

Renewable Transport Fuel Obligation statistics, obligation period 5, 2012/13, report 6

Statistical Release

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Department
for Transport

Renewable Transport Fuel Obligation statistics: obligation period 5, 2012/13, report 6

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This publication presents statistics on the Renewable Transport Fuel Obligation (RTFO) for the obligation year 15 April 2012 to 14 April 2013 (Year 5). This is the final report for Year 5 and therefore contains a complete dataset.

It includes information on:

- the amount of UK road transport fuel from renewable and fossil fuel;
- the number of Renewable Transport Fuel Certificates (RTFCs) which have been issued to fuel meeting the sustainability requirements;
- the balance of RTFCs by obligation period;
- trades of RTFCs between suppliers and/or traders;
- carbon and sustainability (C&S) characteristics of the renewable fuel to which RTFCs have been issued;
- voluntary scheme data of renewable transport fuel;
- supplier specific C&S data;
- supplier performance against the obligation; and
- fuel supply by volume and energy.

Data is published quarterly. C&S data on biofuel supplied by fuel suppliers is published annually. Previously published reports can be found on the DfT website:

<https://www.gov.uk/government/organisations/department-for-transport/series/biofuels-statistics>

The publication timetable can be found at Annex A.

FURTHER INFORMATION

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Executive summary

This report covers the supply of renewable fuels under the Renewable Transport Fuel Obligation from 15 April 2012 to 14 April 2013¹. As it is the final dataset for the year it includes information on how individual suppliers have met their obligations.

The headline figures are:

- 1,340 million litres of renewable fuel have been supplied, which is 3.00% of total road transport fuel. 1,334 million litres (99.6%) of this renewable fuel has so far been demonstrated to meet the sustainability requirements².
- The obligation on fuel supplied for 2012/13 was 2,044 million litres in total. All suppliers met their obligations in full.
- 1,863 million RTFCs have been issued to fuel meeting the sustainability requirements, of which 1,058 million were issued to double counting feedstocks.
- Of the 1,334 million litres meeting the sustainability requirements, bioethanol comprised 59% of supply, biodiesel (FAME) 37% and biomethanol and methyl tertiary butyl ether (MTBE) 5%. There were also small volumes of biogas, and pure vegetable oil.

Carbon and sustainability (C&S) characteristics of the biofuels to which RTFCs have been issued:

- The most widely reported source for biodiesel (by feedstock and country of origin) was used cooking oil from the UK (140 million litres, 10% of total fuel, 29% of biodiesel).
- The most widely reported source for bioethanol (by feedstock and country of origin) was corn from the United States of America (254 million litres, 19% of total fuel, 32% of bioethanol).
- 40% of fuel was made from a waste/non-agricultural residue (double counting) feedstock.
- 21% of the fuel was sourced from UK feedstocks.
- An aggregate greenhouse gas saving of 66% compared to fossil fuels was achieved. This figure excludes emissions from indirect land-use change.
- 81% of the fuel was sourced from a voluntary scheme.
- The most commonly used voluntary scheme was ISCC (66% of fuel) followed by Abengoa (9%).

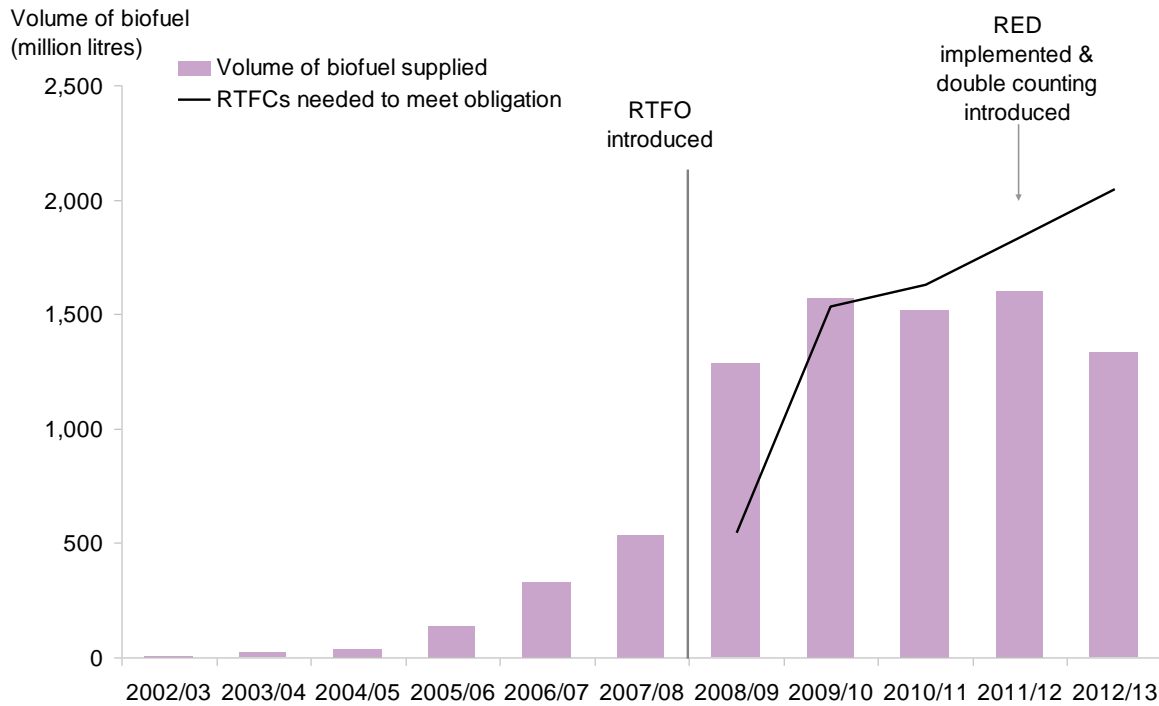
¹ The final deadline for applying for RTFCs is 12 August following the obligation period.

² To qualify for RTFCs, fuels supplied must meet the sustainability criteria set out in the [Renewable Energy Directive](#).

RTFO graphs and maps

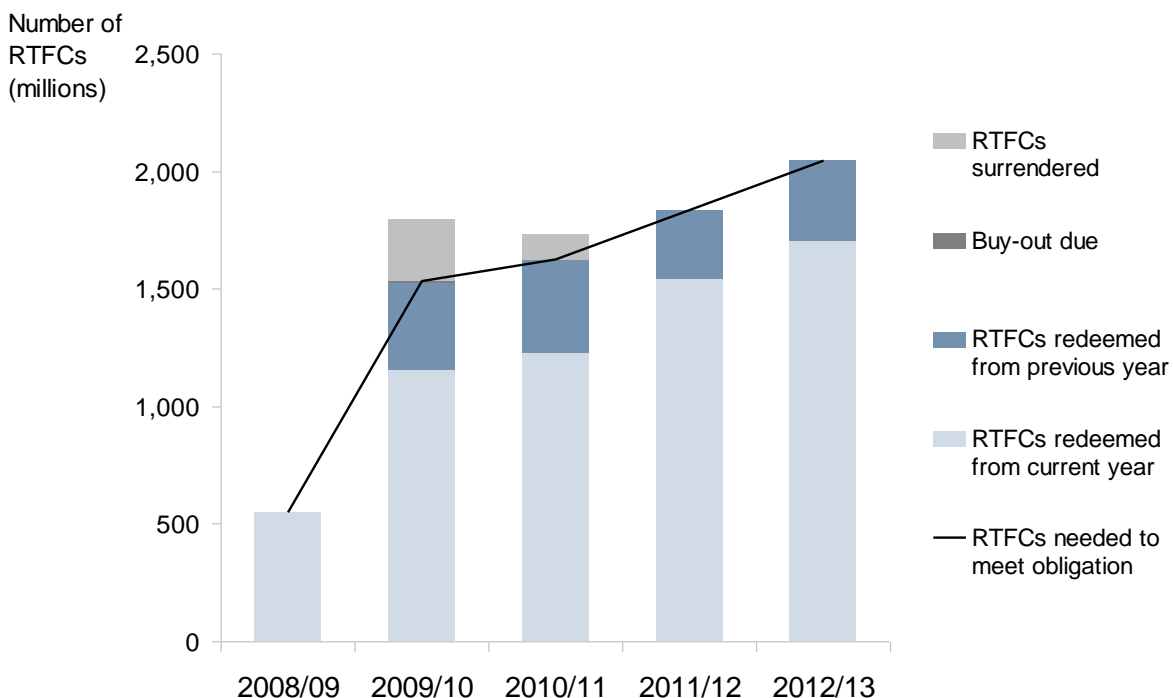
Biofuel volumes under the RTFO

Biofuel volumes increased markedly following introduction of the RTFO and have remained between 1.3 and 1.6 billion litres/annum due to uptake of wastes which receive double certificates.



How the obligation was met

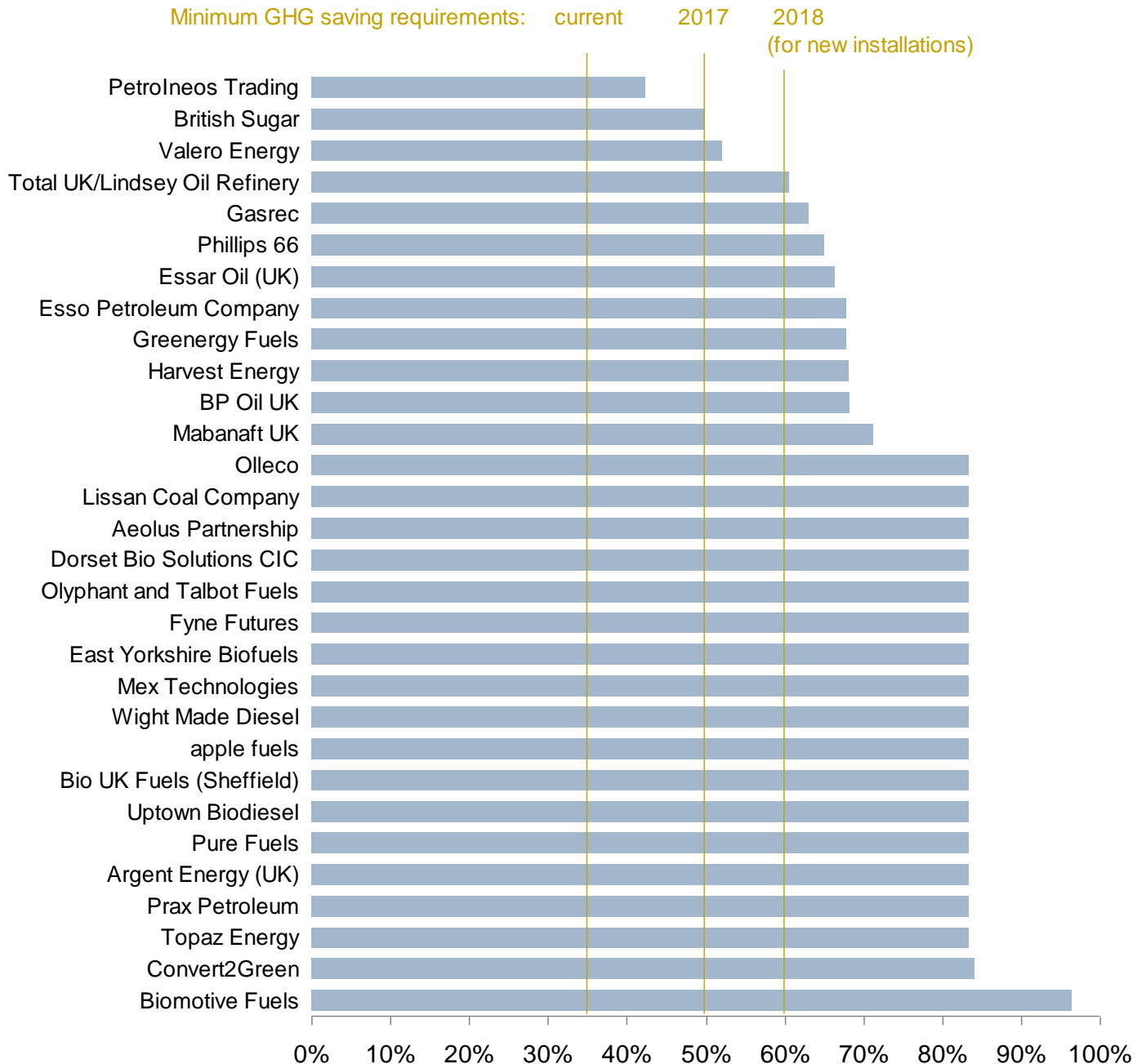
Sufficient sustainable biofuel was supplied in order for all road transport fuel suppliers to meet their obligations through the redemption of renewable transport fuel certificates (RTFCs).



Data on fuel supply for 2012/13

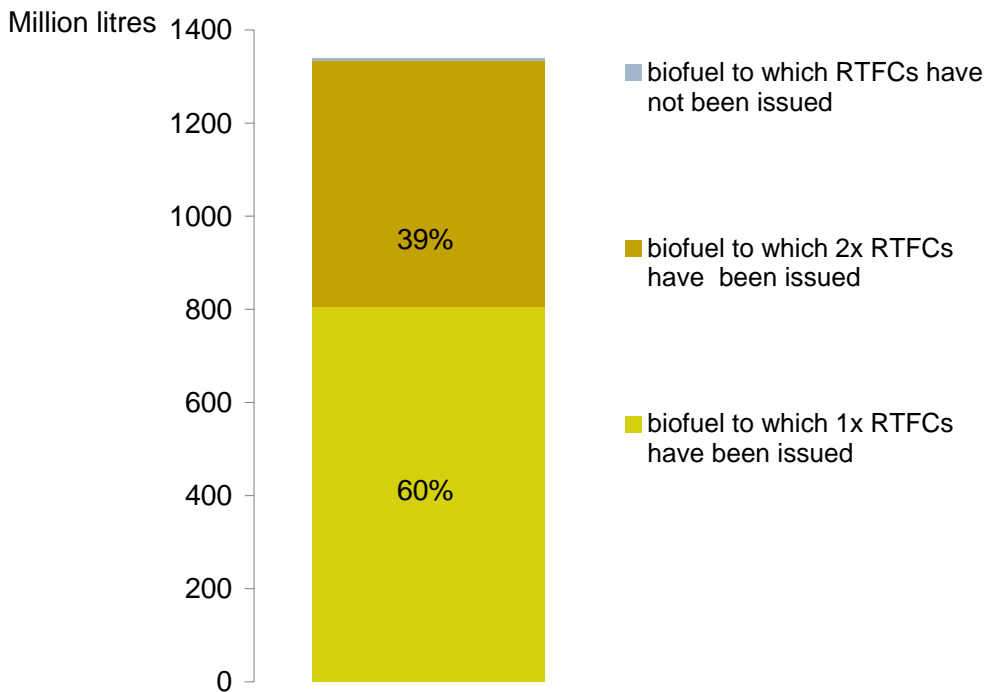
Supplier greenhouse gas savings delivered

The majority of suppliers of biofuel to the UK under the RTFO are on track to meet the minimum GHG savings required in 2017 and 2018. This does not include emissions from indirect land use change.



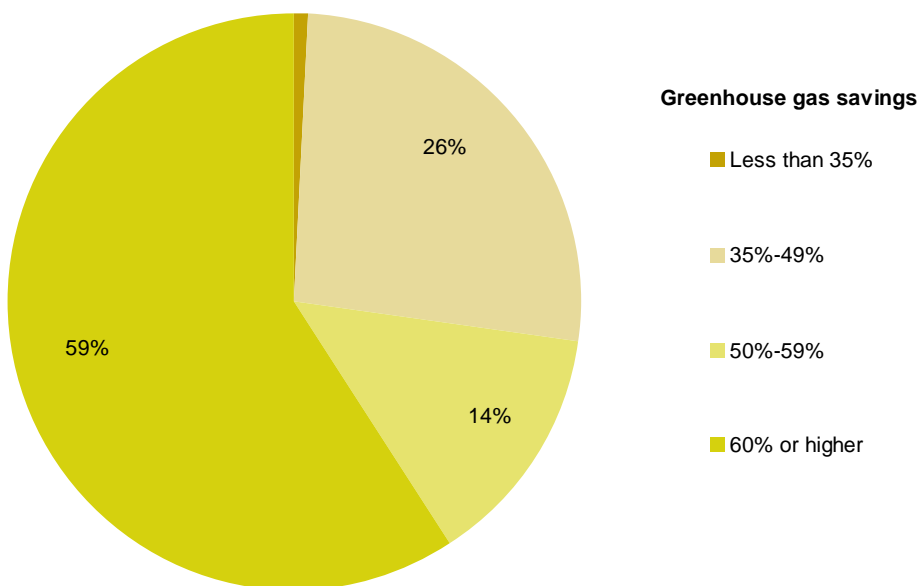
Biofuel to which Renewable Transport Fuel Certificates have been issued

99.6% of the biofuel supplied into the UK has been demonstrated to be sustainable: three-fifths of which was derived from waste feedstocks.



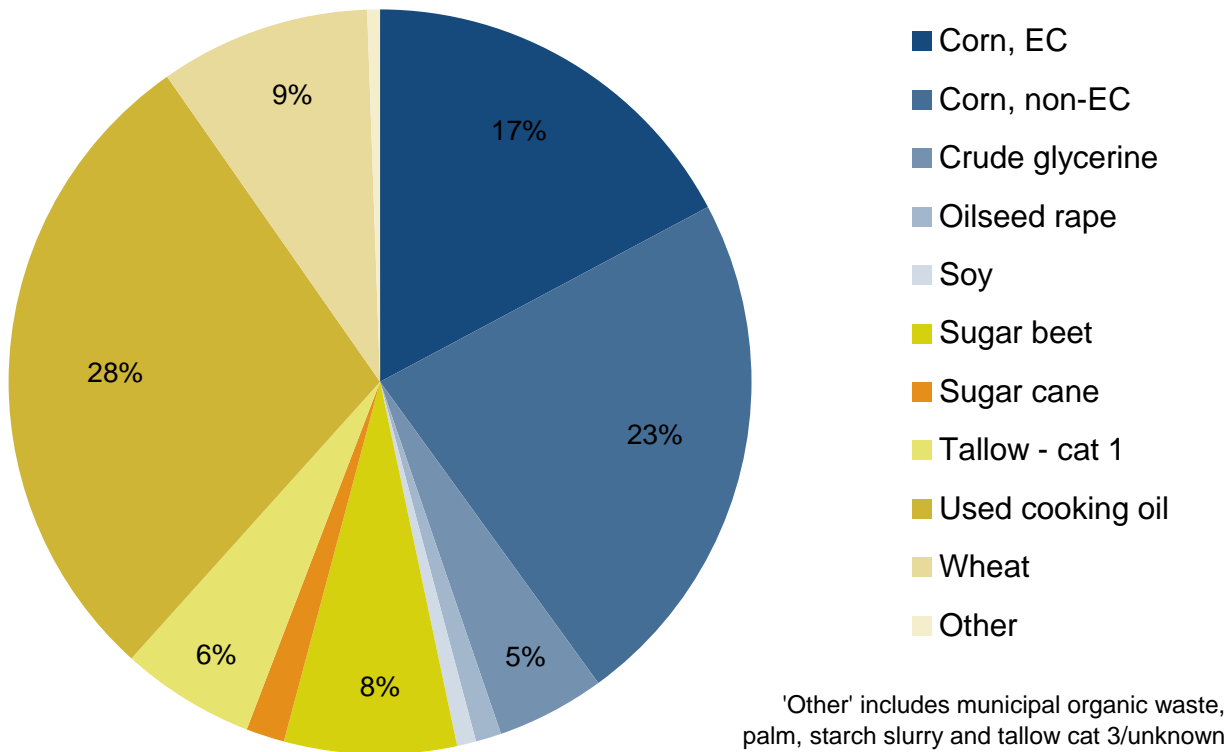
Renewable Transport Fuel Certificates issued by greenhouse gas savings category

Almost three-quarters of the RTFCs issued in 2012/13 were to biofuel that delivered the 50% or more GHG savings that will be required from 2017. This does not include emissions from indirect land use change.



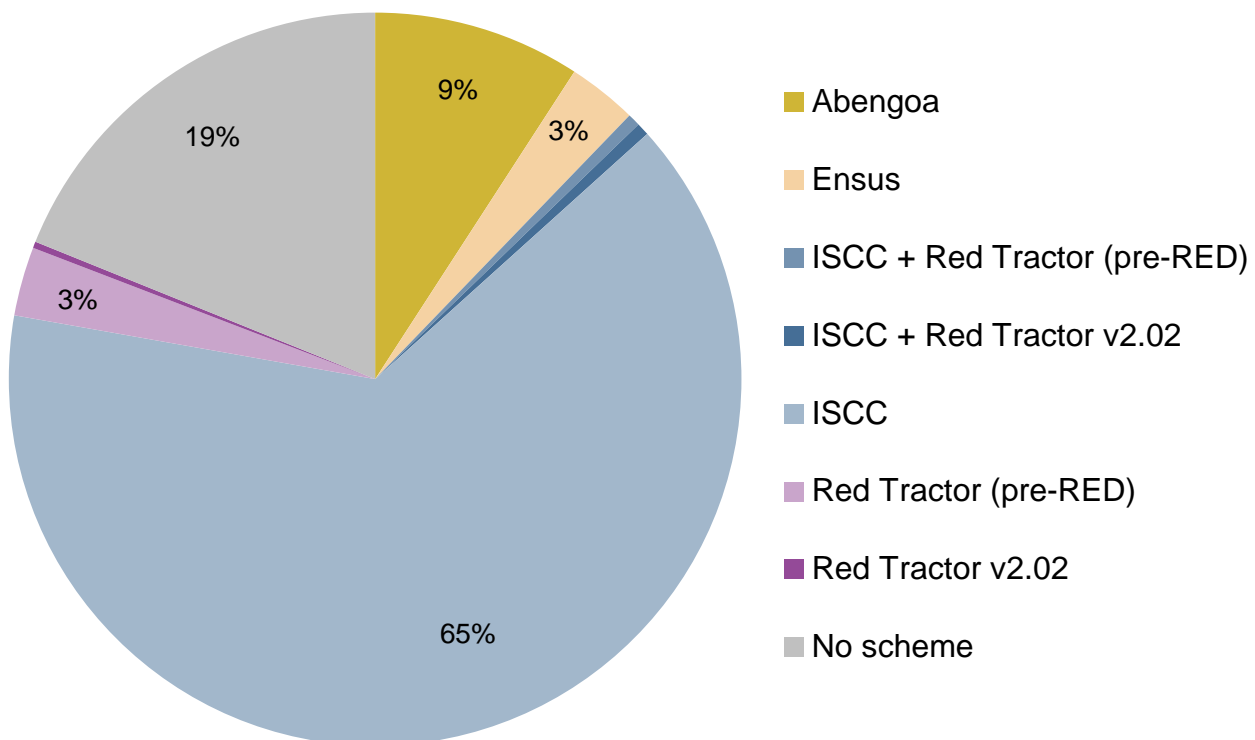
Supply of biofuel to the UK by feedstock

Bioethanol from corn and biodiesel from the double counting feedstock used cooking oil dominate supply.

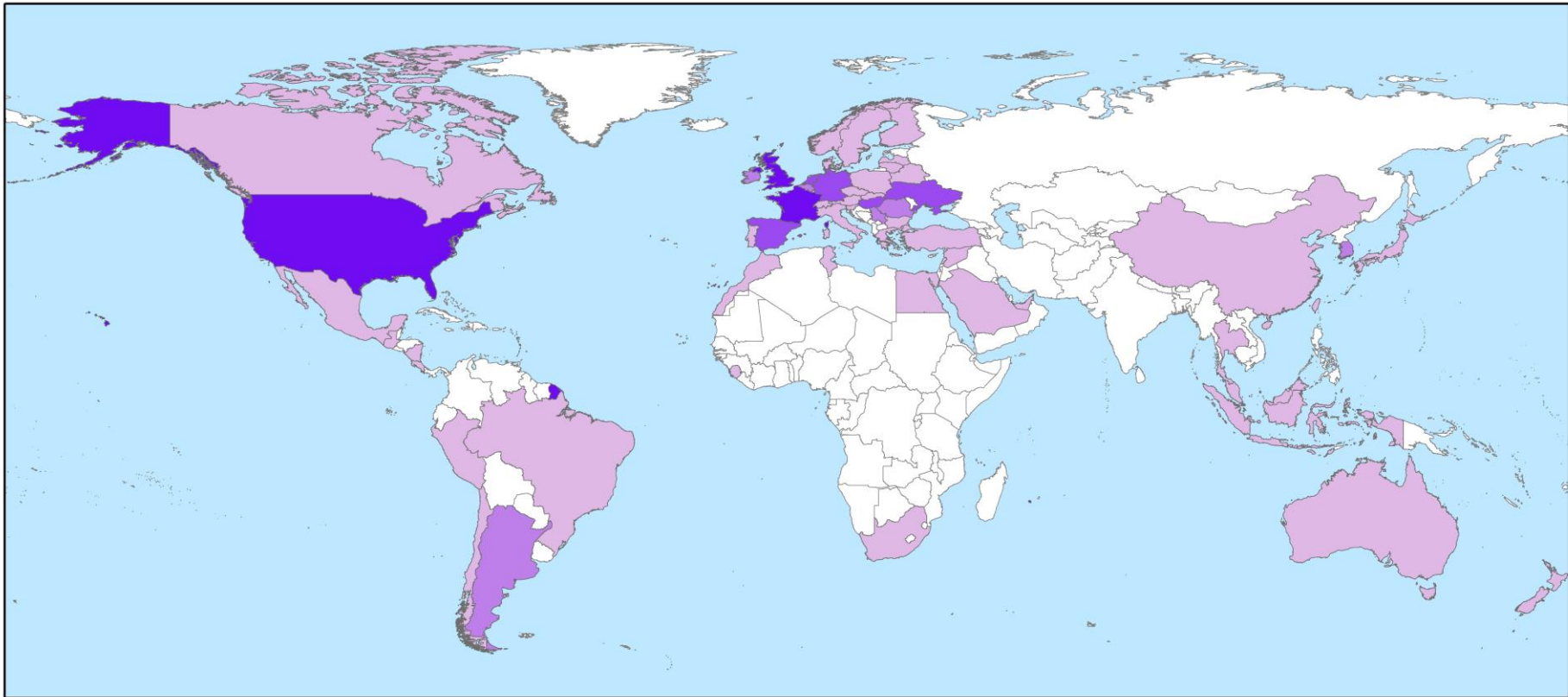


Supply of biofuel to the UK meeting a voluntary scheme

Four-fifths of biofuel in 2012/13 met a voluntary scheme with the International Sustainability and Carbon Certification scheme (ISCC) dominating the market.



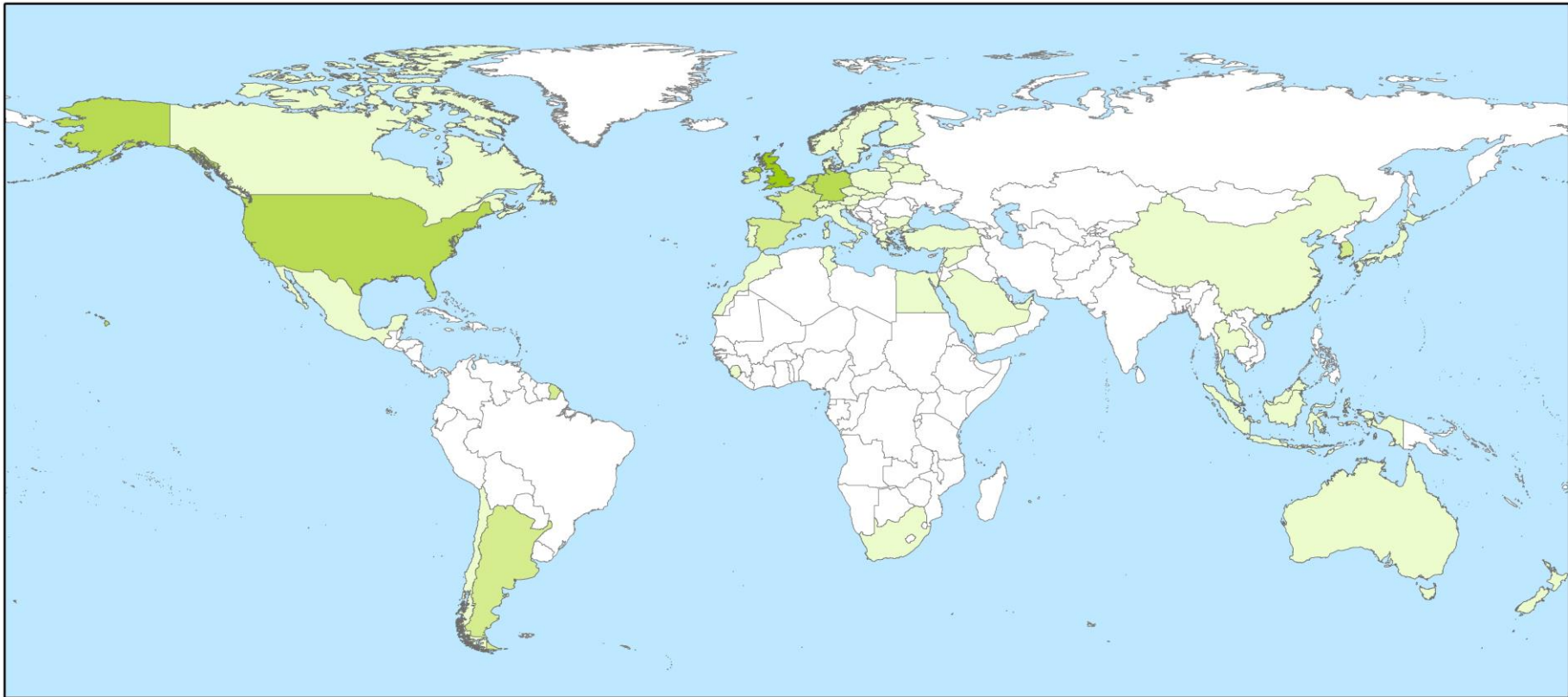
Global supply of biofuel to the UK



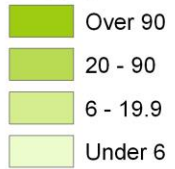
Supply in million litres



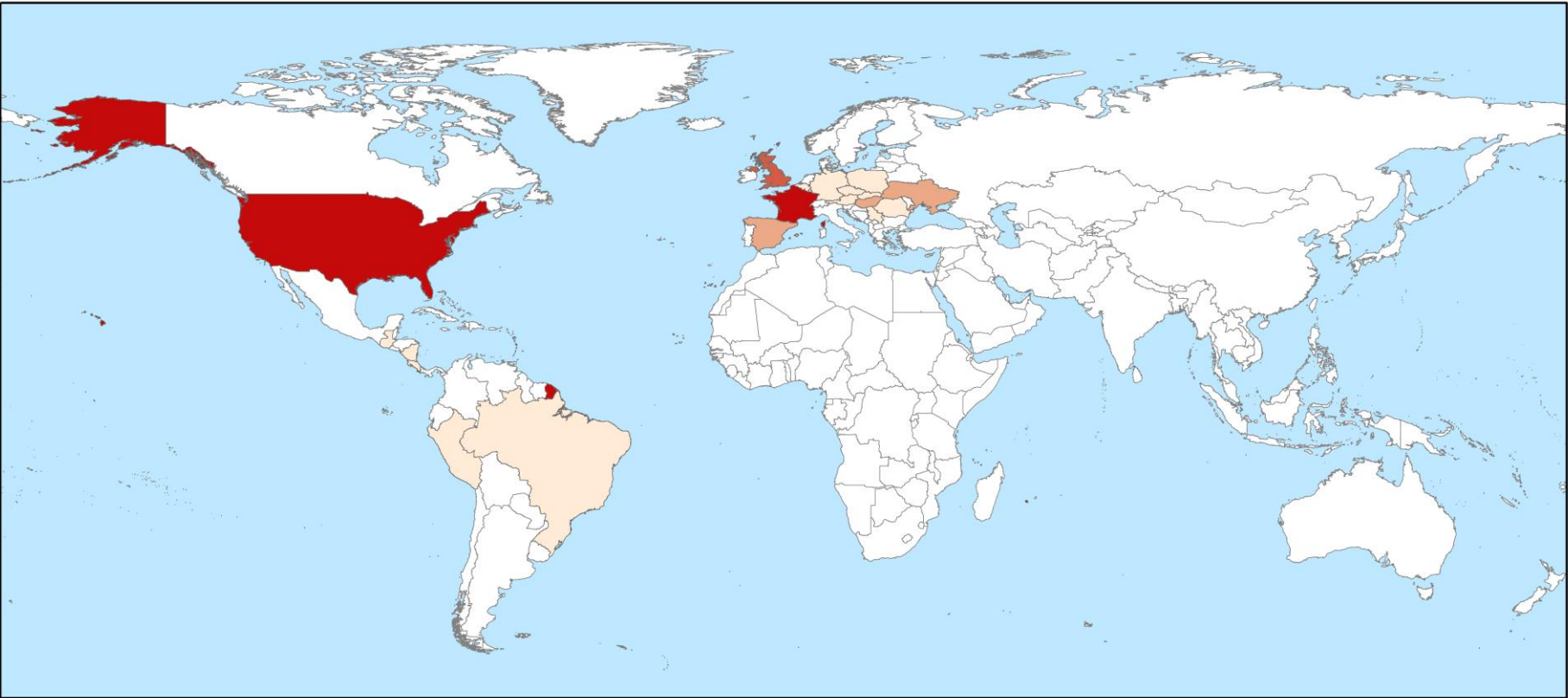
Global supply of biodiesel to the UK



Supply in million litres



Global supply of bioethanol to the UK



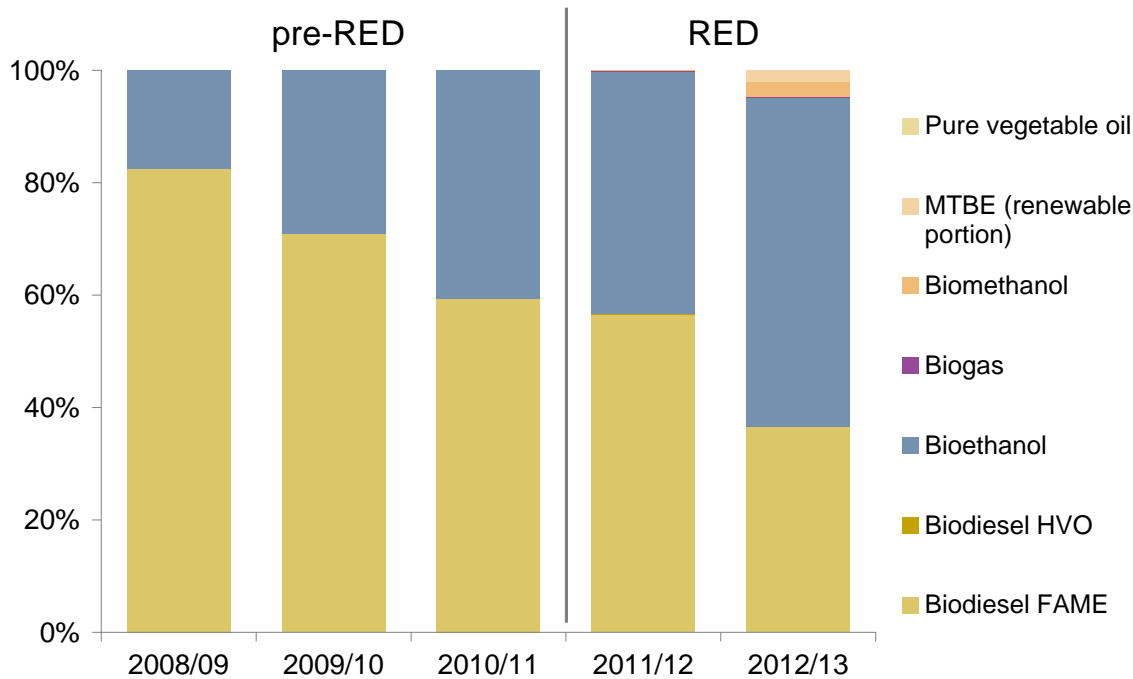
Supply in million litres

- Over 110
- 60 - 110
- 16 - 59.9
- Under 16

Data on fuel supply for 2008/09 to 2012/13

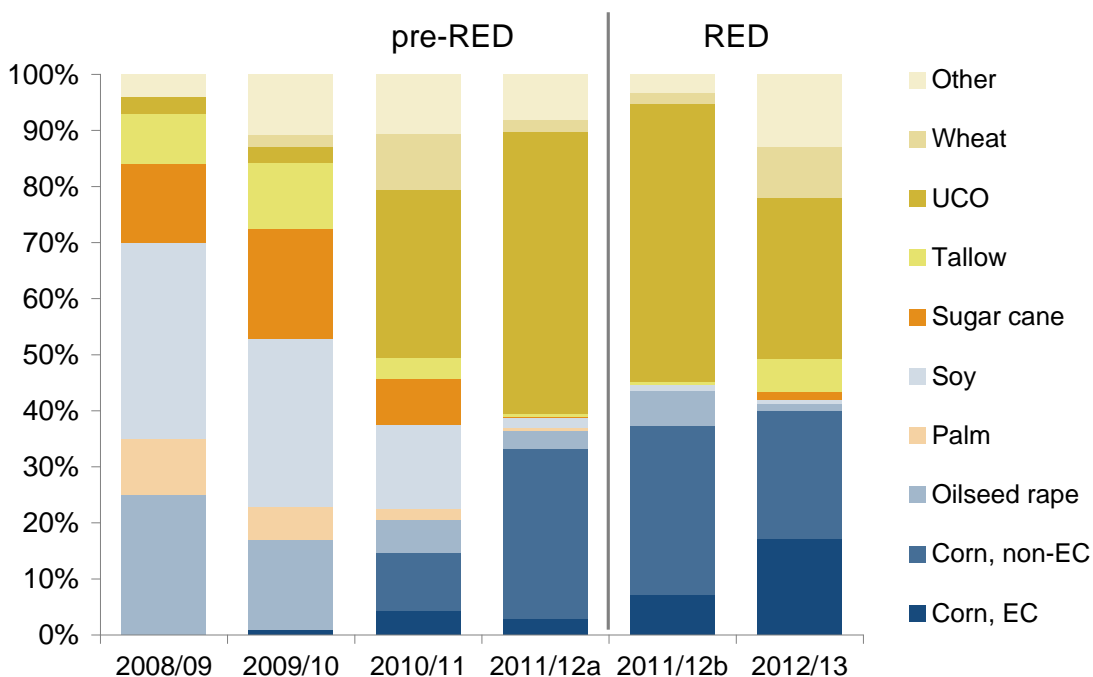
Supply of biofuel in the UK by fuel type

The predominant biofuel type used in the UK has shifted from biodiesel to bioethanol. In 2012/13, new fuels to the UK market - biomethanol and MTBE - comprised 5% of the total supply.



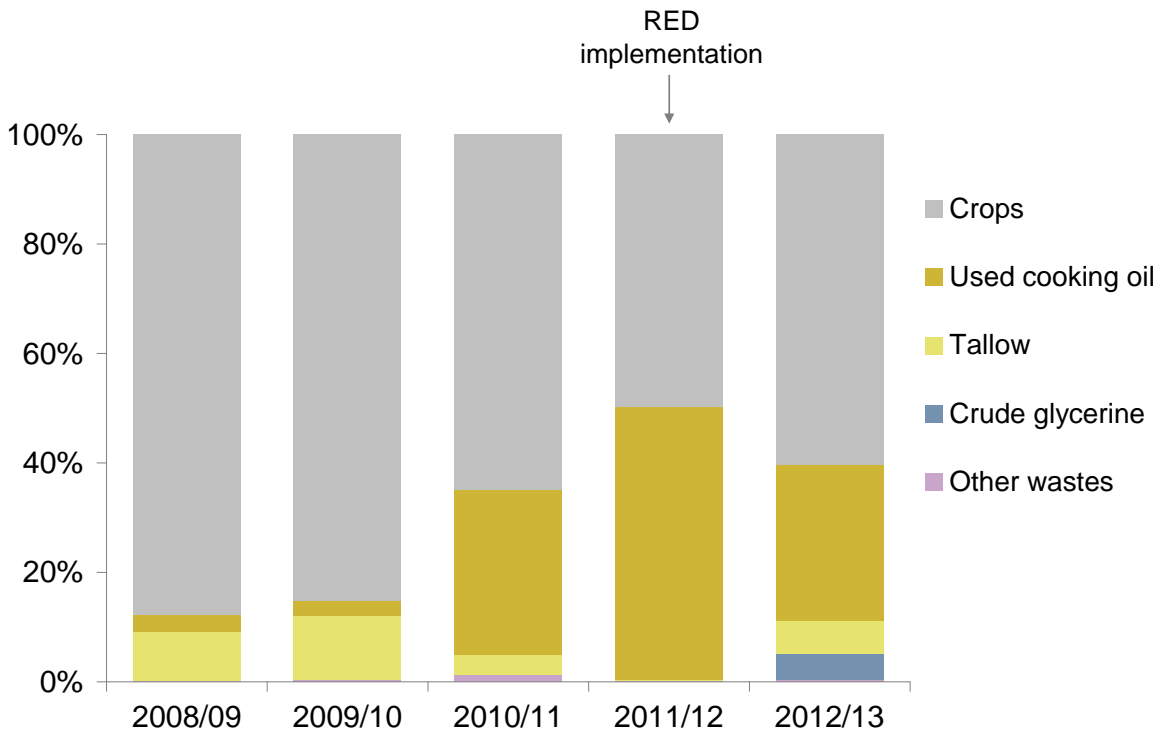
Supply of biofuel to the UK by feedstock

The feedstocks used have shifted over time from a mix dominated by oilseed rape, soy and sugar cane to one comprising mainly used cooking oil and corn.



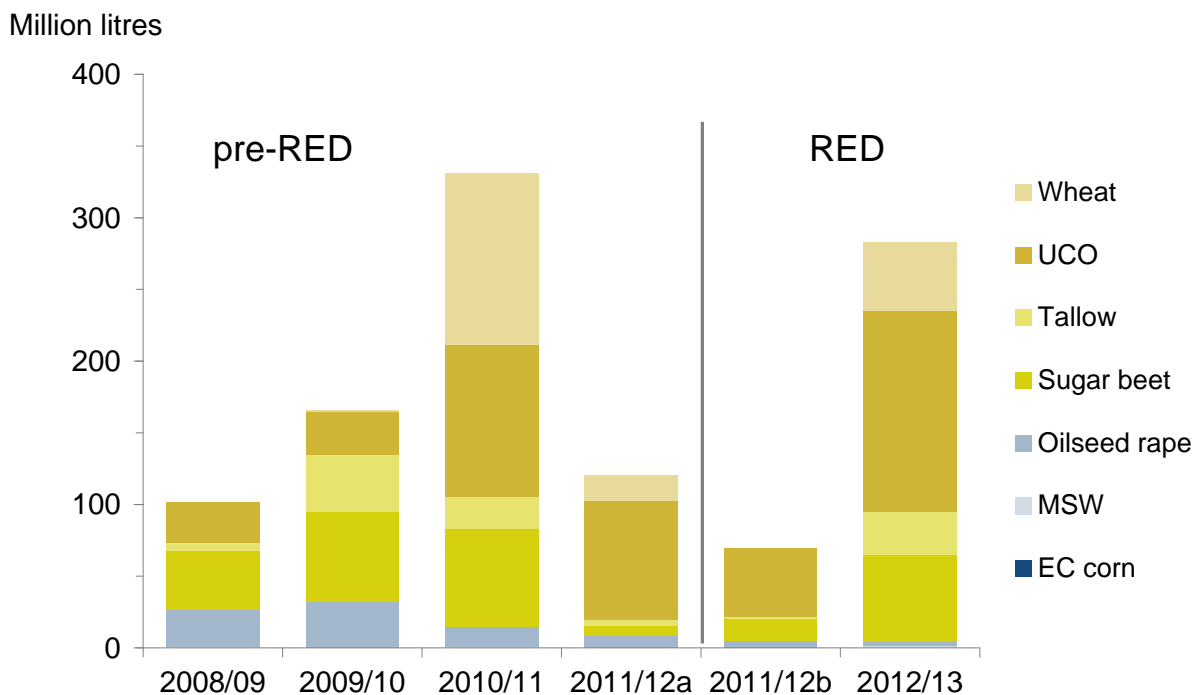
Biofuel from wastes

Waste-derived biofuel has increased markedly over time; particularly used cooking oil which benefited from a duty incentive in 2010/11 and 2011/12 and receives double certificates following RED implementation.



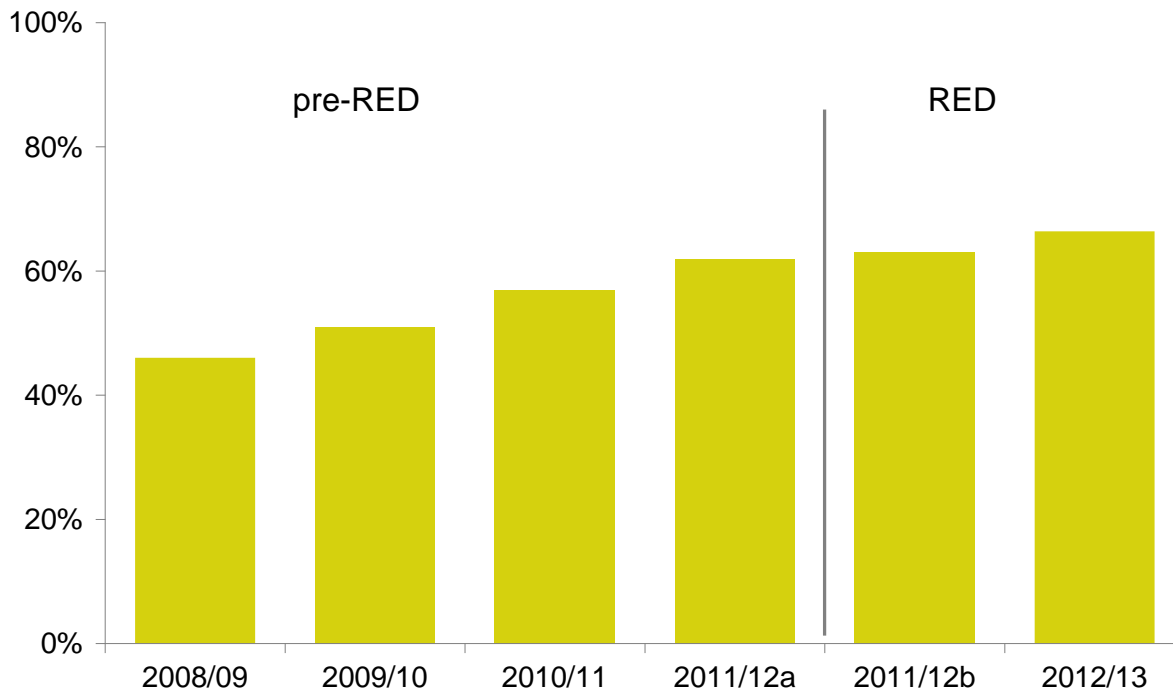
Biofuels from UK feedstocks supplied to the UK

The volume of biofuel from UK feedstocks has increased over time notably used cooking oil which has increased five-fold.



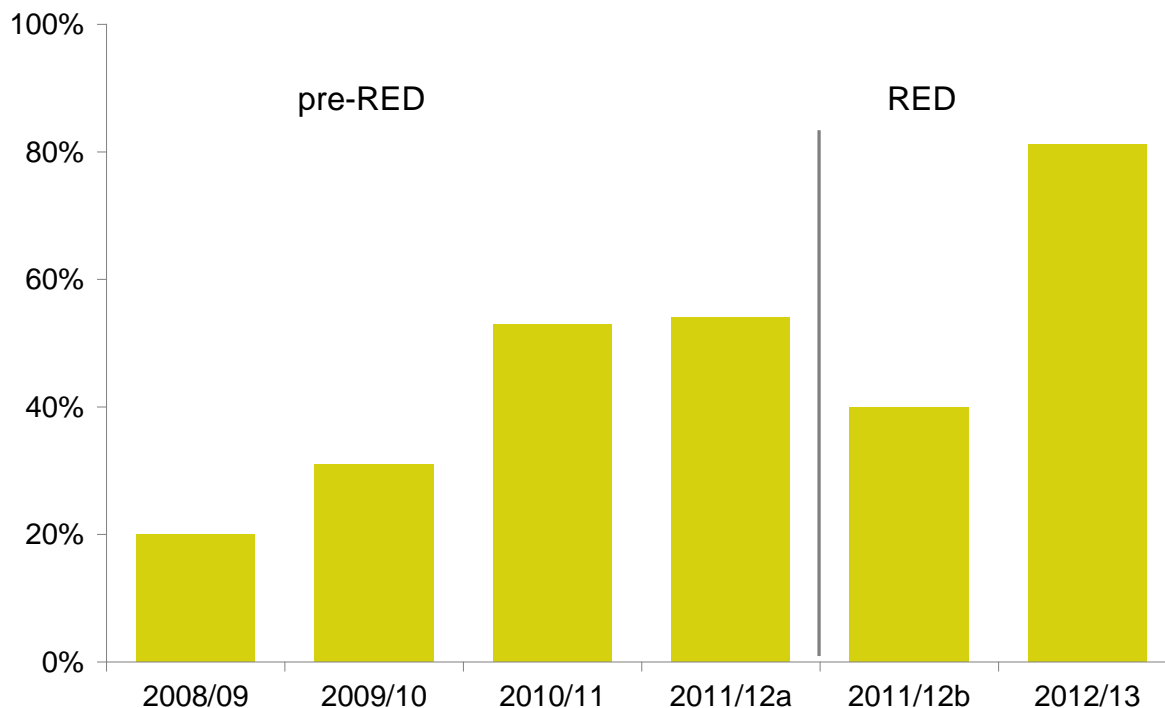
Greenhouse gas savings delivered by biofuel supplied to the UK

Greenhouse gas savings delivered by the RTFO have increased from 46% in 2008/09 to 66% in 2012/13. This does not include emissions from indirect land use change.



Biofuel meeting a voluntary scheme

The uptake of voluntary schemes has increased significantly from 20% in the first year of the RTFO to 81%.



The 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/gaseous biofuel derived from crop based feedstocks. Biofuels produced from wastes, non-agricultural residues, non-food cellulosic material, and ligno-cellulosic material are issued two RTFCs per litre/kg.³

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 biofuel⁴ 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 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.

EU Renewable Energy Directive and Fuel Quality Directive

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:

- Biofuels must achieve at least a **35% GHG emissions saving** (this threshold will rise over time)⁵;
- Biofuels may not be made from raw material obtained from land with **high biodiversity value** in or after January 2008.

³ Biofuels produced from wastes, non-agricultural residues, non-food cellulosic material, and ligno-cellulosic material are considered to 'count twice' for Member States in meeting the ten percent transport target and for economic operators in meeting their obligation in national schemes. However, they do not count twice for the purposes of meeting the UK's overall renewable energy target under the RED.

⁴ Biofuels that cannot be shown to meet the sustainability criteria are counted towards a supplier's obligation.

⁵ Under the 'grandfathering clause' biofuels produced in installations that were already operational on 23 January 2008 do not have to meet the 35% threshold until 1 April 2013.

- 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, RTFCs (issues, redemptions, surrenders, transfers) and C&S data is held by the 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 (15 November following 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.

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 are verified by independent verifiers and are 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. Six reports are published for each annual obligation period as RTFCs can be issued up 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 (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/organisations/department-for-transport/series/biofuels-statistics>

Further information

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

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), 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.

Obligation period	Year	Percentage biofuel
2008/09	1	2.5
2009/10	2	3.25
2010/11	3	3.5
2011/12	4	4.0
2012/13	5	4.5
2013/14 onwards	6 onwards	4.75 [#]

[#] 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 NRMM end uses.

Biofuel production process

For some feedstocks (EC-corn, palm, wheat) there are carbon defaults in the Renewable Energy Directive which relate to the biofuel production process, that is the processing fuel (e.g. natural gas) and/or the technology (e.g. CHP or whether methane was captured). Data is only collected for these feedstocks and it is an optional reporting field.

C&S data

Carbon and sustainability data – information on the characteristics of the biofuel related to its sustainability and GHG emissions. This includes feedstock, biofuel production process, country of origin, previous land use, whether a voluntary scheme was used to prove one or more of the sustainability characteristics and carbon intensity.

Carbon intensity, carbon defaults, greenhouse gas saving

Carbon intensity is a measure of the greenhouse gas (GHG) emissions of the fuel chain from 'field to wheel'. Some GHGs make a greater contribution to global warming than others. To account for this, all GHGs are expressed in terms of their strength relative to carbon dioxide, called carbon dioxide equivalent (CO₂e). The carbon intensity of biofuels is expressed relative to the energy in that fuel, that is, in grams of carbon dioxide equivalent per megajoule.

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, 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. 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

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 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
- purchase certificates from other companies supplying renewable fuel; or
- pay 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

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.

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 FAME or HVO etc).

RED

Renewable Energy Directive. 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).

RTFCs

Renewable Transport Fuel Certificates. 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%

RTFO

Renewable Transport Fuel Obligation. The sustainability criteria of the RED have been implemented in the RTFO.

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/rtfo-guidance>

Annex A: RTFO statistics reporting timescales and contents

Reports are published quarterly. 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.

The last report for the obligation period (number six) will report on the carbon and sustainability performance of individual suppliers. These reports are available online at:

<https://www.gov.uk/government/organisations/department-for-transport/series/biofuels-statistics>

Table 1 – content of RTFO reports

Table	Description	Report					
		One	Two	Three	Four	Five	Six
RTFO 01	Volume of fuel supplied	Yes	Yes	Yes	Yes	Yes	Yes
RTFO 02	Volume of fuel to which RTFCs issued and number of RTFCs issued	Yes	Yes	Yes	Yes	Yes	Yes
RTFO 03	RTFC balances by obligation period	Yes	Yes	Yes	Yes	Yes	Yes
RTFO 04	RTFC trades to date by company type	Yes	Yes	Yes	Yes	Yes	Yes
RTFO 05	RTFO wide carbon and sustainability data	Yes	Yes	Yes	Yes	Yes	Yes
RTFO 06	RTFO wide voluntary scheme data	Yes	Yes	Yes	Yes	Yes	Yes
RTFO 07	Performance against obligation by supplier	No	No	No	No	No	Yes
RTFO 08a	Feedstock by supplier as a percentage of their supply	No	No	No	No	No	Yes
RTFO 08b	Country of origin by supplier as a percentage of their supply	No	No	No	No	No	Yes
RTFO 09	Percentage of renewable fuel that was sustainable by supplier	No	No	No	No	No	Yes
RTFO 10	Carbon and sustainability data by supplier	No	No	No	No	No	Yes
RTFO 11	RTFO wide fuel supply by volume and energy	No	No	No	No	No	Yes
RTFO 12	Civil penalties and other non-compliance	No	No	No	No	No	Yes

Table 2 – Publication dates and contents of each report

		Publication date									
		01-Nov-12	07-Feb-13	02-May-13	01-Aug-13	07-Nov-13	06-Feb-14	01-May-14	07-Aug-14	06-Nov-14	05-Feb-15
Obligation period 5 2012/13	Quarter 1	Report one	Report two	Report three	Report four	Report five	Report six				
	Quarter 2		Report two	Report three	Report four	Report five	Report six				
	Quarter 3			Report three	Report four	Report five	Report six				
	Quarter 4				Report four	Report five	Report six				
Obligation period 6 2013/14	Quarter 1					Report one	Report two	Report three	Report four	Report five	Report six
	Quarter 2						Report two	Report three	Report four	Report five	Report six
	Quarter 3							Report three	Report four	Report five	Report six
	Quarter 4							Report four	Report four	Report five	Report six
Obligation period 7 2014/15	Quarter 1									Report one	Report two
	Quarter 2										Report two
	Quarter 3										
	Quarter 4										