturer.

ii. motorcycle run on E10 petrol?

Riders of 2-wheeled, 3-wheeled and quadricycle vehicles should check the latest advice on the [Motorcycle Industry Association](#) website or consult the vehicle manufacturer. If in doubt, continue to use 'Unleaded 95' petrol and/or 'Super Unleaded' petrol as usual.

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iii. lawnmower, hedge trimmer and other petrol engine powered equipment run on E10 petrol?

Always consult the manufacturer concerning any non-automotive petrol engine powered devices. If in doubt, continue to use 'Unleaded 95' petrol and/or 'Super Unleaded' petrol as usual.

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10. My car, motorcycle or petrol powered equipment is incompatible with E10 petrol, where can I get unleaded petrol and for how long?

It is a commercial decision for individual fuel retailers which fuels they sell. However, unleaded petrol is likely to be available while demand for this fuel continues. Motorists should check their local fuel retail site. If the dispenser does not have the 'E10 petrol' label then this will be the current standard unleaded petrol, so if your car is not compatible with E10 petrol you can use this fuel instead. Diesel cars cannot use E10 petrol.

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11. Why are some petrol powered vehicles and equipment not compatible with E10 petrol?

Some petrol engines, especially older ones, may face some issues of material compatibility when using E10 petrol, which may affect the vehicle/devices' fuel system and/or engine. Diesel cars cannot use E10 petrol.

12. What should I do if I fill up with E10 petrol by mistake?

Before you fill up with E10 petrol please check to see if your vehicle is compatible. If you do misfuel with E10 petrol we recommend that the tank is drained. If it is necessary to drain the fuel from the tank you should contact your roadside assistance provider or vehicle manufacturer for advice. Please ensure it is done by a competent organisation and replaced by the correct grade of petrol.

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13. Is E10 petrol going to cost more or less than unleaded petrol?

The pricing of fuels is a matter for individual retailers. We cannot predict how much either fuel will cost.

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14. Can I use E10 if I drive in Europe?

Whilst E10 is not yet available here in the UK, it is widely available elsewhere in Europe including France, Germany, Finland, Belgium and Holland (anywhere else?) typically at a lower price than regular 95 RON unleaded.

Pumps dispensing E10 will be clearly marked (SP95-E10 in France) but before you consider using E10 you should check directly with your vehicle manufacturer to confirm whether your vehicle is compatible. If it is not then you should only fill with regular or super unleaded petrol (SP95 or SP98 in France).

15. Are renewable transport fuels sustainable?

There are many sources of feedstocks for renewable transport fuels; crops, specific crop elements, waste streams and agricultural residues. All renewable transport fuels added to petrol and diesel in the UK meet the sustainability requirements set out in the UK Renewable Transport Fuels Obligation (RTFO), which sets targets for the sale of such fuels. This requires all renewable transport fuels used in the UK to achieve a minimum level of GHG emission reductions compared to fossil petrol and diesel and meet a set of stringent sustainability criteria in order to count towards the targets.

Bioethanol is one of the most sustainable fuels available in volume and, according to the latest Department for Transport statistics, delivers carbon savings of 66% compared to fossil petrol. (DfT RTFO Year 9 Report 5 - April – October 2016 <https://www.gov.uk/government/statistics/biofuel-statistics-year-9-2016-to-2017-report-5>).



16. Where can I get more information?

We are working with industry to gather all the information you may need before E10 comes onto the market.

Consumer information for the public is under discussion but in the meantime if you have any media enquiries regarding:

- the fuel standard (BS EN228) or the fuel itself - you should contact the [UK Petroleum Industry Association](#) (UKPIA) or the [Downstream Fuels Association](#) (DFA).
- cars - you should contact [SMMT](#) or your vehicle manufacturer.
- motorcycles, 3-wheeler or quadricycles - you should contact the [Motor Cycle Industry Association](#).
- Renewable transport fuels – you should contact the Renewable Energy Association

If you have specific questions please send them into the [LowCVP Secretariat](#) and we will keep updating the Q&A to respond to these.