



Department  
for Transport

## Renewable Transport Fuel Obligation statistics: Notes and Definitions

### 1. Introduction

This note provides definitions used for the Renewable Transport Fuel Obligation statistics as well as a glossary of common terms.

### 2. Notes on Data

#### **Renewable Transport Fuel Obligation**

The Renewable Transport Fuel Obligation (RTFO) is one of the Government's main policies for reducing greenhouse gas (GHG) emissions from road transport in the UK. The RTFO commenced on 15 April 2008 and is intended to deliver reductions in carbon dioxide emissions from the road transport sector by encouraging the supply of renewable fuels. The RTFO has been amended to implement the transport elements of the EU Renewable Energy Directive (RED), which include mandatory sustainability criteria for biofuels, from 15 December 2011.

Suppliers of sustainable biofuel can apply for Renewable Transport Fuel Certificates (RTFCs) under the RTFO. Biofuel must meet specified sustainability criteria in order to be entitled to the benefit of RTFCs. One RTFC is issued per litre/kg of liquid biofuel derived from crop based feedstocks. The number of RTFCs issued to biomethane, biobutane and biopropane is greater, to reflect their higher energy content relative to liquid biofuels. Biofuels produced from wastes, non-agricultural residues, non-food cellulosic material, and ligno-cellulosic material are issued twice the number of RTFCs per litre/kg<sup>1</sup> to reflect the lower risk that these materials will cause undesirable impacts such as indirect land use change (ILUC).

Refiners, importers and any others who supply more than 450,000 litres of road transport fuel (liquid fossil or liquid or gaseous renewable) per year to the UK market are obligated under the RTFO. These obligated fuel suppliers are required to redeem a number of RTFCs in proportion to the volume of fossil fuel and unsustainable biofuel they supply (own at HMRC's duty point). RTFCs may be bought or sold on the open market. Obligated suppliers also have the option to 'buy out' of their obligation, paying 30 pence per litre of biofuel that would otherwise have to have been supplied to meet their obligation. Suppliers may meet up to 25% of their obligation using RTFCs from the previous obligation period provided the sustainability criteria of the current period are met. This means that whilst individual suppliers' obligations may be met the overall supply of biofuel may be less than the volume target where the supply of biofuel has been greater than the volume target

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in the preceding year. In addition, the impact of double counting feedstocks will be to reduce the overall volume of biofuel needed to meet RTFO obligations.

From April 2018 the Renewable Transport Fuel Obligation (RTFO) Order is further amended to implement elements of Directive 2015/15131 (known as the 'Indirect Land Use Change (ILUC) Directive'), which amends the Renewable Energy Directive (RED). For further information about the context and the changes listed below, see the following links:

- [Government response to consultations on amendments](#)
- [Year 11 guidance](#)

In summary, the amendments include:

- Updated GHG savings thresholds for renewable fuels;
- A requirement for Member States to report on ILUC values for land-based (crop) biofuels.
- Introductions of definitions for wastes and residues and energy crops.
- The amended RED also sets a maximum on the amount of crop-derived biofuels which may be counted towards renewable transport targets, and recommends the introduction of a specific target for advanced biofuels. A crop cap has been introduced for Year 11 of the RTFO (from 15 April 2018). This cap will begin at 4% of a supplier's total relevant fuel supply for Year 11 of the RTFO. The level will decrease year-on-year from 2021 to reach 3% by 2026 and 2% by 2032.
- 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). Development fuels supplied during Year 11 will be rewarded with development fuel RTFCs, which can be carried over into Year 12.
- In addition, renewable fuel volume targets are set out to 2032 and beyond, and several new fuel types are made eligible for support under the RTFO including aviation fuel, hydrogen and other RFNBOs.
- Under the RTFO Order, fuel suppliers have an obligation to provide a volume of sustainable renewable fuel which is calculated as a proportion of the overall volume of fuel they supply for road transport and NRMM purposes.

### **Renewable Transport Fuel Obligation**

The RED is closely linked to the Fuel Quality Directive (FQD) and both directives include mandatory carbon and sustainability requirements that must be met if biofuel is to count towards European targets. Obligated parties must supply the same sustainable biofuel to meet their obligation under both directives.

The sustainability criteria are that:

- Renewable fuels produced in installations operating on or before 5 October 2015 must achieve at least a **50% GHG emissions saving**. Renewable fuels produced in newer installations which started operating after 5 October 2015 must deliver at least a **60% GHG emissions saving**;
- Biofuels may not be made from raw material obtained from land with **high biodiversity value** in or after January 2008.
- Biofuels may not be made from raw material obtained from land with **high carbon stock** such as forests or land that was undrained peatland in January 2008 unless strict criteria are met.

### **Reporting Carbon and Sustainability Information**

The RTFO Administrator requires biofuel suppliers to submit data on both the carbon intensity and the sustainability of the biofuels they supply, in order to receive RTFCs. This data must be independently verified and that verification submitted as part of the supplier's application for RTFCs.

### **Sources of data in this report**

Data on volumes of fuel, Road Transport Fuel Certificate (RTFCs) (issues, redemptions, surrenders, transfers) and Carbon & Sustainability (C&S) data is held by the Road Transport Fuel Obligation (RTFO) Administrator on the RTFO Operating System (ROS).

Volume data is submitted on a monthly basis by fuel suppliers to the RTFO Administrator and validated against HMRC duty payment data.

C&S data is submitted as part of a supplier's RTFC application. As suppliers may choose when to apply for RTFCs, and if the application is not approved the renewable fuel is not regarded as sustainable, C&S data is only reported on once RTFCs have been issued. There will therefore be a difference between the volume of biofuel supplied and the number of RTFCs issued/C&S data available. This difference will decrease over time until the final deadline for issuing RTFCs has passed (7 months after the obligation period). The final report for an obligation period will show the final position.

Data on RTFCs (issues, redemptions, surrenders, transfers) are recorded in ROS as all are issued, traded and tracked electronically.

## **Content of RTFO reports and tables**

RTFO quarterly reports include information on:

- volumes of fuel by fuel type (e.g. biodiesel, bioethanol);
- volumes of fuel by feedstock (e.g. used cooking oil, soy);
- volumes of fuel by country of origin (e.g. UK, Brazil);
- volumes of fuel meeting sustainability standards;
- lifecycle greenhouse gas savings of fuels.

## **Strengths and weaknesses of the data**

The Administrator validates volume data submitted by fuel suppliers against that held by HMRC regarding fuel duty liabilities. This data may change over time even after validation against HMRC data as suppliers make amendments to the volumes of fuel they have supplied (and duty liabilities).

C&S data is verified by independent verifiers and is also checked against the RTFO Guidance by the Administrator.

Whilst the Administrator validates volume data against HMRC data at a company level, there is not an exact match between the volume of fuel reported in this report and the volume of fuel reported in HMRCs Hydrocarbon Oils bulletin. Reasons for this include:

- Road duty is paid on fuel that is later proven to be for non-road use;
- Differences between how fuel is categorised under the RTFO and by HMRC, in particular, the RTFO requires recording of fuels on the basis of their renewability but this is different than the categories HMRC use for duty coding (e.g. petrol used as denaturant in ethanol is recorded as ethanol by HMRC and petrol under the RTFO);
- Accidental recording of fuel against the incorrect duty codes by suppliers;
- Calendar month and quarterly duty payments being recorded against different supply periods under the RTFO and by HMRC (these are typically a month different);
- Differences in when adjustments in duty payments are recorded. HMRC record these in the month the adjustment occurs: whilst this practice is usually followed under the RTFO there are exceptions around the change in obligation period.

## **Reporting frequency**

Reports are published quarterly. Usually six reports are published for each annual obligation period as RTFCs can be issued up to seven months following the close of an obligation period. Each report will replace the previous report for that obligation period with the latest data covering the whole obligation period.

The last report for the obligation period (usually number six) will report on the carbon and

sustainability performance of individual suppliers. These reports are available on our website at: <https://www.gov.uk/government/collections/biofuels-statistics>.

**Further information**

Further information on the RTFO can be found on [DfT's website](#) and in the [RTFO Guidance](#).

### 3. Glossary

#### **Biofuel**

Fuel made from recently-living biological material. The following biofuels are regularly reported under the RTFO: The petrol substitutes bioethanol, biomethanol and MTBE (methyl tert-butyl ether), and the diesel substitutes, FAME (fatty acid methyl ester) (which we refer to as ME (methyl ester)), HVO (hydrogenated vegetable oil), pure plant oil. Biogas (methane) is also reported.

#### **Biofuel volume targets**

Obligated suppliers must supply a certain percentage of their road transport fuel as biofuel, or purchase RTFCs or pay in to the buy-out fund for the shortfall. The table below sets out the targets over time.

<b>Obligation period</b>	<b>Specified amount, as share of fossil fuel, by volume</b>	<b>Specified amount, as share of total fuel, by volume*</b>
15 Apr 2018 - 31 Dec 2018**	7.82%	7.25%
1 Jan 2019 - 31 Dec 2019	9.29%	8.50%
1 Jan 2020 - 31 Dec 2020	10.80%	9.75%
1 Jan 2021 - 31 Dec 2021	11.24%	10.10%
1 Jan 2022 - 31 Dec 2022	11.61%	10.40%
1 Jan 2023 - 31 Dec 2023	11.86%	10.60%
1 Jan 2024 - 31 Dec 2024	12.11%	10.80%
1 Jan 2025 - 31 Dec 2025	12.36%	11.00%
1 Jan 2026 - 31 Dec 2026	12.61%	11.20%
1 Jan 2027 - 31 Dec 2027	12.87%	11.40%
1 Jan 2028 - 31 Dec 2028	13.12%	11.60%
1 Jan 2029 - 31 Dec 2029	13.38%	11.80%
1 Jan 2030 - 31 Dec 2030	13.64%	12.00%
1 Jan 2031 - 31 Dec 2031	13.90%	12.20%
1 Jan 2032 - 31 Dec 2032 (and subsequent obligation periods)	14.16%	12.40%

Greenhouse gas emissions of different biofuels can vary significantly depending on the system of cultivation, processing, and transportation of feedstock. The data collected takes into account GHG emissions of the fuel chain from 'field to wheel' incorporating emissions from the feedstock,

\* Excludes the effects of double counting and carry over.

\*\* From 15 April 2013 onwards the end uses covered by the RTFO have been amended to include non-road mobile machinery (including inland waterways vessels), agriculture and forestry tractors and recreational craft when not at sea. In order to keep the supply of biofuel broadly consistent the biofuel target level was changed from 5% to 4.7501% based on data supplied by industry on the volume of low sulphur gas oil used for non-road mobile machinery end uses.

cultivation, processing, transport, and any direct land-use change. The European Commission has included default carbon intensities for a number of feedstocks in the Renewable Energy Directive (RED). For some feedstocks (EC-corn, palm, wheat) there are additional carbon defaults which relate to the biofuel production process.

Emissions from indirect land use change (ILUC) which may occur as a result of increased global demand for biofuels are not currently included in the default values.

GHG saving refers to the reduction in GHG emissions due to replacing fossil fuels with biofuels.

### **Country of origin**

The country in which the biofuel feedstock originated. For crop-based feedstocks this is where the crop was cultivated and for wastes/residues this is where the material was formed e.g. the restaurant for used cooking oil.

It is only permitted to report 'unknown' where other C&S data demonstrates compliance with the sustainability criteria of the RED, for example, if an EC-recognised voluntary scheme is reported and where the material is a waste/non-agricultural residue and therefore land criteria and cultivation emissions do not apply.

Country names in table RTFO 08b have been abbreviated and are based on officially assigned ISO country codes, see link below for further details: [http://en.wikipedia.org/wiki/ISO\\_3166-1\\_alpha-3](http://en.wikipedia.org/wiki/ISO_3166-1_alpha-3).

### **HO10s**

The HO10 is a road fuel duty return form used by HMRC. Suppliers in this category are fossil fuel suppliers and biofuel suppliers who report fuel volumes to both HMRC and the Administrator on a 15th-14th monthly basis. This designation is used by the Administrator in categorising RTFO account holders on RTFO operating system (ROS).

### **HO930s**

The HO930 is a road fuel duty return form used by HMRC. Suppliers who use this form are biofuel only suppliers who report fuel volumes to both HMRC and the Administrator on a calendar month or a quarterly basis. This designation is used by the Administrator in categorising RTFO account holders on ROS.

### **Note 1 to data table RTFO table 2**

The Administrator allows HO930 companies to provide proof of payment of duty ahead of that proof being provided by HMRC to the Administrator. Where such proof is provided and the Administrator is satisfied that the sustainability criteria have been met, RTFCs will be issued a month earlier than would have been the case if the Administrator has relied solely upon HMRC data. This means that in table 2 “volumes of renewable fuels to which Renewable Transport Fuel Certificates (RTFCs) have been issued and number of RTFCs issued” will show data for HO930 companies for a reporting period to which no RTFCs have been issued to HO10 companies. As volume of fuel supply data is not published for this period until the next report (it is known to the Administrator and used in assessing applications for RTFCs), no calculation of the percentage of renewable fuel to which biofuels have been supplied can be made.

### **Obligated supplier**

An obligated supplier is one that supplies over 450,000 litres per year of relevant hydrocarbon oil road transport fuel. Obligated companies supply greater than 95% of the biofuels in the UK market. Obligated suppliers must meet their obligations by:

- supplying a certain percentage of sustainable renewable transport fuel; or
- purchasing certificates from other companies supplying renewable fuel; or
- paying into a buy-out fund; or
- a combination of any of the above.

Suppliers may meet up to 25% of their obligation using RTFCs from the preceding obligation period provided the sustainability criteria of the current period are met.

### **Obligation period**

Prior to period 11, obligation periods run from 15 April to 14 April of the following year. Suppliers can apply for RTFCs up to 12 August after the end of the obligation period.

From period 12 onwards, obligation periods run from 1st January to 31st December, as a result in the change in the RTFO legislation in April 2018. Period 11 will run from 15 April 2018 to 31st December 2018 to allow the move to calendar year periods.

### **Non-obligated supplier**

Non-obligated suppliers are those that supply less than 450,000 litres per year of relevant hydrocarbon oil road transport fuel. Non-obligated companies are not required to register under the RTFO, but can choose to do so to earn RTFCs if they supply sustainable renewable transport fuel.



## **Previous land-use**

This is the use of the land in January 2008 on which the biofuel feedstock crop was grown. The previous land-use affects greenhouse gas emissions due to release of carbon stored in the soil and plants when the land is cleared and ploughed up for biofuel crops.

There are thirteen categories:

1. cropland – non-protected
2. cropland – protected – no interference with nature protection purposes
3. cropland – protected/protection status unknown
4. grassland (and other wooded land not classified as forest)
5. highly biodiverse grassland – no change in status
6. forest >30% – no change in status
7. forest 10-30%
8. wetland – no change in status
9. undrained peatland – no change in status
10. degraded land
11. settlement
12. voluntary scheme – met land criteria
13. waste/non-agricultural residue

Most of the voluntary schemes recognised by the European Commission as demonstrating compliance with the land criteria do not pass information down the chain of custody on the previous land use of the biofuel, only that the land criteria were met. In these cases it is permitted to report 'voluntary scheme – met land criteria' (category 12).

Wastes and non-agricultural residues (e.g. used cooking oil) do not require any land and therefore the previous land use is not relevant to meeting the sustainability criteria of the RED (category 13).

## **Pure plant oil**

Vegetable oil used directly in vehicles (i.e. without processing into ME or HVO etc).

## **Renewable Energy Directive (RED)**

This is a European Directive which sets out sustainability criteria which biofuels must meet in order to count towards Member State's targets. These criteria cover protection of land (carbon stocks and

biodiversity) and set minimum greenhouse gas savings that increase over time.

### **Renewable fuel**

A fuel from a source that is either inexhaustible or can be indefinitely replenished at the rate at which it is used. For the purposes of this document, it generally means biofuels (see above).

### **Renewable Transport Fuel Certificates (RTFCs)**

One RTFC is issued per litre/kg of liquid/gaseous biofuel except for biofuels derived from wastes/ non-agricultural residues, non-food cellulosic material, and ligno-cellulosic material which receive two RTFCs per litre/kg. RTFCs are redeemed by obligated suppliers to the RTFO Administrator to meet their obligations and may also be surrendered by suppliers to obtain a share of the buy-out fund. The Administrator may revoke RTFCs where the Administrator is satisfied that they should not have been issued e.g. the information in the application was found to be inaccurate or fraudulent.

### **RTFC categories**

RTFCs are assigned to GHG saving categories in order to identify which are eligible for carry over into the following obligation period. This is needed because the minimum GHG savings requirement increases over time. These categories are:

- pre-RED
- Less than 35% (grandfathered)
- Equal to or more than 35%, but less than 50%
- Equal to or more than 50%, but less than 60%
- Equal to or more than 60%

<b>Minimum GHG saving thresholds and grandfathering periods for biofuel installations</b>			
Period	Date production started at an installation		
	Pre 23/01/2008	Post 23/01/2008	Post 01/01/2017
<b>05/12/2010 to 31/03/2013</b>	No criteria	35%	N/A
<b>01/04/2013 to 31/12/2016</b>	35%	35%	N/A
<b>01/01/2017 to 31/12/2017</b>	50%	50%	50%
<b>01/01/2018 to 31/12/2020</b>	50%	50%	60%

**RTFO**

Renewable Transport Fuel Obligation. The sustainability criteria of the RED have been implemented in the [Renewable Transport Fuel Obligations Order 2007](#).

**Trader**

Traders may register with the RTFO Administrator to transfer RTFCs. They may not surrender RTFCs to gain a portion of the buy-out fund. This designation is used by the Administrator in categorising RTFO account holders on ROS.

**Voluntary scheme**

These are sustainability assurance schemes recognised by the European Commission and/or the RTFO Administrator as demonstrating compliance with one or more of the sustainability criteria of the RED. The latest table of voluntary schemes can be found on the DfT website: <https://www.gov.uk/government/publications/renewable-transport-fuel-obligation-rtfo-guidance-year-11>.