



DEBATE PACK

Number CDP 2019/0004, 15 January 2019

The future of the British Bioethanol industry

A debate on the Future of the British bioethanol industry will be held in Westminster Hall at 2:30pm on 16 January 2019. The debate will be opened by Nic Dakin MP.

The House of Commons Library prepares a briefing in hard copy and/or online for most non-legislative debates in the Chamber and Westminster Hall other than half-hour debates. Debate Packs are produced quickly after the announcement of parliamentary business. They are intended to provide a summary or overview of the issue being debated and identify relevant briefings and useful documents, including press and parliamentary material. More detailed briefing can be prepared for Members on request to the Library.

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Summary

- Bioethanol is a fuel produced from plant sources, such as sugar. As a plant based fuel, bioethanol can provide an alternative to fossil fuels such as petrol, and can have lower emissions, depending on how it is produced.
- The EU Renewable Energy Directive includes a statutory target that 10% of transport fuel by 2020 must come from renewable sources such as electricity, hydrogen, and biofuels like bioethanol. Due to concerns about land use change to produce biofuels, the proportion of biofuels that can count towards the target is limited to 7%.
- The UK's Renewable Transport Fuel Obligation (RTFO) requires suppliers to secure a proportion of fuel from renewable sources. The RTFO has been amended several times to change the fuel proportion and add sustainability criteria for biofuels.
- One way suppliers can meet their RTFO targets is by blending bioethanol into petrol. The current petrol fuel standard, EN228, permits fuel suppliers to supply two types of petrol, containing either up to 5% ethanol (known as E5) or up to 10% ethanol (E10). However, despite being sold in the EU and elsewhere in the world, E10 is not widely available in the UK. The UK Government consulted in 2018 on E10 petrol and have said they will respond in 2019.
- Advocates of bioethanol say it's a low carbon fuel and can contribute to a British industry, such as agriculture.
- Critics express concern about the low carbon credentials of biofuels, especially in the case of land use change. There is also concern on the impact of the rollout on consumers, as although the vast majority of cars can use E10, not all can.
- Some of the UK's bioethanol plants have ceased production in 2018. Media coverage cites a number of causes, such as low bioethanol prices, but also a slow pace of change on Government bioethanol policy.

1 Bioethanol

The term biofuels normally refers to a liquid or gaseous fuel for transport produced from biomass (organic material used for energy production). Bioethanol is a type of biofuel which produces a renewable form of ethanol. Bioethanol is usually produced from fermenting crops such as sugar.¹

Biofuels such as bioethanol can be blended with other fuels to create a proportion of the fuel which is considered renewable. E10 fuel is so named because it contains 10% ethanol. At present, petrol typically contains up to 5% ethanol, though [since March 2013](#) a revised petrol standard (EN228) allows retailers to sell petrol containing up to 10% ethanol by volume (E10), if appropriately labelled. E10 is used in Europe and elsewhere but remains not widely available in the UK.

¹ APPG for British Bioethanol, [About the British Bioethanol industry](#) (accessed 14 January 2019)

1.1 UK Bioethanol industry

European industry body [ePURE estimates](#) that in 2017 the UK had an installed production capacity of 985 million litres of renewable ethanol. This places it as the third-largest production capacity in Europe, after France (2,055 million litres) and Germany (1,180 million litres).²

In April 2018, the [Renewable Energy Association](#) (an industry body) [reported as part of a consultation on an EU trade measure](#) that there were three bioethanol producers in the UK: Ensus, Vivergo, and British Sugar. It also stated that the UK has a potential production capacity of “around 900 million litres” of bioethanol and said that the industry is directly responsible for employing 280 people.³ However, in late 2018, two of these plants ceased production^{4,5}, more information is available in Section 3.3.

The Department for Transport’s [Renewable Transport Fuel Obligation statistics for 2018](#) show that in nine months in 2018, 4% of all transport fuel supplied was renewable, and of this 33% met sustainability requirements under the RTFO. Of this proportion, 38% was bioethanol, implying that around 0.5% of transport fuel supplied in the UK last year was sustainably-produced bioethanol.⁶

[According to Defra](#), in 2016, 132,000 hectares of agricultural land in the UK (just over 2% of all arable land) were used to grow crops for bioenergy; 53% of this was for biofuel for the UK road transport market, including both bioethanol and biodiesel.⁷

1.2 Benefits and limitations

Bioethanol supporters state that it is a low-carbon fuel, which can help to decarbonise the transport industry. Most existing engines can operate with a proportion of blended bioethanol (though not all at 10%) meaning bioethanol provides an alternative to replacing engines with electric, hydrogen, or hybrid alternatives. Advocates also refer to bioethanol production as an opportunity for British industry and jobs, especially in terms of the agricultural supply chain.⁸

There are concerns that the low-carbon nature of the fuel depends on its production method, and issues such as land use change (LUC – meaning unfarmed land being turned into farmland (direct LUC), or farmland for food being displaced by farmland for fuel, thereby

² ePURE, [European renewable ethanol installed production capacity](#), (accessed 15 January 2019)

³ REA, [REA response to Call for evidence to identify UK interest in existing EU trade remedy measures](#), April 2018

⁴ Lauren Harris, [Ethanol producer Ensus to close in November](#), *Farmers Weekly*, 24 October 2018

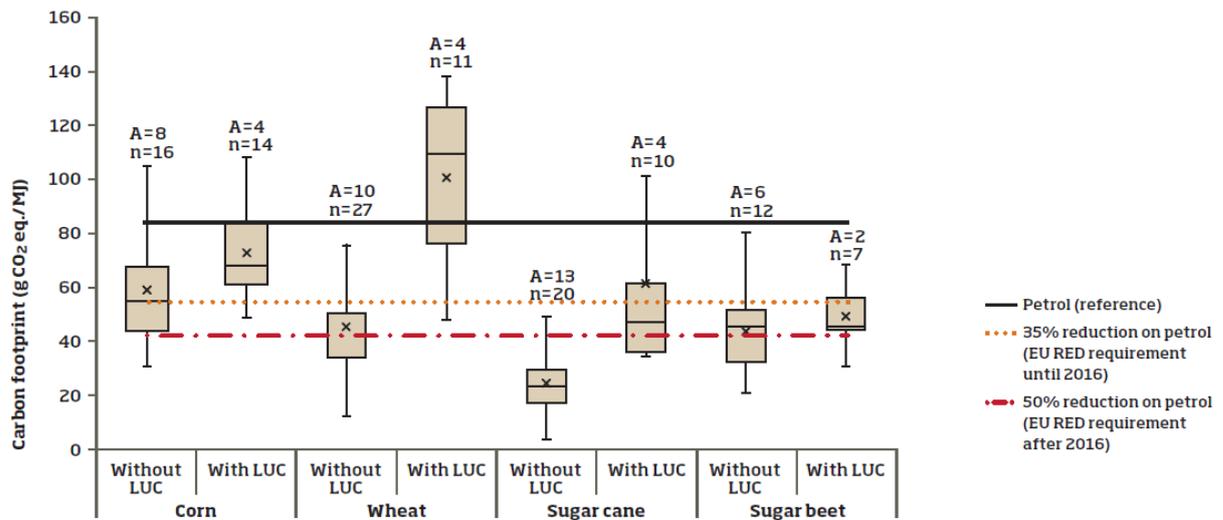
⁵ Chris Tighe, [Bioethanol plant to close citing ‘lack of pace’ for change](#), *Financial Times*, 6 September 2018

⁶ Department for Transport, [Renewable Transport Fuel Obligation statistics period 11 \(2018\) report 1](#), November 2018

⁷ DEFRA, [Crops Grown For Bioenergy in England and the UK: 2016](#), 6 December 2017

⁸ APPG for British Bioethanol, [About the British Bioethanol industry](#) (accessed 14 January 2019)

requiring food to be produced elsewhere, possibly on currently unfarmed land (indirect LUC)). The figure below shows the carbon footprint of different types of ethanol production and is reproduced from The Royal Academy of Engineering's July 2017 analysis on the [Sustainability of liquid biofuels](#) (commissioned by the UK Government) which conducted a meta-analysis of around 31 separate studies.⁹ The figure shows that not all methods for producing bioethanol produce a fuel with a 50% reduction of emissions compared to petrol.



However, the Committee on Climate Change, who advise the Government on meeting the carbon budgets, has recommended the government should raise biofuels' share of road-fuel energy to 11% by 2030.¹⁰

2. Biofuel support policies

2.1 EU policies

The 2009 [EU Renewable Energy Directive](#) included a statutory target that 10% of transport fuel by 2020 must come from renewable sources. All renewable energy sources can count towards this target, including renewable electricity and hydrogen, and biofuels. In 2015, [new rules](#) came into force to amend the Renewable Energy Directive to take into account the impact of land use change for biofuel production on greenhouse gas emission savings. The new rules limit the share of biofuels from crops grown on agricultural land that can be counted towards the 2020 renewable energy targets to 7% of the 10% target.¹¹

⁹ The Royal Academy of Engineering, [Sustainability of liquid biofuels](#), July 2017

¹⁰ Committee on Climate Change, [Reducing UK Emissions, 2018 Progress report to Parliament](#), June 2018

¹¹ European Commission, [Land use change](#) [accessed 15 January 2019]

2.2 UK policies - Renewable Fuel Transport Obligation

In November 2005, following a feasibility study, the Labour Government announced they would implement a Renewable Transport Fuel Obligation (RTFO).¹² This aimed to ensure 5% of fuel was from a renewable source by 2010. The [Renewable Transport Fuel Obligations Order 2007](#) came into effect on 26 October 2007 using powers from Part 2, Chapter 5 of the [Energy Act 2004](#). The Order has been amended several times to change the level of the targets, and to implement sustainability criteria. Most recently, the [Renewable Transport Fuels and Greenhouse Gas Emissions Regulations 2018](#) were made on 13 March 2018 and entered into force on 15 April 2018, implementing new, higher RTFO targets (9.75% in 2020, rising to 12.4% in 2032).

2.3 History of Government announcements

The Labour Government—the Gallagher Review

On 21 February 2008, then then Secretary of State for Transport Ruth Kelly invited the Renewable Fuels Agency to undertake a Review of the Indirect Effects of Biofuels. The review was known as the Gallagher review as it was undertaken by Ed Gallagher, a former chief of the Environment Agency. This was done in the light of concerns that an increasing demand for biofuels might indirectly cause carbon emissions because of land use change, and concerns that demand for biofuels may be driving food insecurity by causing food commodity price increases.

The [Gallagher review: indirect effects on biofuels production](#) was published in July 2008. The review recommended lower biofuel targets and stronger sustainability standards. It also said that “targets higher than 5% by volume (4% by energy) should only be implemented beyond 2013/14 if biofuels are shown to be demonstrably sustainable”. It went on that “current evidence suggests that the proposed EU biofuels target for 2020 of 10% by energy is unlikely to be met sustainably and the introduction of biofuels should therefore be slowed while we improve our understanding of indirect land-use change and effective systems are implemented to manage risks.”¹³

The Labour Government accepted some of the report findings, and slowed the rate of RTFO targets in a 2009 amendment to the RTFO order.

However, the Government rejected Gallagher’s recommendation about the EU target, with certain conditions:

The Government believe that the EU target of 10 per cent. renewable transport fuels by 2020 can remain an overall objective, but subject to clear conditions. I would like to set those out. First, the EU-level sustainability criteria currently being negotiated must address indirect, as well as direct, effects on land

¹² HL Deb, 10 November 2005, [C WS66](#)

¹³ Renewable Fuels Agency, [The Gallagher Review of the indirect effects of biofuels production](#), July 2008

use. Secondly, the 10 per cent. target must be subject to rigorous review in the light of the emerging evidence, so that we can make an informed decision at EU level in 2013-14 about whether the target can continue. As Professor Gallagher also suggests, I agree that we should aim to target support on the development of lower carbon and other so-called “second generation” biofuels.¹⁴

The Coalition Government

The Coalition Government consulted on transposing the requirements of the 2009 Renewable Energy Directive, including on how it will meet the 2020 10% renewable fuel target. It stated that it wished to use the RTFO to do this, and that “the majority of the target is expected to be met through the increased supply of biofuels with some contribution from renewable electricity”.¹⁵ The Coalition Government [amended the Order again in 2013](#) to implement the [EU Fuel Quality Directive 2009/30/EC](#).

The Conservative Governments

Between November 2016 and January 2017, the Conservative Government consulted on proposed changes to the Renewable Transport Fuel Obligation. The [response](#) was published in September 2017:

The response to the [Renewable Transport Fuel Obligation: proposed changes for 2017 consultation](#) states the next policy steps to be taken by government including:

- increasing the obligation level to 9.75% in 2020, rising to 12.4% in 2032
- an additional target for development fuels at 0.1% in 2019, rising to 2.8% in 2032
- a crop cap at 4% in 2018, reducing in equal increments annually from 2021 to reach 3% in 2026 and 2% in 2032
- bringing renewable aviation fuels and renewable fuels of non-biological origin into the scheme.¹⁶

The [Renewable Transport Fuels and Greenhouse Gas Emissions Regulations 2018](#) were made on 13 March 2018 and entered into force on 15 April 2018. These regulations implemented the findings of the consultation.

¹⁴ HC Deb, [Biofuels](#), 7 July 2008

¹⁵ Department for Transport, [Consultation on the implementation of the transport elements of the Renewable Energy Directive](#), March 2011

¹⁶ Gov.uk, [Renewable transport fuel obligations order: government response](#), 14 September 2017

3. E10

E10 fuel is so named because it contains 10% ethanol. At present, petrol typically contains up to 5% ethanol, though [since March 2013](#) a revised petrol standard (EN228) allows retailers to sell petrol containing up to 10% ethanol by volume (E10), if appropriately labelled. E10 is used in Europe and elsewhere but remains not widely available in the UK.

E10 would increase the share of transport fuels that are classed as renewable, and therefore help suppliers meet their RTFO targets. However, not all cars are compatible with E10, some older models can experience problems when using the fuel. It was [reported in 2016](#) that around 92.2% of petrol-powered cars in the UK are E10 compatible. Additionally, it [has also been reported in 2017 that](#) some stakeholders have said that filling stations were not ready for a roll out of E10.

3.1 Government action

The Government consulted on changes to the Renewable Transport Fuels Obligation between November 2016 and January 2017. In September 2017, [the Government published their response](#) to the consultation. In his foreword to the response, the Minister Jesse Norman said of E10:

Increasing the renewable content of petrol by moving to E10 fuel should make achieving our targets easier and potentially more cost effective, as well as providing an economic boost to domestic producers. The government will work with industry to facilitate any future introduction of E10 petrol, playing our part to ensure that it is managed carefully and to ensure ongoing availability of fuel suitable for older (pre-2000) petrol vehicles. In doing so, we expect the oil industry to do their part to help minimise any impacts on owners of older vehicles.¹⁷

The [response](#) also said “the evidence provided by respondents has not clarified whether a full switch to E10 would be required.”¹⁸

Before the consultation began, at the request of the Department for Transport, an E10 Working group was set up by the public-private Low Carbon Vehicle Partnership. Before the Government published their response to the consultation, the E10 working group published its final report in March 2017, concluding:

The Group agrees that 95 E10 should be introduced and deployed rapidly to a high market share (85%) due to the nature of the UK fuel supply chain and in order for the UK to benefit environmentally and economically. The successful, rapid deployment of 95 E10 with high bioethanol content, will require fully co-ordinated action from all stakeholders involved, and in particular it will require Government to play a leadership role, to explain the rationale for the introduction of this new low carbon

¹⁷ Department for Transport, [The Renewable Transport Fuel Obligations Order Government response to the consultation on amendments](#), September 2017

¹⁸ Department for Transport, [The Renewable Transport Fuel Obligations Order Government response to the consultation on amendments](#), September 2017

fuel, provide motorists with clear messages, and to allow stakeholders to plan effectively while complying with Competition Law regarding anti-competitive activity.¹⁹

3.2 2018 Consultation

In July 2018, the Department for Transport issued a consultation [E10 petrol, consumer protection and fuel pump labelling](#) which ran until 16 September 2018 including a call for evidence on the introduction of E10 fuel. The Department website states that the responses are currently being analysed. The consultation documents state that:

Reducing greenhouse gas emissions from transport will be vital to achieving the UK's commitments on climate change. Electric vehicles and other dedicated low carbon transport modes will provide some of these emissions savings, particularly in the medium to long term. Nonetheless, there is an immediate and ongoing need to decarbonise the traditional road fuels used by the vast majority of existing vehicles.

With that need in mind, the Government has recently increased the targets under the Renewable Transport Fuel Obligation scheme (RTFO), which requires fuel suppliers to ensure minimum volumes of renewable fuels are supplied. These targets are predominantly met by blending renewable fuels such as biodiesel and bioethanol into the regular diesel and petrol bought at filling stations across the country.

Currently, petrol sold in the UK contains no more than 5% bioethanol, a blend known as E5. Blending up to 10%, known as E10, could help deliver the RTFO more cost effectively, provide significant carbon savings compared to E5 and support UK bioethanol producers.

However, the introduction of E10 petrol presents some challenges, particularly in relation to compatibility with older vehicles. The vast majority of vehicles in use today are approved by to be fuelled with E10, but a small proportion of older vehicles will need to continue to use E5. These include classic or cherished older vehicles; but also include a significant number of cars and motorbikes which are less than 25 years old and still regularly used.

The Government is keen to harness the potential benefits of introducing E10, while also ensuring that motorists who still need to purchase standard E5 petrol can do so without having to pay for higher priced 'Super' grades (more expensive higher octane petrol).

To support the latter aim, we are proposing to introduce a 'protection grade' that requires larger filling stations to continue to stock the standard Premium 95 petrol in an E5 grade (95 E5), should they decide to stock E10. This will guarantee that consumers have access to the same E5 petrol they currently use if and when E10 is introduced.

Introducing this type of protection grade clearly bears the risk of dissuading a market-led introduction of E10. It is unlikely that suppliers will want to change their Super grade to E10, as the comparatively low volumes sold will not support meaningful

¹⁹ Low Carbon Vehicle Partnership, [Successfully deploying E10 petrol - E10 Working Group Recommendations](#), Final Report, March 2017

progress towards their RTFO targets. In this context, we are keen to explore options for ensuring a managed transition to E10 in a way that minimises disruption to consumers. This consultation therefore includes a call for evidence inviting stakeholders to contribute ideas as to how E10 could be introduced alongside the continued availability of Premium E5.²⁰

3.3 Reasons for bioethanol shutdown

As mentioned above, in 2018, two of the UK's bioethanol plants ceased production^{21,22}. Media coverage of one of these plants, the Vivergo plant in Hull, stated that the lack of pace of change, including in relation to E10, had undermined the plants ability to operate, as well as low prices.²³

Media coverage of the other plant, Ensus in Teesside, reported a wider range of issues that had contributed to the shutdowns. A [Farmers Weekly article](#) said the 2018 shutdown was partly due lower ethanol prices, due to low sugar and maize prices encouraging more ethanol production elsewhere, and therefore more competition.²⁴ Similarly, a BBC article from May 2016 lists the following previous issues for the plant:

The plant opened in 2009 but was mothballed in 2011 due to US competition and dwindling demand.

Production restarted in October 2012 after conditions improved but paused again in April 2013 because of rising energy costs and a poor harvest.²⁵

In 2013, the EU imposed a 5 year tariff on U.S bioethanol. More information is available from a February 2013 article by Bloomberg on '[U.S Bioethanol Makers face 5-year EU anti-dumping tariff](#)'. The European Commission's history of proceedings for the tariff is available [here](#). In February 2018, when the tariff was due to expire, the EU Commission extended the tariff for 15 months and launched a review of the tariff.²⁶

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

²¹ Lauren Harris, [Ethanol producer Ensus to close in November](#), *Farmers Weekly*, 24 October 2018

²² Chris Tighe, [Bioethanol plant to close citing 'lack of pace' for change](#), *Financial Times*, 6 September 2018

²³ Chris Tighe, [Bioethanol plant to close citing 'lack of pace' for change](#), *Financial Times*, 6 September 2018

²⁴ Lauren Harris, [Ethanol producer Ensus to close in November](#), *Farmers Weekly*, 24 October 2018

²⁵ BBC, [Wilton Ensus bioethanol plant production trial to start](#), 18 May 2016

²⁶ S&P Global Platts, [EU Commission reopens US ethanol antidumping case: extends duty for 15 months](#), 20 February 2018

4. News items

Business Green

CCC: UK land policy overhaul crucial to support food, housing and climate

15 November 2018

<https://www.businessgreen.com/bg/analysis/3066399/ccc-uk-approach-to-land-use-and-biomass-must-change>

BBC News Online

Ensus Wilton biofuel production 'paused' for fourth time

25 October 2018

<https://www.bbc.co.uk/news/uk-england-tees-45976530>

FT

Bioethanol plant to close citing 'lack of pace' for change

6 September 2018

<https://www.ft.com/content/14dfdf5e-b1f0-11e8-99ca-68cf89602132>

Independent

Hundreds of thousands of cars won't be able to use new fuel introduced by government to cut carbon emissions

28 August 2018

<https://www.independent.co.uk/environment/cars-petrol-e10-fossil-fuels-bioethanol-volkswagen-golf-nissan-micra-ford-escort-a8509856.html>

Farming UK

MPs say introduction of E10 petrol helps environment and British farming

17 May 2018

https://www.farminguk.com/News/MPs-say-introduction-of-E10-petrol-helps-environment-and-British-farming_49314.html

Chartered Institute of Waste Management Journal

New Regulations to Incentivise Renewable Fuels From Waste

13 April 2018

<https://ciwm-journal.co.uk/new-regulations-to-incentivise-renewable-fuels-from-waste/>

5. Press releases

The Committee on Climate Change

Reforms must prepare the UK countryside for climate change and ensure that our use of land supports reduced emissions

15 November 2018

The Paris Agreement demands tougher action to remove greenhouse gas emissions from the atmosphere. We must, at the same time, prepare for the inevitable climate change that is already happening. In this context, current uses of land in the UK must change.

Today, the Committee on Climate Change (CCC) publishes two linked reports:

[‘Land use: Reducing emissions and preparing for climate change’](#) finds that fundamental reform is required to ensure land becomes a more effective carbon store. The critical services we receive from the land; clean water, healthy soils, wildlife, timber and food, are threatened by a warming climate. Government can address these concerns, while ensuring sufficient food production for an increasing population and space for new homes.

[‘Biomass in a low-carbon economy’](#) considers the role of biomass – wood, plants and organic waste – in the global strategy to tackle climate change. Biomass can play an important role in meeting the UK’s long-term (2050) emissions targets, and moving towards net-zero emissions, but only with stricter governance to ensure sustainable supplies. Current UK energy uses will need to change.

There is now an opportunity, especially through the new Agriculture and the Environment Bills, to define a better strategy for our land to meet the goals of the UK Climate Change Act.

- Climate change impacts are already altering the land’s use, while the services provided by the natural environment are being degraded. Average UK temperatures have risen by 0.8°C over the last forty years; with nine of the ten warmest years for the UK occurring since 2002. Loss of soil fertility, biodiversity and peatland degradation are now apparent, in large part driven by intensive food production. Projections of future UK climate suggest further warming, sea level rise, periods of heavier rain leading to greater risks from flooding as well as reduced water availability in summer. Despite some opportunities, the negative impacts on our soils, water, vegetation and wildlife are likely to be significant.
- Land is a critical natural resource, but past policies governing the use of UK land have been fragmented and incomplete. Under the Common Agricultural Policy and its predecessors, food production has been rewarded over other services that the land can provide. Change provides the opportunity to maximise the

use of land as a natural store for carbon and as a regulator of natural hazards such as flooding.

- New land-use policy must promote radically different uses of UK land to support deeper emissions reductions and improve resilience to climate change impacts. This includes increased tree planting, improved forest management, restoration of peatlands, and shifts to low-carbon farming practices, which improve soil and water quality. These will help to reduce flood risk and improve the condition of semi-natural habitats such as woodlands and wetlands
- Alternative uses of land can be economic for farmers and land managers, but Government must provide help for them to transition. Assistance is needed with skills, training and information to implement new uses of land. Support for high up-front costs and financing to aid that transition are also required. Land managers must have better access to information about the impacts of a changing climate.

The Committee also finds an important role for biomass in reducing and removing UK emissions, but only if certain critical criteria are met. It recommends:

- The UK should aim to increase the volume of carbon stored in our forests and land. The supply of sustainable biomass harvested from UK sources should also increase. Government must increase tree-planting from 9000 hectares per year on average to 20,000 hectares by 2020 and 27,000 hectares by 2030, and extend this further to 2050. This should go alongside planting energy crops on low-quality land.
- Food and biodegradable waste must be collected separately from other refuse in all areas across the UK. By 2025, no biodegradable waste such as food, paper, card, wood, textiles and garden waste should be sent to landfill.
- Rules governing the supply of sustainable sources of biomass for energy need to be improved. Without sustainable land management practices and careful control of 'lifecycle emissions', use of biomass for energy production can have a worse impact on the climate than the ongoing use of fossil fuels. The long-term role of biomass imports to the UK must therefore depend on improved regulation of their supply. High-GHG sources (for example, tracts of forest harvested just for energy) should be clearly regulated out of use and better practice encouraged, such as the use of organic waste. The UK must lead a global shift towards improved monitoring and reporting techniques of biomass stocks (e.g. using satellite data) and use a broader range of policy levers (e.g. trade and development policy, standards, procurement and finance rules).
- Biomass must be used in the most effective way. Uses that enable long-term carbon storage should be prioritised. The use of biomass must not exceed the levels of sustainable material

that are currently available. Steps should include a substantial increase in the use of wood in the construction of buildings, the development of key technologies including carbon capture and storage, the phasing out of large-scale biomass power plants that do not capture and store their emissions, phasing out biofuel use in cars and vans in the 2030s, and supporting the use of biofuels in aviation (up to 10% of demand).

Lord Deben, Chairman of the Committee on Climate Change (CCC), said:

Land is our most precious natural asset but the way we use land in this country needs fundamental reform. We must ensure our use of land helps to reduce the emissions that are warming our atmosphere. We must also improve the resilience of the land to climate change. New legislation on agriculture and the environment provide us with a unique opportunity to reward land owners and farmers for actions such as tree planting, restoring peatlands and improving soil and water quality.

We need a new conversation about the role that biomass can play in helping to meet the UK's climate change targets. If supply of biomass is more strictly governed, its use can be sustainable and it can play an essential role in reducing emissions, locking away carbon in plants and soils. Unsustainable supplies of biomass have no place in our future energy mix.

Notes

1. What is biomass? At its broadest, 'biomass' includes all organic carbon-based materials including plants, soils and animals. Biomass can be living and dead matter in terrestrial landscapes and oceans, or it can be harvested for use in human societies. This broad definition is most relevant to the parts of the Committee's report that discuss the carbon cycle, global biomass stocks and global mitigation strategies. A number of further definitions are set out within the report's Executive Summary.
2. Can sources of biomass be produced sustainably? There is evidence that a range of different biomass feedstocks – including organic wastes, energy crops and forestry and agricultural residues – can be produced sustainably and in a low carbon way, but only if certain critical criteria are met. Achieving this in practice is the fundamental challenge which requires changes to be made to how we manage risks.

National Farmers' Union

Vivergo closure - NFU comment

7 September 2018

NFU combinable crops board chairman Tom Bradshaw said:

Our sympathy is with Vivergo employees who face an uncertain future as a result of the planned closure of its plant.

This announcement is a significant blow for the UK grain industry. As the largest single intake for feed wheat in the county, it will particularly hit arable and livestock farmers in the North East where the plant is based.

Farmers have made long-term commitments to supply the biofuel industry and will be frustrated they are now left with a much reduced market for their product. Farmers supplying wheat into the Vivergo plant will have to find somewhere else to sell their product, and that's likely to be a greater distance from the farm resulting in increased transport costs and a lower price.

At a time when livestock farmers are suffering with feed shortages, this decision will also have serious knock-on effects for protein feed availability with farmers becoming more reliant on imported feed for their livestock. Protein feed is a highly sustainable co-product of bioethanol production, reducing the reliance on imported soya meal.

Unfortunately, the biofuel industry has suffered for a number of years following government procrastination on renewable fuel policy. The private sector has invested hundreds of millions of pounds on the premise of a supportive policy, only to be let down by government back-tracking.

E10 petrol needs to be embraced, particularly as it is a clear match for the green Brexit the government is trying to deliver. We continue to call on the government to fast-track the introduction of E10 to the UK fuel mix.

Background

Following an investment of £400 million into the Humber region and the wider UK economy, due to the continued difficult trading environment and further delays in the implementation of E10 in the UK over time, Vivergo Fuels Ltd plans to cease production at the end of September 2018.

Mark Chesworth, Managing Director, Vivergo Fuels Ltd, commented:

I am extremely disappointed at having to make this difficult choice to plan to cease production as of the 30 September 2018 at the Vivergo Fuels plant. We have created a highly skilled and world-class business that had the opportunity to be part of a British sustainable biofuels industry. But sadly, the Government's lack of pace over the past decade to introduce E10 has further undermined our ability to operate. My employees are my number one concern at this time and we have entered into consultation with them

Vivergo Fuels formed in 2007 as a biorefinery for the future. The business was started as a joint venture between AB Sugar, BP and Du Pont to help deliver a sustainable and significant portion of the UK's forecast Biofuel demand.

Vivergo Fuels plant is the UK's largest and Europe's second largest producer of bioethanol, a low-carbon renewable transport fuel which is blended with petrol. The bioethanol plant can produce up to 420 million litres of bioethanol and the bioethanol is made from 1.1 million tonnes of feed wheat, sourced from nearly 900 farms mostly across the East and North Yorkshire and Northern Lincolnshire regions. It is also the

country's largest single production site for animal feed, delivering 500,000 tonnes of high protein feed to over 800 farms across the UK.

Vivergo Fuels Ltd employs over 130 highly skilled people at its production plant in Hull and Head Office in Hessle. It also supports over 3,000 jobs directly and indirectly, contributing £600m to the UK economy

Renewable Energy Association

Introducing cleaner petrol should not be delayed

29 August, 2018

- REA publicises new analysis on the impact of the introduction of E10 petrol
- The introduction of E10 in the UK, a blend of petrol with higher renewable content, could result in immediate carbon savings

The Government is currently consulting on how greener petrol with twice the renewable ethanol content – known as E10 – might be introduced [1] and in doing so achieving emissions savings equivalent to taking 700,000 cars off the road. New analysis from the REA, the trade association which represents the renewable fuels industry, indicates that there are significantly fewer main household cars on the road that are unwarranted to use E10 than the Department for Transport (DfT) presently estimates.

95% of cars can run on E10 and for the few that may not be warranted to, Government is proposing measures to ensure that suitable fuel remains available for them. Most of these are classic cars, which do limited mileage.

There have been various estimates of the number of cars which are not warranted to run on E10, and assumptions on who their owners might be. The Government is seeking to reduce the impact of this policy on households that predominantly rely on an older vehicle that is unwarranted for E10 for their primary transport needs.

The REA's analysis [2] indicates that, excluding older classic or hobby vehicles, there are around 250,000 main household vehicles in the UK that are unwarranted for using E10. This is almost half the number suggested by the DfT and lower than the number estimated by the RAC Foundation. This is anticipated to reduce to around 125,000 vehicles by 2020 (or less than 1% of the vehicle parc) when assuming RAC Foundation vehicle scrappage rates. REA analysis also suggests that these cars tend to be owned in wealthier areas of the country, potentially as secondary or additional family member vehicles.

Commenting on the REA' analysis, Grant Pearson, Commercial Director at bioethanol manufacturer Ensus and Chair of the Renewable Energy Association's Renewable Transport Fuels Group said:

The introduction of E10 brings significant environmental benefits. E10 is the standard reference fuel for today's petrol cars, and is

widely available across Europe as well as the USA, Australia and many other parts of the world.

Following the problems with diesel we are again seeing a growth in petrol cars, as well as in petrol hybrids. It is essential the UK switches to E10 as soon as possible, to curb their CO2 emissions. For the small number owners of older vehicles that are not warrantied, suitable fuel will remain available.

1. E10 petrol, consumer protection and fuel pump labelling. Published 20 July 2018. Department for Transport. Details here: <https://www.gov.uk/government/consultations/e10-petrol-consumer-protection-and-fuel-pump-labelling>
2. New research from the REA suggests a much lower number of unwarranted vehicles would be impacted by the introduction of E10. REA. 28th August, 2018. http://www.r-e-a.net/upload/e10_compatibility_rea_analysis.pdf
3. Grant Pearson is the chair of the REA's Renewable Transport Fuel Group and is the commercial director of bioethanol manufacturer Ensus.
4. Only Department for Transport (DfT) has access to the full dataset which would allow a detailed analysis.

About the Renewable Energy Association (REA)

The Renewable Energy Association represents renewable energy producers and promotes the use of all forms of renewable energy in the UK across power, heat, transport and recycling. It is the largest renewable energy and clean technology (including energy storage and electric vehicles) trade association in the UK, with around 550 members, ranging from major multinationals to sole traders.

For more information, visit: www.r-e-a.net

Department for Transport

Government launches low carbon fuels consultation

20 July 2018

New, greener petrol could be on forecourts up and down the country as part of a government drive to reduce greenhouse gases.

The Department for Transport has launched a consultation today (20 July 2018) on whether and how it should introduce E10 fuel – which contains more bioethanol than traditional petrol – to the UK market.

This would help reduce carbon emissions from petrol vehicles, helping the UK meet its climate change targets.

Transport Minister Jesse Norman said:

This government is ambitiously seeking to reduce the UK's reliance on imported fossil fuels and cut carbon emissions from transport. But drivers of older vehicles should not be hit hard in the pocket as a result.

We have launched this consultation in order to understand the impact of E10 on the UK market better, and to ensure that drivers are protected if any changes come into effect.

The changes to the [Renewable Transport Fuels Obligation \(RTFO\)](#) announced earlier this year require transport fuel suppliers to increase the amount of renewable fuel supplied across the UK up to 2032.

To meet these new targets, fuel suppliers could choose to increase the percentage of bioethanol in petrol beyond the current 5% (E5) up to a limit of 10% (E10).

Filling up with E10 fuel reduces the greenhouse gas emissions of a petrol vehicle by around 2%. However, according to industry figures, there could be around one million cars within the UK that are unsuitable for use with E10.

The consultation also includes proposals on introducing new fuel labels at filling stations and on new vehicles to help motorists select the right the fuel.

The government consultation will seek views on:

- whether and how to introduce E10 petrol in the UK
- the reintroduction of an E5 protection grade to ensure standard petrol remains available at an affordable price
- the introduction of new fuel labelling at petrol pumps and on new cars

Decarbonising petrol is increasingly important as the government moves towards the zero emissions future set out in the [Road to Zero strategy](#) earlier this month.

The [8 week consultation](#) closes on Sunday 16 September 2018.

All-Party Parliamentary Group for British Bioethanol

Parliamentarians pen joint letter to government calling for E10 introduction

June 19, 2018

A cross-party group of influential MPs has written to Government Ministers demanding action on the introduction of a more environmentally friendly petrol which also supports British industry and farming.

The signatories, including former Government Ministers, Select Committee Chairs and Shadow spokespeople, call on key Government figures including Environment Secretary Michael Gove and Transport Secretary Chris Grayling to show leadership on tackling transport emissions by introducing E10 fuel by the end of the year.

[The letter](#) is headed up by Environment Select Committee Chair Neil Parish MP and All Party Parliamentary Group for British Bioethanol Chair Nic Dakin MP. It is supported by a range of other Parliamentarians including Shadow Transport Minister Karl Turner, SNP Transport Spokesman Alan Brown, former Transport Minister Robert Goodwill and former Deputy Prime Minister Lord Prescott.

E10 is regular unleaded petrol blended with 10% bioethanol – a low carbon renewable fuel which can lower carbon emissions and other pollutants. It is used in many countries throughout the world, accounting for 95% of petrol sales in USA and is the biggest selling petrol in many European countries such as France, Belgium and Finland. Currently the UK only has E5 (a 5% blend) and it has been estimated that doubling the level of bioethanol would be the emissions savings equivalent of removing 700,000 cars from the road.

So far the Government has shied away from pleas to mandate the introduction of E10 despite the petrol companies, which would need to implement it, calling for them to do so.

Bioethanol typically offers around 60% carbon savings compared to standard petrol, helping the country meet its climate change commitments, and can also reduce NOx, particulate matter and carcinogens which can cause poor air quality and impact on public health.

Bioethanol is fermented from feed wheat which is grown by British farmers and would not otherwise go into the food chain. A co-product of protein-rich animal feed is also produced for livestock farmers, displacing potentially less-sustainable imported soy products. Around 2,000 farms throughout the UK rely on this domestic market, which is worth around £150m premium to British agriculture.

The North East of England has two of Europe's largest bioethanol plants but the industry has been struggling due to Government delays on its environmental commitments. In November last year Hull-based Vivergo Fuels, which is also the country's largest brewery, closed for four months due to poor market conditions and a lack of legislative progress.

EFRA Select Committee Chair Neil Parish MP commented:

Several Parliamentary Committees have expressed frustration at the slow speed with which we are trying to tackle emissions from road transport whilst also reminding us of the need to keep carbon emissions reductions and air quality tightly bound together. Here we have a ready-and-waiting solution which is also of huge benefit to British farmers and it's about time we got on with implementing it.

Nic Dakin MP, Chair of the APPG for British Bioethanol added:

The bioethanol industry is a major employer in the North of England, contributing over £1bn to the economy and supporting around 6,000 jobs, providing STEM skills and apprenticeships, and working with local education providers. Major British companies chose to invest in this industry on the back of Government pledges which have not been seen through. We need to act on

this if we want to see further investment in the renewables industry going forward.

Tackling transport emissions immediately is vital for our environment and our public health, and E10 is one of the quickest, easiest and most cost-effective ways of doing this in the short-term. The Renewable Transport Fuel Obligation passed by Parliament in April allows the introduction of E10, and it's vital that the Government shows leadership and mandates its introduction as soon as possible.

[View a copy of the letter here.](#)

For more information about the APPG for British Bioethanol please visit www.britishbioethanol.com or email info@britishbioethanol.com

Letter sent to: Jesse Norman MP, Transport Minister; Rt Hon Chris Grayling MP, Transport Secretary; Rt Hon Michael Gove MP, Environment Secretary; Therese Coffey MP, Air Quality Minister

Letter signed by the following Parliamentarians:

Neil Parish MP

Nic Dakin MP

Robert Goodwill MP

Karl Turner MP

Martin Vickers MP

Emma Hardy MP

Paul Williams MP

Simon Clarke MP

Anna Turley MP

Andrew Percy MP

Alan Brown MP

Alex Cunningham MP

Diana Johnson MP

Lord Prescott

Lord Haskins

6. Parliamentary material

Debate

Renewable Transport Fuels and Greenhouse Gas Emissions Regulations 2018: Lords motion to approve

HL Deb 06 March 2018 | Volume 789 c1032-

<https://hansard.parliament.uk/Lords/2018-03-06/debates/595176A4-0C36-441B-99CE-AFC99BCDBC46/RenewableTransportFuelsAndGreenhouseGasEmissionsRegulations2018>

PQs

[Biofuels](#)

Asked by: Dakin, Nic

To ask the Secretary of State for Transport, if he will meet with the hon. Member for Scunthorpe and representatives of the British bioethanol industry.

To ask the Secretary of State for Transport, what recent representations he has received from the British bioethanol industry on the sustainability of that sector; and if he will make a statement.

To ask the Secretary of State for Transport, what assessment his Department has made of the halting of production by Vivergo and other British bioethanol manufacturers on the sustainability of the British bioethanol industry.

To ask the Secretary of State for Transport, what the timetable is for the publication of the Government's response to the consultation on E10 petrol, consumer protection and fuel pump labelling.

Answering member: Jesse Norman | Department: Department for Transport

It is the Department's hope to publish a formal response to the consultation paper, "E10 petrol, consumer protection and fuel pump labelling", in the New Year. The Department has received a number of representations on behalf of the British bioethanol industry since the consultation closed in September. I spoke to the Managing Director of Vivergo Fuels shortly after the company announced cessation of production at their plant in Hull, and am happy to meet with the hon. Member for Scunthorpe and representatives of the British bioethanol industry.

The Government recognises that the domestic bioethanol industry has faced difficult trading conditions in recent months due to increased wheat prices and low bioethanol prices. In increasing targets under the Renewable Transport Fuel Obligation (RTFO) in April, the Government

made clear that moving to E10 fuel could make achieving the UK's renewable energy targets easier and provide wider economic benefits. It is the Government's hope that both of the UK bioethanol plants that announced suspensions in production recently will be able to restart production in the future

HC Deb 06 December 2018 | PQ 198210; PQ 198207; PQ 198206; PQ 198205

[Biofuels](#)

Asked by: Spellar, John

To ask the Secretary of State for Transport, what proportion of bioethanol fuel comes from sources in (a) the UK, (b) the EU and (c) the rest of the world.

Answering member: Jesse Norman | Department: Department for Transport

The Department publishes regular statistics covering the volume of biofuel reported under the Renewable Transport Fuel Obligation. This data includes feedstock and country of origin at:

<https://www.gov.uk/government/collections/biofuels-statistics>

The latest full year's verified data is in report 6 from obligation year 9 (2016/17). It shows that 1,541 million litres of renewable fuel was supplied, of which 49 per cent was bioethanol. This is a total of 758 million litres of bioethanol. Of this total amount, 218 million litres (29 per cent) is produced from UK feedstocks, 429 million litres, (57 per cent) is produced from feedstocks sourced from elsewhere in the EU, and 111 million litres (15 per cent) is produced from feedstocks sourced from the rest of the world.

HC Deb 14 September 2018 | PQ 172422

[Topical Questions](#)

Asked by: Nic Dakin

Given that the introduction of E10 fuel would improve air quality and reduce carbon emissions, why do we not introduce it? When are the Government going to do this?

Answering member: Jesse Norman | Department: Transport

The hon. Gentleman will be aware that this is the subject of a consultation that has only just closed. We will need to review that, but we are looking closely at the issue and we have been making tremendous progress on it. He will also be aware that some of the business concerns that have been expressed had much more to do with the low bioethanol price and higher wheat prices than with the Government's position.

HC Deb 11 October 2018 | Vol 647 c284

[Transport Fuels: Renewable Sources](#)**Asked by: Dr Williams**

Progress on the RTFO is positive. Are the Government ready to introduce E10 petrol, which is already available in France, Germany and Finland? That would also help the UK's bioethanol industry, which is an important employer in Teesside.

Answered by: Jesse Norman | Department: Transport

I am aware that the industry is an important employer, and it has been a matter of concern to Ministers to ensure that it continues to succeed. I met representatives from Ensus in the hon. Gentleman's constituency in November, and we have been having close conversations with them and others. E10 remains a commercial matter for the fuel suppliers. The RTFO encourages suppliers to use the most cost-effective solution. Our analysis suggests that E10 may not be required to meet the targets, but it may nevertheless be an attractive option for suppliers.

HC Deb 18 January 2018 | Vol 634 c1044

[Transport: Biofuels](#)**Asked by: Lord Truscott**

To ask Her Majesty's Government whether they intend to increase biofuel use for transport in the UK by raising the blend level of biofuels in fuel, and introducing the use of E10 fuel, a mix of petrol with ten per cent bioethanol.

Answering member: Baroness Sugg | Department: Department for Transport

Subject to Parliamentary approval, we plan to amend the Renewable Transport Fuel Obligation to increase targets for the supply of renewable fuels from April 2018. We have established a working group with industry to consider the possible introduction of E10 fuel.

HL Deb 21 December 2017 | PQ HL4019

[Renewable Transport Fuel Obligation](#)**Asked by: Baroness Randerson**

To ask Her Majesty's Government what assessment they have made of the impact of delays to legislation on the Renewable Transport Fuel Obligation on companies producing bioethanol.

Answering member: Baroness Sugg | Department: Department for Transport

Subject to Parliamentary approval, we plan to amend the Renewable Transport Fuel Obligation to increase targets for the supply of renewable fuels from April 2018.

In September we published “The Renewable Transport Fuel Obligations Order, Government response to the consultation on amendments”. Annex A of that Government Response includes analysis of the costs and benefits of the proposals, including the impacts on the competitiveness of UK industry through an estimate of the gross value added to the UK economy by the biofuels industry under the proposed amendments. That analysis is based on an increase in targets set from 2018 to 2032.

HL Deb 21 December 2017 | PQ HL4010

7. Useful links and further reading

Department for Transport consultation *E10 petrol, consumer protection and fuel pump labelling*

<https://www.gov.uk/government/consultations/e10-petrol-consumer-protection-and-fuel-pump-labelling>

Renewable Energy Association *New research from the REA suggests a much lower number of unwarranted vehicles would be impacted by the introduction of E10* 28 August 2018

http://www.r-e-a.net/upload/e10_compatibility_rea_analysis.pdf

All-Party Parliamentary Group for British Bioethanol

<https://www.britishbioethanol.com/>

Study on vehicle age & implications of E10 July 2018

<https://www.britishbioethanol.com/single-post/unwarrantedcaution>

RAC *The impact of E10* July 2018

https://www.racfoundation.org/wp-content/uploads/The_impact_of_E10_final_Wengraf_July_2018.pdf

Carbon Brief In-depth: *The challenge of using biofuels to cut transport emissions* 19 July 2017

<https://www.carbonbrief.org/in-depth-the-challenge-of-using-biofuels-to-cut-transport-emissions>

BEIS National Atmospheric Emissions Inventory *Carbon factors of biofuels* May 2018

https://uk-air.defra.gov.uk/assets/documents/reports/cat05/Carbon_factors_for_biofuels_final.pdf

Royal Academy of Engineering *Sustainability of liquid biofuels* July 2017

<https://www.raeng.org.uk/publications/reports/biofuels>

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