



Department  
for Transport

# Renewable Transport Fuel Obligation Annual Report 2015-16

**Moving Britain Ahead**



# Renewable Transport Fuel Obligation Annual Report 2015-16

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

March 2017



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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). The RTFO is included in the Department for Transport's budgets, however 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 2015-16

- 3 The total value of the RTFO for 2015-16 is £451.7 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 2016-17 is £527 million. Different calculations have been made to forecast the 2017-18 budget, reflecting different policy scenarios following the RTFO consultation. Option 1 (baseline) is predicted to result in a budget in the range of £152 million to £667 million (with a medium value of £534 million). Option 2 is predicted to result in a range £203 million to £921 million (with a medium value of £724 million).

## Scheme outcomes

- 5 The average GHG saving from the biofuels supplied under the RTFO was 74% in 2015-16 compared to fossil fuels. This represents a total saving of 2.67 million tonnes of CO<sub>2</sub> equivalent for the year. This is equivalent to taking approximately 1.3 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 2015-16 has been audited by the National Audit Office (NAO).

# 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 is included in the Department for Transport's budgets. Due to the nature of this income and expenditure it cannot be reported within the Department for Transport's Annual Report and Accounts. Inclusion would not be compliant with the Government's Financial Reporting Manual.
- 1.2 This report gives an outturn figure for the value of the RTFO for the 2015-16 financial year alongside the outcomes for the scheme. Forecasts are also given for the 2016-17 and 2017-18 financial years. The National Audit Office (NAO) has audited the 2015-16 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 15).
- 1.6 The RTFO operates on an annual basis starting each year on 15 April. Each supplier of fuel to the UK market<sup>1</sup> is required to demonstrate that biofuel has been supplied to

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<sup>1</sup> Except those supplying less than 450,000 litres per year.

cover a set proportion of their overall fuel supply. For the 2015-16 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.

## 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 relates to the 2015-16 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.

**Philip Rutnam**

**22 February 2017**

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



# 3. Audit report

## Renewable Transport Fuel Obligation Annual Report - Audit Report 2015-16

### 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 2016.

#### **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 2015 to 14 April 2016. 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 2015 to 14 April 2016. 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 2015 to 14 April 2016.

#### **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 2015 to 14 April 2016, 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**  
**Director**

**24 February 2017**

National Audit Office  
157-197 Buckingham Palace Road  
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London  
SW1W 9SP

## 4. Outturn (audited) for 2015-16

RTFO outturn	
RTFO outturn for 2015-16	£451.7 million

Table 1 RTFO outturn 2015-16

### 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 (50%), 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 data<sup>2</sup>.
- 4.4 We have estimated the cost imposed by the RTFO using monthly volumes of biofuels as reported through the RTFO statistics<sup>3</sup> 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 £/MJ and not £/litre, based on energy density factors quoted in the Renewable Energy Directive<sup>4</sup>.
- 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 less than 3% 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.

<sup>2</sup> <http://www.bloomberg.com>

<sup>3</sup> <https://www.gov.uk/government/collections/biofuels-statistics>

<sup>4</sup> <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32009L0028>

## 5. Forecasts

Future RTFO value	Text
RTFO forecast for 2016-17	£527 million
RTFO budget for 2017-18:	
baseline scenario	£152 - £667 million
option 2 scenario	£203 - £921 million

Table 2 Future RTFO value

### Cost estimation methodology and data sources

#### Forecast for 2016-17

- 5.1 The forecast for 2016-17 (£527 million) has been modelled using the same methodology and data sources as the outturn for 2015-16, with the following exceptions:
- Actual fuel supply volumes for 2015-16 have been used (currently available figures for 2016-17 are incomplete and unrepresentative);
  - Actual price data for the first 9 months of 2016-17 has been used and assumed to apply to the full year;
  - Insufficient feedstock mix data is available at this time, so data from 2015-16 has been used.

#### Budget for 2017-18

- 5.2 For the 2017-18 forecast year two separate policy scenarios have been assessed reflecting the different possible outcomes following the RTFO consultation. As in previous years a budget has been modelled based on the forecast value (2016-17) plus inflation (as per figures provided in WebTAG<sup>5</sup>).
- 5.3 To reflect the possibility of either the option 1 policy (baseline – current obligation level) or the option 2 policy (proposed increase to a 6% obligation level in 2017-18) being chosen following the RTFO consultation, a range of estimates reflecting low, medium and high price scenarios have been estimated for both options. The medium scenario reflects recently observed market prices. A variety of price estimates and assumptions about fuel supply volumes and feedstock mixes have been made. This predicted that the RTFO budget for 2017-18 under option 1 would range from £152 million to £667 million, with a medium price estimate of £534 million. The range under option 2 is estimated to be between £203 million and £921 million, with a medium

<sup>5</sup> Figures used for inflation were sourced from the January 2017 WebTAG data book which is yet to be officially released.

price estimate of £724 million in this case. The broad ranges reflect that there is some uncertainty about the fuel supply volumes and feedstock mix and very high uncertainty around future fuel prices.

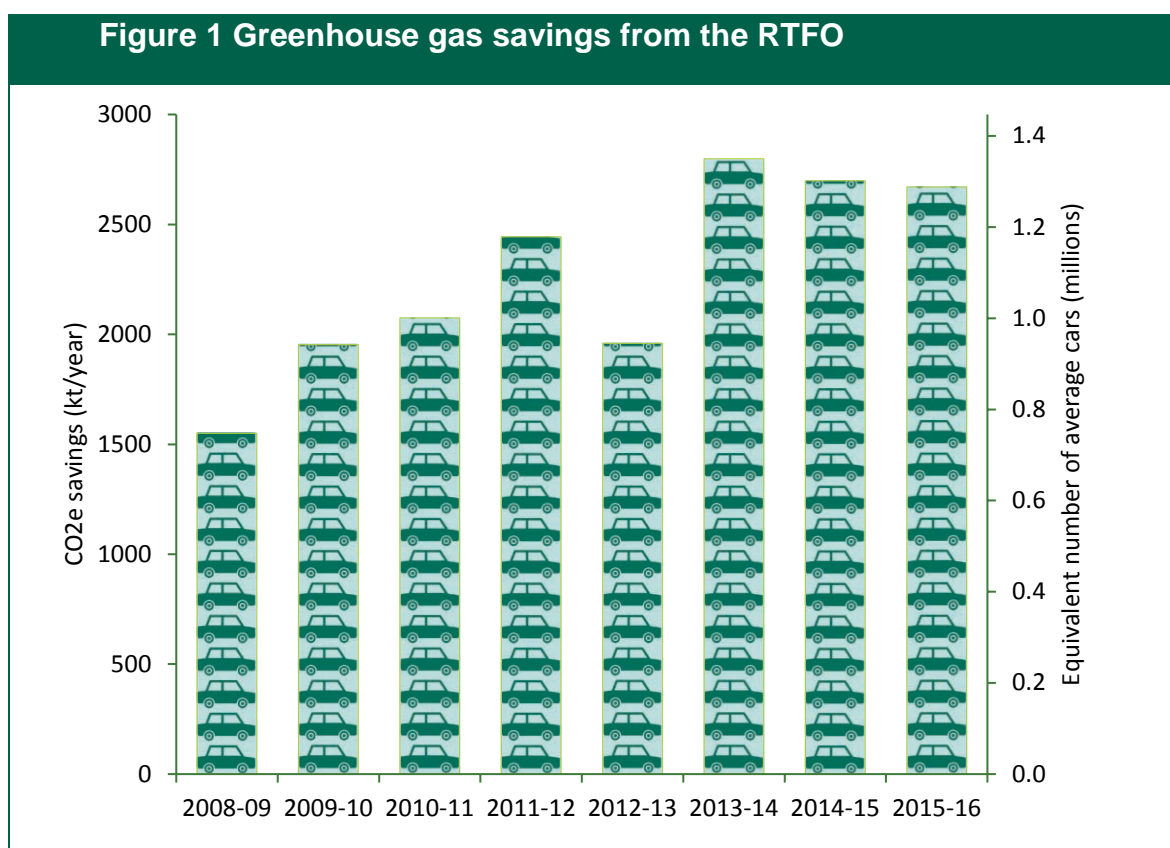
## 6. Scheme outcomes

### 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

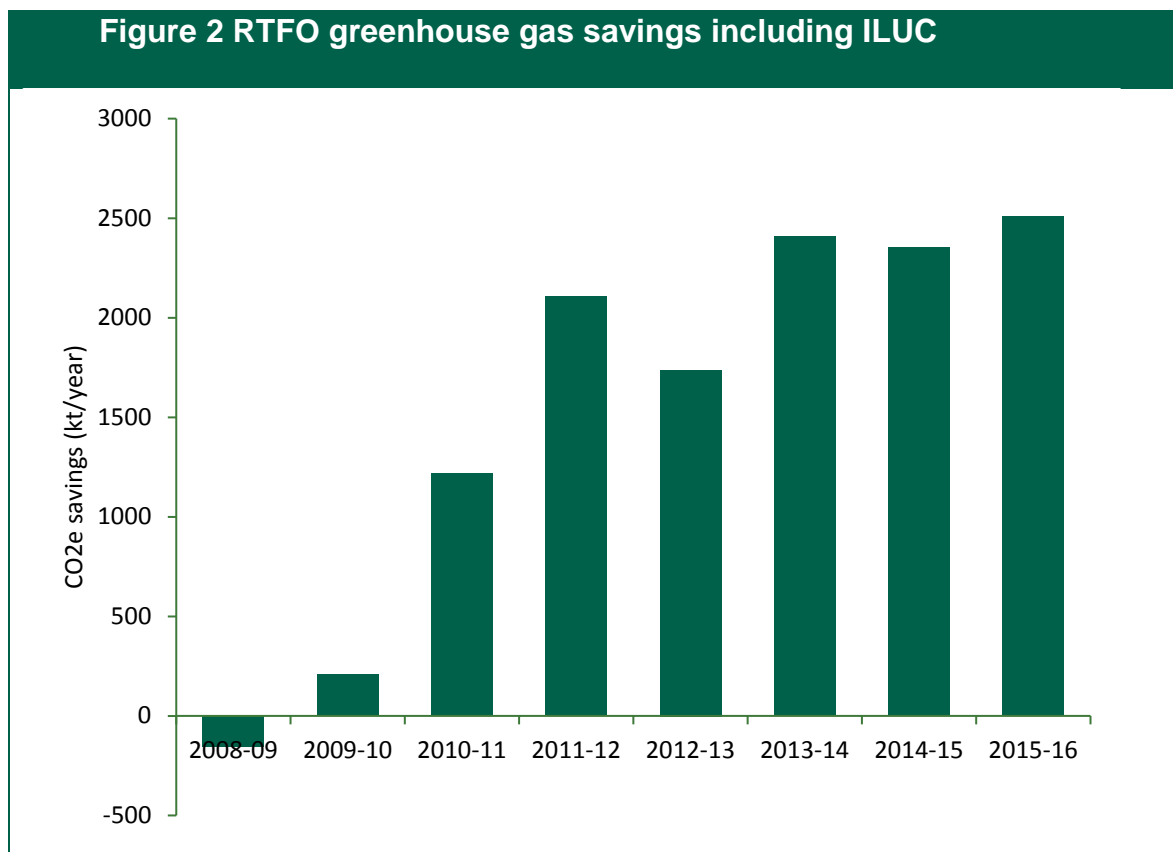
- 6.2 In 2015-16, 1.57 billion litres of biofuels were provided to the market, accounting for 3% of transport fuel. 50% of this was bioethanol and 47% was biodiesel, with other fuels accounting for less than 3%.
- 6.3 The average GHG saving from the biofuels supplied under the RTFO was 74% in 2015-16 compared to fossil fuels. This represents a total saving of 2.67 million tonnes of CO<sub>2</sub> equivalent for the year. This is equivalent to taking approximately 1.3 million cars off the road for the year. See Figure 1.



- 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, which tend to have higher emissions savings than crop-based feedstocks. In recent years the level of GHG savings has remained stable.

**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. The UK Government has recently consulted on how best to implement this legislation and in the meantime these estimates have been used to calculate the amount of GHG emissions saved by the RTFO, taking ILUC into account – see Figure 2. In 2015-16, the total GHG saving from the RTFO, including ILUC was nearly 2.51 million tonnes of CO<sub>2</sub> equivalent (this is equivalent to taking 1.2 million cars off the road).



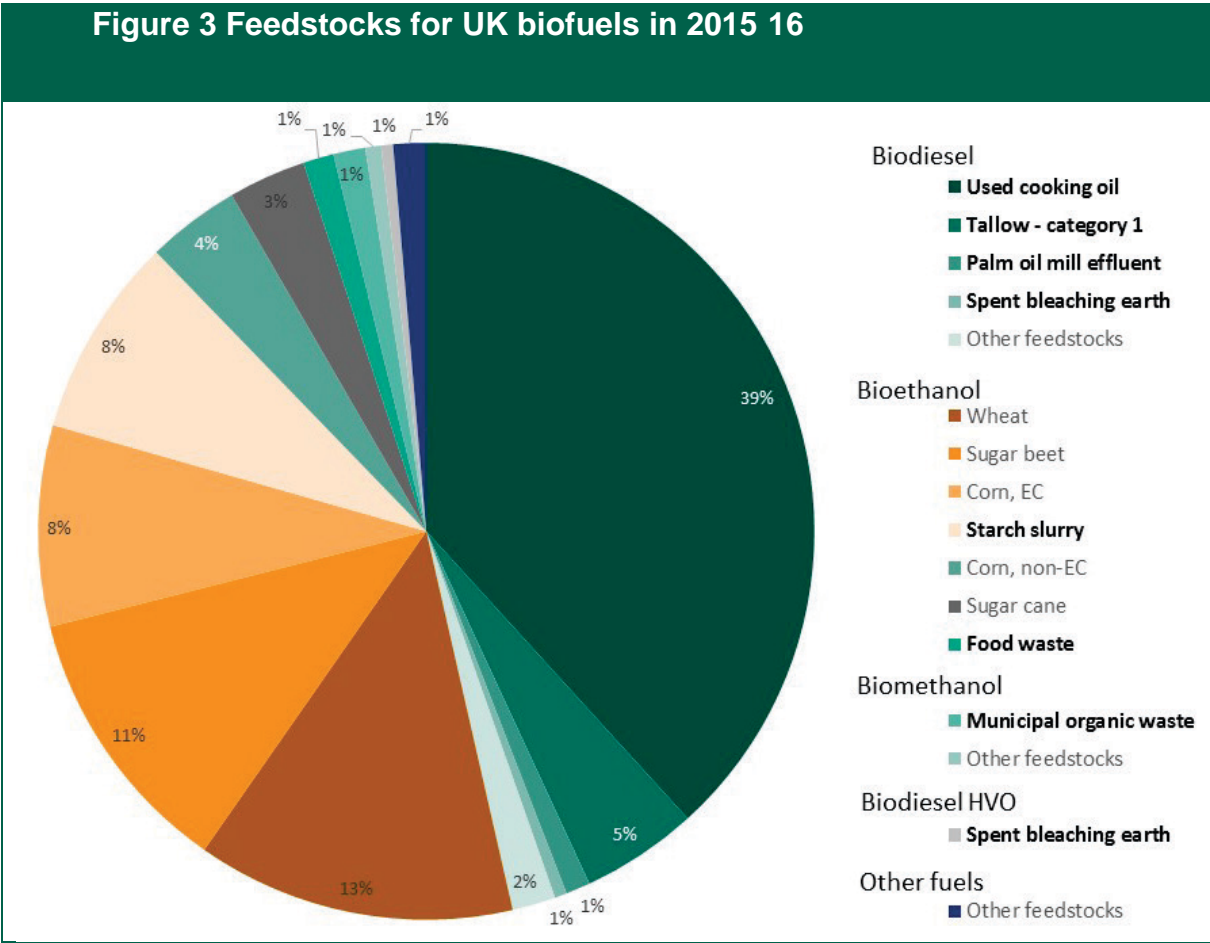
- 6.8 In the early years of the RTFO, there was a high proportion of crop-based feedstocks. Taking into account the risk of ILUC from these crops, the total GHG savings for these years was low and was even negative during the first year. Since 2011, when an additional incentive for biofuels from waste-based feedstocks was



introduced, approximately half of UK biofuels have been made from waste. These feedstocks reduce the risk of ILUC and therefore give higher net GHG savings.

### Biofuel sustainability and sources

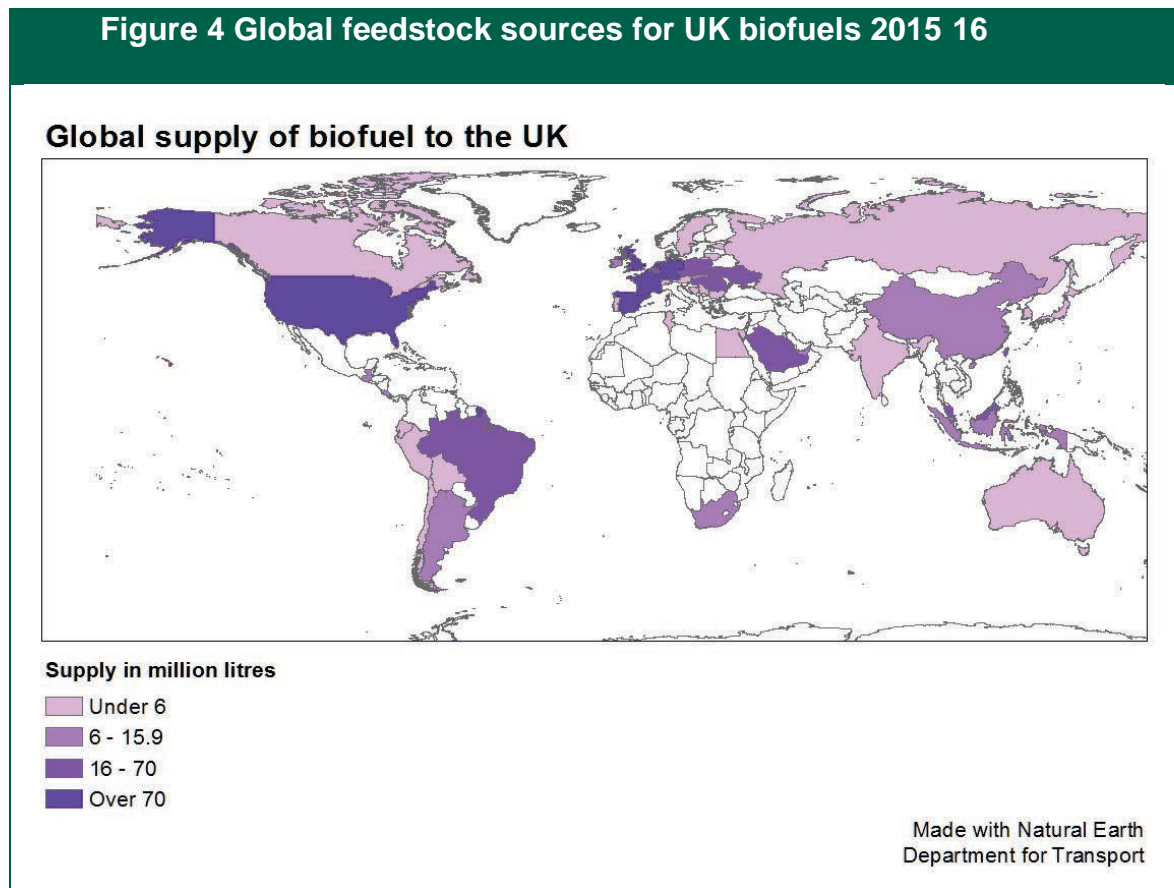
- 6.9 In order to receive RTFCs suppliers must be able to provide evidence that their biofuels meet the sustainability requirements. For 2015-16, these were:
  - The biofuel meets a minimum GHG saving of 35%;
  - Growing crops for biofuels does not lead to a loss of biodiversity; and
  - Growing crops for biofuels does not lead to a loss of high-carbon stock land such as forest or peatland.
- 6.10 In 2015-16 these sustainability requirements were met for 99.9% of the biofuel supplied into the UK.
- 6.11 Figure 3 shows the main feedstocks from which the UK’s biofuels were made in 2015-16. Waste feedstocks, which have a reduced risk of undesirable impacts, are shown in bold, and represent 59% of biofuels supplied.



6.12 In 2015-16 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 feedstocks to the market. The well-known waste feedstocks continued to feature,

whilst new sources of waste also emerged, providing small amounts of feedstock for biofuels.

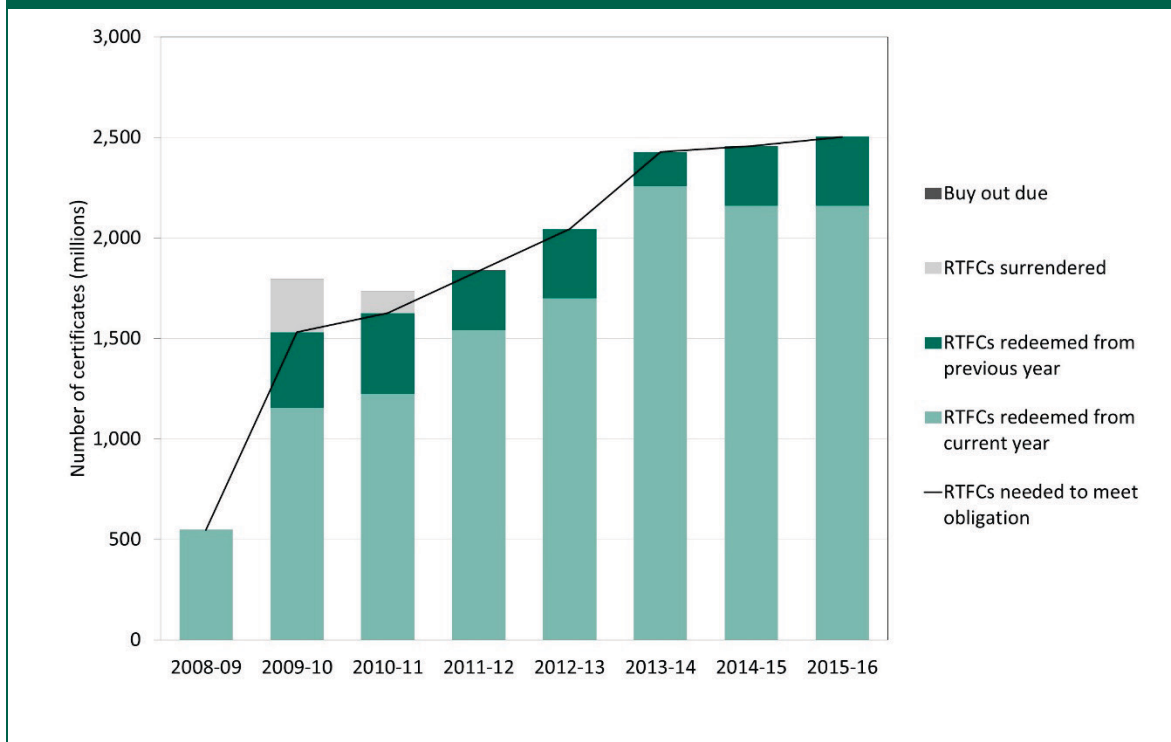
- 6.13 The number of countries where the feedstocks originate has continued to increase - see Figure 4. In 2008-09, the feedstocks came from 18 different countries. In 2013-14, 59 different countries were reported, and in 2015-16 this increased to around 80 countries. However, the same countries continued to provide the most significant volumes. The UK was once again the largest individual country, in 2015-16 providing 25% of the biofuel reported. 75% of the feedstock originated in Europe.



## Meeting the 2015-16 obligation

- 6.14 All road transport fuel suppliers met their 2015-16 obligations by redeeming RTFCs. In 2015-16, 2,503 million RTFCs were redeemed, of which 344 million, or 14%, 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. In 2015-16, 7.2 million RTFCs for fuel supplied in 2015-16 and 0.2 million RTFCs for fuel supplied in 2014-15 were revoked. These were revoked due to inaccurate applications. 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 2015-16 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 2015-16 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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