



Department
for Transport

Renewable Transport Fuel Obligation Annual Report 2016-17

Moving Britain Ahead



Renewable Transport Fuel Obligation Annual Report 2016-17

Presented to Parliament
by the Secretary of State for Transport
by Command of Her Majesty

March 2018



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Executive summary

Introduction

- 1 This report has been produced to ensure transparency in the financial reporting of the Renewable Transport Fuel Obligation (RTFO). Due to the nature of this income and expenditure it cannot be reported within the Department for Transport's Annual Report and Accounts.
- 2 The RTFO is one of the Government's main policies for reducing greenhouse gas (GHG) emissions from road transport in the UK. It requires that a certain percentage of road transport fuel supplied is renewable.

Outturn for 2016-17

- 3 The total value of the RTFO for 2016-17 is £527.3 million. This is calculated as the difference between the cost of renewable fuels supplied and the fossil fuels they have replaced.

Forecasts

- 4 The forecast total value of the RTFO for 2017-18 is £405 million. The forecast value for 2018¹ is £496 million.

Scheme outcomes

- 5 The average GHG saving from the biofuels supplied under the RTFO was 76% in 2016-17 compared to fossil fuels. This represents a total saving of 2.61 million tonnes of CO₂ equivalent for the year. This is equivalent to taking 1.26 million cars off the road for the year.
- 6 The RTFO is meeting its objective of reducing GHG emissions from road transport. All of the biofuels rewarded under the RTFO meet the mandatory sustainability criteria. The RTFO is designed and managed to ensure a high level of compliance with its requirements.

Signature and audit

- 7 This report is signed by the Permanent Secretary, Department for Transport. The outturn figure for 2016-17 has been audited by the National Audit Office (NAO) on behalf of the Comptroller and Auditor General.

¹ For the anticipated shorter obligation period from 15 April 2018 to 31 December 2018, ahead of the RTFO moving to calendar year reporting (see Introduction, page 6).

1. Introduction

Purpose of this report

- 1.1 This report has been produced to ensure transparency in the financial reporting of the Renewable Transport Fuel Obligation (RTFO). The RTFO is classed as an 'imputed tax and spend' measure, and as such cannot be included in the Department for Transport's Annual Report and Accounts. It is therefore being reported separately through this annual report.
- 1.2 This report gives an outturn figure for the value of the RTFO for the 2016-17 financial year alongside the outcomes for the scheme. The RTFO reporting year runs from 15 April to 14 April, so there is a slight difference from the financial year, for which we have not attempted to adjust. Forecasts are also given for 2017-18 and for the anticipated shorter obligation period from 15 April 2018 to 31 December 2018, ahead of the RTFO moving to calendar year reporting (see anticipated changes below). The National Audit Office (NAO), on behalf of the Comptroller and Auditor General, has audited the 2016-17 outturn data within this report: the audit opinion is included on page 8.

The RTFO

- 1.3 The RTFO is one of the Government's main policies for reducing greenhouse gas (GHG) emissions from road transport in the UK. The RTFO requires that a certain percentage of fuel is renewable and provides a valuable incentive for the biofuels industry which contributes towards meeting this obligation. The scheme started in 2008 and was amended in 2011 to implement mandatory sustainability criteria for the biofuels supplied. These sustainability criteria set a minimum GHG saving which increases over time and aim to prevent potential environmental damage from production of biofuels.
- 1.4 The RTFO operates with tradable certificates. These are called Renewable Transport Fuel Certificates (RTFCs) and are awarded to suppliers of sustainable biofuel. In order to receive the certificates the supplier must provide information which demonstrates that their fuel meets the sustainability requirements. They must also have this data and the evidence supporting it independently verified.
- 1.5 One RTFC is issued per litre of liquid biofuel derived from crop based feedstocks. The number of RTFCs issued to biomethane (1.9), biobutane (1.75) and biopropane (1.75) is greater, to reflect their higher energy content relative to liquid biofuels. Biofuels produced from waste material and certain other sources have an increased incentive of twice the number of RTFCs per litre. This reflects the lower risk that these materials will cause undesirable impacts such as indirect land use change (see page 14).

- 1.6 The RTFO operates on an annual basis starting each year on 15 April. Each supplier of fuel to the UK market² is required to demonstrate that biofuel has been supplied to cover a set proportion of their overall fuel supply. For the 2016-17 year, this proportion was 4.7501%.
- 1.7 Suppliers can meet this obligation by redeeming certificates that they have received for their own biofuel supply, or by redeeming certificates that they have bought from other suppliers of biofuel.
- 1.8 Suppliers also have the option to buy out of their obligation, paying 30 pence per litre of biofuel for which they have not redeemed an RTFC. This protects consumers from excessive increases in fuel prices by setting a maximum value for RTFCs.
- 1.9 Any money received from suppliers buying out is distributed between suppliers who have redeemed RTFCs and those who have chosen to surrender additional RTFCs for this purpose.
- 1.10 Fuel suppliers can meet up to 25% of their obligation with certificates issued in the previous year. This reduces the impact of unexpected events and provides some protection against year to year volatility of fuel prices.

Anticipated changes to the RTFO

- 1.11 In September 2017, the Government set out its 15 year strategy to reduce GHG emissions from transport fuels and build a firm platform for investment to develop sustainable advanced fuels for automotive, aviation and road freight. This will help deliver the goals of the Climate Change Act 2008³ by supporting delivery of the savings required by UK carbon budgets, and aligning the RTFO time horizon with the UK carbon budget process (the 5th carbon budget ends in 2032).
- 1.12 In January 2018, a draft statutory instrument (SI) amending the RTFO was laid in Parliament. Subject to Parliamentary procedure, the SI will:
 - Increase the targets for renewable fuels to 9.75% of fuel supplied in 2020 with further incremental increases to 12.4% by 2032;
 - Set sub-targets for the supply of renewable fuels classified as ‘development fuels’ - starting in 2019, this will increase the incentives to supply the new types of advanced fuels which are of strategic future importance to the UK, including renewable aviation fuels;
 - Place a limit on the contribution that renewable fuels produced from food crops can make to meeting targets to supply renewable fuels, setting that limit at 4% in 2018, 3% in 2026 and 2% in 2032;
 - Ensure that wastes which would be disposed of are eligible for greater incentives than those which have other productive uses;
 - Change from financial to calendar year reporting with a short obligation period from April to December 2018 to bring about this change.
- 1.13 These changes have been taken into account in the forecasts set out in this report.

² Except those supplying less than 450,000 litres per year.

³ <http://www.legislation.gov.uk/ukpga/2008/27/contents>

2. Sign-off of report

- 2.1 As Accounting Officer for the Department for Transport I am responsible for ensuring that there is a high standard of financial management, including a sound system of internal control and effective financial systems. This responsibility includes the Renewable Transport Fuel Obligation (RTFO). I am content that appropriate financial controls over the RTFO are in place and that sufficient checks and reviews have been made to produce accurate and reliable financial data within this report. The external audit by the National Audit Office, on behalf of the Comptroller and Auditor General, relates to the 2016-17 outturn. I have taken all reasonable steps to be aware of and provide necessary information to the auditors and I am not aware of any additional relevant information.

Bernadette Kelly

27 February 2018

Permanent Secretary and Accounting Officer
Department for Transport
Great Minster House
33 Horseferry Road
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SW1P 4DR

3. Audit report

Renewable Transport Fuel Obligation Annual Report - Audit Report 2016-17

ASSURANCE REPORT TO THE SECRETARY OF STATE FOR TRANSPORT IN RELATION TO THE DISCLOSURE OF THE ADDITIONAL COST OF BIOFUEL SUPPLIED UNDER THE RENEWABLE TRANSPORT FUEL OBLIGATION

- 3.1 I have audited the disclosure of the outturn related to the additional cost of biofuel supplied under the Renewable Transport Fuel Obligation (RTFO) included as section 4 in the Renewable Transport Fuel Obligation Scheme Annual Report for the year ended 14 April 2017.

Subject matter, criteria and limitations

- 3.2 The Secretary of State for Transport is required by HM Treasury direction, as an imputed tax and spend measure, to prepare an annual report in respect of the RTFO scheme established under the Renewable Transport Fuel Obligations Order 2007 (as amended). Included within this report, at section 4, is a disclosure of the outturn related to the additional cost of biofuel supplied under the RTFO scheme for the period 15 April 2016 to 14 April 2017. This disclosure is derived from a model designed by the Department for Transport, with observable inputs.
- 3.3 I have reviewed the output of the model and considered the adequacy with which the model derives a figure for the additional cost of biofuel supplied under the RTFO scheme. I have not considered alternative measurement or evaluation methods. I have considered whether the disclosure has been properly prepared in accordance with HM Treasury direction.
- 3.4 My review extended only to providing assurance on the disclosures made for the period 15 April 2016 to 14 April 2017. My historic evaluation is not relevant to future periods due to the risk that the model may become inadequate because of changes in conditions.

Specific purpose of this assurance report

- 3.5 This report has been prepared to provide the Secretary of State with reasonable assurance over whether section 4, the outturn related to the additional cost of biofuel supplied under RTFO, gives a true and fair view for the period 15 April 2016 to 14 April 2017.

Responsibilities

- 3.6 The Permanent Secretary on behalf of the appointed administrator, the Secretary of State for Transport, is responsible for preparing section 4, the outturn related to the

additional cost of biofuel supplied under RTFO, and for being satisfied that this note is true and fair. My responsibility is to audit and express an opinion on section 4, the outturn related to the additional cost of biofuel supplied under RTFO, in accordance with International Standards on Assurance Engagements 3000, Assurance Engagements Other than Audits or Reviews of Historical Financial Information.

Performance of the engagement in accordance with International Standards on Assurance Engagements 3000, Assurance Engagements Other than Audits or Reviews of Historical Financial Information

- 3.7 I performed a reasonable assurance engagement in accordance with the principles of International Standards on Assurance Engagements 3000, Assurance Engagements Other than Audits or Reviews of Historical Financial Information issued by the International Auditing and Assurance Standards Board. The objective of a reasonable assurance engagement is to perform such procedures as to obtain information and explanations which I consider necessary in order to provide me with sufficient appropriate evidence to express a positive conclusion on the disclosure. No other section of the annual report has been audited under this engagement.

Quality control and compliance with ethical standards

- 3.8 I apply International Standard on Quality Control 1, Quality Control for Firms that perform audits and reviews of Financial Statements, and other Assurance and Related Service Engagements. Accordingly, I maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.
- 3.9 I have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

Summary of work performed

- 3.10 The additional cost of biofuel is estimated using a cost model. My assurance work included an examination of this cost model, to confirm that this is consistent with its intended function and that its inputs are consistent with the underlying source data. I also made enquiries with management as to the controls surrounding the collection of data where it was from internal sources.

Conclusion

- 3.11 In my opinion, section 4 of the RTFO annual report, showing the outturn related to the additional cost of biofuel supplied under the RTFO scheme for the period 15 April 2016 to 14 April 2017, is properly prepared in accordance with HM Treasury direction and provides a true and fair view of the outturn related to the additional cost of biofuel supplied under the RTFO scheme.

Matthew Kay

28 February 2018

Director

On behalf of the Comptroller and Auditor General

National Audit Office
157-197 Buckingham Palace Road
Victoria
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4. Outturn (audited) for 2016-17

RTFO outturn	
RTFO outturn for 2016-17	£527.3 million

Table 1 RTFO outturn for 2016-17

Cost estimation methodology and data sources

- 4.1 The RTFO requires road transport fuel suppliers to blend a certain amount of biofuels into fossil fuels. The most significant biofuels deployed through this mechanism are bioethanol (49%), which is blended into fossil petrol, and biodiesel (47%), which is blended into fossil diesel.
- 4.2 Biofuels have historically been more expensive than fossil fuels. Fuel suppliers/retailers are likely to pass much or all of these additional costs onto the final consumer. Biofuels also have lower energy content per litre, so the use of biofuels increases the cost of motoring.
- 4.3 This price difference between fossil fuels and biofuels can be observed in the market. The Department receives biofuels market price data that is produced weekly by 'Bloomberg', a leading global provider of market data⁴.
- 4.4 We have estimated the cost imposed by the RTFO using monthly volumes of biofuels as reported through the RTFO statistics⁵ and price differentials as reported through Bloomberg's market reports. To take account of the lower energy content of biofuels, we compare fuel costs in terms of £/megajoule and not £/litre, based on energy density factors quoted in the Renewable Energy Directive⁶.
- 4.5 Since the biodiesel price varies depending on the feedstock, we have generated separate estimates for biodiesel from different feedstocks. For bioethanol, there is just one market price and no distinction between feedstocks. For the remaining 4% of biofuels that are not bioethanol or biodiesel, pricing information is not readily available. We have used proxies for these small-volume fuels, based on their closest substitute fuels.
- 4.6 The RTFO reporting year runs from 15 April to 14 April, so there is a slight difference from the financial year. We have not attempted to adjust for this.

⁴ <http://www.bloomberg.com>

⁵ <https://www.gov.uk/government/collections/biofuels-statistics>

⁶ <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32009L0028>

5. Forecasts

Future RTFO value	
RTFO forecast for 2017-18	£405 million
RTFO forecast for 2018	£496 million

Table 2 Future RTFO value

Cost estimation methodology and data sources

Forecast for 2017-18

- 5.1 The forecast for 2017-18 (£405 million) has been modelled using the same methodology and data sources as the outturn for 2016-17, with the following exceptions:
- Actual fuel supply volumes for the first half of 2017-18 are currently available, but for the second half of the year fuel supply from 2016-17 has been used as a proxy;
 - Actual price data for the first 9 months of 2017-18 has been used and assumed to apply to the full year;
 - Insufficient feedstock mix data is available at this time, so data from 2016-17 has been used.
- 5.2 The forecast for 2017-18 is lower than the outturn for 2016-17, since the price differentials between fossil fuels and renewables have recently been smaller.

Forecast for 2018

- 5.3 The draft SI setting out the amendments to the RTFO provides for a shorter obligation period from 15 April 2018 to 31 December 2018, ahead of the RTFO moving to calendar year reporting, as well as an increase in the obligation level from 4.7501% in 2017-18 to 7.25% in 2018.
- 5.4 The forecast for 2018 is based on the forecast for 2017-18 and is adjusted for the higher obligation level, as well as the shorter obligation period in the draft legislation. As in previous years, a wide range of price differentials between fossil fuels and renewables is applied to reflect market uncertainty. The resulting forecast range for 2018 is £132 million to £652 million. The central estimate of £496 million is not the mid-point but is based on recent market prices.

6. Scheme outcomes

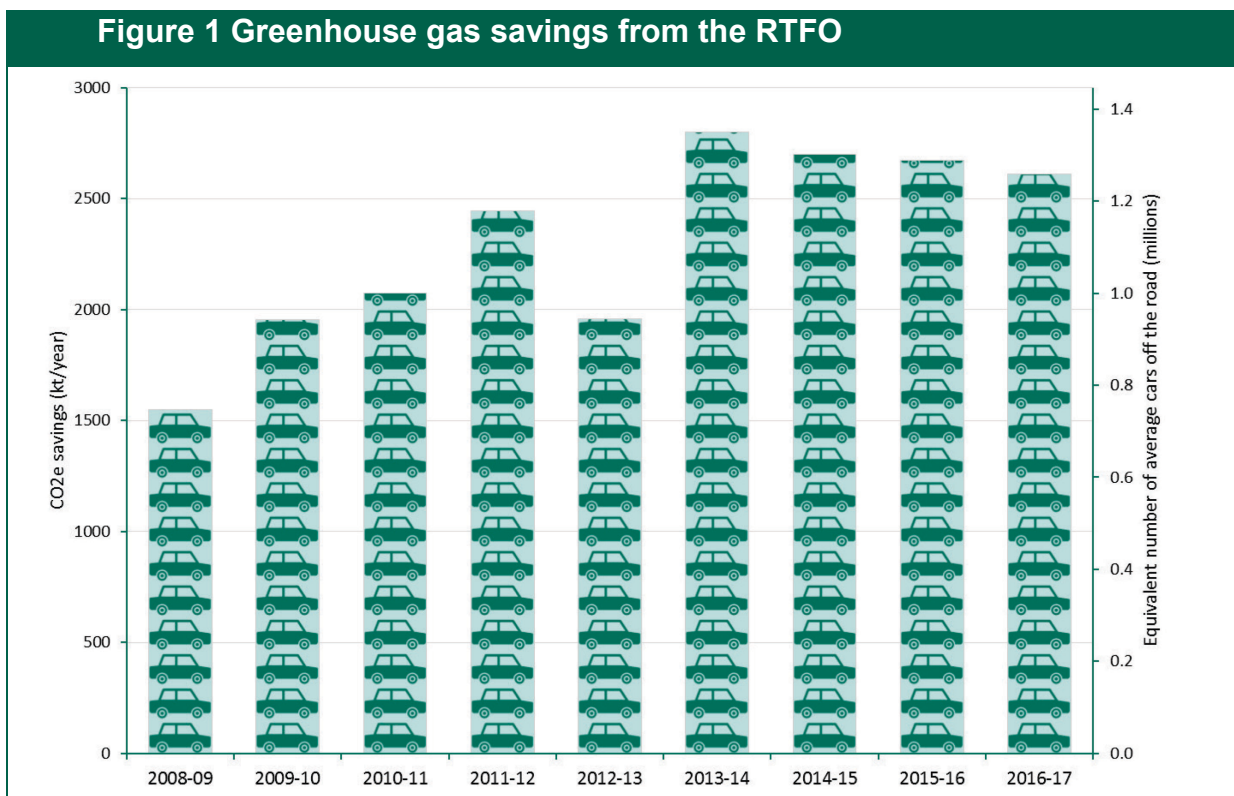
Introduction

6.1 The main policy objective of the RTFO is to reduce greenhouse gas (GHG) emissions from transport. It aims to do this using biofuels which meet the minimum sustainability criteria.

Greenhouse gas savings

6.2 In 2016-17, 1.54 billion litres of biofuels were provided to the market, accounting for 3% of transport fuel (this is lower than the obligation, which is a percentage of fossil and unsustainable renewable fuel and can be met with some fuels that are rewarded with double the number of certificates). 49% of this was bioethanol, 47% was biodiesel and 4% was biomethanol, with very small amounts of other fuels.

6.3 The average GHG saving from the biofuels supplied under the RTFO was 76% in 2016-17 compared to fossil fuels. This represents a total saving of 2.61 million tonnes of CO₂ equivalent for the year. This is equivalent to taking 1.26 million cars off the road for the year⁷. See Figure 1.

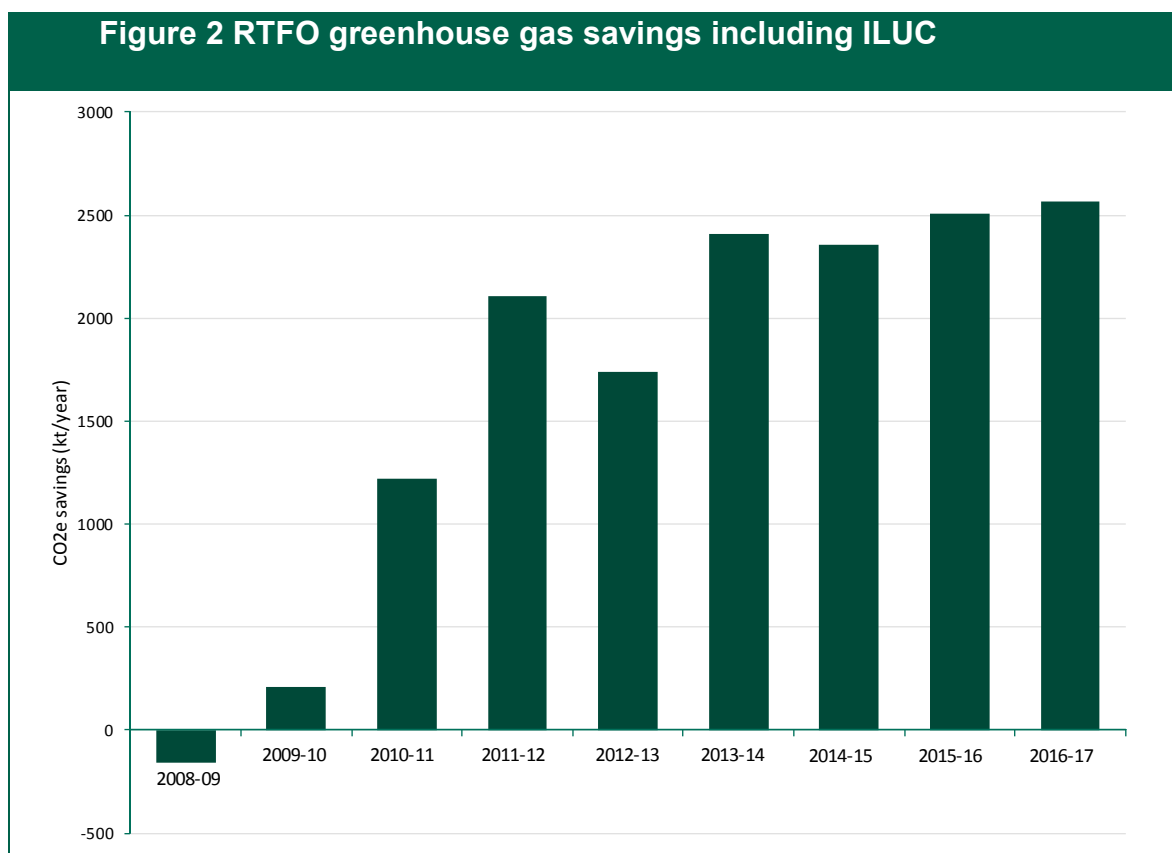


⁷ The figure used for average car emissions is a DfT estimate as of 2014.

- 6.4 Under the RTFO GHG savings are calculated using the methodology set out in the Renewable Energy Directive.
- 6.5 The early years of the RTFO saw a steady trend of increasing GHG savings, reflecting a shift towards feedstocks from wastes and residues, which tend to have higher emissions savings than crop-based feedstocks. In recent years the level of GHG savings has dropped a little, reflecting the slightly lower volumes being supplied.

Indirect land use change

- 6.6 When an existing crop is displaced to enable a biofuel crop to be grown, additional agricultural land may be created to accommodate the displaced crop. This is called 'indirect land use change' (ILUC). If ILUC occurs, there is a risk that there will be a loss of carbon stock from that land and therefore additional emissions.
- 6.7 Emissions from ILUC are not accounted for under the current RTFO, however a new EU Directive now includes estimates of the additional emissions associated with each biofuel feedstock. Suppliers will be required to report ILUC impacts using these values, when implementing legislation is introduced. In the meantime estimates have been used to calculate the amount of GHG emissions saved by the RTFO, taking ILUC into account (resulting in marginally lower savings, due to the additional emissions from ILUC) - see Figure 2. In 2016-17, the total GHG saving from the RTFO including ILUC was 2.56 million tonnes of CO₂ equivalent (this is equivalent to taking 1.24 million cars off the road).



- 6.8 In the early years of the RTFO, there was a high proportion of crop-based feedstocks. Taking into account the risk of ILUC from these crops, the total GHG savings for these years was low and was even negative during the first year. Since

2011, when an additional incentive for biofuels from waste/residue-based feedstocks was introduced, the proportion of UK biofuels that are made from wastes and residues has steadily increased from approximately half to two-thirds. These feedstocks reduce the risk of ILUC and therefore give higher net GHG savings.

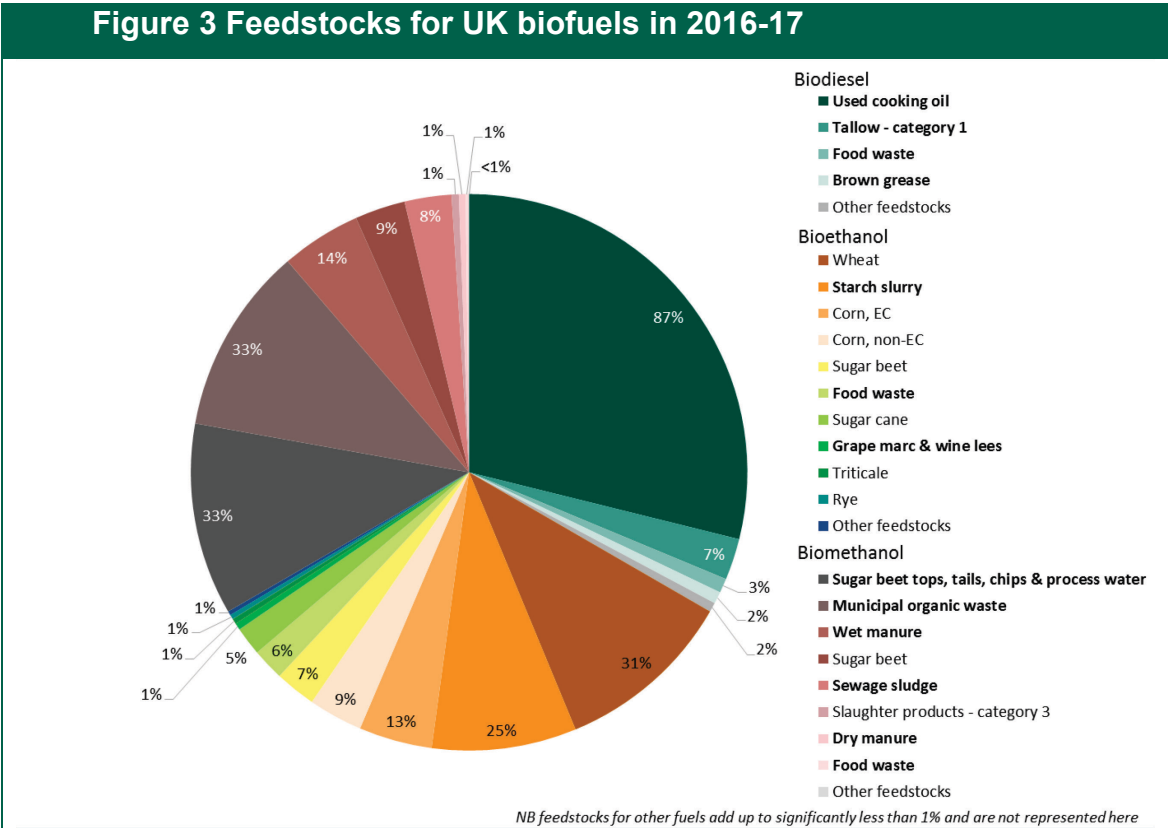
Biofuel sustainability and sources

6.9 In order to receive RTFCs suppliers must be able to provide evidence that their biofuels meet the sustainability requirements. For 2016-17, these were:

- The biofuel meets a minimum GHG saving:
 - Of 35%, for the period up until 31 December 2016;
 - Of 50%, for the period from 1 January 2017;
- Growing crops for biofuels does not lead to a loss of biodiversity; and
- Growing crops for biofuels does not lead to a loss of high-carbon stock land such as forest or peatland.

6.10 In 2016-17 these sustainability requirements were met for 99.96% of the biofuel supplied into the UK.

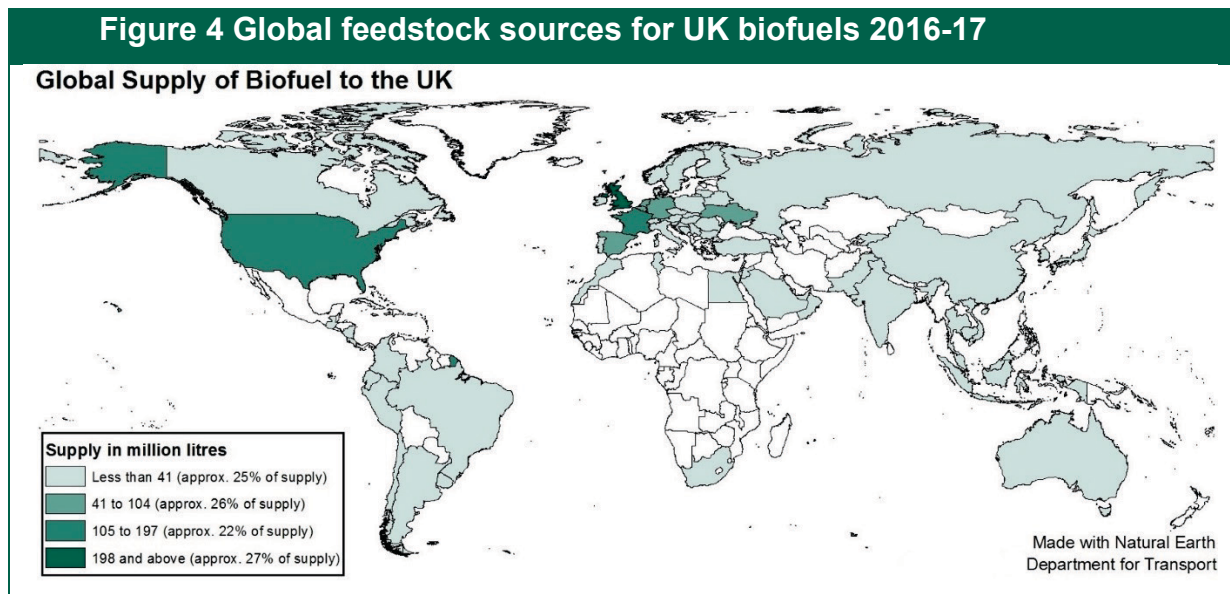
6.11 Figure 3 shows the main feedstocks from which the UK’s biofuels were made in 2016-17. Waste and residue feedstocks, which have a reduced risk of undesirable impacts, are shown in bold, and represent 66% of biofuels supplied.



6.12 In 2016-17 there was a reduction in the supply of crop feedstocks for biodiesel (which have the highest ILUC impacts) and an increase in the overall supply of waste and residue feedstocks to the market. The well-known waste/residue feedstocks

continued to feature, whilst a number of new sources of waste/residue also emerged, providing small amounts of feedstock for biofuels.

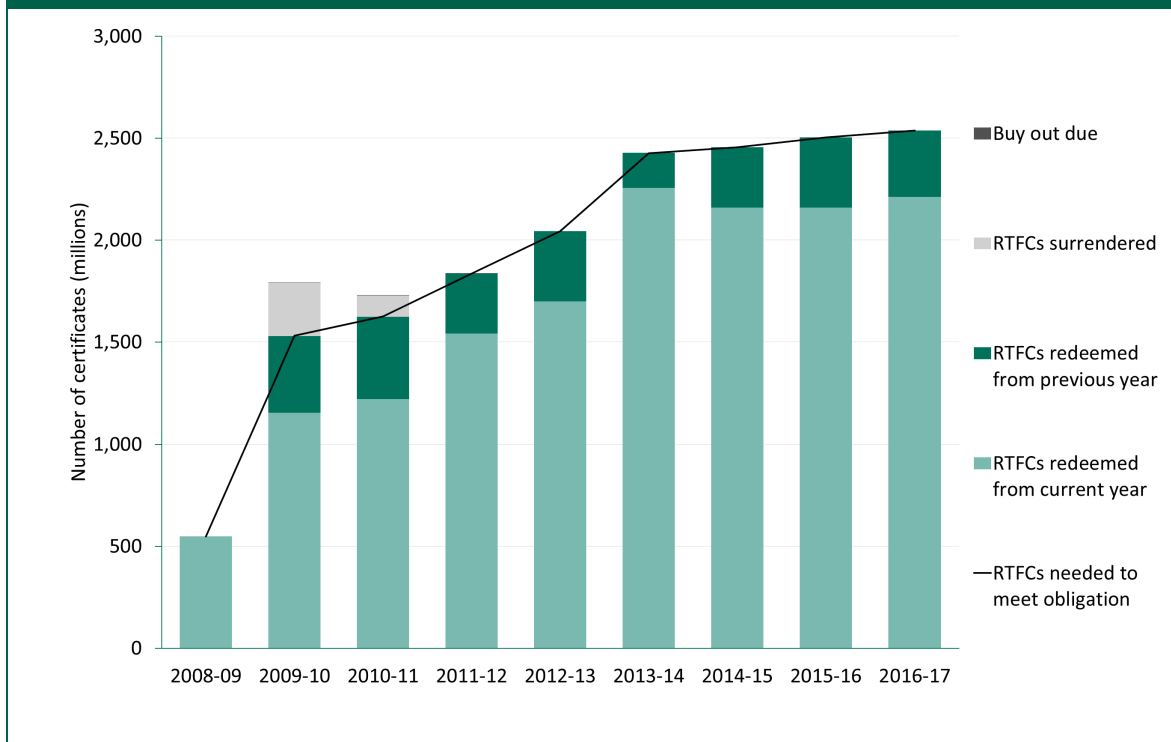
- 6.13 The number of countries where the feedstocks originate has remained high - see Figure 4. In 2008-09, the feedstocks came from 18 different countries. In 2015-16, 77 different countries were reported, and in 2016-17 this was at 75 countries. However, the same highest supplying countries continued to provide the most significant volumes. The UK was once again the largest individual country, in 2016-17 providing 27% of the biofuel reported. 73% of feedstocks originated in EU member states.



Meeting the 2016-17 obligation

- 6.14 All road transport fuel suppliers met their 2016-17 obligations by redeeming RTFCs. In 2016-17, 2,537 million RTFCs were redeemed, of which 325 million, or 13%, related to fuel supplied in the previous year.
- 6.15 Figure 5 shows the number of RTFCs redeemed and surrendered each year.
- 6.16 As the Administrator of the RTFO, DfT operates systems and processes designed to prevent and detect inaccurate or fraudulent applications for RTFCs. It also has powers to impose civil penalties if certain requirements of the RTFO Order are not complied with. No RTFCs were revoked due to inaccurate or fraudulent applications during 2016-17 and no civil penalties were imposed.

Figure 5 RTFCs redeemed and surrendered



Modelled RTFC prices

6.17 We have modelled certificate prices for the obligation year 2016-17 using market price data for fuels (since RTFC price data is not publicly available). For this purpose, we assume used cooking oil biodiesel is the marginal fuel supplied under the RTFO and therefore it is the price differential between diesel and used cooking oil biodiesel which determines the RTFC price. We estimate that RTFC prices in 2016-17 ranged from £0.18 per RTFC to £0.24 per RTFC, with a mean value of £0.21 per RTFC.

Conclusion

6.18 The RTFO continues to meet its objective of reducing GHG emissions from road transport. All of the biofuels rewarded under the RTFO meet the mandatory sustainability criteria. The RTFO is designed and managed to ensure a high level of compliance with its requirements.

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