



Department
for Transport

The Motor Fuel Greenhouse Gas Emissions Reporting Regulations Proposed amendments

Moving Britain Ahead

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Contents

Foreword: Rt Hon John Hayes CBE MP	6
Executive summary	9
Introduction and summary of proposals	12
Carbon challenge	12
Potential for reducing greenhouse gas emissions from fossil fuels	13
Industrial opportunity	14
Fulfilling legislative requirements	15
The Motor Fuel (Road Vehicle and Mobile Machinery) Greenhouse Gas Emissions Reporting Regulations	16
Relationship with the Renewable Transport Fuel Obligations Order	16
Transport Energy Taskforce	17
A low carbon fuels strategy	17
Consultation on proposed amendments to the Motor Fuel Greenhouse Gas Emissions Reporting Regulations	18
Parallel consultation on proposed amendments to the Renewable Transport Fuel Obligations Order	20
Implications of the EU referendum result	21
Geographical coverage	21
Who should read this consultation?	21
How to respond	22
Freedom of Information	22
What will happen next?	24
Full list of consultation questions	25
Glossary	29
1. Delivering greenhouse gas savings in transport	33
Overview	33
Greenhouse gas savings targets	34
How do suppliers demonstrate they have met the greenhouse gas reduction target?	36
2. Delivering greenhouse gas savings through upstream emission reductions	42
The potential for upstream emission reductions in decarbonising transport	42

Our approach for this consultation	44
What is required for an upstream emission reduction project?	44
The role of upstream emission reductions: from origin to redemption against a fuel supplier's obligation	47
Standards and methods to verify emissions savings from upstream emission reductions projects	49
Upstream emission reductions administration	57
3. Supporting electric vehicles	58
The potential for electricity used in electric vehicles to contribute towards suppliers' greenhouse gas targets	58
Supporting further electrification of the vehicle fleet	58
How the greenhouse gas savings delivered by electricity used in electric vehicles are determined	59
Determining which electricity suppliers are eligible to claim greenhouse gas credits	60
Determining how much electricity supplied by a particular supplier has been used in electric vehicles	60
Obtaining data on electricity used in electric vehicles	61
Reporting data	64
4. Setting the buy-out level to incentivise greenhouse gas savings whilst minimising costs	66
5. Civil penalties and revocation of greenhouse gas credits	70
Civil penalties	70
Revocation mechanism	72
6. Eligibility of fuels	74
Overview	74
Aviation fuels	74
Aligning the treatment of biodiesel made from hydrotreated vegetable oil with fatty-acid-methyl-ester	75
Inclusion of non-biological renewables, including hydrogen	76
Preventing double reward for the same energy	78
7. Supplier reporting requirements	79
Overview	79
Reporting origin and place of purchase data	79
Greenhouse gas obligation reporting deadlines	83
Reporting indirect land-use change emissions from biofuels	86
8. Reviewing the Greenhouse Gas Reporting Regulations	88
Greenhouse Gas Reporting Regulations review clause	88
Annex A: Cost benefit analysis	91

Foreword: Rt Hon John Hayes CBE MP



Climate change is an issue of global importance. Efforts to implement the Paris Agreement¹ to tackle this century-defining challenge will require both global co-operation and domestic action to reduce emissions. To that end, the UK has committed to considerable greenhouse gas emission reductions – 80% by 2050 – which will require transformative changes across all areas of the economy.

Transport, which accounts for around a quarter of our domestic greenhouse gas emissions, will be a key part of that transformation. Indeed, achieving our 2050 target will require us to make the transition to near zero-emissions in transport, and it is the Government's ambition that by 2040 every new car and van bought in the UK will be zero emission.

As we transition to electric cars, we will continue to need low carbon liquid and gaseous fuels for decades to come, particularly to decarbonise transport sectors that are not as easy to electrify, such as planes and lorries.

¹ An agreement within the United Nations Framework Convention on Climate Change. It seeks to limit global temperature rises to less than 2 degrees Celsius. It seeks to mitigate greenhouse gas emissions, improve climate change adaptation, and finance initiatives to achieve these goals.

New challenges bring new opportunities. Today, the UK is a net importer of fossil diesel. We have already reduced our reliance on these imports by producing over a quarter of a billion pounds worth of low carbon biodiesel in the UK each year.² In carbon terms, biofuels delivered under our Renewable Transport Fuel Obligations are equivalent to taking over a million cars off UK roads each year.

Looking ahead it is clear that low carbon fuels have further potential to deliver economic benefits and carbon reductions. This is because industry, with Government support, is developing fuels made from wastes and residues. These ‘advanced’ biofuels could offer significant carbon savings without the sustainability concerns of first generation biofuels derived from land-using feedstocks. And crucially, thanks to the use of high-tech, novel processing technologies, these fuels are also up to the task of fuelling aviation and freight while lowering carbon emissions. Advanced biofuels also offer an economic opportunity with real potential for the development of a domestic industry contributing to economic growth and highly-skilled jobs in a global market worth up to £15 billion by 2030.³

Our strategy is therefore to provide a positive investment environment beyond 2020 to further encourage the development of waste-based and advanced fuels, while limiting the use of fuels made from crops. This should provide a firm platform for the development of sustainable advanced fuels, whilst ensuring costs are tightly controlled in line with developments in the market. The proposals in this consultation put these principles into practice and aim to identify, and ultimately implement, the most effective approach to deploying renewable fuels and meeting both our 2020 renewable energy and greenhouse gas emission savings targets and help to make sure transport is able to meet its share of the Carbon Budget reductions required by 2050. The proposals outlined in the coming pages have been informed by the work of the Transport

² This is a total gross value estimate based on anticipated biodiesel production for 2016-7, sourced from UK biodiesel producers, and recent biodiesel prices, sourced from Bloomberg New Energy Finance.

³ Medium scenario estimation of global advanced biofuel industry turnover over in 2030, based on estimated deployment figures and technology costs, [E4Tech/Ricardo-AEA Advanced Biofuel Demonstration Competition Feasibility Study](#)

Energy Taskforce, whose open approach to policy-making created a framework of shared evidence and transparent scenarios.

Executive summary

- 1 The transport sector contributes significantly to greenhouse gas emissions – in the UK just under a quarter of all greenhouse gas emissions (23%) come from the transport sector.
- 2 The UK has committed to 80% greenhouse gas emission reductions by 2050. This represents a significant challenge and will require real progress to be made across all areas of the economy, including transport.
- 3 Progress towards the 2050 target is measured through a series of five year Carbon Budgets. Taking into account advice from the independent Committee on Climate Change, the Government develops policies aimed at meeting the Carbon Budgets and the 2050 target, as cost effectively as possible.
- 4 Ambitious action will be required across all sectors of the economy to achieve the 2050 target. In transport, measures that will keep us on a cost-effective pathway to meeting the 2050 target include improvements in the efficiency of vehicles as a result of tighter CO₂ limits, promotion of sustainable travel such as walking and cycling and supporting the development of ultra-low emission technologies.
- 5 This has led to real improvements to the way we live, from health benefits from more cycling to cost benefits to motorists from more efficient cars. Since 2009 the fuel efficiency of the average car has increased by 8%, equivalent to saving around 9 pence per litre in fuel costs for the average motorist.
- 6 The EU Fuel Quality Directive also requires suppliers of fuels for use in road transport and non-road mobile machinery to achieve at least a 6% reduction in life cycle greenhouse gas emissions from the transport fuel they supply by 2020, relative to the EU average life cycle greenhouse gas emissions from fossil fuels in 2010.
- 7 The decision to leave the EU inevitably raises questions around policy areas such as this one that are aligned to EU requirements. The proposals outlined here to reduce the GHG emissions of transport fuels have been designed to meet the needs of our country. Nevertheless, after we leave the EU we will look afresh at how to develop our policy further, not least to maximise the huge domestic industrial opportunity.
- 8 Reducing the life cycle emissions of transport fuels can be achieved in a number of ways, such as through substituting renewable fuels and renewable electricity for fossil fuels, and investing in projects aimed at reducing upstream emissions associated with the oil extraction processes. We expect that, collectively, suppliers will meet the majority of the 6% reduction in greenhouse gas emissions through the supply of renewable fuel.
- 9 But these savings need to be credible. To be credible means taking account of the fact that some crop based biofuels can increase greenhouse gas emissions. It also means ensuring accurate reporting of the greenhouse gas emissions of the fossil fuels. After lengthy negotiation, directives implementing Article 7a of the FQD (Directive 2015/652) and addressing indirect land-use change (ILUC) (Directive 2015/1513) provide to some degree a framework for reporting by suppliers of the

greenhouse gas intensity of fossil fuels and measures to address ILUC.

- 10 In a parallel consultation we are setting out a long term strategy to ensure there is a stable, sustainable policy environment to support investment in renewable transport fuel production and supply. This consultation, concerning amendments to the Renewable Transport Fuel Obligations Order, includes proposals to set targets for advanced fuels, to reward renewable fuels used in aviation, and to provide certainty for industry through support for renewable transport fuels to 2030. It also proposes a cap on the contribution biofuels from food crops may make towards our renewable energy and greenhouse gas emissions reduction targets.⁴ These proposals will implement measures to support UK emissions reductions required to meet the UK Climate Change Act.
- 11 This consultation proposes amendments to the UK Motor Fuel (Road Vehicle and Mobile Machinery) Greenhouse Gas Emissions Reporting Regulations 2012 (the GHG Reporting Regulations). We are proposing three key sets of changes to the GHG Reporting Regulations which are necessary to meet both the 6% greenhouse gas reduction target on suppliers, and new reporting requirements on the greenhouse gas intensity of fossil fuels agreed last year. These are:
 - **A 6% greenhouse gas emissions reduction obligation** on suppliers, to be met through acquiring GHG credits under a certificate trading scheme similar to the RTFO.
 - **Rewards for greenhouse gas emissions savings in the form of GHG credits.** This will include savings from upstream emission reductions projects, and for switching to fuels with lower greenhouse gas emissions.
 - **Improvements in the transparency of the UK oil supply chain and the greenhouse gas intensity of fuel imported into the UK.** This will be achieved by suppliers reporting, where this information is available to them, on the source of the crude used to make their fuels and on the country and name of the processing facility where the fuel was refined. Simplified reporting requirements for small and medium-sized enterprises (SMEs) will be also introduced.
- 12 This consultation examines six different policy options to introduce a greenhouse gas emissions reduction obligation to support UK fuel suppliers in meeting their 6% GHG reduction targeting 2020. The options differ based on the level of buy-out price, estimated between a minimum of £7/tCO₂ and a maximum of £146/tCO₂ - where 'tCO₂' means 'tonnes of carbon dioxide' - and whether a greenhouse gas obligation is set only in 2020 or over three years to 2020. Setting an obligation of three years would mean there would be a gradual incremental greenhouse obligation, or target, for 2018, 2019 and 2020.
- 13 The Government's preferred option sets a mid-range buy-out price (£74/tCO₂) over a three year implementation which is intended to help industry prepare and encourage investment in lower carbon fuels.

Summary of proposals

- 14 The full list of proposals necessary to ensure GHG reductions and that the UK meets its requirements under Article 7a of the FQD, as amended, are set out below:

⁴ Consultation on the Renewable Transport Fuel Obligations - Proposed Amendments.

- Delivering GHG savings in transport and non-road mobile machinery (NRMM) by introducing a greenhouse gas emissions reduction obligation on fuel suppliers.
- Setting gradually increasing GHG emissions reduction targets of 2% for 2018 and 4% on 2019, in order to deliver GHG savings of 6% by 2020.
- Providing flexibility to suppliers in meeting their GHG obligation through a system of tradeable GHG credits.
- Supporting investments in reducing upstream emissions from crude extraction by awarding GHG credits.
- Criteria specifying which UER projects would be eligible for GHG credits and how such projects should be verified.
- A proposal to credit greenhouse gas savings from the use of electricity in electric vehicles.
- Protection for consumers and end users of fuel from increased costs through a buy-out mechanism for the GHG obligation. The proposed buy-out price is £74/tCO₂ which caps the additional cost of meeting the 6% GHG target.
- Ensuring compliance of suppliers with the new requirements through dissuasive measures including modifications to existing civil penalty powers and a system for revoking GHG credits which should not have been issued, similar to that in the RTFO scheme.
- Encouraging renewable fuels used in aviation and renewable fuels from non-biological origin, including hydrogen, by making them eligible for the award of GHG credits.
- Improving transparency of the fossil fuel supply chain and providing better information on the GHG emissions of UK fuels by collecting information, where available, on 'origin' information (where 'origin' refers to the feedstock trade name of the crude oil) and the place of purchase of fossil fuels.
- Improved alignment with the RTFO through changes to the annual reporting cycle in the GHG Reporting Regulations to align with calendar year reporting being proposed for the RTFO.

Introduction and summary of proposals

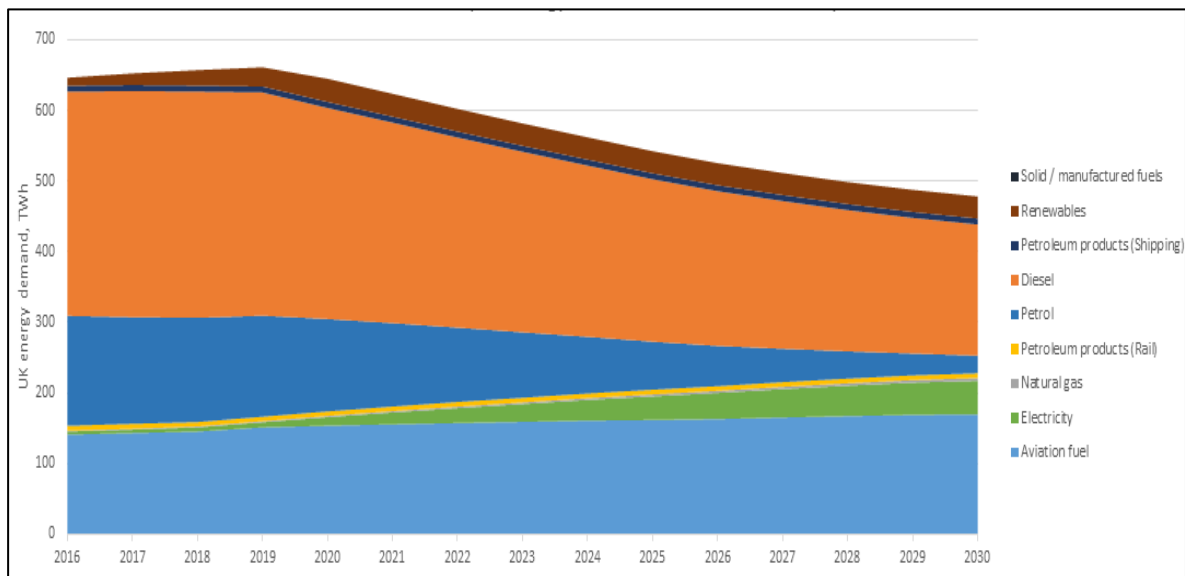
Carbon challenge

- 15 The Government has set the fifth Carbon Budget which limits GHG emissions to 57% of 1990 levels over 2028-2032 (as an average annual level). The Government is now preparing the Emission Reduction Plan which will set out our approach to delivering these reductions.
- 16 Domestic transport is now the largest emitting sector, accounting for nearly a quarter of UK greenhouse gas emissions. Transport emissions increased in both 2014 and 2015. As demand for travel continues to grow, we need to decarbonise transport more rapidly to meet our future Carbon Budgets.

Role of low carbon liquid fuels

- 17 Increasing vehicle efficiency, including the promotion of ultra-low emission vehicles, is a key plank of Government strategy to reduce carbon emissions. Our aim is for every new car and van to be zero emission by 2040. This will be an exciting, truly transformative change in the way we experience the motor car, but will require a major growth in sales over the next two decades. In the meanwhile, liquid fuels will continue to be required, and even in the longer term, areas such as aviation and heavy goods may continue to be reliant on liquid fuels.
- 18 Figure 1 illustrates the extent of our reliance on liquid fuels for transport. It shows the amount of fuels still needed even if we were able to achieve the aim of all new cars and vans to be zero emission in 2020 rather than 2040. With Government support sales are increasing and we expect ultra-low emission vehicles to be 5% of new car sales by 2020.
- 19 It is clear, therefore, that low carbon liquid fuels are likely to be required to support the decarbonisation of transport alongside a wide range of other measures, including electrification and the promotion of sustainable travel such as cycling and public transport.
- 20 With demand for energy remaining high over the long term, reducing the life cycle emissions of both fossil and renewable fuels is essential. Achieving this requires, in part, accurate reporting of their greenhouse gas emissions. The EU Fuel Quality Directive sets out the reporting requirements and also requires suppliers of fuels for use in road transport and non-road mobile machinery to achieve at least a 6% reduction in life cycle greenhouse gas emissions from the transport fuel they supply by 2020, relative to the EU average life cycle greenhouse gas emissions from fossil fuels in 2010.

Figure 1: Illustrative scenario of transport energy demand



NB – This chart is for illustrative purposes only, and should not be considered a firm projection. It is very unlikely that 100% of new cars will be electric by 2020. Furthermore, it is a largely crude assessment uncalibrated to overall mileage.

- 21 Reducing the life cycle emissions of transport fuels can be achieved in a number of ways, such as through substituting renewable fuels and renewable electricity for fossil fuels, and investing in projects aimed at reducing upstream emissions associated with the oil extraction processes. We expect collectively suppliers will meet the majority of the 6% reduction in greenhouse gas emissions through the supply of renewable fuel.

Potential for reducing greenhouse gas emissions from fossil fuels

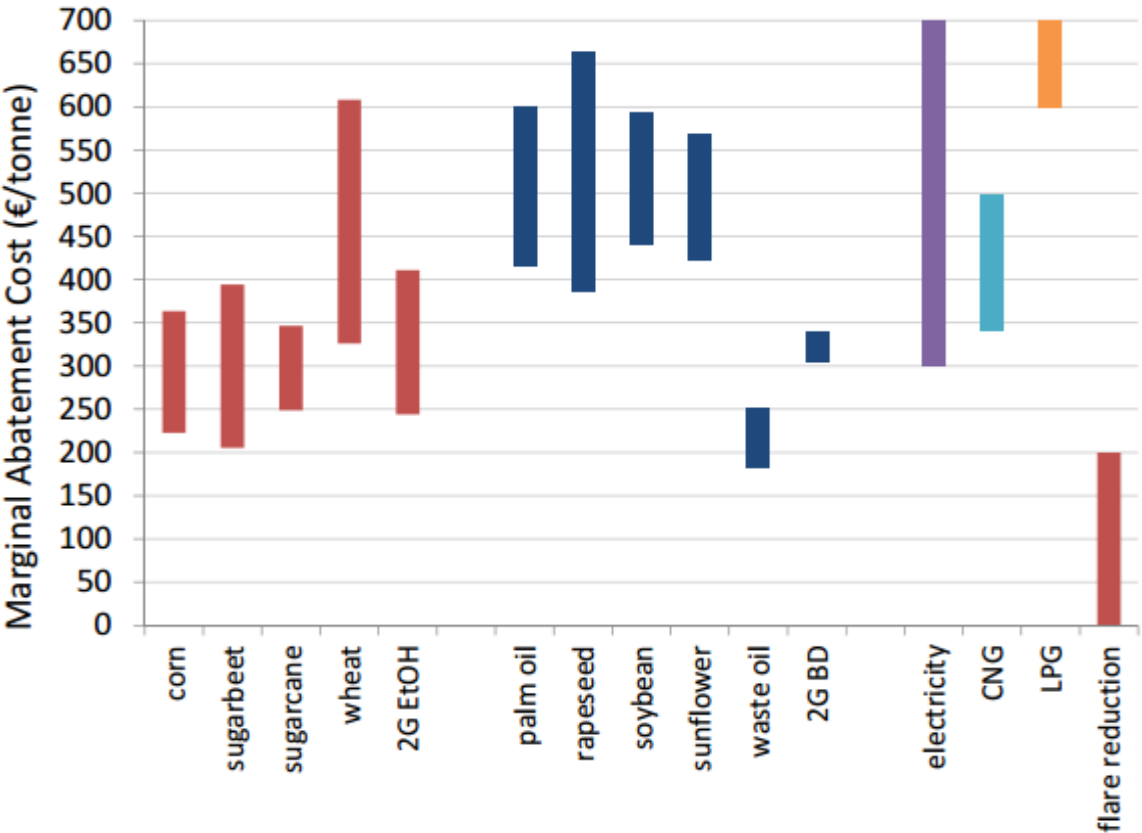
- 22 In addition to the emissions savings provided by renewable fuels, there is potential for fossil fuels to contribute significant reductions. One of the ways they can do this is to reduce the emissions generated upstream of the refinery or processing plant where the final products, such as petrol and diesel, are produced. Most (but not all) upstream emissions arise from the flaring and venting of associated petroleum gases (APG), which are generated during oil extraction.
- 23 The flaring and venting of APG is estimated to result in GHG emissions of around 400 MtCO_{2e} per year - where 'MtCO_{2e}' means 'mega tons of carbon dioxide equivalent'. This is the same as the annual emissions from 125 medium sized coal plants in the USA, or the total emissions of France or Italy.⁵ By contrast, as set out in the cost benefit analysis, suppliers in the UK are likely to need to save around 2.5 MtCO_{2e} in 2020 beyond that delivered by biofuels. The cheapest option is likely to be through delivering UERs (see figure 2) and the scale of what is needed is only a small fraction of the total global UER potential. UERs therefore offer significant

⁵ 'The Reduction of Upstream Greenhouse Gas Emissions from Flaring and Venting Report', International Council on Clean Transportation to the European Commission Directorate-General for Climate Action (2014) p. xix

emissions abatement potential.

- 24 Suppliers have the flexibility to make the required GHG savings in a number of ways. However, reducing upstream emissions is likely to be the most cost-effective way of meeting the target. Research suggests that the marginal cost of reducing these emissions ranges from €0-200 per tonne of carbon, lower than other potential sources, which also either deliver relatively low volumes of emissions savings, such as electricity, or are already making a significant contribution, such as biofuels. Moreover, increasing the supply of biofuels beyond the proposed level risks increasing crop biofuel use which could lead to increased emissions due to indirect land-use change. This is addressed in the parallel consultation on proposals to amend the Renewable Transport Fuel Obligations.

Figure 2: Marginal abatement costs and potential⁶



Industrial opportunity

- 25 A long-term, joined-up strategy is required to ensure that the UK captures the significant industrial opportunity presented by the world-wide shift to low-carbon transportation. A stable, sustainable policy environment is an essential enabler of investment in renewable, low carbon fuel production infrastructure, and will be crucial if we are to position ourselves at the forefront of a lucrative global industry.
- 26 The domestic market for low carbon fuels has been created by the Renewable Transport Fuel Obligations. Since the Obligation was created in 2008, the UK has

⁶ Commission Staff Working Document Impact Assessment on the calculation methods and reporting requirements pursuant to Article 7a of Directive 98/70/EC of the European Parliament and of the Council relating to the quality of petrol and diesel fuels, available at http://ec.europa.eu/clima/policies/transport/fuel/docs/swd_2014_296_en.pdf

benefitted from over £1 billion of private investment in biodiesel and bioethanol facilities.

- 27 Increases in the overall target set under the RTFO, as well as a specific sub-target for fuels of most strategic importance, will create long-term certainty for industry, helping stimulate further investment in advanced production technologies, and encouraging the utilisation of existing capacity. The increase in overall supply is reinforced by the creation of a greenhouse gas savings target to reward the supply of those fuels delivering the greatest greenhouse gas savings.
- 28 The industrial benefits of a domestic industry are already being felt. For instance, we are now producing over a quarter of a billion pounds worth of low-carbon, primarily waste-derived, biodiesel in the UK each year, reducing our reliance on imported fuel and creating jobs. In addition, the increased demand for waste feedstocks created by the RTFO has led to business and employment opportunities, such as in the collection of used cooking oil from restaurants.
- 29 This demand has also brought forward new sources of wastes and new technologies to help convert more challenging materials, such as the 'fat-bergs' which are clogging up our sewer and waste water treatment network, into valuable transport fuel. Indeed, the new £75 million Argent facility at Stanlow will be capable of converting these 'fat-bergs' into biodiesel.
- 30 Other benefits include reducing reliance on imports of animal feed, particular soy-meal: the majority of the estimated 333 million litres of bioethanol produced in the UK⁷ uses animal feed-wheat and produces an important animal protein feed.
- 31 Looking ahead, the global imperative to radically reduce the carbon impacts of transport, particularly air travel, presents a window of opportunity for the UK. With our world-class research and engineering capacity we are well-positioned to claim a significant portion of a global advanced fuels market that could be worth up to £15 billion in 2030.
- 32 Exploiting our competitive advantage to establish a successful, world-leading domestic industry would boost growth, create highly skilled jobs, and see UK technology and intellectual property exported around the world.

Fulfilling legislative requirements

- 33 The UK has committed to meet a number of targets regarding reductions in the emissions of greenhouse gases and the increased use of renewable energy sources. These include:
 - The UK Climate Change Act 2008 which requires an 80% saving in GHG emissions (compared to the 1990 baseline) by 2050.
 - The Renewable Energy Directive 2009/28/EC as amended (RED), which requires 15% of total energy to be derived from renewable sources by 2020, and includes a sub-target to achieve 10% of renewable energy in transport.⁸ The transport aspects of the RED are implemented in the UK through the Renewable Transport Fuel Obligations Order 2007, as amended, (RTFO).
 - Article 7a of the Fuel Quality Directive 98/70/EC, as amended (FQD), which requires a 6% saving in greenhouse gas emissions from transport fuel in 2020.

⁷ [Digest of UK Energy Statistics 2016 \(DUKES\)](#) p167.

⁸ Includes multiple counting for energy from electricity and waste based biofuels.

- Directive 2015/652, known as the FQD 7a implementing measure, sets the calculation methodology for meeting the FQD's 6% GHG reduction target and reporting requirements regarding fuel supply.
- The recently published Directive 2015/1513 (referred to in this consultation as the ILUC Directive) amended both the RED and the FQD and is intended to begin the transition from food crop based fuels towards advanced biofuels produced from wastes and residues. It is due to be transposed into UK legislation by September 2017.

34 In order to implement Directive 2015/652 and the ILUC Directive we are proposing to amend the Motor Fuel (Road Vehicle and Mobile Machinery) Greenhouse Gas Emissions Reporting Regulations 2012 (the GHG Reporting Regulations). **This consultation encompasses the proposed amendments to the GHG Reporting Regulations.**

A separate consultation, which is running in parallel to this one, covers proposed amendments to the RTFO arising from the ILUC Directive and the need to set targets to meet the requirements of UK Carbon Budgets and the RED.

The Motor Fuel (Road Vehicle and Mobile Machinery) Greenhouse Gas Emissions Reporting Regulations

- 35 The GHG Reporting Regulations came into force in January 2013 and apply to parties supplying over 450,000 litres of liquid or kilograms of gaseous fuel used for road transport and non-road mobile machinery.
- 36 They were introduced as a means to enable both the Government and fuel suppliers to monitor progress towards reducing the life cycle greenhouse gas intensity of fuels for use in road transport and non-road mobile machinery, as mandated by the FQD.
- 37 To this end, the GHG Reporting Regulations currently require fuel suppliers to report the amount and type of fuel they supply and its greenhouse gas intensity.

Relationship with the Renewable Transport Fuel Obligations Order

- 38 The RTFO scheme started on 15 April 2008, as a means to support the supply of sustainable biofuels in the UK, and to meet our EU obligations to increase the use of renewable energy in transport. It is the mechanism through which the transport elements of the RED have been implemented in the UK.
- 39 The FQD and the RED contain the same mandatory sustainability criteria for biofuels, including the requirements for independent verification. These have been implemented in the RTFO.
- 40 The Administrator of both schemes is the Secretary of State for Transport and the functions of the Administrator are exercised through the RTFO Unit in the Department for Transport.
- 41 For suppliers obligated under the RTFO the majority of information required under the GHG Reporting Regulations is the same as that reported under the RTFO, and, in general, suppliers can use the information reported under the RTFO to meet the requirements of the GHG Reporting Regulations. The information common to both schemes includes the amount of fuel, the fuel type, the greenhouse gas intensity of

the renewable fuel, whether the renewable fuels meet the sustainability criteria, and the additional sustainability information in respect of each type of biofuel. The RTFO and GHG Reporting schemes apply to the same suppliers with the exception of fossil gas suppliers who are not covered by the RTFO.

The fact that the RTFO and GHG Reporting schemes are designed to operate in parallel, and are jointly administered, means that the burden on suppliers in terms of reporting and verifying information is minimised.

Transport Energy Taskforce

- 42 In developing the proposals outlined in this consultation, the Department has engaged extensively with a broad range of stakeholders using an open and inclusive approach to policy development. In 2014 the [Transport Energy Taskforce](#) was formed by the Department and the Low Carbon Vehicle Partnership. It comprised representatives from fuel suppliers, vehicle manufacturers, motoring organisations, non-governmental organisations, farming and independent experts.
- 43 The Taskforce considered a range of policy objectives including ensuring the sustainability of renewable fuels, the importance of long term certainty for industry and the needs of consumers. We agree with its assessment that fossil fuels will remain dominant in transport energy to 2030 and beyond. We also agree that sustainable biofuel is crucial to meeting our carbon reduction commitments. The Taskforce report was published in March 2015 and can be downloaded [here](#).

A low carbon fuels strategy

- 44 A long term, joined up strategy is required to provide a stable, sustainable policy environment to support investment in renewable low carbon fuel production and supply. This will ensure that the UK benefits from the industrial opportunities available from the decarbonisation of transport and fulfils our climate change commitments.
- 45 The Motor Fuel Greenhouse Gas Emissions Reporting Regulations complements the Renewable Transport Fuel Obligations Order, which is the UK's primary mechanism for increasing the supply and sustainability of renewable transport fuels.
- 46 While increasing the volume of renewable fuels used in the UK is essential, we must also ensure that UK policy promotes those renewable fuels that offer genuine greenhouse gas emissions savings. This goal will be supported by the creation of a mechanism to reward those who supply transport fuels with lower greenhouse gas intensities.
- 47 This mechanism will provide a cost effective tool to enable us to realise savings in GHG emissions from:
- the extraction of crude oil, which will remain the dominant source of transport fuel to 2030 and beyond;
 - the supply of renewable electricity to electric vehicles, to support the Government's goal that all new cars and vans are electric from 2040;
 - suppliers sourcing better GHG performing biofuels including wastes and/or investing in efforts to improve GHG savings such as efficient processing technologies will receive the most reward; and

- the development of advanced renewable fuels including those used for aviation, which cannot easily be electrified.

Consultation on proposed amendments to the Motor Fuel Greenhouse Gas Emissions Reporting Regulations

- 48 As mentioned above, this consultation proposes amendments to the UK Motor Fuel (Road Vehicle and Mobile Machinery) Greenhouse Gas Emissions Reporting Regulations 2012 (the GHG Reporting Regulations). We are proposing three key sets of changes to the GHG Reporting Regulations which are necessary to meet both the 6% greenhouse gas reduction target on suppliers in Article 7a of the amended FQD, and the new reporting requirements on the greenhouse gas intensity of fossil fuels agreed last year. These are:
- **A 6% greenhouse gas emissions reduction obligation** on suppliers, to be met through acquiring GHG credits under a certificate trading scheme similar to the RTFO, with a buy-out mechanism to act as a cap on pump price impact;
 - **Rewards for greenhouse gas emissions savings in the form of GHG credits.** This will include savings from upstream emission reductions projects, and for switching to fuels with lower greenhouse gas emissions;
 - **Improvements in the transparency of the UK oil supply chain and the greenhouse gas intensity of fuel imported into the UK.** This will be achieved by suppliers reporting, where this information is available to them, on the source of the crude used to make their fuels and on the country and name of the processing facility where the fuel was refined. Simplified reporting requirements for small and medium-sized enterprises (SMEs) will also be introduced.
- 49 This consultation examines six different policy options to introduce a greenhouse gas emissions reduction obligation to support UK fuel suppliers in meeting their 6% GHG reduction target in 2020. As illustrated in table 1 below the options differ based on the level of buy-out price, and whether a greenhouse gas obligation is set only in 2020 or over three years to 2020. Setting an obligation for three years would mean there would be a gradual incremental greenhouse obligation, or target, for 2018, 2019 and 2020.
- 50 The Government's preferred option is 2b, which would set a mid-range buy-out price over a three year implementation intended to help industry prepare and encourage investment in lower carbon fuels.

Table 1: Policy options to introduce a GHG emissions reduction obligation

option	buy-out price (nominal prices)	implementation period	max pump price impact in 2020 (undiscounted, 2015 prices)	max policy cost (discounted, 2015 prices)
1a	£7/tCO ₂	1 year	0.03 ppl	£12m
1b	£7/tCO ₂	3 years	0.03 ppl	£13m
2a	£74/tCO ₂	1 year	0.42 ppl	£148m
2b	£74/tCO ₂	3 years	0.42 ppl	£166m
3a	£146/tCO ₂	1 year	0.84 ppl	£293m
3b	£146/tCO ₂	3 years	0.84 ppl	£327m

The greenhouse gas savings mechanism

- 51 To secure reductions in emissions of greenhouse gases from transport fuels we propose to implement a mechanism that rewards the supply of fuels with GHG intensities lower than the 2020 target level of 88.45 gCO₂e/MJ - where 'gCO₂e/MJ' means 'grams of carbon dioxide equivalent per megajoule'. Suppliers who supply fuels with a GHG intensity above the target level will incur an obligation, while those supplying fuel with an intensity below that level will receive credits.
- 52 The GHG credits can be traded with those suppliers that need them to meet their obligation – providing a reward for those that have made investments in sourcing the best low carbon fuels whilst providing maximum flexibility and cost effectiveness for suppliers in meeting their obligation.
- 53 It will be for suppliers to determine how they meet the GHG target – whether through the supply of biofuels and other renewable fuels, low carbon fossil fuels, electricity, upstream emission reductions and/or purchase of GHG credits.

Savings from reducing emissions generated in upstream oil production

- 54 While the increased supply of biofuels is expected to meet the majority of the 6% GHG reduction target, the most cost effective way of meeting the remaining target is to reduce the emissions that result from the extraction of crude oil, such as the venting and flaring of gaseous byproducts.

Supporting the uptake of electric vehicles

- 55 Increasing the uptake of electric vehicles is a key element of the Government's strategy to reduce the environmental impact of transport. We propose to allow electricity suppliers to claim credits for the electricity used to charge electric vehicles.

Supporting the decarbonisation of aviation and freight

- 56 Transport modes such as aviation and freight cannot easily be electrified and will require liquid fuels over the long term. To support the production and supply of renewable and advanced fuels that the UK needs over the long term we propose to make a number of fuels eligible for reward under the GHG scheme. We propose to allow suppliers to claim credits for renewable aviation fuel, and classify biodiesel made from hydrotreated vegetable oil as 100% renewable to align its treatment with

other forms of biodiesel and how it is treated under the RTFO.

Promoting advanced renewable fuels

- 57 To support proposals to update the RTFO to reward the supply of advanced fuels – with the potential for significant GHG savings – we propose to allow suppliers to claim GHG credits for them as well. Fuels such as renewable hydrogen and non-biological renewable fuels are at an early stage and need support to bring to market.

Supplier reporting transparency

- 58 As the source and methods of crude oil extraction vary widely and have an impact on their GHG emissions, greater clarity about these will support measures to understand and reduce these emissions. We propose to require suppliers to report, where available, the origin of the crude oil they use by providing the source of the crude oil, and the place of purchase.

Reducing burdens

- 59 The GHG Reporting Regulations and the RTFO are designed as complementary measures which operate in parallel. Data reported under the RTFO is also used for the GHG Reporting Regulations (where fuels are covered by both legislation) meaning data on fuel supply and volumes, and biofuel sustainability need only be reported and verified once. This is intended to minimise the administrative burden and cost to suppliers.
- 60 With the creation of a GHG obligation and tradeable certificates, the importance of this sharing of data has increased, and further harmonisation of the two schemes is required to ensure suppliers are not unduly burdened and the scheme operates effectively. In both this consultation and the one on the RTFO we propose to make changes to the reporting deadlines and align them along a calendar year cycle. This will aid suppliers by ensuring the two schemes work effectively in tandem and that information reported can be used for the same period under both schemes.

Parallel consultation on proposed amendments to the Renewable Transport Fuel Obligations Order

- 61 The RTFO was introduced to support the supply of sustainable biofuels in the UK. The objectives of the RTFO are to increase the supply of biofuel with the aim of reducing transport greenhouse gas emissions and demonstrating compliance with targets for renewable energy including UK Carbon Budgets.
- 62 The proposed amendments to the RTFO are covered in a separate consultation process, which is running in parallel to this one. The proposals set out in the RTFO consultation are aimed at:
- meeting our obligations, including the 2020 renewable energy target;
 - providing long term certainty to industry;
 - stimulating the supply of sustainable advanced fuels;
 - minimising the supply of biofuels with a high ILUC risk; and,

- targeting those sectors that are difficult to decarbonise such as aviation.⁹

Implications of the EU referendum result

- 63 On 23 June, the EU referendum took place and the people of the United Kingdom voted to leave the European Union. Until exit negotiations are concluded, the UK remains a full member of the European Union and all the rights and obligations of EU membership remain in force. During this period the Government will continue to negotiate, implement and apply EU legislation.
- 64 As mentioned above, whilst the policy proposals outlined in this consultation will fulfil current EU requirements, the underlying policy driver - climate change - is relevant to the UK at domestic, EU and international level. The measures outlined will not just help transport meet its share of the Carbon Budget reductions - they also offer UK industry the long term certainty it needs to invest and be in a position to take advantage of the growing global advanced fuels market. Leaving the EU is therefore not expected to have a material effect on the direction of the policy outlined in this consultation.
- 65 Looking ahead, the decision to leave the EU means we have the opportunity to look afresh at how we can act to further reduce the climate change impact of the transport fuels we use in the UK. We have designed the approach outlined in this consultation to meet the needs of our country. We want a smart, efficient approach focused on delivering the outcomes we all want to support low carbon transport and a strong economy.

Geographical coverage

- 66 This consultation and the proposed amendments to the Motor Fuel (Road Vehicle and Mobile Machinery) Greenhouse Gas Emissions Reporting Regulations 2012 apply across the whole of the United Kingdom.

Who should read this consultation?

- 67 This consultation will be of particular interest if you are:
- a supplier of fossil fuel;
 - a supplier of renewable fuel;
 - a supplier of electricity;
 - a body or individual with an interest in renewable fuels;
 - a body or individual with an interest in environmental concerns related to use and production of renewable or fossil fuels;
 - a body or individual with an interest in upstream emission reductions.
- 68 This consultation may be of interest to other parties and all are welcome to comment on our proposals. Your comments are invited on the proposed amendments to the Motor Fuel (Road Vehicle and Mobile Machinery) Greenhouse Gas Emissions Reporting Regulations 2012, and the accompanying cost benefit analysis.

⁹ Consultation on the Renewable Transport Fuel Obligations - Proposed Amendments.

How to respond

- 69 The consultation period began on 29 November 2016 and will run until 22 January 2017. Please ensure that your response reaches us before the closing date. If you would like further copies of this consultation document, it can be found at https://www.gov.uk/government/publications?publication_filter_option=consultations or you can contact the Department if you need alternative formats (Braille, audio CD, etc.).
- 70 Please send consultation responses to:
- Michael Wright
Department for Transport
Great Minster House
33 Horseferry Road
London
SW1P 4DR
LowCarbonFuel.Consultation@dft.gsi.gov.uk
- 71 When responding, please state whether you are responding as an individual or representing the views of an organisation. If responding on behalf of a larger organisation, please make it clear who the organisation represents and, where applicable, how the views of members were assembled.
- 72 In addition, when responding to the questions please provide supporting reasons and/or evidence as to why you agree or disagree with the proposals set out in this consultation.

Freedom of Information

- 73 Information provided in response to this consultation, including personal information, may be subject to publication or disclosure in accordance with the Freedom of Information Act 2000 (FOIA) or the Environmental Information Regulations 2004.
- 74 If you want information that you provide to be treated as confidential, please be aware that, under the FOIA, there is a statutory Code of Practice with which public authorities must comply and which deals, amongst other things, with obligations of confidence.
- 75 In view of this it would be helpful if you could explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information, we will take full account of your explanation, but we cannot give an assurance that confidentiality can be maintained in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded as binding on the Department.
- 76 The Department will process your personal data in accordance with the Data Protection Act (DPA) and in the majority of circumstances this will mean that your

personal data will not be disclosed to third parties.

What will happen next?

- 77 The Department for Transport will analyse the responses received and will lay draft regulations amending the Motor Fuel (Road Vehicle and Mobile Machinery) Greenhouse Gas Emissions Regulations 2012 before Parliament as soon as possible. The draft Regulations will be accompanied by an Explanatory Memorandum and final cost benefit analysis.
- 78 The draft Regulations will be subject to the affirmative resolution procedure, which in this case means that it needs first to be laid in draft while Parliament is sitting and approved by both Houses. It will be made, and come into force, as soon as it has completed the Parliamentary process, and no sooner than 21 days after the final Regulations are laid.
- 79 Our aim is to implement the changes as soon as possible, taking into account the needs of stakeholders, operational deliverability and our legal obligations. We will keep stakeholders informed of progress through our existing regular communication channels.
- 80 We will aim to publish a summary of responses, including the next steps, on the Department's website by early next year. Paper copies will be available on request.
- 81 As we approach implementation, guidance on how to comply with the amended Regulations will be drafted in consultation with stakeholders. We will continue to publish data already provided in the RTFO statistics and will discuss with suppliers and other interested parties the extent of any publication of any additional data that may be reported as a consequence of the changes proposed in this consultation. Amendments to the IT system used for reporting data will be made as necessary, and will also be informed by discussions with suppliers.
- 82 If you have questions about this consultation please contact:
Michael Wright
Great Minster House
33 Horseferry Road
London
SW1P 4DR
LowCarbonFuel.Consultation@dft.gsi.gov.uk
- 83 Further background information can be found at
https://www.gov.uk/government/publications?publication_filter_option=consultations

Full list of consultation questions

For each of the following questions, please set out the reasons for your answers, including the impacts of any alternative that you may propose and any anticipated implications. Please also provide any supporting evidence you may have.

Chapter 1: Delivering greenhouse gas savings in transport

Greenhouse gas savings targets

- Q1: Do you agree that the UK should set the GHG reduction target on fuel suppliers at 6% for 2020 and not include the optional aspects which could increase it to 10%?
- Q2: Do you agree that the proposed interim GHG reduction targets for 2018 (2%) and 2019 (4%) will help industry prepare for the more stretching 2020 target (6%)?

The greenhouse gas savings mechanism

- Q3: Do you agree that a single application for RTFCs and GHG credits should be required for biofuels? Please set out any circumstances where you consider that a separate application might be required.
- Q4: Do you agree that the proposal to use a system of tradeable credits will provide flexibility to suppliers and is an effective way to meet the GHG obligation?
- Q5: Do you agree that we should align the minimum threshold in the GHG obligation with that in the RTFO? Please include any comments you may have on the proposed method of calculating the deduction.

Chapter 2: Delivering greenhouse gas savings through upstream emission reductions

- Q6: Do you agree with our proposal to legislate for the criteria covering the origin, reporting and eligibility of UERs?
- Q7: We would welcome views on assessing a UER project baseline, and calculating emissions reductions against the baseline. Do you consider that requiring a minimum standard in national guidance for each criterion listed at ISO 14064-2 5.4 is the best way to ensure that UERs are additional?
- Q8: We would welcome views on the verification and validation of UER projects, including how verifiers should be appointed, and what the role of the Administrator should be - if any - in appointing verifiers.
- Q9: We would welcome views on our proposal to adopt a specific verification standard (like ISAE 3000) and/or other standards, in the absence of a central

UER administrative database. Do you consider that ISAE 3000 would be adequate to minimise the risk of multiple claiming in the event a central database is not available?

- Q10: We would welcome comments on the possibility of accepting credits generated from the Kyoto Protocol flexible mechanisms, such as the Clean Development Mechanism and Joint Implementation projects, including any advantages and disadvantages.
- Q11: Do you agree with the proposal that UER credits should count as GHG credits against a fuel supplier's obligation?

Chapter 3: Supporting electric vehicles

- Q12: Do you agree that enabling electricity suppliers to receive GHG credits - which they can trade with fuel suppliers who need them - is the best way that the GHG saving from electricity used in electric vehicles can contribute to other fuel suppliers' GHG obligations?
- Q13: Do you agree with our proposed approach of using actual and estimated metering data?
- Q14: Which of the proposed methodologies A-D (or combination of methodologies) do you prefer, and why? Do you have a proposal for an alternative methodology?
- Q15: Do you agree with the proposal that electricity suppliers should contact their customers to ask if they have an EV charge point, and who the infrastructure operator is? Please set out any alternative suggestions for obtaining this data.
- Q16: Do you consider that GHG credits will provide an incentive for electricity suppliers to obtain data on electricity used in EVs, and that in doing so, some of that reward will be passed to charge point operators?
- Q17: Do you have alternative suggestions for how data could be verified / validated?
- Q18: Do you agree that continuing to reward electricity used in EVs with GHG credits could be a way to incentivise investment in UK EV infrastructure (for example charge points) in the longer term? We would welcome suggestions as to how the reward could contribute to the development of EV infrastructure, or how future policies might direct support here.

Chapter 4: Setting the buy-out level to incentivise greenhouse gas savings whilst minimising costs

- Q19: Do you agree that a medium buy-out price of £74/tCO₂ is the best option (option 2b in the CBA)? This would limit the maximum impact of the GHG targets on 2020 pump prices to 0.42ppl (2015 prices).
- Q20: Do you have any other comments on the proposed approach for a new separate GHG obligation buy-out mechanism? If you have an alternative proposal please set it out.
- Q21: Is there a better way we could minimise costs whilst still achieving the policy objective?

Chapter 5: Civil penalties and revocation of greenhouse gas credits

Civil penalties

- Q22: Do you have any views on the proportionality of the proposal to enable the Administrator to issue civil penalties to ensure the integrity of the proposed GHG obligation?

Revocation mechanism

- Q23: Do you agree that there should be a mechanism to withdraw GHG credits where it transpires that they should not have been issued, and that the mechanism should be the same as that used under the RTFO?
- Q24: If you disagree with this revocation proposal, please set out an alternative mechanism which prevents rewarding UK fuel suppliers where GHG savings were not delivered.

Chapter 6: Eligibility of fuels

Aviation fuels

- Q25: Do you agree that renewable aviation fuel should be eligible for reward under the GHG obligation scheme?

Inclusion of non-biological renewables, including hydrogen

- Q26: Do you agree that we should include renewable fuels of non-biological origin, including hydrogen, under the GHG Reporting Regulations thereby making them eligible for GHG credits and subject to the reporting requirements?

Chapter 7: Supplier reporting requirements

Reporting origin data and place of purchase

- Q27: Do you agree with our proposed proportionate approach underpinning the GHG reporting requirements? This means that suppliers are exempt from the requirements if they do not have data on the FTN, whether the crude is of EU/non-EU origin, and/or the place of purchase.
- Q28: Do you envisage any situations where origin data will not be available and/or cannot be reported? If yes, please provide details about these situations and why the data could not be reported.
- Q29: Do you envisage any situation where data on the place of purchase will not be available and/or cannot be reported? If yes, please provide details about these situations and why the data could not be reported.
- Q30: With regards to the verification of the information supplied, do you have any comments on our proposal to provide the Administrator with powers to require independent assurance (verification) of the data, where necessary?

Simplified reporting requirements for small and medium-sized enterprises

- Q31: Do you have any comments on the proposed application of the simplified reporting requirements for small and medium-sized enterprises?

Greenhouse gas obligation reporting deadlines

- Q32: Do you agree that the reporting deadlines proposed for the GHG obligation should align with those in the RTFO?

Chapter 8: Reviewing the Greenhouse Gas Reporting Regulations

Review of the operation of the Greenhouse Gas Reporting Regulations to date

- Q33: Do you agree that the GHG Reporting Regulations minimise burdens on suppliers by relying on data already submitted and verified under the RTFO?
- Q34: Are there ways that any costs or burden could be minimised further?
- Q35: Do you have information on compliance costs when the legislation was introduced further to the estimates provided?
- Q36: What changes, if any, did suppliers make as a result of the introduction of the GHG Reporting Regulations in 2013?
- Q37: What were the costs to suppliers of familiarising themselves with the regulations and implementing any changes to their business?
- Q38: What uses have suppliers made of data collected on the greenhouse gas intensity of fuel reported under the GHG Reporting Regulations?
- Q39: Has the operation of the scheme to date assisted suppliers to monitor their progress towards their GHG target?

Further comments

In respect of the proposed changes to the Greenhouse Gas Reporting Regulations:

- Q40: Do you have any other comments on the amendments to the GHG Reporting Regulations 2012 proposed within this consultation?

Annex A - Greenhouse Gas cost benefit analysis

- Q41: Do you agree with our assessment of 'additionality' of GHG savings from upstream emission reduction projects?
- Q42: Are you able to provide any evidence relevant to the assessment of costs, including any evidence on the administrative costs for fuel supplier familiarisation with the requirements of meeting the 6% GHG target required under the FQD?
- Q43: Can you provide evidence on the cost of reporting fossil fuel 'origin' and 'place of purchase' data to the regulator?
- Q44: Do you have any evidence you would like to provide on the costs and benefits associated with the proposed changes to civil penalties?

Glossary

A glossary of terms used throughout this consultation.

Administrator	The Secretary of State is the Administrator of the Greenhouse Reporting Regulations. This function is in practice exercised by the RTFO Unit based in the Department for Transport.
Biofuel	A liquid or gaseous fuel used in transport that is produced wholly from biomass. ¹⁰
CO ₂ e	Carbon dioxide equivalent; a standard unit for measuring emissions of greenhouse gases including methane, nitrous oxide etc. The impact of each different greenhouse gas is expressed in terms of the amount of CO ₂ that would create the same amount of warming. This means that the GHG emissions that occur over a life cycle of producing and supplying a fuel can be expressed as a single number.
Economic operator	Any company or organisation involved in the fuel supply chain.
FAME	Fatty-acid-methyl-ester is made through the chemical reactions of vegetable or animal fats being processed with alcohols, typically methanol or ethanol. A mixture of fatty-acid-methyl-esters, or 'FAME', is commonly referred to as biodiesel, which is a renewable fuel typically produced from vegetable oil.
Feedstock	Raw material used to produce transport fuels including biofuels.
Feedstock trade name	The feedstock trade name of crude oil, which identifies where it was extracted, for example Australia, Barrow Island. The feedstock trade name is typically referred to as the marketable crude oil name (MCON), a classification which groups oil fields according to the oil characteristics, primarily its density and sulphur content.
Fossil fuel baseline	In the FQD, as amended, the 6% GHG reduction target is relative to the baseline for the EU average life cycle greenhouse gas emissions from fossil fuels in 2010 of 94.1 gCO ₂ e/MJ - where 'gCO ₂ e/MJ' means 'grams of carbon dioxide equivalent per megajoule'
Fossil fuel comparator	The fossil fuel comparator is the average carbon intensity of petrol and diesel supplied in the EU and is currently set as 83.8 gCO ₂ e/MJ. It is used to calculate the GHG savings of biofuels in order to determine whether they meet the sustainability criteria.

¹⁰ Defined in the Energy Act 2004

FQD	Directive 98/70/EC (as amended) known as the Fuel Quality Directive. Requires suppliers to reduce the lifecycle greenhouse gas (GHG) intensity of transport fuels and introducing sustainability criteria for biofuels.
FQD 7a implementing measure	EU Directive 2015/652, known as the FQD 7a implementing measure, which sets out the methodology and reporting requirements for meeting the 6% GHG reduction target under the FQD, as amended.
GHG	Greenhouse gas – a gas which in the atmosphere absorbs and emits radiation causing the greenhouse effect whereby heat is trapped in the atmosphere making the earth warmer and leading to climate change. For example carbon dioxide (CO ₂) nitrous oxide (NO), methane, water vapour, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride.
GHG credit	We propose to award GHG credits to suppliers of fuels which deliver savings below the 6% GHG target. Excess credits can be traded with other suppliers that need them, with the value determined by the market.
GHG Reporting Regulations	The Motor Fuel (Road Vehicle and Mobile Machinery) Greenhouse Gas Emissions Reporting Regulations 2012.
GHGi	Greenhouse gas intensity – the greenhouse gas intensity of a fuel (or energy such as electricity) is the GHG emissions <i>per unit of energy</i> . It is usually expressed in grams of carbon dioxide (equivalent) per megajoule. Therefore, the higher the value, the higher the GHG emissions.
HVO	Hydrotreated vegetable oil is a renewable diesel that can be produced from a wide array of vegetable oils and fats which are thermochemically treated with hydrogen.
ILUC	Indirect land-use change where the cause is at least a step removed from the effects – the knock-on effects on expansion of agricultural land-use resulting from the cultivation of biofuel feedstocks.
ILUC Directive	Directive 2015/1513, known as the ILUC Directive, which amends the RED and the FQD in order to take account of the effect of indirect land-use change, and aims to encourage the transition away from first generation biofuels.
ISO	International Organisation for Standardisation.
ISAE	International Standard on Assurance Engagements.
Mandatory sustainability criteria	Criteria specified in the Renewable Energy and Fuel Quality Directives – requiring that biofuels, with some exceptions, must deliver greenhouse gas savings of at least 35% when compared to fossil fuels and that biofuels must not be sourced from areas of high biodiversity, or from high carbon soils (e.g. rainforests or wetlands). All biofuels will have to meet these

	mandatory sustainability criteria in order to be counted towards meeting the targets in the Directives.
MCON	Marketable crude oil name (MCON) (see feedstock trade name).
Minimum threshold	The RTFO Order places an obligation on entities that supply a volume of road transport and NRMM fuel above a minimum threshold. The minimum threshold is set at 450,000 litres.
NRMM	Non-road mobile machinery. NRMM is used to collectively refer to the end uses of fuel specified in the Fuel Quality Directive, namely: inland waterway vessels when not at sea; agricultural and forestry tractors; and recreational craft when not at sea.
Obligated supplier	A transport fuel supplier upon whom a greenhouse gas emissions reduction obligation or a greenhouse gas reporting requirement is imposed.
Origin	'Origin' refers to the feedstock trade name (FTN) of the crude oil, also known as the marketable crude oil name (MCON), which identifies where the crude oil was extracted.
Partially renewable fuel	Fuels that are produced in part from renewable feedstocks and in part from mineral/fossil feedstocks.
Place of purchase	To improve transparency of information on the greenhouse gas intensity of fossil fuel, suppliers will report information on the place of purchase of fuel being supplied where known. Place of purchase means the country and name of the processing facility where the fuel was refined.
RED	EU Directive 2009/28/EC – the Renewable Energy Directive, on the promotion of the use of energy from renewable sources, as amended. Requires Member States to ensure that 10% of the energy used in transport is from renewable sources in 2020.
Renewable fuel	A fuel used from a source that is either inexhaustible or can be indefinitely replenished at the rate at which it is used. Such as a biofuel or other fuels produced from a renewable energy source i.e. renewable fuels or non-biological origin.
ROS	Renewable Transport Fuel Obligations operating system. The IT system used to administer the RTFO.
RTFC	Renewable transport fuel certificate. One RTFC is awarded for every litre of liquid biofuel reported. Biomethane receives 1.9 RTFCs per kg and bio-LPG receives 1.75 RTFCs per kg. Biofuels from wastes receive double the number of RTFCs. They can be traded between suppliers. Their value is determined by the market.

RTFO	Renewable Transport Fuel Obligations. Introduced in 2008, it is the UK's main mechanism for supporting the supply of renewable fuels in transport. It places an obligation on suppliers of more than 450,000 litres per year of fuel intended for road transport and NRMM use to ensure a certain percentage of the fuel supplied is renewable, and operates as a certificate trading scheme.
RTFO Order	The Renewable Transport Fuel Obligations Order 2007, as amended. The legislation establishing the RTFO scheme.
UERs	Upstream emission reductions. The reduction of greenhouse gas emissions from fossil oil extraction processes, such as reduced flaring or venting.
Verification	The process of providing assurance of biofuel sustainability data or other fuel related data (e.g. place of purchase, volume produced) supplied on behalf of reporting parties. Verifiers must be independent of the reporting party whose data they are verifying.
Well-to-wheel emissions	Well-to-wheel greenhouse gas emissions take into account the production and distribution of a fuel over the entire life cycle: from the sourcing of the energy and materials used to power a vehicle, to the direct tailpipe emissions.

1. Delivering greenhouse gas savings in transport

Overview

- 1.1 We are proposing to implement a 6% greenhouse gas savings target to decarbonise transport and meet the requirements of the amended fuel quality directive. We propose to do so by using a mechanism which is similar in nature to the Renewable Transport Fuel Obligations Order and which will operate in parallel to it.
- 1.2 The proposed mechanism to deliver greenhouse gas savings includes:
 - An obligation on fuel suppliers, which acts to reduce the overall greenhouse gas emissions of the fuels they supply.
 - Rewards for low carbon fuels i.e. the issue of certificates, or 'GHG credits', which will have a cash value determined by the market.
 - Allowing these GHG credits to be traded to provide flexibility for suppliers and enable the obligation to be met cost effectively.
 - A process for measuring and verifying greenhouse gas savings claimed, and therefore the amount of GHG credits earned.
 - Measures to minimise any burden on small and medium sized enterprises.
 - An option for suppliers to buy-out of their GHG obligation which would act as a consumer protection mechanism should the costs and impacts of accumulating GHG credits be unsustainable. Please refer to chapter 4 for details regarding the proposed buy-out mechanism.
- 1.3 The above features are all similar to those of the RTFO. The key difference is that certificates will be issued on the basis of greenhouse gas savings for fuel or energy supplied, as opposed to volumes of renewable fuel supplied. Under the greenhouse gas saving mechanism, these certificates, known as GHG credits, may be earned for switching to lower carbon fossil fuels, supplying biofuels and other renewable fuels, securing reductions in upstream emissions (chapter 2) and for electricity used in transport (chapter 3).

Greenhouse gas savings targets

A GHG reduction target is proposed to be applied to fuel suppliers. This is intended to deliver a reduction of 6% in the average GHG intensity of transport fuels in the UK by 2020. We are also proposing to introduce reduction targets of 2% for 2018 and 4% for 2019 to allow industry time to adjust to the new system before the higher target is applied. These reductions will contribute to the decarbonisation of transport and meet the requirements of the FQD, as amended.

- 1.4 In 2012, the UK implemented the reporting aspects of the FQD by creating the GHG Reporting Regulations. At this time, a GHG reduction target was not set because the method for calculating fossil fuel carbon intensities and the way in which ILUC would be addressed were still the subject of negotiations at EU level.
- 1.5 These negotiations have concluded and Article 7a of the amended FQD requires transport sector fuel suppliers in EU Member States to reduce the average GHG intensity of transport fuels by 6% in 2020. This is relative to a 2010 baseline average transport fuel GHG intensity of 94.1 gCO₂/MJ (this has been updated by the FQD 7a implementing measure). This equates to a transport sector GHG reduction of 10.4 MtCO₂e in 2020, and is equivalent to an average GHG intensity of 88.45 gCO₂e/MJ across all transport fuels to be delivered by each fuel supplier. (or a reduction in average transport fuel GHG intensity of 5.6 gCO₂/MJ).
- 1.6 We propose to amend the GHG Reporting Regulations to set a GHG reduction obligation on all fuel suppliers which fall within the scope of the FQD. The target will be to achieve a minimum 6% reduction in average GHG intensity in 2020 compared to the 2010 baseline value.

How the greenhouse gas target will be delivered

- 1.7 Suppliers will have a choice in how they reduce GHG emissions across their fuel supply. GHG savings can be delivered through supplying sustainable renewable fuels; low carbon fossil fuels; electricity to electric vehicles; or through reductions in upstream emissions associated with the extraction of fossil crudes.
- 1.8 Suppliers can meet their GHG targets by supplying low carbon fuels directly (or a mix of fuels which do not emit GHG emission beyond the target level), by buying sufficient credits from other suppliers of low carbon fuels, by buying out of their obligations or a mix of the above.
- 1.9 It is anticipated that over the scheme as a whole biofuels will deliver around three quarters (7.9 MtCO₂e) of the GHG savings needed in 2020. These biofuels will be delivered through increasing the obligation level for supply of renewable fuels under the Renewable Transport Fuel Obligations Order, as set out in the parallel consultation.
- 1.10 It is envisaged that the bulk of the remaining GHG reductions required will be delivered through upstream emission reductions (see chapter 2).

Setting the greenhouse gas target level

- 1.11 Although the FQD 7a implementing measure gives flexibility for a savings target of up to 10% we are not proposing a target at this level as this might incentivise an increased supply of crop derived biodiesel. Risks associated with this include increases in carbon emissions from ILUC and increases in food and fuel prices. There are also significant uncertainties about the methods of delivering savings other than through renewable fuels. We therefore propose to set the target on fuel suppliers in the UK at the minimum 6% value.
- 1.12 We are not proposing to impose GHG reduction targets beyond 2020 at this time. We are consulting separately on extending support provided for renewable transport fuels through the RTFO to 2030. These proposals to amend the RTFO, combined with work underway through the Department's Advanced Biofuel Demonstration Competition, will encourage the supply in the UK of renewable fuels which deliver high greenhouse gas emissions savings whilst managing the risk of negative indirect impacts. The experience gained from the operation of the GHG obligation scheme and the RTFO to 2020 will inform future decisions on the best method and type of scheme to implement future policies to cost effectively incentivise reductions in GHG emissions.

Q1: Do you agree that the UK should set the GHG reduction target on fuel suppliers at 6% for 2020 and not include the optional aspects which could increase it to 10%?

Please set out the reasons for your answer and the impacts of any alternative that you may propose.

Setting interim greenhouse gas reduction targets

- 1.13 In order to help prepare industry to deliver the 6% target in 2020, we also propose to introduce binding interim GHG reduction targets of 2% in 2018 and 4% in 2019. The proposed targets and the equivalent average carbon intensities are set out in table 2 below:

Table 2: Proposed GHG obligation levels

	2018	2019	2020
GHG reduction target	2%	4%	6%
Equivalent average GHG intensity (gCO ₂ e/MJ)	92.22	90.34	88.45

- 1.14 Analysis suggests that a 2% target can be met through the supply of renewable fuels that we are proposing will be required under the RTFO. See Chart 2 in the cost benefit analysis at annex A.
- 1.15 A 4% reduction in GHG intensity will be slightly above that which would be expected from the fuels delivered by the RTFO in the absence of this measure (see chart 2 in the cost benefit analysis). This might be achieved through supplying renewable fuels with higher GHG savings, supplying electricity to electric vehicles, increasing supply of low carbon fossil fuels and/or delivering upstream emission reductions. There is scope for improvements in the carbon

intensity of the renewable fuels delivered by the RTFO through switching to lower carbon feedstocks, or greater use of actual rather than default carbon intensities, for example, through improvements in production and processing. Given this, a 4% target in 2019 does not mean that more biofuels than the RTFO requires will need to be delivered, although in practice fuel suppliers will be free to determine how to meet their obligations.

- 1.16 How the 6% GHG reduction target might be met is set out above and in the cost benefit analysis.
- 1.17 It is expected that putting in place a GHG obligation target in 2018 and 2019, in addition to 2020, would enable the Government to better assess the merits of the mechanism for potential extension beyond 2020, for example as a cost effective means to meet future Carbon Budgets. This will also provide greater certainty to industry and consumers that the greenhouse gas emissions reduction targets will be met in a managed gradual way.

Q2: Do you agree that the proposed interim GHG reduction targets for 2018 (2%) and 2019 (4%) will help industry prepare for the more stretching 2020 target (6%)?

Please include the likely impacts of this proposal and any alternative that you may propose.

How do suppliers demonstrate they have met the greenhouse gas reduction target?

Low carbon fuels and upstream emission reductions will be awarded GHG credits which will be redeemed annually to demonstrate that the required GHG savings have been achieved. These can be traded to allow flexibility for industry in complying with the GHG reduction obligation. This will operate in parallel to the RTFO and will be designed to minimise any additional administrative burden on suppliers.

Joint reporting to deliver the target cost effectively

- 1.18 The FQD 7a implementing measure gives flexibility to fuel suppliers so that they may report jointly on meeting the 6% GHG reduction target. This means that each fuel supplier can partner with others to jointly deliver the GHG savings required rather than delivering directly through their own fuel. This is designed to give flexibility to the market where fossil and renewable fuels are often supplied by separate entities. So, for example, a supplier of mostly fossil petrol and diesel could partner with a biofuel only supplier to supply an overall mix of fuels that meet the requirements.
- 1.19 Because the UK already operates the RTFO as a certificate trading mechanism, effectively allowing all fuel suppliers to report jointly with all others, it is proposed that a similar system should be used for the GHG target. This means suppliers can meet their GHG targets jointly with others through the trading of GHG credits.

Other options considered

- 1.20 Options for using one scheme alone to deliver both the renewable energy target (as set out in the RED) and the GHG target (as set out in the amended FQD) were considered. However, it was determined that this had significant risks of being unsuccessful. For example, setting a GHG target could not guarantee the renewable energy target would be met, and setting a volume or energy target could not guarantee the GHG target would be met.
- 1.21 The initial options were discussed with stakeholders during meetings held in September 2015, the material which was discussed contains further details on the options, and can be found on our [website](#).

Proposal for a new greenhouse gas savings scheme

- 1.22 It was concluded that it would be preferable to run two systems that work together and in parallel, keeping as much in common as possible. Therefore, the proposal set out in this document is to implement a GHG obligation and a mechanism for its delivery which will work in parallel with the RTFO, and which will be designed to minimise any additional administrative burden on fuel suppliers. This trading mechanism is intended to encourage reductions in greenhouse gas emissions as the best performing fuels receive the greatest reward. It also provides flexibility for suppliers in meeting the obligation and means the target can be met cost effectively.

Designing the new greenhouse gas scheme so that it works in tandem with the RTFO to minimise burden on suppliers

- 1.23 The RTFO places an obligation on fuel suppliers to ensure that a specified amount of renewable transport fuel is supplied. This is demonstrated at the end of each obligation period by the redemption of renewable transport fuel certificates (RTFCs). The RTFO also includes a mechanism whereby suppliers can buy-out of their obligation, rather than meet it through redeeming RTFCs. The RTFO creates a market for renewable transport fuel through the trade in RTFCs and ensures that, should the cost of these be too high, the consumer is protected through a buy-out option.
- 1.24 The GHG mechanism is proposed to operate in a similar way to the RTFO, except that it gives reward for GHG savings made rather than for volume of renewable fuels supplied. Both systems will have an obligation which can be met using tradeable certificates or through a buy-out option. Details of the proposal on buy-out price are covered in chapter 4.
- 1.25 It is proposed that applications for RTFCs and GHG credits in respect of sustainable renewable fuels will be made and handled in parallel. The sustainability criteria and verification requirements are the same. One application and one verification report will cover both schemes, with appropriate numbers of RTFCs and GHG credits being issued to successful applications. For example, if a supplier applies for RTFCs on a monthly basis, that same application will automatically be used to issue GHG credits to that renewable fuel on the same monthly cycle. This is intended to prevent additional burden on suppliers by ensuring they do not have to report the same information twice. As a

consequence, where GHG credits are being applied for in respect of biofuels supplied, these will only be considered as a joint application for both GHG credits and RTFCs. In the case of biofuels, no GHG credit will be issued where there is not a corresponding RTFC.

Q3: Do you agree that a single application for RTFCs and GHG credits should be required for biofuels? Please set out any circumstances where you consider that a separate application might be required.

- 1.26 The GHG obligation will be administered by the RTFO Unit in the Department. It will follow a similar cycle to the RTFO in respect of when a supplier's obligation will be determined by the Administrator, when suppliers will be required to discharge their obligation, as well as when GHG credits will be issued. The proposals on timing are set out in detail in chapter 7.
- 1.27 Subject to developing the necessary IT systems, it is proposed that GHG obligations and credits will be held in the same IT system as used for the RTFO.
- 1.28 It is proposed that the use of GHG credits in subsequent obligation periods (carry over) will not be permitted.

Rewarding low carbon fuels

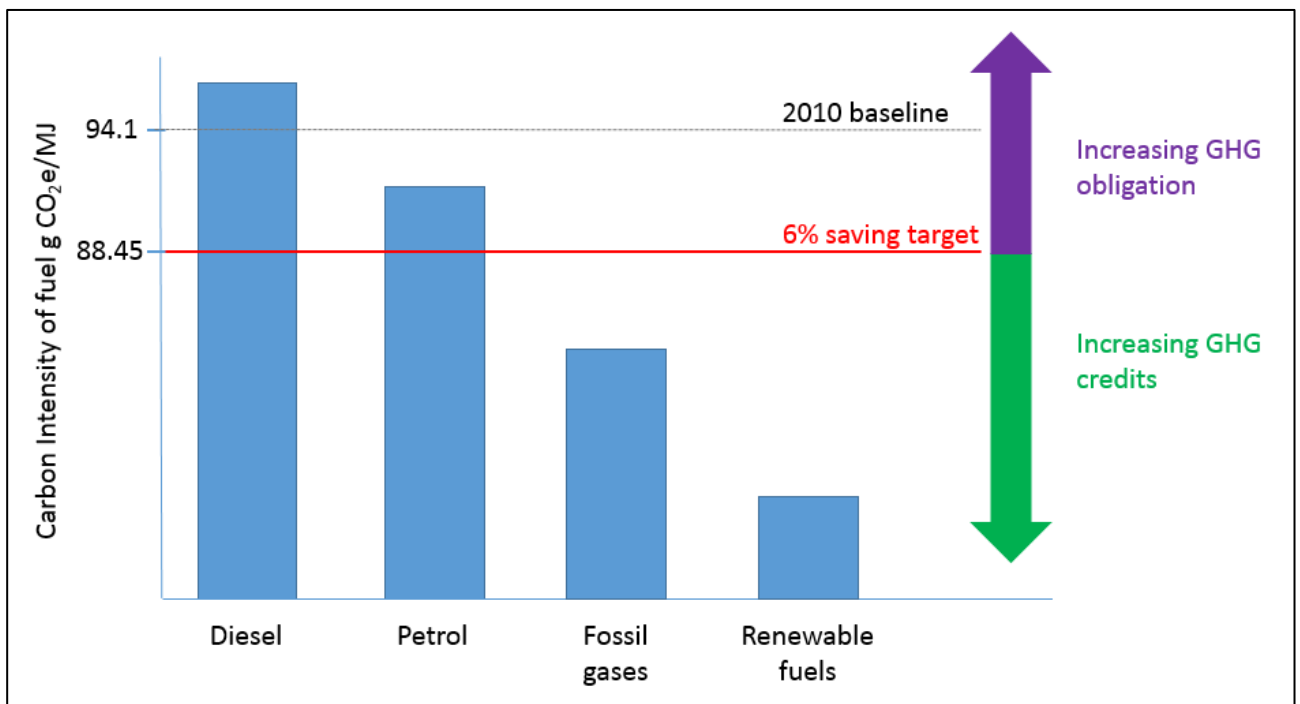
- 1.29 It is proposed that the GHG obligation will represent the amount of CO₂e which has been emitted above the target level (88.45 gCO₂e/MJ). All fuels with a GHG intensity above this will therefore be subject to an obligation. For example, this includes diesel, petrol, unsustainable renewable fuels where the fossil fuel equivalent is above the target level, and compressed hydrogen used in a fuel cell derived from coal. All fuels with a GHG intensity below this will be rewarded with GHG credits.
- 1.30 The GHG credit is proposed to represent an amount of CO₂e saved (e.g. one kilogram). One GHG credit will be required to offset each unit of obligation incurred, and may be earned in one of the following ways:
- By supplying sustainable renewable fuels (to note that all will have a GHG intensity below the target level);
 - By supplying fossil fuels which have a GHG intensity below the target level, such as liquid petroleum gas (LPG) or compressed natural gas (CNG);
 - By reporting applicable upstream emission reductions (UERs) – see chapter 2 for detail;
 - For electricity used in road transport – see chapter 3 for detail.
- 1.31 This means that companies which supply only diesel and petrol will incur an obligation and will need to acquire GHG credits to meet their obligation. Those which supply only sustainable renewable fuels will not incur an obligation and will be able to sell the GHG credits earned.
- 1.32 The current regulations already provide a general power enabling the Administrator to require information from suppliers of energy products not obligated to report. As a result of moving to a GHG credit trading scheme, which will be met through the ways described in paragraph 1.25, there will be

consequential amendments to that general power. These are needed to reflect the scope of the new scheme and ensure the Administrator continues to have effective powers to require information necessary to exercise its functions, for example, to establish which suppliers must open accounts and to verify information provided under the new scheme.

1.33 As credits will be rewarded on the basis of greenhouse gas savings made, we do not propose to double reward renewable fuels made from waste feedstocks. The development fuels sub-target and the limit on crop based biofuels are all proposed for implementation in the RTFO and it is proposed that they will not apply to the GHG mechanism.

1.34 An illustration of the obligation and credit system is given in Figure 3 below.

Figure 3: How the proposed GHG credit system works (not to scale)



Q4: Do you agree that the proposal to use a system of tradeable credits will provide flexibility to suppliers and is an effective way to meet the GHG obligation?

Determining the greenhouse gas intensity and energy contents of fuels

1.35 In order to calculate a GHG obligation or the number of GHG credits, it is necessary to know the GHG intensity and the energy content of fuels supplied.

1.36 GHG intensities will be determined in the following ways:

- Fossil fuels – using the weighted life cycle GHG intensity as listed in the FQD 7a implementing measure.¹¹
- Fossil fuels with no default value listed – a default will need to be determined using an appropriate source e.g. the Joint Research Council's Well to Wheel

¹¹ 2015/652 Annex I, Part 2, paragraph 5.

Reports which were used by the Commission to inform the defaults in the FQD 7a implementing measure.

- Renewable fuels – using default or actual values as reported under the RTFO, since the sustainability requirements of the RED and FQD are the same.
- Renewable fuels which are determined not to have met the sustainability criteria will be deemed to be equal to the greenhouse intensity of the respective fossil fuel. The respective fossil fuel and the greenhouse gas intensity will be determined by the Administrator, who will use the average life cycle greenhouse gas intensity default values for fuels in Annex I of EU Directive 2015/652 where these are available.
- Partially renewable fuels will be split into fossil and renewable parts based on the energy content and will be assigned GHG intensity values in line with fossil and renewable fuels.
- The energy contents of fuels will be determined by their lower heating values as given in the RED Annex III where available.

Minimising burden for small suppliers

- 1.37 It is proposed that a minimum threshold will be set so that all suppliers of fewer than 450,000 litres of relevant fuel are excluded from the GHG saving obligation (this is the same minimum threshold as under the RTFO).
- 1.38 Suppliers of fewer than 450,000 litres of relevant fuel will also continue to be exempt from the reporting requirements of the GHG Reporting Regulations – see chapter 7 for details. This is designed to protect smaller organisations from any unnecessary administrative burden.
- 1.39 Also in line with the RTFO, we are considering a reduction in obligation for suppliers of between 450,000 and 10 million litres of relevant fuel. In the RTFO, the first 450,000 litres of obligation are deducted for these fuel suppliers. This is intended to prevent a ‘cliff edge’ effect occurring for suppliers of close to 450,000 litres, where a supplier of just under 450,000 litres would incur no obligation, but a supplier of just over 450,000 litres would incur an obligation resulting from the whole amount supplied. This could create a market distortion for suppliers operating at this scale.
- 1.40 To achieve this in the GHG mechanism, we propose that we would calculate the GHG obligation which would result from supplying 450,000 litres of the baseline fuel mix (i.e. with a GHG intensity of 94.1 gCO_{2e}/MJ) and deduct this value from the obligation of suppliers of between 450,000 and 10 million litres of fuel.

**Minimum threshold:
450,000 litres**

- Suppliers of less than 450,000 litres of relevant fuel will be exempt from the GHG saving obligation and the reporting requirements of the GHG Reporting Regulations (see chapter 7 for further detail).

**Obligation
reduction: 450,000 -
10 million litres**

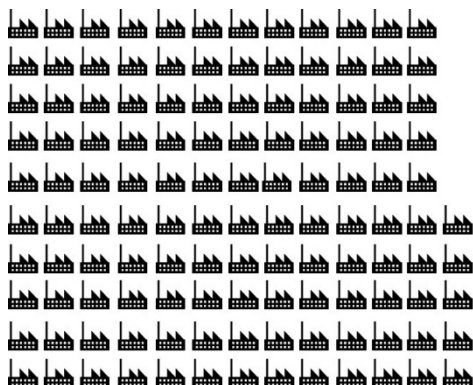
- We are also considering a reduction in obligation for suppliers of between 450,000 and 10 million litres of relevant fuel.

**How to achieve in
the GHG
mechanism?**

- Propose to deduct an amount equal to the GHG obligation from supplying 450,000 litres of the baseline fuel mix (i.e. with a GHG intensity of 94.1g CO₂e/MJ), from the obligation of suppliers of between 450,000 and 10 million litres of fuel.

Q5: Do you agree that we should align the minimum threshold in the GHG obligation with that in the RTFO? Please include any comments you may have on the proposed method of calculating the deduction.

2. Delivering greenhouse gas savings through upstream emission reductions



In 2010, the flaring of natural gas was equivalent to the annual emissions from 125 medium-sized (63 gigawatt in total) coal plants in the USA (over 400 million metric tonnes of CO₂e emissions per year).

Source: 'The Reduction of Upstream Greenhouse Gas Emissions from Flaring and Venting Report', International Council on Clean Transportation to the European Commission Directorate-General for Climate Action (2014).

There is significant potential for reducing greenhouse gas emissions from upstream processes related to crude extraction and other processes before the crude is refined.

These may offer a cost-effective means of delivering greenhouse gas reductions in transport and meeting the proposed 6% GHG reduction target.

The requirements for the reporting and use of these upstream emission reductions (UERs) are set out in the FQD7a implementing measure. The non-legislative UER guidance from the European Commission includes preferred standard practice for the administration and verification of UERs.

We intend to use a system which should incentivise UERs, and in sufficient quantities to allow fuel suppliers to make up the estimated one and a half percentage points needed to deliver the 6% GHG target in the FQD alongside renewable fuels supplied under the proposed revisions to the RTFO.

The potential for upstream emission reductions in decarbonising transport

- 2.1 As set out in chapter 1, in reducing the GHG intensity of their fuels, fuel suppliers can meet the 6% reduction target in a number of ways, including increasing the supply of renewable fuels, improving GHG savings from renewable fuels, switching to low carbon fossil fuels or electricity, and purchasing 'credits' from

projects which reduce GHG emissions from fossil oil extraction processes, known as upstream emission reductions (UERs).

- 2.2 Whilst the use of natural gas, hydrogen and electricity has a role to play in contributing to the 6% GHG reduction target, we estimate they will play a limited role in GHG abatement in 2020, due to technical and infrastructure-related barriers.
- 2.3 As set out above, in the UK we anticipate that biofuels supplied under the RTFO will deliver around 4.5% GHG savings. It is up to suppliers how they meet their 6% GHG reduction target, and whilst there is no requirement to use UERs we anticipate them to be a cost effective solution to delivering much of the remaining 1.5% GHG savings needed. We anticipate that suppliers in most other Member States will also need a similar contribution from UERs.
- 2.4 Upstream emissions are defined as: *“all greenhouse gas emissions occurring prior to the raw material entering a refinery or a processing plant where the fuel, as referred to in Annex 1, was produced”*.¹²
- 2.5 Most (though not all) upstream emissions arise from the flaring and venting of associated petroleum gas (APG) produced during oil extraction. This typically results from circumstances where it is not economically attractive to capture the gas for other uses. A typical UER project could therefore be one that results in a reduction of APG flaring. This could represent an economic opportunity: the UERs generated would be eligible for crediting, and gas which is captured and successfully brought to market can provide an additional revenue stream.
- 2.6 Analysis undertaken for the European Commission suggests that the flaring and venting of APG is estimated to result in GHG emissions, globally, of around 400 MtCO_{2e} per year. By contrast, as set out in the cost benefit analysis, suppliers in the need to deliver 10.4 Mt of GHG savings in 2020 to deliver the 6% GHG reduction target which is a small fraction of the total potential from UERs. Although what is likely to be deliverable through a UER scheme may be considerably lower, we consider nevertheless that a large pool of potential emissions reductions is available.
- 2.7 The use of UERs therefore represents a GHG offsetting mechanism. One of the most well-known GHG offsetting systems globally is the Clean Development Mechanism (CDM) under the United Nations' Kyoto Protocol (whereby a country with an emission-reduction or emission-limitation commitment under the Kyoto Protocol may implement emission-reduction projects in developing countries. Such projects can earn saleable certified emission reduction (CER) credits, each equivalent to one tonne of CO₂, which can be counted towards meeting Kyoto targets. For further detail see box below).
- 2.8 Whilst some CDM projects are projects to abate emissions from oil production, we estimate that there are insufficient numbers of this type of project accredited under the CDM to supply UERs. Further, using credits generated from CDM projects for the FQD target would amount to double-claiming and this must be avoided. A separate mechanism for the FQD is therefore required. However, it is proposed that the design, accreditation and verification of UER projects should conform to similar standards to the CDM. CDM projects must conform to International Standards (ISOs) for project accreditation and verification (specifically ISOs

¹² As defined in the FQD Article 7a implementing measure (Directive 2015/652).

14064, 14065 and 14066) and it is proposed that these standards should also apply to UER projects.

Our approach for this consultation

- 2.9 Owing to ambiguities in the legislation and the ongoing need to agree consensus among Member States on certain details, at the present time we intend to legislate for the core elements of the proposed UER scheme only. Discussion around how to provide for other areas of the UER scheme where ambiguities remain – for example, on assessing a project baseline – will need to continue.
- 2.10 We anticipate that the areas where discussion is ongoing will be addressed with national guidance, on which we propose to consult separately in due course. As such, here we have used two categories of question. Firstly, to seek agreement for the core elements of the UER scheme for which we intend to legislate, and secondly, to request wider views on the areas which will be covered by national guidance and subject to further consultation.

What is required for an upstream emission reduction project?

- 2.11 Provisions for UERs are set out in FQD Article 7a and the associated implementing measure (Directive 2015/652). In addition, the European Commission has worked with Member States and stakeholders to produce guidance to help support a uniform application and level playing field for the use of UERs across Member States. The guidance was published on 25 November 2016 and, although it is not binding, we will have due regard to the guidance when implementing the Directive.
- 2.12 As set out in Directive 2015/652 and guidance, UER projects must meet a number of criteria relating to (1) their eligibility, (2) how the GHG savings are calculated, and (3) how fuel suppliers should report them. These are included in our proposal for a UER scheme below.
- 2.13 The key UER eligibility criteria, the methodology to calculate the GHG savings, and UER reporting requirements, as set out in the Directive, implementing measure and non-legislative guidance, are as follows:

Eligibility criteria:

- UERs shall only be applied to the upstream emissions part of the average default values for petrol, diesel, compressed natural gas (CNG) or liquefied petroleum gas (LPG).¹³
- UERs originating from any country may be counted as a reduction in greenhouse gas emissions against fuels from any feedstock source supplied by any supplier.
- UERs shall only be counted if they are associated with projects that have started after 1 January 2011.
- It is not necessary to prove that UERs would not have taken place without the reporting requirement set out in Article 7a of the FQD.

¹³ The values are 11.0 gCO₂e/MJ for petrol, 11.3 gCO₂e/MJ for diesel, 9.1 gCO₂e/MJ for compressed natural gas, 15.0gCO₂e/MJ for liquefied natural gas, and 6.2gCO₂e/MJ for LPG. This means that there is a maximum number of UERs it is possible to redeem against a given quantity of fuel from a particular source.

- UERs can only be claimed in the corresponding calendar year.¹⁴
- Emissions reductions must have occurred before they can be claimed (i.e. it is not permitted to claim emissions savings that are expected to occur in the future as a result of a project).

Calculation methodology:

- UERs shall be estimated and validated in accordance with principles and standards identified in International Standards, and in particular ISO 14064, ISO 14065 and ISO 14066.
- Emissions savings must be calculated as the difference between the GHG emissions and / or removals (for the project) and the baseline scenario in CO₂e. The baseline is defined (in ISO 14064-2) as a counterfactual *"hypothetical reference-case that best represents the conditions most likely to occur in the absence of a proposed GHG project"*.

Reporting requirements:

- Fuel suppliers shall report the following to the authority designated by Member States:
 - The project start-date, which must be after 1 January 2011;
 - The annual emissions reductions in gCO₂e;
 - The duration for which the claimed emissions reductions occurred;
 - The project location;
 - The baseline annual emissions and the emissions reductions occurring in consequence of the application of the reduction measures;
- Non-reusable UER certificate numbers¹⁵ relating to the scheme, claimed GHG reductions and calculation method;
- Where the project relates to oil extraction, the average annual historical and reporting year gas-to-oil ratio (GOR) in solution, reservoir pressure, depth and well production rate of the crude oil.

2.14 Further UER characteristics are also described in the guidance. These include:

- The need for fuel suppliers to ensure that UERs reflect real emissions savings and are not being counted more than once (i.e. claimed by other suppliers or redeemed for compliance with other Regulations). For example, upstream emission reduction credits certified under the Clean Development Mechanism (CDM) or Joint Implementation (JI) mechanism may be eligible if not already claimed as Certified Emissions Reductions (CERs) under the CDM, or Emission Reduction Units (ERUs) under JI. Further information on the CDM and JI is given below;
- The need for UERs to offer savings which are 'additional' in comparison to the project baseline (i.e. the project baseline to reflect conditions most likely to occur in the absence of the proposed GHG project (ISO 14064-2 Article 0.3), and

¹⁴ UERs can only be claimed during the calendar year during which they were created. They cannot be aggregated over the full period of UER project eligibility (1 Jan 2011 - 31 Dec 2020).

¹⁵ The non-reusable certificate number refers to the unique UER identifier code which will be applied to each batch of UERs. This will reduce the risk of over-claiming on any single project. The unique identifier should include identification of the first and the last unit of emission reduction in a batch, and also locational data for the project. Member States will need to agree a single common method to generate and apply certificate numbers to batches of UERs.

should include “*legislative [and] economic...assumptions*” (ISO 14064-2 Article 5.4)). Examples of how this might be applied are included below;

- The provision that, according to the scope of the adopted FQD implementing measures, all UER projects globally available (i.e. associated to any country and crude oil feedstock) that started after 1 January 2011 are eligible - regardless of whether fuels from these projects are supplied to the European market or not. UERs and the projects from which they are generated can be entirely separate to the physical supply of fuel.

The Clean Development Mechanism and Joint Implementation

Background

Countries with commitments under the Kyoto Protocol to limit or reduce greenhouse gas emissions must meet their targets primarily through national measures. However, as an additional means of meeting these targets, the Kyoto Protocol introduced three market-based mechanisms, creating what is now known as the 'carbon market.'

The mechanisms comprise a) the Clean Development Mechanism (CDM); b) Joint Implementation (JI); and c) Emissions Trading.

CDM and JI are project-based mechanisms which feed the carbon market. The CDM involves investment in emission reduction or removal enhancement projects in developing countries that contribute to their sustainable development. JI enables developed countries to carry out emission reduction or removal enhancement projects in other developed countries.

How the CDM and JI work

The CDM allows emission-reduction projects in developing countries to earn certified emission reduction (CER) credits, each equivalent to one tonne of CO₂. CERs can be traded and sold, and used by industrialized countries to meet a part of their emission reduction targets.

The mechanism stimulates sustainable development and emission reductions, while giving industrialized countries some flexibility in how they meet their emission reduction limitation targets.

CDM projects are subject to CDM methodologies, as a way of ensuring that projects meet the required project, validation and verification standards. The CDM methodologies draw on International Standards including ISOs 14064, 14065 and 14066.

Under Joint Implementation, countries with commitments under the Kyoto Protocol are eligible to transfer and/or acquire emission reduction units (ERUs) and use them to meet part of their emission reduction target.

JI projects are subject to the JI guidelines, which include eligibility requirements and criteria for baseline setting and monitoring.

The role of UERs from CDM- / JI-accredited projects

The UER guidance permits the use of emissions reductions originating from projects accredited to the CDM / JI to count towards fuel suppliers' 6% FQD targets as UERs. However, such reductions may only be eligible in this way if they have not been already credited as CERs / ERUs; or, if they have been credited as CERs / ERUs, those credits have been cancelled.

If emissions reductions generated from CDM- / JI-accredited projects meet the FQD eligibility criteria, they may be credited as UERs.

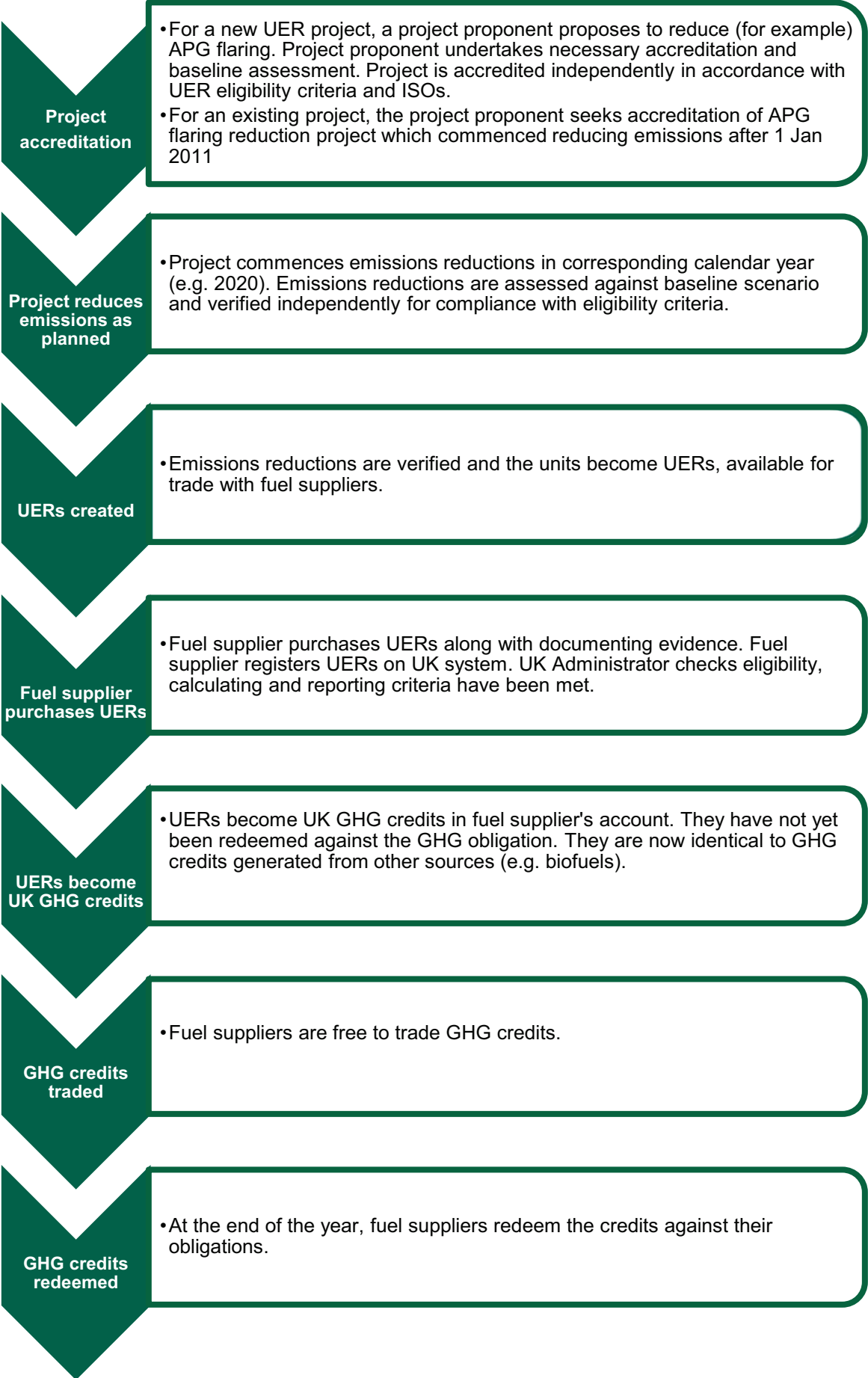
Considerations

We are not certain how UERs may be available from CDM- / JI- accredited projects. We are aware that significant quantities of upstream emissions are produced in countries where there are no CDM / JI projects. However, we consider that there may be some demand for UERs generated from CDM / JI projects if the UER certificate price is higher than the credit price for CERs / ERUs.

The role of upstream emission reductions: from origin to redemption against a fuel supplier's obligation

- 2.15 UERs would be created and verified through a UER project, pass to a fuel supplier and into the UK GHG credit system, and ultimately be redeemed against a fuel supplier's GHG obligation.
- 2.16 The typical passage of UERs from the point of creation to the point of redemption against a fuel supplier's obligation is set out at figure 4 in the next page.

Figure 4 Typical passage of UERs from point of creation to point of redemption



Standards and methods to verify emissions savings from upstream emission reductions projects

Proposal for an upstream emission reductions scheme

Context

- 2.17 The preferred policy option to deliver the requirements of the FQD (option 2b) set out in the accompanying cost benefit analysis runs from 2018 to 2020 and has a buy-out price of £74/tonne CO₂ (which is based on the 2020 'non-traded sector'¹⁶ central carbon value). At this level, the buy-out price is thought to be sufficient to support a wide range of FQD compliance measures including existing CDM-approved UER projects, existing non-CDM-approved UER projects, new UER projects, alternative fuels and improved biofuel GHG savings. We estimate the maximum potential cost associated with this option to be £170m (2015 prices) in 2020 which equates to an additional 0.42 ppl (including VAT, 2015 prices) on the pump price. In reality, the cost is likely to be lower as fuel suppliers are expected to source GHG credits at a cost lower than the buy-out price.
- 2.18 We believe that this proposal presents the most balanced approach, because a £74/tCO₂ buy-out price gives fuel suppliers access to a wide range of GHG saving options, places moderate costs on suppliers and does not encourage the need for additional biofuel consumption. Setting the buy-out price in line with the 'non-traded' carbon value should align the incentives provided through this mechanism with wider Government climate change policy.
- 2.19 In addition, this option should allow us to build towards longer-term stability post-2020. By trialling this mechanism to deliver genuine GHG reductions through UERs, we are more likely to be able to assess its potential usefulness post-2020. UERs could also be helpful in the longer-term if the availability of sustainable renewable fuels turns out to be less than anticipated, and also in mitigating concerns around an increase in more polluting unconventional fossil fuels in the mix.

Detail

- 2.20 The main characteristics of our proposed UER scheme, as set out in legislation and the guidance, are as follows. Whilst we intend to legislate for core elements of the UER scheme, in some areas we consider that national guidance will be required to provide an adequate application of the provisions of the Directives, the non-legislative guidance and the ISOs. The guidance would be subject to further consultation in due course. This is indicated where appropriate.

¹⁶ The non-traded sector refers to UK CO₂ emissions which are not covered under the EU ETS carbon trading system (e.g. transport sector and household emissions)

A. Core upstream emission reductions criteria for which we intend to legislate

Origin

- 2.21 UERs can originate from any country in the world.
- 2.22 UERs can be counted as a reduction in greenhouse gas emissions against fuels from any feedstock source supplied by any supplier. However, we propose to restrict applications of GHG Credits for UERs to suppliers of fuels. Traders of fuel, as distinct from suppliers of fuel in the UK, and electricity providers who register to open an account with the Administrator of the GHG Obligation would not be eligible to make claims for GHG Credits for UERs.
- 2.23 There is no requirement that fuels resulting from operations with UER projects are physically supplied to the European market, nor that there is a physical link to the European transport sector.

Reporting

- 2.24 Fuel suppliers' reporting obligations must include the information set out in the implementing measure, as listed at 2.13 above (see 'reporting requirements').
- 2.25 The maximum UER claim cannot be greater than the estimated upstream emission part of the default values (see footnote to para 2.14 above).

Eligibility

- 2.26 Only UERs generated during the corresponding calendar year are acceptable, originating from projects with UER start-dates registered after 1 January 2011. This means that for the FQD reporting period of 2020, only UERs generated during that year may count towards fuel suppliers' obligations.
- 2.27 Proponents of UER projects do not have to prove that the project was the result of the requirement in the FQD. UER projects can happen for other reasons and still be eligible.
- 2.28 Some flaring and venting of APG occurs in regions of the world where legislation governing flaring / venting may not exist or, if it does exist, it may not be uniformly applied. Further, in some regions, efforts to reduce flaring / venting may take the form of voluntary agreements / capacity-building initiatives through multilateral development organisations like the World Bank, or non-binding voluntary targets / commitments. We consider that to accept UERs generated under these circumstances carries both advantages and disadvantages.
- 2.29 If legislation prohibiting flaring is unenforced, it is likely to be challenging to impose the required standard of scrutiny and verification on projects operating under such circumstances. This could mean that rewarding such emissions reductions with UERs is difficult, for verifiers and also Member State Administrators. There are also considerations around the political acceptability of providing reward for actions which a regional administrator may be required in domestic law to carry out themselves (i.e., working with oil producers to reduce flaring / ensuring that flaring does not take place).
- 2.30 However, accepting UERs generated under such circumstances could bring benefits, in terms of GHG emissions reductions, improving the local environment in regions where flaring is commonplace, improvements in technical capacity and knowledge-building through multilateral agreements. UER projects could bring useful infrastructure investments and improve the efficiency of oil extraction operations. Encouraging some countries to act on climate change in this way is consistent with the ambition of the United Nations Framework Convention on

Climate Change (UNFCCC) Paris agreement. Maximising the number of countries eligible to produce UERs is likely to increase the quantity of UER credits available.

Q6: Do you agree with our proposal to legislate for the criteria covering the origin, reporting and eligibility of UERs?

B. Upstream emission reductions criteria to be covered in national guidance and subject to further consultation. Here, we indicate possible ways to provide for them

Baseline and emissions reductions

- 2.31 UERs are acceptable from projects that have demonstrated emissions reductions against the baseline scenario, as set out in the guidance.
- 2.32 On baseline: *"ISO 14064-2 Article 3 defines the baseline as a counterfactual 'hypothetical reference-case that best represents the conditions most likely to occur in the absence of a proposed GHG project', and states that 'a baseline scenario determined using a project-specific approach represents what would occur in the absence of a project'".*¹⁷
- 2.33 On emissions reductions: *"Emissions savings must be calculated as 'the difference between the GHG emissions and/or removals... for the project... and for the baseline scenario' in gCO₂e. This calculation should follow the principle of conservativeness".*¹⁸
- 2.34 The same requirements for assessing baseline and calculating emissions reductions apply to projects in the past as well as in the future.
- 2.35 Further consideration is given below. We consider that national guidance may be required to ensure adequate provision for the setting of the baseline and calculation of emissions reductions. Examples of how national guidance could be applied are given below.

Baseline and emissions reductions: further consideration

The guidance does not specify exact criteria or methodologies for calculating a project baseline or GHG emissions reductions as measured against the baseline. Directive 2015/652 requires baseline emissions and UERs to be monitored, reported and verified in accordance with ISO 14064. The guidance refers to ISO 14064 Part 2 for criteria for assessing project baselines and calculating emissions in the UER project and baseline scenarios. Some examples of how this might look are given below.

Baseline

ISO 14064 Part 2 sets out that *"the project proponent shall select or establish criteria and procedures for identifying and assessing potential baseline scenarios..."* It also sets out at Article 5.7 criteria that project proponents should consider, including *"other relevant information concerning present or future conditions, such as legislative, technical economic, sociocultural, environmental, geographic, site-specific and temporal assumptions or projections."*

¹⁷ Source: non-legislative guidance on UERs

¹⁸ Source: non-legislative guidance on UERs

Emissions reductions

ISO 14064 Part 2 sets out that *“the project proponent shall select or establish criteria, procedures and / or methodologies for quantifying GHG emission reductions during project implementation. The project proponent shall apply the criteria and methodologies selected or established to quantify GHG emission reductions or removal enhancements for the GHG project.”*

The Administrator could avoid setting any specific minimum compliance requirement for assessing baseline and calculating emissions reductions - and instead leave these for the verifier to determine. Conversely, as per ISO 14064-2 Article 5.4, the Administrator could specify these criteria and define procedures and methodologies to which project proponents would need to adhere.

Baseline and emissions reductions: examples of how national guidance could be applied.

The below examples are illustrative only, and set out two possible courses of action the Administrator could take in applying national guidance. Example 1 includes a table representing how a project proponent might assess the project against each of the criteria from ISO 14064-2 5.4 for a hypothetical project. It is not intended to show how each criterion should be treated in all cases, because each project will bring its own unique set of circumstances.

Example 1

For baseline, the Administrator could set out in national guidance that project proponents are to demonstrate a minimum level of compliance with each of the criteria set out at ISO 14064-2 5.4 (see above). This could mean providing evidence that consideration had been given to each criterion. Such evidence could take the form of a written report demonstrating how each criterion had been considered and evaluated, and then fed into the overall baseline calculation. This report would then be subject to independent scrutiny and verification.

Taking the specific criteria listed at ISO 14064-2 5.4, a project proponent would need to demonstrate consideration of these criteria and show that in each case (where relevant) they had been included in the baseline. This might be done in the following way:

Criterion	Consideration given	Outcome
Legislative	National legislative change imminent to limit quantity of greenhouse gas emissions from oil production	Legislative change requires a reduction in flaring / venting during FQD commitment period. Projected 20% reduction in GHG emissions. Must be included in baseline; cannot count as UERs
Technical	Infrastructure development renders limited capture and sale of APG economic	Installation of gas pipeline infrastructure nearby means 10% of APG can be captured for sale. Must be included in baseline; cannot count as UERs

Economic	Cost of importing electricity increases to the point where capturing APG for electricity generation on-site is economic	25% of APG is used for electricity generation and cannot count as UERs
Sociocultural	No sociocultural factors apparent	N/A
Environmental	The above legislative consideration is also environmental	As above at 'Legislative'
Geographic	No geographical factors apparent	N/A
Site-specific	Well is mature; some decline in oil output projected for 2020 with a corresponding 1% decline in APG production	Projected 1% decline in APG production and associated GHGs from flaring must be included in baseline; cannot count as UERs
Temporal	The above site-specific consideration is also temporal	As above at 'Site-specific'

For emissions reductions, the Administrator could set out in national guidance that a project proponent is to demonstrate evidence that they had established criteria, procedures and methodologies for quantifying emissions reductions. As above, this could take the form of a written report setting out each in detail, and be subject to independent scrutiny and verification.

Advantages:

UERs generated in this way are likely to represent a significant degree of additionality (i.e. be additional to other emissions reductions) because projects would have to comply with a methodology that does not include the possibility of emissions reductions which had come about for reasons other than the specific intention to reduce emissions.

Disadvantages:

The number of projects could be limited, such that insufficient UERs would be generated to meet demand. These are likely to be more expensive and potentially the price could become prohibitively expensive. In this case, the investment case for projects would be weaker, as the UER scheme itself has a short duration and the credit price is uncertain.

Example 2

For baseline, the Administrator could avoid placing in national guidance any requirement other than the project proponent needing to 'consider' the criteria set out at ISO 14064-2 5.4. This is essentially what is currently required by the legislation. In reality therefore, a project proponent might provide confirmation simply that they had considered the criteria, but without any further detail. This could take the form of a written report and be subject to independent scrutiny and verification.

For emissions reductions, the Administrator could set out in national guidance that the project proponent is to provide confirmation that they had established criteria, procedures and methodologies for quantifying emissions reductions; but would not necessarily require any detail.

Advantages:

UERs generated in this way are likely to be more plentiful and in consequence less expensive.

Disadvantages:

UERs generated in this way could have occurred for reasons other than the desire to reduce emissions, and therefore would not carry the same degree of 'additionality' as those in example 1. If more projects became eligible as a result, there could be an abundance of credits which may depress the price.

- 2.36 We consider that a minimum baseline standard set out in national guidance is the best policy option. If there is no requirement to demonstrate any evidence of consideration given to the criteria listed at ISO 14064-2 5.4, the risk that UERs do not represent 'additional' GHG savings is increased. With no requirement to demonstrate compliance with the criteria, projects which were due to happen anyway (e.g. for technical / economic reasons) could be included as eligible UER projects. We consider that this is contrary to Directive 2015/652 Annex 1 Part 1, 3, d, ii which requires UERs to be monitored, reported and verified in accordance with ISO 14064 (which includes an additionality requirement).

Q7: We would welcome views on assessing a UER project baseline, and calculating emissions reductions against the baseline. Do you consider that requiring a minimum standard in national guidance for each criterion listed at ISO 14064-2 5.4 is the best way to ensure that UERs are additional?

Verification and validation

- 2.37 UERs are acceptable from projects where conditions relating to their verification and validation have been met. Verification and validation of UER projects falls to established third-party organisations. Directive 2015/652 sets out that the verifying organisation must itself be accredited in accordance with ISO 14065, and that the verification of methods for estimating UERs must be done in accordance with ISO 14064 Part 3.
- 2.38 The question of appointing or accrediting verifiers is not addressed in the FQD implementing measure, the guidance or the ISOs. We consider that this should be addressed in national guidance, in order to ensure that verification bodies auditing UERs can fulfil the requirements of the ISOs. This could mean limiting the number of certification bodies eligible to accredit UERs. For example, verifiers already approved under the CDM would be acceptable on the basis of possessing the relevant expertise in auditing emissions reduction projects. Further consideration is given below.

Verification and validation: further consideration

We consider that the accreditation of the verifiers is outside the scope of the role of the Administrator. However, we could place a requirement in national guidance on the Administrator to ensure that, in accepting UERs, certain conditions relating to their monitoring and verification have been met. This could mean that the UK would accept UERs accredited by specific verification bodies only.

The absence of a methodology for the appointment of the verifiers could result in non-specialist organisations acting as UER verifiers. This could increase the risk that the UER criteria may have been only partially fulfilled.

Q8: We would welcome views on the verification and validation of UER projects, including how verifiers should be appointed, and what the role of the Administrator should be - if any - in appointing verifiers.

Chain of custody

- 2.39 UERs reported with the information required by Directive 2015/652 (set out above) are acceptable.
- 2.40 It will be necessary to ensure that any particular batch of UERs from a given project may only be claimed against FQD GHG emission reduction obligations once. The non-legislative guidance sets out that coordination between Member State Administrators is needed to ensure this, including the need for Member States to provide access to batch numbers, unique project identifiers and information on the location of projects. At the present time, we have not explored how this could work in practice. Suppliers will need to provide evidence that multiple claiming has not happened. This could include a statement from a verifier. Further consideration of verification is given below.
- 2.41 The necessary steps to be taken in order to identify any multiple claiming will differ, depending on whether administrators have access to a secure, central, pan-European database containing information on all UERs claimed by EU suppliers.
- 2.42 Such a database would display each unique identifier and all the required information on UERs, and would be accessible to all Member States. Activity on UERs, including whether they had been claimed and when, could be seen at a glance.

Chain of custody: further consideration

In the absence of a central administrative database we would need a standard to ensure UER reporting were adequate and to reduce the risk of fraud / double-claiming. We could set out in national guidance that a specific verification standard should be used (for example, ISAE 3000) which would be consistent with our approach to the Renewable Transport Fuel Obligations (RTFO) Order.

Q9: We would welcome views on our proposal to adopt a specific verification standard (like ISAE 3000) and/or other standards, in the absence of a central UER administrative database. Do you consider that ISAE 3000 would be adequate to minimise the risk of multiple claiming in the event a central database is not available?

Kyoto protocol flexible mechanisms

- 2.43 As set out above, emissions reductions generated from CDM and JI projects may be acceptable towards the FQD 6% target as UERs, provided they have not been credited against either. Credits would be acceptable only providing certain conditions (to be determined) relating to their monitoring and verification have been met.
- 2.44 UERs from Kyoto Protocol (KP) projects may be eligible provided that they meet the requirements of the UER scheme. We anticipate that they would under certain criteria, because the CDM methodology is considered to be rigorous. However, in the case of the temporal eligibility of UERs from CDM projects for example, UERs would only be eligible if they had been generated during 2020, from projects that started after 1 Jan 2011.
- 2.45 Further consideration is given below.

Kyoto Protocol flexible mechanisms: further consideration

We have discussed with other Member States the possibility of accepting UERs from projects accredited to the Kyoto Protocol flexible mechanisms (the Clean Development Mechanism, CDM, and Joint Implementation, JI) only.

We understand that the current credit price under the CDM and JI means that project proponents may consider redeeming unclaimed CDM and JI credits as UERs, should the UER credit price be more favourable than what is achievable for CERs / ERUs and therefore make doing so economically viable.

If a UER scheme were to accept only credits generated from projects accredited to the Kyoto Protocol flexible mechanisms, it could make designing the UER scheme more simple. In the case of credits from CDM projects, there would be no need for additional scrutiny of projects or verification of emissions reductions because the existing CDM methodology is adequate.

A possible limiting factor of this approach could be the availability of suitable credits. CDM projects are limited to certain countries, and analysis shows that significant quantities of flaring from oil production operations occurs in countries where there are no CDM projects.

Q10: We would welcome comments on the possibility of accepting credits generated from the Kyoto Protocol flexible mechanisms, such as the Clean Development Mechanism and Joint Implementation projects, including any advantages and disadvantages.

Upstream emission reductions administration

- 2.46 As set out at Figure 4, upstream emission reduction projects will generate emissions reductions which may be divided into units representing a given quantity of CO₂e saved. Such units may then be purchased by UK fuel suppliers wishing to use them to help meet their obligations.
- 2.47 The effective administration of UERs, including transfer from the point at which they are created to the point at which they are redeemed against fuel suppliers' obligations, is essential to ensuring that the scheme runs efficiently and the risk of fraud / double-claiming is kept to a minimum. Agreement has not yet been reached around how best to administer the transference of UERs. Options are considered at Chain of Custody below.
- 2.48 For the purpose of redeeming UERs against supplier GHG obligations, it is proposed that UERs should be converted into UK GHG credits, to an equivalent quantity of CO₂e (see chapter 2). The credits awarded for UERs would be the same as any other UK GHG credits and could be traded in the same way.
- 2.49 Such credits could not then be used outside of the UK scheme.
- 2.50 Such credits could be revoked at a later date if evidence was later found to be incorrect.

Q11: Do you agree with the proposal that UER credits should count as GHG credits against a fuel supplier's obligation?

3. Supporting electric vehicles

The FQD as amended allows electricity used in electric vehicles to contribute towards fuel suppliers' 6% GHG reduction targets.

We propose that suppliers of electricity used in electric vehicles (EVs) can choose to claim GHG credits which can be traded with fuel suppliers who need GHG credits to meet their GHG obligations. This will provide additional support to the electrification of the vehicle fleet.

Whilst the proposed GHG target ends after 2020, we are also seeking views on whether this, or a similar mechanism, could be used to provide support for the electrification of the vehicle fleet post-2020, for example through the inclusion of electricity in the Renewable Transport Fuel Obligation (RTFO).

The potential for electricity used in electric vehicles to contribute towards suppliers' greenhouse gas targets

- 3.1 We estimate that in 2020, the use of electricity in road vehicles in the UK will deliver GHG savings of up to approximately 125,000 tonnes CO₂e to meet the 6% GHG target. This is approximately one hundredth of the total GHG savings that need to be delivered by fuel suppliers in the UK in order to meet their 6% GHG reduction targets.
- 3.2 Using a buy-out price of £74/tonne CO₂e (the central scenario from the cost benefit analysis), the maximum reward available for electricity in 2020 would be ~£9.25 million. The actual reward will be determined by the market for GHG credits.

Supporting further electrification of the vehicle fleet

- 3.3 Enabling electricity suppliers to become contributors to fuel suppliers' 6% GHG reduction targets means giving electricity suppliers the option to claim GHG credits. There will be no requirement to claim GHG credits. Any credits claimed can then be traded with fuel suppliers needing credits to meet their obligations. Any commercial transaction associated with that transfer will be a matter for the parties concerned to negotiate.
- 3.4 In order to encourage any value generated by this mechanism towards supporting further vehicle fleet electrification, we propose that the approach used to determine the amount of electricity supplied by the party claiming the GHG credits will involve the confirmation of that amount by the entity who supplies the electricity to the end user. This means that companies supplying the end user (for

example, charge point operators) would be able to monetise data they have on the use of electricity in electric vehicles, should they wish to do so.

- 3.5 Note that policies such as the Renewables Obligation (RO) and Feed-in Tariff (FiT) already have the objective of encouraging electricity suppliers to lower the GHG intensity of grid electricity. Our policy objective is to support the use of this lower carbon energy source in transport.

How the greenhouse gas savings delivered by electricity used in electric vehicles are determined

- 3.6 The GHG emissions resulting from grid electricity are a function of the fuel mix from which the electricity is generated. In the UK, electricity from coal, natural gas, nuclear and renewables combines to produce an average GHG emission value per unit of delivered electrical energy.
- 3.7 The Department for Business, Energy and Industrial Strategy (BEIS) predicts that in 2020, grid electricity for domestic applications (which will constitute the majority of electricity used in EVs) will have GHG emissions of 0.265 kgCO₂e/kWh.¹⁹
- 3.8 The FQD applies an electric powertrain efficiency multiplier of 0.4. This is because the powertrain (the main components in a vehicle that generate power and deliver it to the road surface) in an electric vehicle achieves a more efficient energy conversion than the powertrain in an internal combustion engine vehicle.
- 3.9 Using this efficiency multiplier, electric road vehicles charged using UK grid electricity are predicted to produce 29.4 gCO₂e/MJ in 2020. This represents a saving of 69% below the FQD fuel baseline standard of 94.1 gCO₂e/MJ.²⁰

Enabling the greenhouse gas savings delivered by electric vehicles to contribute towards suppliers' targets

- 3.10 As set out above, we propose that suppliers of electricity for electric vehicles would be eligible to participate in the GHG reduction mechanism and receive reward – in the form of GHG credits – for savings delivered beyond what is needed for the GHG target. Electricity suppliers could then trade such credits with fuel suppliers. How this would work is set out below.

Q12: Do you agree that enabling electricity suppliers to receive GHG credits - which they can trade with fuel suppliers who need them - is the best way that the GHG saving from electricity used in electric vehicles can contribute to other fuel suppliers' GHG obligations?

¹⁹ <https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal>, data table 1

²⁰ Using BEIS data, 0.265 kgCO₂e/kWh converts to 73.61 gCO₂e/MJ. Using the efficiency multiplier, 73.61 x 0.4 = 29.4gCO₂e/MJ. The FQD target value is 88.45gCO₂e/MJ, so the value for electricity is predicted to be below the target in 2020. This represents a GHG saving of 69%.

Determining which electricity suppliers are eligible to claim greenhouse gas credits

- 3.11 The FQD defines a 'supplier' as: *“the entity responsible for passing fuel or energy through an excise duty point or, if no excise is due, any other relevant entity designated by a Member State”*.
- 3.12 The duty point for electricity occurs between the licenced electricity supplier and the end user. Therefore, electricity suppliers under the GHG regulations will be the same as licenced electricity suppliers administered by the Office of Gas and Electricity Markets (Ofgem). There are approximately 80 active suppliers at present.
- 3.13 To claim GHG credits, these suppliers must be able to demonstrate they have supplied electricity for use in EVs.

Determining how much electricity supplied by a particular supplier has been used in electric vehicles

Proposed approach

- 3.14 In order for an electricity supplier to claim GHG credits, they must report how much electricity has been used in EVs. Article 7a of the amended FQD sets out that they must be able to *“adequately measure and monitor electricity supplied”*. Whilst there is no further definition of 'adequately', Recital 11 of Article 7a does set out that in order to limit administrative costs it is appropriate that the calculation method (to determine how much electricity has been used in an EV) be based on an estimate rather than on an actual measurement of the consumption of electricity in an electric road vehicle, for the purpose of supplier reporting.
- 3.15 By 2020 we consider it likely that methods to measure directly individual EV electricity use (for example, variant 'twin element' smart meters and charge points with data logging capability) will be more widely available than at present. For the electricity not measured in this way, we propose that the use of estimates based on a sample of actual usage data should be allowed.
- 3.16 Whilst only electricity suppliers can claim GHG credits, usage data (actuals or estimates) is likely to be held by other infrastructure operators, for example charge point suppliers, owners and operators.
- 3.17 These infrastructure operators therefore have a central role to play in this policy, as explored below.

Alternative approach (not favoured)

- 3.18 Using actual data combined with estimates is not the only way to calculate the quantity of electricity used in EVs. We have examined an alternative option, which uses estimates of electricity used in EVs across the whole market, instead of linking directly to metered data (whether as an actual measurement or combined with estimates of usage).
- 3.19 This approach would use a nationwide estimate of total EV electricity demand in each of the years that the GHG target applies, i.e. 2018, 2019 and 2020. This total demand would be multiplied by the average grid electricity GHG emissions value for the same period to provide a total GHG emissions value. From this value the

saving relative to the FQD target value could be calculated in tonnes of CO₂. This saving would then be shared among electricity suppliers according to their market share.

- 3.20 This approach is more straightforward and easier to administer. However, we consider it less desirable when compared to directing the reward more closely to the delivery of electricity to EVs, for the following reasons:
- This method would not achieve equitable treatment between electricity suppliers as it is unlikely to reflect what electricity suppliers had actually supplied to EVs. Some would not receive the full reward potentially available to them whilst others would receive greater reward than they should.
 - We are also aware of the necessity to ensure fairness of treatment between electricity and fuel suppliers. Fuel suppliers must demonstrate a chain of custody for renewable fuels supplied and also provide data demonstrating that biofuels comply with sustainability criteria. Data must also be verified independently. Estimating electricity usage in EVs and providing reward based on market share would, effectively, exempt electricity suppliers from the burden of proof requirement which is applied to fuel suppliers.
 - This approach would not provide a driver to direct the reward towards electricity used in EVs. This means that the reward is unlikely to pass down the supply chain, weakening the incentive for further investment in EV infrastructure.

Obtaining data on electricity used in electric vehicles

- 3.21 In most cases, electricity suppliers do not hold or have access to charge point usage data. For electricity suppliers to be able to report charge point data to the Administrator and receive reward, most would need the agreement of the owners of that data (the infrastructure operators) to access it.
- 3.22 How that agreement is secured would be for electricity suppliers and infrastructure operators to determine. In keeping with the legislative requirement on electricity suppliers only, we do not propose to place any legislative requirement on infrastructure operators.
- 3.23 Should electricity suppliers choose to apply for GHG credits, they will be required to provide accurate data which will be subject to verification. There would be no requirement placed on charge point operators.

Availability of charge point data

- 3.24 At present, the majority of electricity supplied to EVs (~20% via public charge points and ~80% via private domestic charge points) is monitored, either via meters,²¹ charge point data logs or by EVs themselves.
- 3.25 We have explored with Ofgem, BEIS and the Office for Low Emission Vehicles (OLEV) how much of that data could be available to electricity suppliers in the years 2018 – 2020. This is examined below.
- 3.26 Because there is uncertainty around this, we propose to consider allowing the use of estimates to make up any shortfall between available data for metered electricity and the estimated total electricity use.

²¹ Electricity suppliers have an obligation to offer smart meters to all domestic consumers in GB by the end of 2020. A variant “twin element” smart meter with the capability to separately meter EV charging is available.

Public-access charge points

3.27 Public-access charge points in the UK are capable of metering usage. Most are operated by third party organisations separate to electricity suppliers, so we would expect electricity suppliers to enter into agreement with charge point operators for access to data.

Domestic private charge points

3.28 The majority (~80%) of EV charging happens through domestic private charge points, and we predict that this will remain the case in 2020 and beyond.

3.29 Electricity is supplied to domestic private charge points by whichever electricity supplier the user of the charge point has chosen.

3.30 Of the metering options described above, the twin-element 'variant' smart meter offers the simplest way of reporting the data to the scheme Administrator because the electricity supplier is able to access the data directly and a charge point with data logging capability is not required.

3.31 Currently, most smart meters do not have a twin element capability. Such meters would need to be upgraded to the twin element variety. How widespread the use of variant smart meter technology will be in 2020 is at present uncertain. However, if electricity suppliers have an incentive to deploy variant smart meters we consider that there may be a greater likelihood that suppliers will choose to install variant smart meters. This is desirable because the more EV usage it is possible to meter, the more accurate the reward that can be applied.

3.32 Most domestic charge points are at present capable of logging usage data. Whilst electricity suppliers do not at present have access to the data log, it may be possible for electricity suppliers to request access to this data from infrastructure operators.

Using estimates of charge point data

3.33 We propose to allow estimates to supplement any shortfall in actual data, but only in cases where actual metered data is not available / usable.

3.34 In this way, electricity suppliers could receive a single set of data from the charge point operator (composed of actual and estimated data), where the distinction between actual and estimated data is of no consequence. This would make the reporting of that data to the Administrator and the provision of reward to the electricity suppliers simpler.

3.35 We intend to place a requirement on electricity suppliers, subject to verification, that actual data should be used where possible. This should mitigate the risk of an over-reliance on estimates.

3.36 Estimating data would require a methodology to be used, to ensure that estimates accurately represent typical charge point usage thus mitigating the risk of over / under reward. There are various options, as set out below:

- **A. Single default EV usage value applied to all charge points**

The Administrator estimates one single average charge point usage value (in kWh/month) across all charge points (for which data is not available). This would be extrapolated from all available usage data. This would make calculating the estimated value simpler but may not represent accurate charge point usage for individual charge points given the different types of charge point in use. **All electricity suppliers wishing to apply for GHG credits would therefore report**

the same usage data for charge points they supply, for which actual data is not available.

- **B. EV usage value specific to individual charge point operators**

Individual charge point operators estimate one average charge point usage values for themselves, extrapolated from all available usage data they have. This would provide a more accurate estimation because it would capture differences between each charge point operator's network (in terms of composition and usage patterns). However, as above it may not represent accurate charge point use because it does not differentiate between the different charge point types (i.e. the sample of 'actual data' from which the figure is calculated may not represent the particular charge point operator's wider network). **Electricity suppliers wishing to apply for GHG credits would therefore report data composed of one or more different charge point operator values, depending on how many charge point operators they supply**, for which actual data is not available.

- **C. EV usage value specific to charge point type**

Individual charge point operators estimate one average charge point value for each type of charge point in their network, based on the data they have available for each charge point type they operate. As charge point operators know the number and type of charge point they operate, this method is likely to be more accurate than A or B. **Electricity suppliers wishing to apply for GHG credits would therefore report data composed of one or more charge point usage values, depending on the type of charge points they supply**, for which actual data is not available.

- **D. Any of the above, but based on a smaller representative sample rather than all available data.** This may be preferential because it could take too much time / require more resource to gather all available data from which to calculate the estimate.

Q13: Do you agree with our proposed approach of using actual and estimated metering data?

Q14: Which of the proposed methodologies A-D (or combination of methodologies) do you prefer, and why? Do you have a proposal for an alternative methodology?

3.37 To be able to report usage data to the Administrator, electricity suppliers would need to know which infrastructure operators to approach for data. Generally, electricity suppliers do not know currently which of their customers has an EV charge point nor who the infrastructure operator is and we do not expect this will change between now and 2020.

3.38 A possible solution could be for the electricity suppliers to contact customers and request this information.

Q15: Do you agree with the proposal that electricity suppliers should contact their customers to ask if they have an EV charge point, and who the infrastructure operator is? Please set out any alternative suggestions for obtaining this data.

Reporting data

Reporting origin and place of purchase data

- 3.39 We propose not to apply the requirement in the FQD to report origin and place of purchase for electricity.
- 3.40 As set out at chapter 7, origin refers to the feedstock trade name (FTN) for crude oil or the production pathway for biofuels and therefore does not apply to electricity.
- 3.41 We do not consider it necessary to collect information on place of purchase for electricity because this is already known by BEIS / OFGEM.

Reporting the data to the Administrator in order to receive greenhouse gas credits

- 3.42 In order to receive GHG credits, electricity suppliers will need to submit an application to the scheme Administrator which should include:
- The amount of electricity supplied to EVs.
 - A verifier's statement or other evidence as required by the Administrator (see next section below).
 - The GHG intensity of the grid electricity.
- 3.43 The GHG intensity that needs to be reported would be calculated by the Administrator. The FQD Article 7a implementing measure (Directive 2015/652) sets out that "*Member States should calculate national average life cycle default values in accordance with appropriate International Standards*". We intend to use the average greenhouse gas intensity value (gCO₂/kWh) published annually by BEIS in the Fuel Mix Disclosure data table. Because the FMD data table covers the previous Financial Year reporting period, we intend to use the previous year's value.
- 3.44 Although the Directive gives Member States the option to allow electricity suppliers to calculate an individual GHG intensity value, we consider that this would be very complex to administer and disproportionate to the benefit from the policy, both in terms of financial reward and contribution to the FQD 6% target.
- 3.45 For consistency with fuel suppliers, we propose that electricity suppliers can choose how frequently they report charge point data, so long as final applications for GHG credits are received by the deadline (currently proposed as 1 May the following calendar year, see figure 5). Electricity suppliers may wish to report charge point usage data on a quarterly basis, to coincide with quarterly electricity volume data submissions to OFGEM.
- 3.46 From each application the Administrator would then work out the GHG saving and convert it into GHG credits which will be issued into the supplier's account.
- 3.47 GHG credits will be a tradeable commodity. Suppliers who have obligations will need them to demonstrate they have met those obligations. Please note that GHG credits issued in a particular year can only be met against a supplier's obligation for that year. So, for instance, a GHG credit issued in 2019 can only be used against the supplier's obligation for the 2019 period, but not for the 2020 period. See chapter 1.

Verification

- 3.48 Whilst the industry is still developing, it is possible that direct examination by the Administrator of evidence held by industry on energy supply will be feasible.
- 3.49 However, once significant numbers of submissions are being received, it may be necessary to require independent assurance (verification) of data. It is therefore proposed that the Administrator will be given powers to do this as necessary.
- 3.50 It is envisaged that this independent assurance would be similar to the verification of sustainability information already required under the RTFO, and therefore that it would be carried out using the standards set out in the International Standard on Assurance Engagements (ISAE) 3000.²²
- 3.51 In order to provide the Administrator with the required level of assurance over the data provided, we believe that it is necessary to require the more detailed 'reasonable' assurance level provided for under ISAE 3000 in order to ensure a comparable level of assessment with other energy upon which a reward is being claimed.
- 3.52 Alternatively, it may be possible for the Administrator to validate data directly with another regulator such as Ofgem E-Serve, in which case it would not be necessary to examine evidence directly, or require third party examination.

Q16: Do you consider that GHG credits will provide an incentive for electricity suppliers to obtain data on electricity used in EVs, and that in doing so, some of that reward will be passed to charge point operators?

Q17: Do you have alternative suggestions for how data could be verified / validated?

Supporting electricity used in transport post-2020

- 3.53 The GHG saving from electricity can receive GHG credits in 2018 – 2020. However, we have considered whether this policy could help deliver GHG savings and support the UK's EV sector in the longer-term. A possibility could be to include electricity in the Renewable Transport Fuel Obligation.

Q18: Do you agree that continuing to reward electricity used in EVs with GHG credits could be a way to incentivise investment in UK EV infrastructure (for example charge points) in the longer term? We would welcome suggestions as to how the reward could contribute to the development of EV infrastructure, or how future policies might direct support here.

²² [International Standard on Assurance Engagements \(ISAE\) 3000 Revised, deals with assurance engagements other than audits or reviews of historical financial information](#)

4. Setting the buy-out level to incentivise greenhouse gas savings whilst minimising costs

We are proposing to introduce a buy-out mechanism as part of the GHG obligation which means that suppliers can choose to pay a sum for any GHG savings not delivered. The buy-out mechanism places an upper limit on additional costs to protect customers.

In normal circumstances we would expect the buy-out mechanism to provide a commercial incentive to meet the obligation through acquiring GHG credits. It will also offer protection for consumers against unintended impacts: should the costs of obtaining GHG credits be higher than expected, it would protect the consumer from significant increases in fuel prices, thereby minimising costs to consumers.

This will operate in a similar way to the buy-out under the RTFO. As the GHG obligation is separate from the RTFO, any buy-out due for the GHG obligation will operate separately from buy-out due under the RTFO.

Background

- 4.1 Under the RTFO, certificates are awarded for renewable fuel supplied and used by suppliers as evidence of meeting their obligations to supply renewable fuel. The proposed GHG credit schemes would work in a similar manner. The RTFO gives obligated fuel suppliers the option to 'buy-out' of their obligation (i.e. pay a sum of money) rather than meet it by redeeming RTFCs.
- 4.2 The buy-out price under the RTFO is set at a level to protect the consumer against excessive price increases at the pump. The buy-out price effectively sets a maximum price for RTFCs as it is assumed that a supplier will choose to pay the buy-out rather than supply renewable fuel or purchase RTFCs at a higher cost.
- 4.3 In normal circumstances the obligation is met through the use of RTFCs, which are rewarded for the supply of sustainable biofuel. It is our experience that buy-out has not been used by suppliers as a commercial alternative to redeeming RTFCs.
- 4.4 We propose to introduce a buy-out provision under the GHG obligation that acts in a similar manner, namely, as a protection mechanism for consumers. The GHG obligation buy-out price will therefore be set at a level that in normal circumstances encourages suppliers to meet their GHG obligation by redeeming GHG credits because there is a commercial incentive to do so.
- 4.5 We anticipate that suppliers will achieve the majority of the 6% reduction in GHG emissions through acquiring GHG credits issued for the supply of sustainable biofuel (in particular biofuels with higher greenhouse gas emissions savings) and

the remainder would be met by claiming credits for UERs (see chapter 2 for detail on UERs).

- 4.6 We expect only a small contribution towards the 6% GHG reduction target to come from electrification and/or suppliers switching to fossil fuels with lower greenhouse gas emissions. Suppliers will have flexibility in meeting their GHG obligation through acquiring and redeeming GHG credits awarded to fuel and energy products supplied which have a lower greenhouse gas intensity than the target in the proposed GHG obligation, and through GHG credits rewarded to UERs.

Greenhouse gas obligation buy-out mechanism

- 4.7 In order to provide a scheme suppliers are familiar with, the GHG obligation buy-out will mirror, as far as possible, the buy-out mechanism in the RTFO. We propose that there will be no recycling of buy-out under the GHG Regulations. We are similarly proposing to remove recycling of any buy-out monies paid under the RTFO.
- 4.8 We are proposing an annual calendar year GHG obligation starting in 2018 and ending in 2020.
- 4.9 The Administrator will notify designated suppliers at the end of each obligation year of any shortfall in meeting the obligation in respect of GHG credits held in accounts so that suppliers may purchase GHG credits. If the supplier does not redeem sufficient GHG credits the Administrator will determine the buy-out payment due.
- 4.10 We propose that the Administrator will determine the amount of the buy-out payment due by multiplying the amount of additional CO₂ savings that the supplier would need to achieve the target by the buy-out price. At the end of the reporting year the Administrator will notify suppliers of their GHG obligation and suppliers would have until 10 September of the year following the obligation year to redeem sufficient GHG credits to meet the obligation. Full details of the timings proposed are set out in chapter 7.
- 4.11 Where a buy-out payment is not made, we propose that the Administrator would be able to take enforcement action including issuing a civil penalty notice. Details of the proposals for civil penalties are given in chapter 5.

Setting the right buy-out price

- 4.12 The cost benefit analysis sets out options considered by the Department in respect of the buy-out price (expressed in terms of pounds sterling per tonne of CO₂ above the target). The proposed option is for a medium buy-out price of £74/tCO₂. The anticipated effect of that buy-out price would be to limit the maximum impact of the GHG targets on 2020 pump prices to 0.42 ppl (based on 2015 prices) over the entirety of suppliers' GHG obligations. It is important to note that this is a maximum additional cost. The purpose of the buy-out mechanism and certificate trading is to minimise costs.
- 4.13 Under the GHG obligation buy-out owed by an individual supplier would be calculated per kilogram of CO₂ above the obligation, so at a rate of 7.4 pence per kilogram of CO₂ or, in other words, 7.4 pence for each GHG credit a supplier is short of their obligation.
- 4.14 The GHG obligation operates on a greenhouse gas emissions basis and the RTFO operates on a volume basis, and the obligations under the two schemes

would be met in slightly different ways. As a consequence it is not possible to provide a like for like comparison for the relative buy-out prices under the two schemes. However, as the buy-out price for the GHG obligation is set at a margin above the estimated costs of UERs, rather than at a margin above the costs of supplying more lower carbon fuels (which are more expensive), the buy-out price proposed for the GHG obligation is significantly lower than the RTFO buy-out price.

- 4.15 The preferred buy-out price is based upon the central Department for Business, Energy and Industrial Strategy (BEIS) 'non-traded' sector²³ carbon value projection for 2020. The non-traded carbon value is intended to reflect the marginal cost of achieving a global emissions trajectory consistent with an objective of limiting global surface warming to no more than 2 degrees above pre-industrial times by the end of the century. Therefore, setting the buy-out price in line with the 'non-traded' carbon value is intended to align the incentives with wider climate change objectives.
- 4.16 In considering these options our policy aim has been to set a level of buy-out price that provides a commercial incentive to acquire GHG credits whilst protecting consumers from significant price rises at the pump. In addition, we have considered the level of buy-out price that would be most cost effective in promoting the reduction of greenhouse gas emissions required by the amended FQD.
- 4.17 We also considered the costs and benefits of running a GHG obligation from 2018 (as opposed to just in 2020) and the optimum buy-out price.
- 4.18 A full set of options on the buy-out price and analysis of potential market impacts across a range of buy-out price levels are set out in the cost benefit analysis at Annex A. We are proposing Option 2b, i.e. a multi-year GHG obligation (2% in 2018, 4% in 2019, and 6% in 2020) with a medium (£74/tCO₂) buy-out price.
- 4.19 We consider that option 2b – which aligns the buy-out price with the 'non-traded' carbon price – is the most appropriate level at which to set the buy-out price, to achieve reductions in greenhouse gas emissions required by the amended FQD and to establish a market for UERs.

Interaction between the buy-out price paid in the Renewable Transport Fuel Obligations and Greenhouse Gas obligation

- 4.20 We expect that the proposed GHG obligation buy-out price will incentivise suppliers to meet their obligation by purchasing credits from existing UER projects, improving biofuel GHG savings and other measures, rather than buying out of their obligation.
- 4.21 However, should a supplier fail to acquire sufficient RTFCs (rewarded for the supply of biofuel under the RTFO) it is likely they will similarly have a shortfall of GHG credits and therefore incur a buy-out payment under both the RTFO and the GHG obligation.
- 4.22 Given the GHG obligation is a separate requirement from a supplier's obligation under the RTFO, we propose to make no provision to deduct any buy-out owed under the GHG obligation where a buy-out has been paid in the equivalent year under the RTFO. To do so puts at risk the effectiveness of the GHG obligation in

²³The non-traded sector refers to UK CO₂ emissions which are not covered under the EU ETS carbon trading system (e.g. transport sector and household emissions).

securing the reductions in greenhouse gas emissions necessary to meet the GHG target, as there would be a potentially much reduced commercial incentive to meet the obligation by acquiring GHG credits.

Q19: Do you agree that a medium buy-out price of £74/tCO₂ is the best option (option 2b in the CBA)? This would limit the maximum impact of the GHG targets on 2020 pump prices to 0.42ppl (2015 prices).

Q20: Do you have any other comments on the proposed approach for a new separate GHG obligation buy-out mechanism? If you have an alternative proposal please set it out.

Q21: Is there a better way we could minimise costs whilst still achieving the policy objective?

5. Civil penalties and revocation of greenhouse gas credits

Civil penalties

We are proposing to extend the Administrator's power to issue civil penalty notices in the GHG Reporting Regulations to include instances where a supplier fails to discharge their new obligation to reduce the greenhouse gas intensity of fuel/energy supplied (as proposed in chapter 1) and/or fails to take reasonable steps to ensure accurate information is provided in applying for GHG credits.

The purpose of these amendments is to ensure effective enforcement of the proposed new GHG obligation for fuel suppliers to demonstrate that they have achieved a 6% reduction in greenhouse gas emissions through redeeming GHG credits or, alternatively, have 'bought out' of their obligation (see chapter 4).

- 5.1 As set out in chapter 1 we are proposing to introduce an obligation on designated suppliers to demonstrate that they have achieved a 6% reduction in the greenhouse gas intensity of the fuel they supply through redeeming GHG credits.
- 5.2 As set out in chapter 4, we are also proposing to introduce a buy-out provision under the GHG obligation.
- 5.3 The new GHG obligation will be met by acquiring GHG credits. GHG credits will be awarded for:
 - supplying sustainable renewable fuels, including biofuels, renewable fuels of non-biological origin (RFNBOs) such as hydrogen, renewable avtur and renewable avgas used in aviation;
 - supplying fossil fuels which have a GHG intensity below the target level, such as LPG or CNG;
 - reporting applicable upstream emission reductions (UERs); and/or
 - for electricity used in transport.
- 5.4 The FQD requires member states to lay down the rules on penalties applicable to infringements of national provisions adopted to transpose the Directive, and also requires that these penalties should be effective, proportionate and dissuasive.
- 5.5 Both the GHG Reporting Regulations and the RTFO are underpinned by an enforcement regime based on civil penalties.
- 5.6 Under both schemes the Administrator has the power to impose civil penalties on suppliers for non-compliance with the respective requirements of the schemes,

e.g. for failing to register for an account or failing to provide accurate information and evidence to the Administrator.

- 5.7 We are proposing to extend the power of the Administrator in relation to civil penalties to account for the expansion of the GHG Reporting Regulations scheme to include a GHG reduction obligation, and powers that the Administrator will need to ensure the accuracy of information provided in support of applications for tradeable GHG credits.
- 5.8 At present the GHG Reporting Regulations do not set an obligation on designated suppliers to reduce the greenhouse intensity of their overall fuel supply. The GHG Reporting Regulations do though provide the Administrator with powers to issue civil penalties in Regulations 18 and 19. The circumstances in which these can be used include:
- failing to report GHG intensity of fuel supplied (Regulation 4(2));
 - failing to supply a verifiers report in respect of renewable transport fuel supplied (Regulation 6(1));
 - failing to provide supporting evidence of the GHG intensity of fossil and renewable transport fuel supplied; and/or
 - failing to ensure the accuracy of the information provided (Regulations 13(5) and 14(5)).
- 5.9 As set out in chapter 7 we are proposing to require new information to be reported by suppliers including on place of purchase and origin of fuels. Existing powers to issue civil penalties will be amended slightly to cover circumstances where suppliers fail to provide accurate information regarding these and other new reporting items.

Proposed changes to powers to issue civil penalties

- 5.10 Our intention is to amend the existing powers of the Administrator to issue civil penalties under the GHG Reporting Regulations in order to be effective in ensuring compliance and in discouraging possible fraud in applying for new GHG credits. The integrity of GHG credits issued will be an important element of enabling suppliers to demonstrate that they have met their GHG obligation, and therefore delivered their greenhouse gas emissions reduction target in the FQD.
- 5.11 We propose to make amendments to the civil penalty powers within the GHG Reporting Regulations. These are necessary to enable the Administrator to ensure that the new GHG obligation is met, to deter fraud in respect of applications for GHG credits and to ensure the accuracy of new information to be reported by suppliers, such as on place of purchase and origin of fuels. We propose that the Administrator may issue a civil penalty under the GHG Reporting Regulations to include where:
- a supplier fails to discharge their GHG obligation;
 - a supplier fails to provide information, as required by the Administrator, as a result of the changes proposed in this consultation, for example, information or evidence relating to the origin and place of purchase of fossil fuel;
 - a supplier fails to ensure that accurate information or evidence is provided either as part of the revocation process for GHG credits or when applying for GHG credits (including, where appropriate, a verifier's report).

- 5.12 Where a supplier has gained, or attempted to gain, one or more GHG credits by failing to provide accurate information, the maximum civil penalty charge would be the lesser of 10% of turnover or an amount equivalent to twice the value of the GHG credits claimed.
- 5.13 In any other case, the maximum civil penalty charge proposed is the lesser of £50k or 10% of applicable turnover.
- 5.14 The proposed buy-out price is set out in chapter 4 and the cost benefit analysis. As is the case now, under the GHG Reporting Regulations suppliers would have the right to lodge an objection with the Administrator and of appeal to the relevant court. The grounds for appeal would be that the recipient of a civil penalty is not liable to pay or that the civil penalty amount is too high.
- 5.15 It will continue to be the case that civil penalties are recoverable as civil debts. Outstanding payments would have interest applied to that debt at a rate of 5 percentage points above the base rate of the Bank of England. Interest will be calculated on a daily basis.
- 5.16 We have considered the proportionality of these proposals to amend existing civil penalty powers, including at a stakeholder workshop in August 2015, and consider that the penalties are appropriate and proportionate to those for similar types of breach under the RTFO. The process for the use of civil penalties and calculating interest will also be consistent with the provision for recovering outstanding buy-out payments in the RTFO Order and civil penalty provisions within the two schemes as they are now.
- 5.17 The proposal is not expected to increase the costs or burdens associated with compliance with the GHG Regulations beyond those set out in the cost benefit analysis. This consultation seeks views on the likely costs and benefits of the amendment to inform the Department's overarching cost benefit analysis.

Q22: Do you have any views on the proportionality of the proposal to enable the Administrator to issue civil penalties to ensure the integrity of the proposed GHG obligation?

Revocation mechanism

- 5.18 We intend to introduce a revocation mechanism for GHG credits in order to ensure that any problems with an application which may come to light after GHG credits have been issued can be dealt with. For example, the proposed mechanism would allow the Administrator to remove GHG credits for fuel that had not in fact been supplied into the UK, or to reduce the number of GHG credits where the actual GHG saving subsequently turned out to be lower than initially claimed. The revocation mechanism would therefore grant the Administrator the right, in certain circumstances, to withdraw GHG credits issued to a supplier.
- 5.19 The Administrator would have the right to withdraw those credits where they have been transferred to another entity.
- 5.20 We intend that the revocation mechanism will be identical to that used under the RTFO, the characteristics of which are set out below.
- 5.21 It is our intention to allow the Administrator to initiate the revocation process separately for GHG credits and RTFCs. This is necessary because there are

circumstances in which it may be necessary to revoke one without the other, for example, where GHG credits have been issued to a low carbon fossil fuel or upstream emission reductions, which are not eligible for RTFCs.

- 5.22 We intend that, where possible, any revocation activity in the two sets of Regulations will be dealt with in a joined up manner by the Administrator where these relate to GHG credits and RTFCs sought for the same batches of fuel. The process followed in the amended GHG Reporting Regulations will align with those suppliers are familiar with in the RTFO Order.
- 5.23 It is proposed that the Administrator will have powers to revoke GHG credits, including where they are satisfied that:
- the declaration that accompanied the application for GHG credits was false;
 - GHG credits were issued as a result of fraudulent behaviour, statement or undertaking on the part of the supplier, any connected person or the verifier;
 - the information provided on volumes of fuel or sustainability information was materially inaccurate or any evidence presented to support this information was insufficient to substantiate it;
 - the verifier's assurance report on the sustainability information was materially inaccurate.
- 5.24 We will introduce a cut-off date after which GHG credits cannot be revoked by the Administrator, provisionally this would be by the 31 May following each year in which there is a GHG obligation. This will allow sufficient time to allow for the appeals mechanism to run its course ahead of the redemption deadline.

Appeals mechanism

- 5.25 The RTFO Order allows for a two stage appeals mechanism, the first stage is an appeal against the issuing of a notice of intent to revoke, the second is an appeal against the issuing of a notice of revocation. Each step takes a month to complete. We intend that the GHG credit system would work on the same basis.

Q23: Do you agree that there should be a mechanism to withdraw GHG credits where it transpires that they should not have been issued, and that the mechanism should be the same as that used under the RTFO?

Q24: If you disagree with this revocation proposal, please set out an alternative mechanism which prevents rewarding UK fuel suppliers where GHG savings were not delivered.

6. Eligibility of fuels

Overview

- 6.1 This chapter outlines proposals to stimulate novel renewable fuel options by:
- promoting the development of sustainable renewable fuel for aviation by making renewable avtur and avgas eligible for GHG credits;
 - aligning the treatment of hydrotreated vegetable oil (HVO) under the GHG Reporting Regulations with treatment of another form of biodiesel;
 - extending the scope of the GHG Reporting Regulations to include renewable fuels of non-biological origin (RFNBOs).
- 6.2 It also sets out our approach to preventing double reward of the same renewable fuel.

Aviation fuels

We wish to promote the development of sustainable renewable fuel for aviation, a transport mode that appears unlikely to be electrified.

We propose to make both renewable avtur and renewable avgas eligible for GHG credits. They will be subject to the same sustainability criteria as other renewable fuels. Fossil aviation fuels will not be subject to the GHG obligation.

Why include renewable aviation fuel?

- 6.3 The UK aviation industry has for some time expressed the view that eligibility for aviation biofuels to claim RTFCs under the RTFO would give the support needed to kick-start the use of aviation biofuels, which at present are not produced or supplied in the UK.
- 6.4 In the absence of new measures, towards 2050, aviation GHG emissions are likely to grow significantly, both as a proportion of UK emissions and in absolute terms. Renewable fuels are considered to be the only viable energy source available to significantly reduce aviation emissions to 2050.
- 6.5 The UK supports a global agreement on a market-based measure at the International Civil Aviation Organisation (ICAO) as the most effective way of addressing the growth in aviation emissions. However, other measures are likely to be required if aviation is to make a significant contribution towards reducing emissions.
- 6.6 There are two types of aviation fuel:

- Aviation turbine fuel (avtur) which is high specification kerosene used in jet aircraft. This is not subject to fuel duty, except when it is for ‘private pleasure’ use.²⁴
 - Aviation gasoline (avgas) also known as aviation spirit in the UK, which is a high specification petrol, used in spark-ignited piston engines. This is subject to fuel duty.
- 6.7 In the parallel consultation on the RTFO we are proposing that these fuels are eligible for RTFCs. For consistency and to further help promote their use, we propose that both renewable avtur and renewable avgas become eligible for reward under the GHG scheme.

Q25: Do you agree that renewable aviation fuel should be eligible for reward under the GHG obligation scheme?

Other measures relating to aviation fuels

- 6.8 In the separate consultation on the RTFO Order, we set out our proposals to extend eligibility for RTFCs to renewable aviation fuels. In that consultation we set out issues relating to the ‘control point’ for commercial avtur, and to the validation or verification of aviation fuel volumes – please refer to that consultation if you would like to express views on these issues.
- 6.9 It is our intention to harmonise the treatment of these fuels between the two schemes, and we will therefore take account of responses to that consultation when determining how these issues will be addressed in the GHG Reporting Regulations.

Aligning the treatment of biodiesel made from hydrotreated vegetable oil with fatty-acid-methyl-ester

We intend to enable the Administrator of the GHG Reporting Regulations to deem hydrotreated vegetable oil (HVO) to be wholly renewable for the purpose of determining the GHG intensity.

This is necessary to align the treatment of HVO under the GHG Reporting Regulations with treatment of another form of biodiesel – fatty-acid-methyl-ester (FAME) and is consistent with how these fuels are treated under the RTFO. Further this will provide a level playing field for suppliers by ensuring consistency with the treatment of biodiesel in other EU Member States and under EU Directives applicable to biofuel.

Why align the treatment of FAME and HVO?

- 6.10 Fatty-acid-methyl-ester (FAME), a form of biodiesel, is a renewable transport fuel that is derived from around 90% biomass and around 10% methanol from fossil sources. It is proposed to deem HVO to be wholly renewable under the GHG

²⁴ See Section 16 of Excise Notice 554 for a definition: <https://www.gov.uk/government/publications/excise-notice-554-fuel-used-in-private-pleasure-craft-and-for-private-pleasure-flying/excise-notice-554-fuel-used-in-private-pleasure-craft-and-for-private-pleasure-flying>

Reporting Regulations for the purpose of determining the greenhouse gas intensity of HVO supplied. This mirrors the treatment of HVO under the RTFO and our understanding of how these fuels are treated under the RED.

- 6.11 Hydrotreated vegetable oil (HVO) is another form of biodiesel that, like FAME, involves some non-renewable inputs in its production process. The amount of renewable inputs to the production process for HVO is similar to that of FAME, and in many cases higher.
- 6.12 In 2015 we amended the RTFO Order so that HVO would also be deemed to be wholly renewable, in the same way as FAME. Doing so aligned the treatment of biodiesel in the UK with its treatment in other EU Member States under EU Directives applicable to biofuel.

Proposal to align the treatment of HVO and FAME

- 6.13 We intend to similarly align the treatment of FAME and HVO under the GHG Reporting Regulations.
- 6.14 Regulation 5(6) in the GHG Reporting Regulations broadly mirrors the provision in Article 4(8)(e) of the RTFO Order 2007 so that the Administrator is able to deem the feedstock used in HVO to be 100% renewable, where mandatory sustainability criteria are met.
- 6.15 We will amend the GHG Reporting Regulations so that HVO is deemed to be wholly renewable under the GHG Reporting Regulations for the purpose of determining the GHG intensity of fuel supplied.

Inclusion of non-biological renewables, including hydrogen

We intend to extend the scope of the GHG Reporting Regulations to include renewable fuels of non-biological origin (RFNBOs) as:

- RFNBOs can provide a contribution towards decarbonisation of the transport sector and therefore suppliers' GHG targets
- This contribution can be done sustainably given the potential for these fuels to deliver high GHG savings with a low risk of ILUC or competition with food
- Policy support is needed now to help bring them to market and encourage investment and further development.

What are non-biological renewable fuels?

- 6.16 RFNBOs are renewable transport fuels that do not have any biological content. These fuels are considered renewable where the energy content of the fuel comes from non-biomass derived renewable energy sources as defined in the amended RED (Article 2(u)). Energy from renewable energy is defined in Article 2(a).²⁵ This means that RFNBOs could be made using power from wind, solar, aerothermal, geothermal, hydrothermal and ocean energy, or hydropower.

²⁵ Article 2(a) defines 'energy from renewable sources' as 'energy from renewable non-fossil sources, namely wind, solar, aerothermal, geothermal, hydrothermal and ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases'. RFNBOs cannot be derived from biomass energy and therefore would not be able to be derived from biomass, landfill gas, sewage treatment plant gas and biogases.

- 6.17 These fuels are novel and mostly at laboratory or demonstration stage of development, though some are ready to come to market. Our view is that they will be more expensive than fossil fuels up to 2030 and therefore will require support to come to market and to stimulate further development and investment.
- 6.18 RFNBOs are typically based on hydrogen. Hydrogen can be used directly in an internal combustion engine or a fuel cell vehicle. Alternatively a range of fuels can then be generated by reacting hydrogen with carbon dioxide which can come from a waste source, for example, waste flue gases from power generation or similar combustion process.

Our proposal

- 6.19 The proposed change involves bringing RFNBOs (including renewable hydrogen), into the scope of the GHG Reporting Regulations and therefore making them eligible for GHG credits and subject to the reporting requirements.
- 6.20 In line with all other fuels, we propose to allow GHG credits for RFNBOs where GHG savings are delivered that are below the GHG target level. These savings will need to be verified. If the savings cannot be verified we will assign the RFNBO a GHG intensity of the equivalent fossil fuel.

Renewable Transport Fuel Obligations consultation

- 6.21 In parallel to this current consultation, we are consulting on proposed changes to the RTFO. Our proposals under the RTFO use the same definitions of RFNBOs as included here. Questions about the definition of RFNBOs, the amounts of such fuels which should be considered renewable and the methodology for determining the GHG savings are asked in the RTFO consultation and are not repeated here.
- 6.22 Please provide any comments on the matters above in the RTFO consultation.

Q26: Do you agree that we should include renewable fuels of non-biological origin, including hydrogen, under the GHG Reporting Regulations thereby making them eligible for GHG credits and subject to the reporting requirements?

Ensuring renewable fuels are sustainable

- 6.23 To ensure consistency with other renewable fuels and the objectives of the scheme to reduce GHG emissions from transport we propose that RFNBOs meet the same minimum GHG saving threshold as biofuels in order to receive GHG credits. However, as they are typically non-land using we do not intend to apply the land criteria.
- 6.24 As with biofuels, where RFNBOs meet the sustainability criteria under the RTFO (and received RTFCs) this information can also be relied upon under the GHG Reporting Regulations in order to receive GHG credits.

Non-renewable hydrogen

- 6.25 Non-renewable hydrogen is also eligible for GHG credits as the default GHG emissions (when the adjustment factor included in the FQD 7a implementing

measure is applied) are below the target level (except where the hydrogen is derived from coal without carbon capture and storage). To receive GHG credits the hydrogen volumes would need to be validated – see next section below.

Ensuring the volume of hydrogen supplied can be properly accounted for

- 6.26 The GHG Reporting Regulations use the duty point as the control point to determine how much fuel has been supplied for transport and which supplier is required to report the necessary information. However, in common with some aviation fuel (see section beginning at paragraph 6.1), duty of excise is not payable on some hydrogen. It is therefore necessary to find an alternative control point for some hydrogen.
- 6.27 We are proposing to use the sale of hydrogen to a retail customer for use in a fuel cell vehicle as the control point. It is expected that documentation such as sales invoices will be used to provide evidence of any sales as required by the Administrator.
- 6.28 In the RTFO consultation we also set out a proposal for additional powers for the Administrator to require independent assurance over the volume of fuels which are not subject to fuel duty. These powers would also be required for the GHG Reporting Regulations, and any assurance provided would apply to both schemes.
- 6.29 We ask questions on this proposal in the parallel consultation on amendments to the RTFO Order, so please supply any comments you have under that consultation, which we will take into consideration in amending the GHG Reporting Regulations to ensure consistency of approach.

Preventing double reward for the same energy

- 6.30 The proposed changes on precursors as set out in the RTFO consultation will also apply. Under the current RTFO Order, RTFCs cannot be issued to fuels already rewarded under similar reward schemes in either the UK or other European Economic Area States. This is to prevent the same renewable energy being claimed towards Member States targets multiple times. We propose to amend the RTFO order so that this exclusion will also apply to renewable fuels where the renewable energy contained within the fuel has already been rewarded – for example, where the fuel was derived from a precursor.
- 6.31 Please provide any comments on the matters above in the RTFO consultation.

7. Supplier reporting requirements

Overview

- 7.1 This chapter outlines proposals which implement new supplier reporting requirements and sets out the associated enforcement system. With respect to fossil fuel, the new information is on the origin of the crude and the place of purchase of the fuel and with respect to biofuel derived from crops, the new data required is the ILUC emissions.
- 7.2 The chapter also contains a timeline of the relevant GHG obligation reporting deadlines.

Reporting origin and place of purchase data

The FQD 7a implementing measure requires fuel suppliers to report on:

- the origin or source of the crude oils used to make their fuels i.e. the feedstock trade name or marketable crude oil name; and
- the place of purchase of the fuel being supplied i.e. the country and name of the processing facility where the fuel was refined.

Reporting this information will improve transparency on sources of oil used to make fuels supplied in the UK and the EU. The combination of this information with existing data on the greenhouse gas emissions associated with the production of the different crude oils will allow for better monitoring of the carbon intensity of fuels consumed in the UK and the EU.

We intend to provide an exception from these reporting requirement to report on origin data where fuel suppliers do not have this information available to them.

What are 'origin' and 'place of purchase' and why report them?

- 7.3 As established by Article 3(4) of the FQD 7a implementing measure, Annex I, part 2 of this Directive outlines the reporting required by suppliers for fuels other than biofuels.
- 7.4 'Origin' refers to the feedstock trade name (FTN) of the crude oil, also known as the marketable crude oil name (MCON), which identifies where the crude oil was extracted. A comprehensive list of feedstock trade names is given in Annex I, part 2, paragraph 7 of the FQD 7a implementing measure.
- 7.5 'Place of purchase' means the country and name of the processing facility where the fuel or energy underwent the last substantial transformation used to confer the origin of the fuel or energy – where it was refined in the case of fossil fuels. (Blending of fuel is not considered a substantial transformation).

- 7.6 Europe imports crude oil from oilfields across the world. Crude oil can be extracted in a number of ways, some of which require more energy-intensive technologies and processes which could result in an increase in the well-to-wheel²⁶ greenhouse gas emissions of a fuel. Reporting the FTN will provide more clarity as to whether that crude oil is more polluting (i.e. if it derived from non-conventional oil sources or if its production is being associated with high flaring and venting emissions). This, in turn, means that the greenhouse gas performance of fuels consumed in the EU can be better monitored, thereby providing a more accurate understanding of the carbon emissions of fuels derived from crude oil and intermediate products refined in the EU.
- 7.7 In a similar manner to the reporting of origin data, it is envisaged that having information available on the place of purchase will contribute to the better monitoring of the greenhouse gas performance of fuels consumed in the UK (and more widely, in the EU), particularly in some cases where information on the crude oil source is likely to be very limited or unknown, e.g. imports of petrol or diesel refined outside the EU.

Supplier reporting requirements

- 7.8 Suppliers will be required to report annually on the origin and place of purchase of the fossil fuels they supply.
- 7.9 The oil supply chain is complex: oil can be brought into the EU as crude oil or an intermediate for processing, or as already refined fuels. Also, oil is often mixed along the supply chain and/or traded between economic operators, and information on origin and place of purchase may not be available or may not be passed down the supply chain because of commercial confidentiality.
- 7.10 In order to reduce the burden upon refiners, and given that there is no agreed methodology to allocate crude oil sources to the multiple products and intermediates that a refiner produces, we intend to allow refineries to use a simple allocation approach based on the ratio of the crudes used by the refinery that year. As an example, this means that if 30% of the crude brought into the refinery was from Murchison oil field then 30% of all of the products covered by the FQD will be reported as originating from that crude.
- 7.11 We recognise that the whilst the Directive provides an exception for suppliers to report simply 'EU / non-EU' where they are not in possession of the detailed origin data (where there is no agreement between the refiner and the owner at the duty point to pass this data along), the EU / non-EU origin of the crude is in itself information that also may not be passed along.
- 7.12 Similarly, suppliers will only be required to report information on place of purchase where they have access to such information. Where suppliers are not in possession of data on the place of purchase, and they cannot obtain such information, we propose to provide an exception from the requirement.
- 7.13 Therefore, where suppliers are not in possession of either the FTN, the knowledge of the EU / non-EU origin of the crude, and/or the data on the place of purchase, and they cannot obtain such information, we propose to provide an exception from the relative reporting requirement.

²⁶ Well-to-wheel greenhouse gas emissions take into account the production and distribution of a fuel over the entire life cycle: from the sourcing of the energy and materials used to power a vehicle, to the direct tailpipe emissions.

- 7.14 In parallel, we will work with other Member States to determine whether the collection and transparency of the origin of the crudes refined in Europe can be improved. We will also work with other Member States to improve the collection and transparency of the oil supply chain through identifying and harmonising existing reporting requirements on the oil industry.
- 7.15 Similarly we will consider existing legislation which already places reporting requirements on refiners, to examine how to best improve the collection and transparency of the oil supply chain in a way that minimises burdens on suppliers.
- 7.16 There are also simplified reporting requirements on origin and place of purchase data for small and medium-sized enterprises (see section Simplified reporting requirements for small and medium-sized enterprises).

Verification of the information supplied

- 7.17 In order to ensure that the submitted data is accurate, direct examination of evidence by the Administrator as currently established by Regulation 13 of the GHG Reporting Regulations may be sufficient. However, in some instances it may be necessary to require independent assurance (verification) of this data to ensure its accuracy. It is therefore intended to extend the powers of the Administrator to include the ability to require independent assurance of the data submitted by a supplier.
- 7.18 It is envisaged that this independent assurance would be as similar as possible to the verification of sustainability information already required under the RTFO, and therefore that it would be carried out using the assurance standard ISAE 3000.
- 7.19 As the data being submitted is independent of, and therefore does not affect, a supplier's obligation, we believe that the lower 'limited' level of assurance is sufficient.

Penalties for non-compliance

- 7.20 Subject to the exceptions outlined above, we intend to make the failure to report, or inaccurate reporting of, this information subject to civil penalties under the GHG Reporting Regulations – see chapter 5.

Q27: Do you agree with our proposed proportionate approach underpinning the GHG reporting requirements? This means that suppliers are exempt from the requirements if they do not have data on the FTN, whether the crude is of EU/non-EU origin, and/or the place of purchase.

Q28: Do you envisage any situations where origin data will not be available and/or cannot be reported? If yes, please provide details about these situations and why the data could not be reported.

Q29: Do you envisage any situation where data on the place of purchase will not be available and/or cannot be reported? If yes, please provide details about these situations and why the data could not be reported.

Q30: With regards to the verification of the information supplied, do you have any comments on our proposal to provide the Administrator with powers to require independent assurance (verification) of the data, where necessary?

Simplified reporting requirements for small and medium-sized enterprises

In order to minimise administrative burden, the FQD 7a implementing measure includes simplified reporting requirements for small and medium-sized enterprises (SMEs) for the reporting of 'origin' and 'place of purchase' data.

Commission Recommendation 2003/361/EC concerns the definition of micro, small and medium-sized enterprises. We intend to use the criteria outlined in the Recommendation in order to identify SMEs for the purposes of applying the simplified reporting requirements from the FQD 7a implementing measure.

- 7.21 In order to help reduce administrative burden, article 3(4) of the FQD 7a implementing measure provides a simplified method for SMEs reporting 'origin' and 'place of purchase' data. SMEs are only required to report on whether the fuels being supplied are either 'EU' or 'non-EU' irrespective of whether they import crude oil or they supply petroleum oils and oils obtained from bituminous materials.
- 7.22 Commission Recommendation 2003/361/EC concerns the definition of micro, small and medium-sized enterprises. We intend to use the criteria included in this Recommendation in order for a reporting party to identify themselves as an SME.
- 7.23 Please note that it is also our intention to provide an exception for the fact that information on origin, or on place of purchase may not be able to be reported, where suppliers are not in possession of this information (see paragraph 7.8).
- 7.24 Please also note that it is proposed that suppliers of less than 450,000 litres of relevant fuel will be exempt from the GHG obligation and that there will be a reduction in the obligation for suppliers of between 450,000 and 10 million litres of relevant fuel (in line with the RTFO). (See paragraphs 1.33 – 1.35).

Q31: Do you have any comments on the proposed application of the simplified reporting requirements for small and medium-sized enterprises?

Greenhouse gas obligation reporting deadlines

We are proposing to align as far as possible the deadlines for supplier reporting and those related to the discharge of the new GHG obligation with those in the RTFO.

Our aim is to prevent any additional administrative burden on suppliers from having to report data on two non-aligned obligation periods. We propose to work on a calendar year basis for both the proposed GHG obligation and the RTFO. This will also help us more effectively meet EU reporting deadlines under the Renewable Energy and Fuel Quality Directives.

These changes would still enable suppliers to claim RTFCs or the new GHG credits on a monthly basis, and do not shorten the timelines for suppliers to provide information to the RTFO Unit as Administrator of the two schemes.

Introduction

- 7.25 The current GHG Reporting Regulations and RTFO operate in parallel – with data being reported under the RTFO being relied upon for the GHG Reporting Regulations (where fuels are covered by both legislation). This is intended to minimise administrative burden and cost to suppliers. However, whilst the GHG Regulations operate on a calendar year basis, and currently are purely a reporting requirement, the RTFO operates on a different annual cycle – from 15 April to 14 April and as a certificate trading scheme.
- 7.26 With the introduction of a new GHG obligation with tradeable GHG credits it will minimise burdens if the two schemes are further aligned in respect of the timing of deadlines associated with key stages of the two obligations.
- 7.27 This will aid suppliers by ensuring the two schemes work effectively in tandem so that information reported can be used for the same period under both schemes. It also ensures we can meet our obligation to report accurately against the targets in the RED and in a timely manner for the FQD (as the relevant data is available earlier).
- 7.28 In the RTFO consultation, we are therefore consulting on moving the RTFO from the current April to April obligation period to one that operates on a calendar year.
- 7.29 The change means that some of the reporting deadlines for the RTFO move to an earlier date (without shortening the time period for suppliers to report information or comply with the legislation). It therefore makes sense to move some of the reporting deadlines in the GHG Regulations.
- 7.30 The current reporting deadline of 29 November for the GHG Reporting Regulations would also prevent the UK reporting data to the Commission under the FQD in a timely manner, as the deadline for reporting accurate aggregate data is 31 December for the previous year's fuel supply.

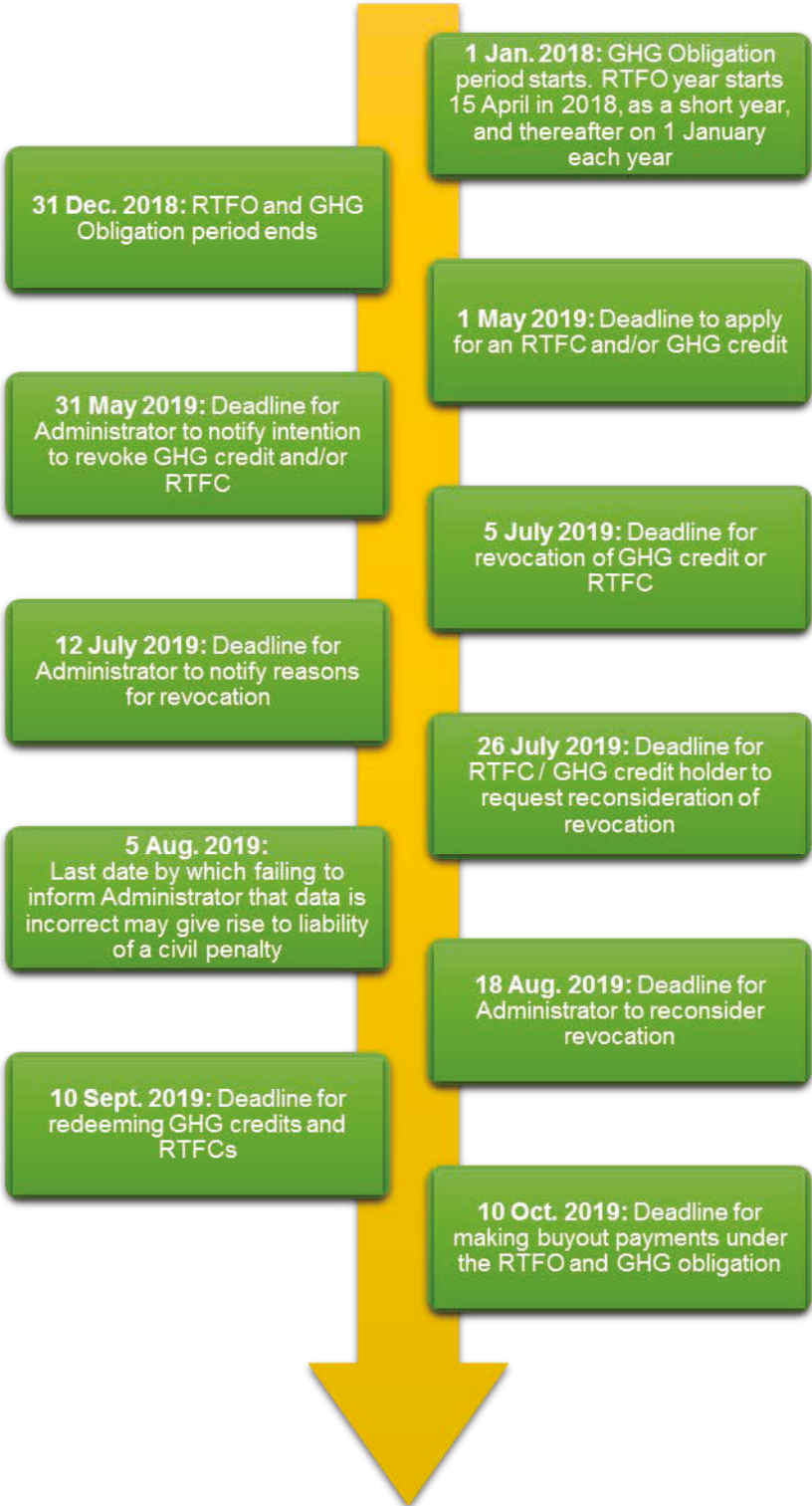
Proposed deadlines under a GHG obligation scheme

- 7.31 The current GHG Reporting Regulations require information on the GHG intensity of fuel energy supplied to be reported by 29 November for the previous year's supply. That date was set so as to align with the current final date for the

redemption of RTFCs. We propose that this is moved to 10 September to align with the new proposed deadline for redeeming RTFCs under the RTFO.

- 7.32 In addition, we are moving from a reporting system to an obligation scheme. As set out in chapter 1, our intention is to introduce a GHG obligation scheme which both mirrors and operates in parallel with the RTFO. Information reported under the RTFO would be used, in part, to comply with the GHG obligation scheme, to both award GHG credits for renewable transport fuel and gaseous fuels and determine a supplier's GHG obligation.
- 7.33 As proposed in chapter 1, GHG credits may be awarded on a monthly basis. In enabling GHG credits to be awarded on a monthly basis, we also want to minimise disruption for suppliers and maintain alignment of supplier reporting to HMRC. To this end, we will ensure the amended GHG Reporting Regulations provide flexibility for the Administrator to determine the relevant reporting period. For example, the Administrator currently notifies suppliers that the RTFO reporting period applies at the middle of the month for duty deferment traders, and we propose that in aligning reporting requirements under the RTFO and GHG obligation, the Administrator may similarly enable suppliers to report at mid-months under the GHG obligation.
- 7.34 As under the RTFO, compliance with the GHG obligation would be through either the redemption of GHG credits or through buying out. To keep the schemes aligned we are proposing the deadline for redeeming GHG credits matches the new deadline for redeeming RTFCs i.e. 10 September. We also propose that the deadline for any buy-out payments under the RTFO and GHG obligation be aligned and the deadline would be 10 October.
- 7.35 For illustrative purposes the key legislative deadlines proposed from 2018, when the RTFO and GHG obligation will operate in parallel, are set out in figure 5 below.

Figure 5: Illustrative RTFO and GHG obligation reporting deadlines



Q32: Do you agree that the reporting deadlines proposed for the GHG obligation should align with those in the RTFO?

Reporting indirect land-use change emissions from biofuels

The ILUC Directive (2015/1513) amended the FQD to require Member States to ensure that suppliers report annually on the greenhouse gas emissions of the biofuels they have supplied including provisional mean values of the estimated indirect land-use change emissions. These ILUC emissions apply to crop-derived biofuels and are provided in a new annex to the FQD.

We propose to include this additional reporting requirement for crop-derived biofuels in the GHG Reporting Regulations. The online database – RTFO Operating System (ROS) – is used for recording volumes of fuel supplied, information on the sustainability of those fuels, calculating a company's obligation and issuing RTFCs. In practice, we anticipate that the data required on GHG emissions from ILUC of the biofuels can be automatically populated in ROS based on existing sustainability information already reported by suppliers.

- 7.36 The ILUC Directive amended the FQD to require ILUC factors from land-based (crop-derived) biofuels to be reported by suppliers. The ILUC emissions are not accounted for when determining if a biofuel meets the minimum greenhouse gas savings threshold.
- 7.37 A significant amount of biofuel production to 2020 and beyond is still expected to rely on crops grown on land. Therefore collecting this information will help to determine how significant greenhouse gas emissions linked to indirect land-use change are from biofuel supply across the UK and the rest of the EU.
- 7.38 We propose to include a requirement in the GHG Reporting Regulations for suppliers to report information on the greenhouse gas emissions, including estimated ILUC emissions from land-based biofuels. This information will be reported for groups of feedstock including cereals and other starch rich crops, sugars, and oil crops.
- 7.39 The information required will be the provisional mean values of the estimated ILUC emissions from biofuels, which are provided in Annex V of the amended FQD. These values are as outlined in table 3.

In practice, we anticipate that the required information can be automatically populated from existing sustainability characteristics which are already reported on ROS. Amendments to the IT system used for reporting data will be made as necessary.

Table 3: FQD Annex V, Part A: Provisional estimated indirect land-use change emissions from biofuels

Feedstock group	Mean ILUC emissions (gCO₂e/MJ)*	Interpercentile range derived from the sensitivity analysis (gCO₂e/MJ)**
Cereals and other starch-rich crops	12	8 to 16
Sugars	13	4 to 17
Oil crops	55	33 to 66

* The mean values included here represent a weighted average of the individually modelled feedstock values.

** The range included here reflects 90% of the results using the fifth and ninety-fifth percentile values resulting from the analysis. The fifth percentile suggests a value below which 5% of the observations were found (i.e. 5% of total data used showed results below 8, 4, and 33 gCO₂eq/MJ). The ninety-fifth percentile suggests a value below which 95% of the observations were found (i.e. 5% of total data used showed results above 16, 1, and 66 gCO₂eq/MJ).

8. Reviewing the Greenhouse Gas Reporting Regulations

Greenhouse Gas Reporting Regulations review clause

As set out in chapter 1 we are proposing to introduce an obligation on designated suppliers to achieve a 6% reduction in the greenhouse gas emissions of the fuel or energy they supply by 2020. The UK is required to report progress towards the target to the European Commission annually.

In the light of this significant change we need to amend the current review provisions in the GHG Reporting Regulations to:

(i) delete the specific requirement on the Secretary of State to keep under review whether to impose life cycle GHG emission reduction obligations as a step needed to be taken in order to meet the requirements of the FQD; and

(ii) set a date by which the Regulations as amended would be reviewed. We are proposing by no later than five years after the planned in-force date, which would be by no later than April 2022.

Background

- 8.1 In transposing the FQD, a greenhouse gas reduction obligation was not set.²⁷ This was due to the absence of an EU-wide agreed methodology for accounting for the greenhouse gas intensity of fossil fuels under the FQD.
- 8.2 Instead, the Government placed an ongoing legal duty on the Secretary of State for Transport to propose further measures necessary to ensure delivery of the requirements of the FQD.
- 8.3 In 2015, an agreement was reached at EU level on amendments to the RED and FQD. In advance of these changes the Department for Transport and Low Carbon Vehicle Partnership established the Transport Energy Taskforce. The Taskforce considered options for the UK to meet its 2020 RED and FQD targets, in the Renewable Energy and Fuel Quality Directives and published its report in March 2015.²⁸

²⁷ The Government response to the Consultation on proposals to implement Articles 7(a) to 7(e) of the Fuel Quality Directive was published on 11 September 2011 and is available at: <https://www.gov.uk/government/consultations/new-regulations-for-transport-related-greenhouse-gases>

²⁸ 'Options for Transport Energy Policy to 2030' was published by the Transport Energy Taskforce in March 2015 at: <http://www.lowcvp.org.uk/projects/transport-energy-task-force.htm>

- 8.4 The amendments proposed in this consultation document, which include introducing a greenhouse gas reduction obligation and GHG certificate trading scheme in chapter 1 are key to transposing amendments to the FQD.

Proposals to amend review provisions in the GHG Reporting Regulations

- 8.5 Regulation 25 of the GHG Reporting Regulations includes a requirement on the Secretary of State for Transport to keep under review whether to impose life cycle GHG emission reduction obligations as a step needed to be taken in order to meet the requirements of the FQD.
- 8.6 We propose to delete that provision which is no longer necessary as the amendments to the Regulations proposed in chapter 1 introduce a GHG emission reduction obligation.
- 8.7 Regulation 26 of the GHG Reporting Regulations requires the Secretary of State to review the Regulations, assess the extent to which the Regulations have achieved their objective and publish a report of the findings no more than five years after they have come into force.
- 8.8 We propose to amend that general review clause as the Department will need to review the changes made through the amendments to the Regulations proposed in this consultation document. We are proposing by no later than five years after the planned in-force date, which would be by no later than April 2022.

Review of the operation of the Greenhouse Gas Reporting Regulations to date

- 8.9 As we are proposing significant amendments to the GHG Reporting Regulations we will discharge the current duty on the Secretary of State under Regulation 26, to assess the extent to which they have achieved their objectives since introduced in 2013, through this consultation. We will publish a report of findings alongside the Government's response to this consultation.
- 8.10 The GHG Reporting Regulations operate in parallel with the RTFO Order 2007. The RTFO Unit in the Department for Transport, administers both schemes. The legislation and its administration has been designed with the objective of reducing burdens on suppliers in reporting and providing assurance on the greenhouse gas intensity of fuel supplied. For example, where possible, information required from suppliers on the fuel they supply does not have to be provided twice, under both the GHG Reporting Regulations and the RTFO Order 2007.
- 8.11 This has meant that since the GHG Reporting Regulations came into force in January 2013, fuel suppliers who are obligated under the RTFO will have noticed little or no difference in their reporting.
- 8.12 An exception is in respect of suppliers of fossil gas who are obligated to report information on fuel supply under the GHG Reporting Regulations but are not obligated under the RTFO. We would therefore be particularly interested in views from gaseous fuel suppliers on the operation of the GHG Reporting Regulations to date, as these suppliers will have had most interaction with the scheme.
- 8.13 In introducing the GHG Reporting Regulations, the Department estimated the impact on business of complying with the above Regulations to be between an additional £4,000 and £17,500 per year, per obligated supplier.

8.14 Taking a conservative assumption that all 53 firms registered under the RTFO in 2012, plus five additional fossil gas suppliers, would need to open new accounts and bear these additional costs to the full extent, the industry-wide increase in administrative burden was estimated at around £623,500 annually, starting from the point at which the GHG reporting obligation is introduced. We anticipate that actual costs for the operation of the GHG reporting obligation since January 2013 will be significantly lower than that but we would welcome views from suppliers.

In respect of the operation of the GHG Reporting Regulations to date:

Q33: Do you agree that the GHG Reporting Regulations minimise burdens on suppliers by relying on data already submitted and verified under the RTFO?

Q34: Are there ways that any costs or burden could be minimised further?

Q35: Do you have information on compliance costs when the legislation was introduced further to the estimates provided?

Q36: What changes, if any, did suppliers make as a result of the introduction of the GHG Reporting Regulations in 2013?

Q37: What were the costs to suppliers of familiarising themselves with the regulations and implementing any changes to their business?

Q38: What uses have suppliers made of data collected on the greenhouse gas intensity of fuel reported under the GHG Reporting Regulations?

Q39: Has the operation of the scheme to date assisted suppliers to monitor their progress towards their GHG target?

In respect of the proposed changes to the GHG Reporting Regulations:

Q40: Do you have any other comments on the amendments to the GHG Reporting Regulations 2012 proposed within this consultation?

Annex A: Cost benefit analysis

See separate document.

Annex B: Consultation principles

The consultation is being conducted in line with the Government's key consultation principles which are listed at the link below.

<https://www.gov.uk/government/publications/consultation-principles-guidance>

If you have any comments about the consultation process please contact:

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