



Department  
for Transport

# Renewable Transport Fuel Obligation Annual Report 2017-18

**Moving Britain Ahead**





# **Renewable Transport Fuel Obligation Annual Report 2017-18**

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

April 2019



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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). It is not reported within the Department for Transport's Annual Report and Accounts as its inclusion would not be compliant with the Government's Financial Reporting Manual.
- 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.
- 3 Previously, the RTFO operated on a financial year basis starting each year on the 15 April. However, from 1 January 2019 the RTFO has moved to a calendar year basis, therefore Year 11 of the RTFO will be a short year (April to December).

## Outturn for 2017-18

- 4 The total value of the RTFO for 2017-18 is £497.7 million. This is calculated as the difference between the cost of renewable fuels supplied and the fossil fuels they have replaced.

## Forecasts

- 5 The forecast total value of the RTFO for 2018 is £430 million<sup>1</sup>. The RTFO budget for 2019 is forecast at £682 million. This increase is in part due to an increase in the RTFO obligation.

## Scheme outcomes

- 6 The average GHG saving from the biofuels supplied under the RTFO was 74% in 2017-18, compared to fossil fuels. This represents a total saving of 2.86 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.
- 7 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

- 8 This report is signed by the Permanent Secretary, Department for Transport. The outturn figure for 2017-18 has been audited by the National Audit Office (NAO) on behalf of the Comptroller and Auditor General.

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<sup>1</sup> For the anticipated shorter obligation period from 15 April 2018 to 31 December 2018, as a result of the RTFO moving to calendar year reporting (see 1.6).

# 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 transactions generated by the RTFO are not income or expenditure attributable to the Department for Transport and the RTFO is not reported within the Department's Annual Report and Accounts as its 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 2017-18 financial year alongside the outcomes for the scheme. Forecasts are also given for the 2018 and 2019 RTFO years. The National Audit Office (NAO) on behalf of the Comptroller and Auditor General has audited the 2017-18 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. The RTFO 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 In 2018 the RTFO was amended to implement elements of Directive 2015/1513 (known as the 'Indirect Land Use Change (ILUC) Directive'), which amends the European Commission Renewable Energy Directive (RED). The amended RED sets a maximum on the amount of crop-derived biofuels which may be counted towards renewable transport targets. Therefore, a crop cap has been introduced for Year 11 of the RTFO (from 15 April 2018) and a target for a specific sub-set of advanced fuels termed 'development fuels' will be introduced in Year 12 of the RTFO (from 1 January 2019)- therefore is not relevant to this reporting period or the next. The amendments also include renewable fuel volume targets set out to 2032 and beyond, and several new fuel types are made eligible for support under the RTFO including aviation fuel, hydrogen and some renewable fuels of non-biological origin (RFNBOs).

- 1.6 Previously, the RTFO operated on a financial year basis starting each year on the 15 April. Year 10 therefore covers 15 April 2017 to 14 April 2018. However, from 1 January 2019 the RTFO has moved to a calendar year basis. To transition to calendar years, 'Year 11' was a shorter obligation period running from 15 April 2018 to 31 December 2018. Thereafter, obligation periods will run from 1 January to 31 December each year.
- 1.7 Each supplier of fuel to the UK market<sup>2</sup> is required to demonstrate that biofuel has been supplied to cover a set proportion of their overall fuel supply. For the 2017-18 year, this proportion was 4.7501%. 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. Following the amendments to the RTFO in April 2018, the main obligation increased to 7.717%. From 1 January 2019 an additional development fuel target was introduced, starting at 0.1% proportion of their overall fuel supply. Development fuels will be issued separate development fuel RTFCs (dRTFCs).
- 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, or 80 pence per litre of development fuel for which they have not redeemed a dRTFCs. This protects consumers from excessive increases in fuel prices by setting a maximum value for RTFCs and dRTFCs.
- 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. From April 2018 the Treasury will receive the revenue from suppliers buying out.
- 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.

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<sup>2</sup> Except those supplying less than 450,000 litres per year.



## 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 audit by the National Audit Office, on behalf of the Comptroller and Auditor General, relates to the 2017-18 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**

**19 March 2019**

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

# 3. Assurance report

## Renewable Transport Fuel Obligation Annual Report - Assurance Report 2017-18

### 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

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 2018.

#### **Subject matter, criteria and limitations**

- 3.1 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 2017 to 14 April 2018. This disclosure is derived from a model designed by the Department for Transport, with observable inputs.
- 3.2 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.
- 3.3 My review extended only to providing assurance on the disclosures made for the period 15 April 2017 to 14 April 2018. 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**

- 3.4 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 2017 to 14 April 2018.

#### **Responsibilities**

- 3.5 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**

- 3.6 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**

- 3.7 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.
- 3.8 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**

- 3.9 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**

- 3.10 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 2017 to 14 April 2018, 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**

**25 March 2019**

**Director**

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## 4. Outturn (audited) for 2017-18

RTFO outturn	
RTFO outturn for 2017-18	£497.7 million

Table 1 RTFO outturn 2017-18

### 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 (46%), which is blended into fossil petrol and Biodiesel (50%), 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>3</sup>.
- 4.4 We have estimated the cost imposed by the RTFO using monthly volumes of biofuels as reported through the RTFO statistics<sup>4</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>5</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 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<sup>th</sup> April 2017 to 14<sup>th</sup> April 2018, so there is a slight difference from the financial year. We have not attempted to adjust for this. From 2019 reporting will be on an annual basis. As a result the 2018 report will be from 15<sup>th</sup> April 2018 to 31<sup>st</sup> December 2018.

<sup>3</sup> <http://www.bloomberg.com>

<sup>4</sup> <https://www.gov.uk/government/collections/biofuels-statistics>

<sup>5</sup> <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32009L0028>

# 5. Forecasts

Future RTFO value	
RTFO forecast for 2018 (partial year)	£430 million
RTFO forecast for 2019	£682 million

Table 2 Future RTFO value

## Cost estimation methodology and data sources

### Forecast for 2018

- 5.1 The forecast for 2018 (£430 million) has been modelled using the same methodology and data sources as the outturn for 2017-18, with the following exceptions:
- Actual fuel supply volumes for 2017-18 have been used (currently available figures for 2018 are incomplete and unrepresentative) adjusted for the shorter reporting period, the increase in obligation from 4.7501% to 7.25% and 3% drop in total demand based on BEIS' energy and emissions projections;
  - Actual price data for the months April – November 2018 has been used and assumed to apply to the full reporting period;
  - Insufficient feedstock mix data is available at this time, so data from 2017-18 has been used pro-rata for the shorter reporting period.

### Forecast for 2019

- 5.2 The forecast for 2019 (£682 million) has been modelled using the same methodology and data sources as the outturn for 2018, with the following exceptions:
- Actual fuel supply volumes for 2017-18 have been used adjusted for the increase in obligation and 5% drop in total demand based on BEIS' energy and emissions projections;
  - Actual price data for the first 11 months of 2018 has been used and adjusted for inflation, these are assumed to apply to the full year 2019;
  - The 2019 cost estimate includes £38m as a maximum cost of the development sub-target, based on the cost of buy-out occurring for the full obligation (48m litres at £0.80). The actual cost is likely to be less than this but we currently are unable to estimate it and;

- Insufficient feedstock mix data is available at this time, so data from 2017-18 has been used.

5.3 An estimate was also made using a variety of price estimates and assumptions about fuel supply volumes and feedstock mixes. This predicted that the RTFO forecast for 2019 would range from £553 million to £971 million, with a central price estimate (reflecting recently observed market prices) of £682 million. The broad range reflects that there is some uncertainty about the fuel supply volumes and feedstock mix and very high uncertainty around future fuel prices.

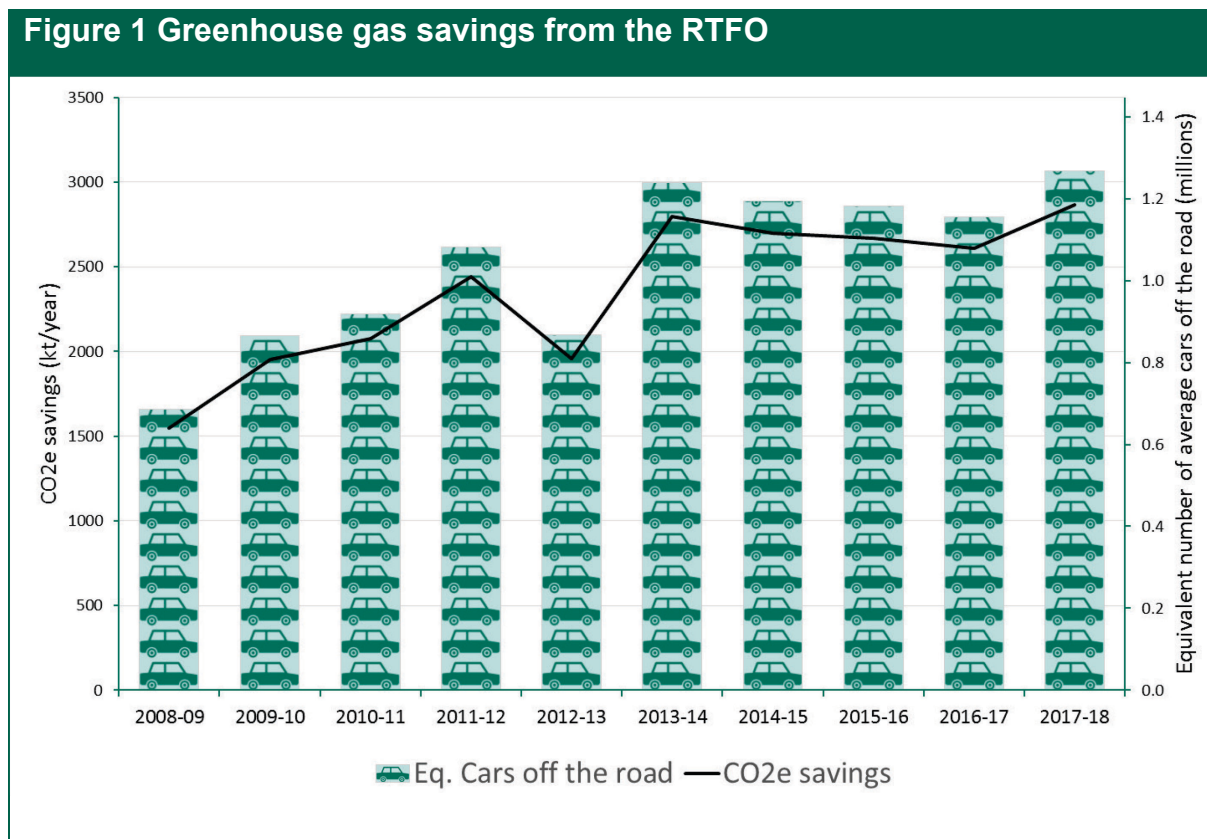
# 6. Scheme outcomes

## Introduction

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

## Greenhouse gas savings

6.2 In 2017-18, 1.62 billion litres equivalent (eq.) of biofuels were provided to the market, accounting for 3% of transport fuel. This includes 1.61 billion litres of liquid fuel and a small amount of biomethane (3.1 million kg, equivalent to 5.9 million litres). Biodiesel and Bioethanol represent 50% and 46% of this, respectively, with other fuels accounting for less than 5%. After double counting of waste-derived biofuels and carry-over of RTFCs from the previous year the total obligation of 4.7501% was met.



Note- The figure used for average car emissions is a DfT estimate based on observed statistics. As of 2019, this figure was revised from 2.07 (used in previous reports) to 2.26 t CO<sub>2</sub>/year following a review of the underlying methodology. The updated figure has been used to recalculate “cars off the road” for all previous RTFO periods.

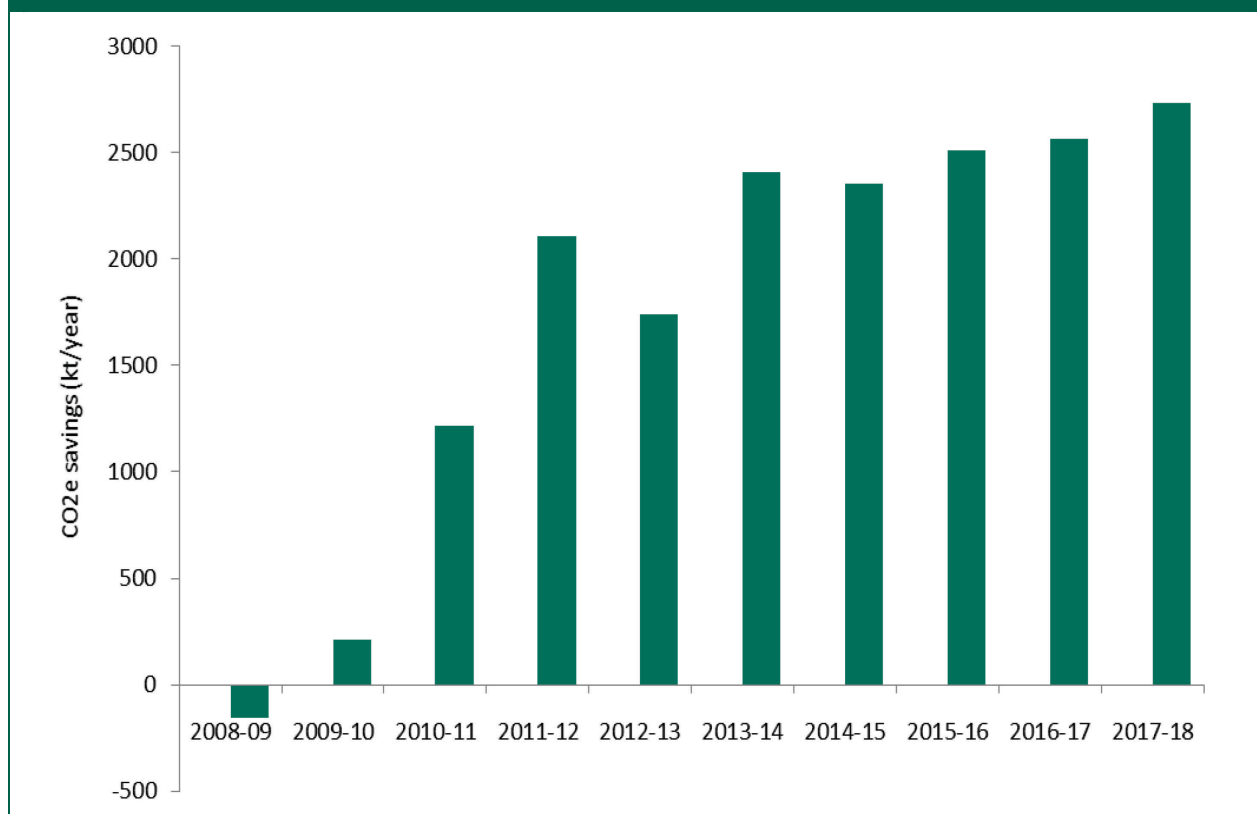


- 6.3. The average GHG saving from the biofuels supplied under the RTFO was 74% in 2017-18 compared to fossil fuels. This represents a total saving of 2.86 million tonnes of CO<sub>2</sub> equivalent for the year. This is equivalent to taking approximately 1.3 million cars off the road for the year (See Figure 1). Under the RTFO GHG savings are calculated using the methodology set out in the Renewable Energy Directive.
- 6.4. In recent years the level of GHG savings have gradually increased, which may be due to increasing supplies of waste-derived biofuels, which do not have ILUC implications and generally have greater GHG emissions savings than crop-derived fuels.

### Indirect land use change

- 6.5. 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 which therefore leads to additional emissions.
- 6.6. 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. These values have been introduced in implementing legislation in April 2018. Estimates have been used to calculate the amount of GHG emissions saved by the RTFO, taking ILUC into account – see Figure 2. In 2017-18, the total GHG saving from the RTFO, including ILUC was 2.73 million tonnes of CO<sub>2</sub> equivalent (this is equivalent to taking 1.2 million cars off the road).

**Figure 2 RTFO greenhouse gas savings including ILUC**



6.7. 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 two thirds of UK biofuels have been made from waste. These feedstocks reduce the risk of ILUC and therefore give higher net GHG savings.

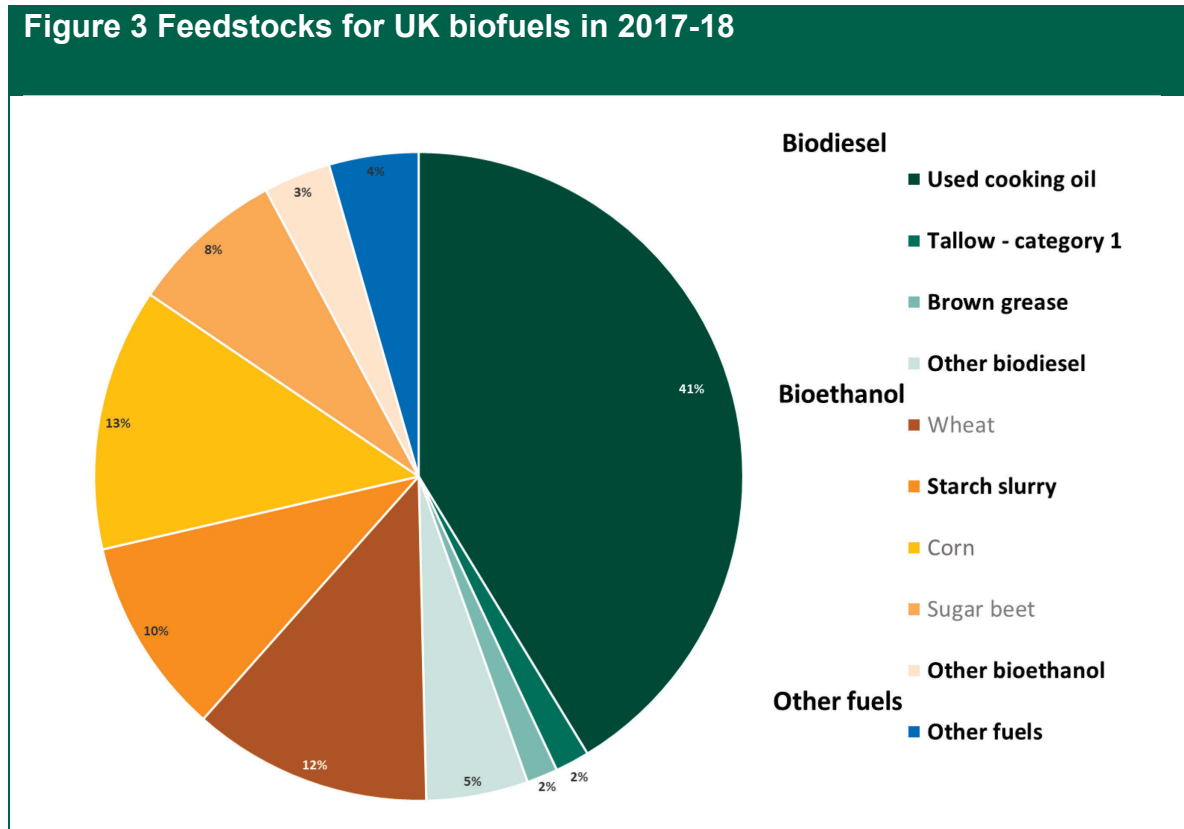
## Biofuel sustainability and sources

6.8. In order to receive RTFCs suppliers must be able to provide evidence that their biofuels meet the sustainability requirements. For 2017-18, biofuels must meet a minimum GHG saving of 50%, and must ensure that;

- 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.

6.9. In 2017-18 these sustainability requirements were met for 100% of the biofuel supplied into the UK.

6.10. Figure 3 shows the main feedstocks from which the UK's biofuels were made in 2017-18. Waste feedstocks, which have a reduced risk of undesirable impacts, are shown in bold, and represent 66% of biofuels supplied.

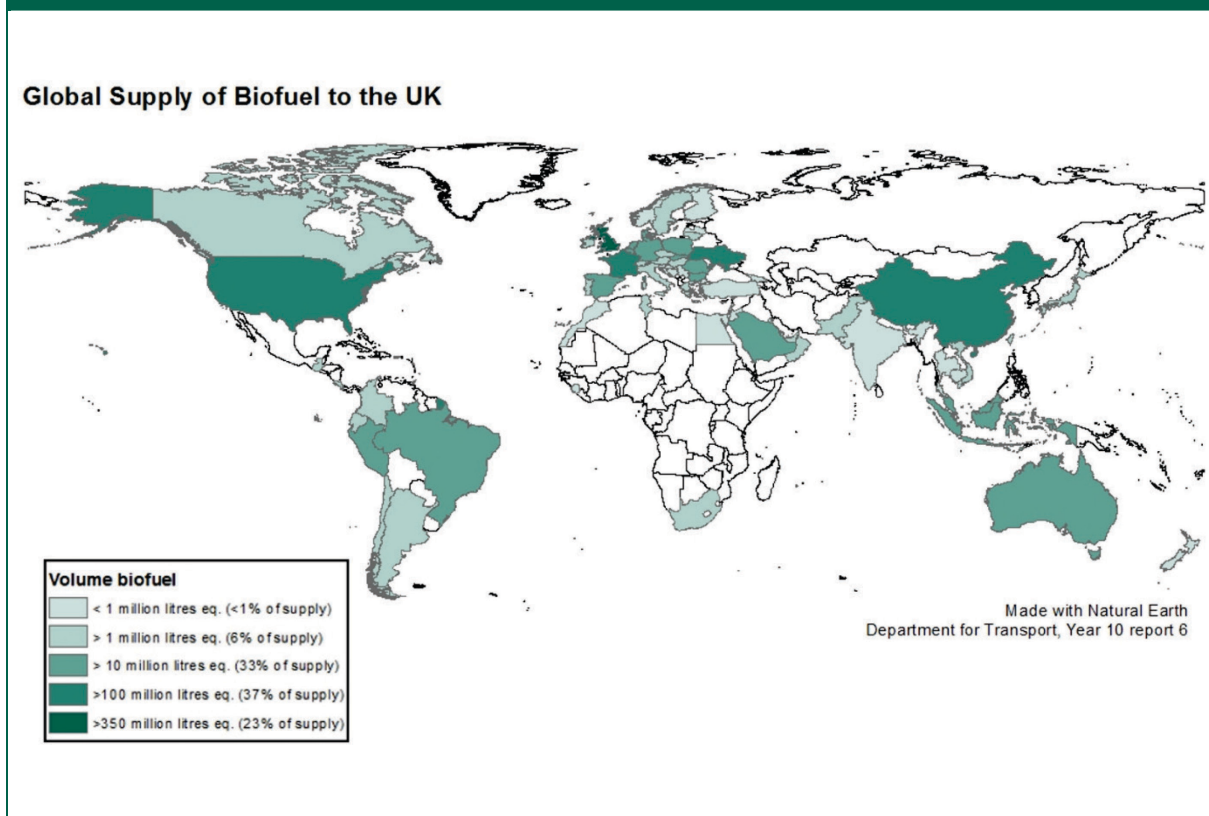


6.11. In 2017-18 there was a large reduction in the supply of crop feedstocks (which have the highest ILUC impacts) for biodiesel (decreasing from 6% to 0.04% of all biofuels) and a smaller reduction in bioethanol (decreasing from 44% to 34% of all

biofuels), due to an overall 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 (e.g. husks, vineyard waste, straw) providing small amounts of feedstock for biofuels.

- 6.12. The number of countries where the feedstocks originate has continued to increase. In 2008-09, the feedstocks came from 18 different countries. In 2013-14, 59 different countries were reported, and in 2017-18 this increased to 77 countries. The same top three countries (UK, France and the USA) continue to provide the most significant volumes (Figure 4). In terms of the top five supplying countries, China and Ukraine have replaced The Netherlands and Germany as the fourth and fifth top providers, respectively. The UK was once again the largest individual country, in 2017-18 providing 23% of the biofuel reported. In 2017/18 64% of biofuels were produced in the EU.

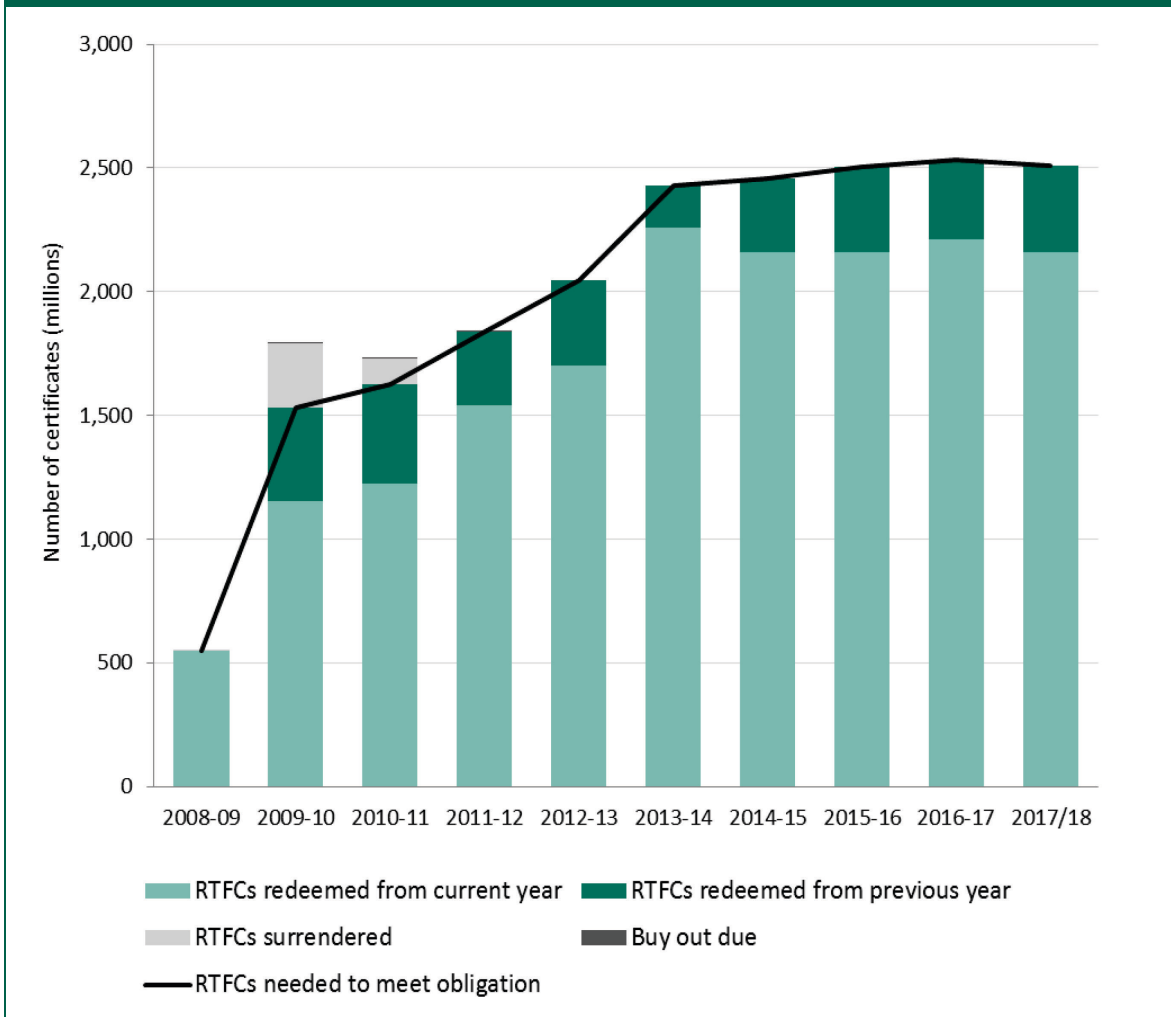
**Figure 4 Global feedstock sources for UK biofuels 2017-18**



## Meeting the 2017-18 obligation

- 6.13. All road transport fuel suppliers met their 2017-18 obligations by redeeming RTFCs. In 2017-18, 2158 million RTFCs were redeemed, of which 352 million, or 16%, related to fuel supplied in the previous year.
- 6.14. Figure 5 shows the number of RTFCs redeemed and surrendered each year.
- 6.15. 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 2017-18, 1.9 million RTFCs for fuel supplied in 2017-18 were revoked due to inaccurate applications. No civil penalties were imposed.

**Figure 5 RTFCs redeemed and surrendered**



## Modelled RTFC prices

6.16. We have modelled certificate prices for the obligation year 2017-18 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 2017-18 ranged from £0.12 per RTFC to £0.22 per RTFC, with a mean value of £0.18 per RTFC.

## Conclusion

6.17. 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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