



Department
for Transport

Renewable Transport Fuel Obligation statistics: period 9 2016/17, report 6

About this release

This quarterly release covers the supply of renewable fuels from 15th April 2016 to 14th April 2017, based on final data as of 15th December 2017.

This is the final report for period 9 (2016/17) covering all four quarters (final annual data).

Six reports are published for each annual obligation period as Renewable Transport Fuel Certificates (RTFCs) can be issued up to seven months following the close of the period.

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Revisions: Figure 1 and one figure quoted from Table RTFO 02 were subject to a minor amendment following the discovery of an inconsistency between the report and the separately published tables.

The Renewable Transport Fuel Obligation Order (RTFO Order) requires transport fuel suppliers to ensure that a proportion of the fuel they supply comes from renewable sources (biofuels).

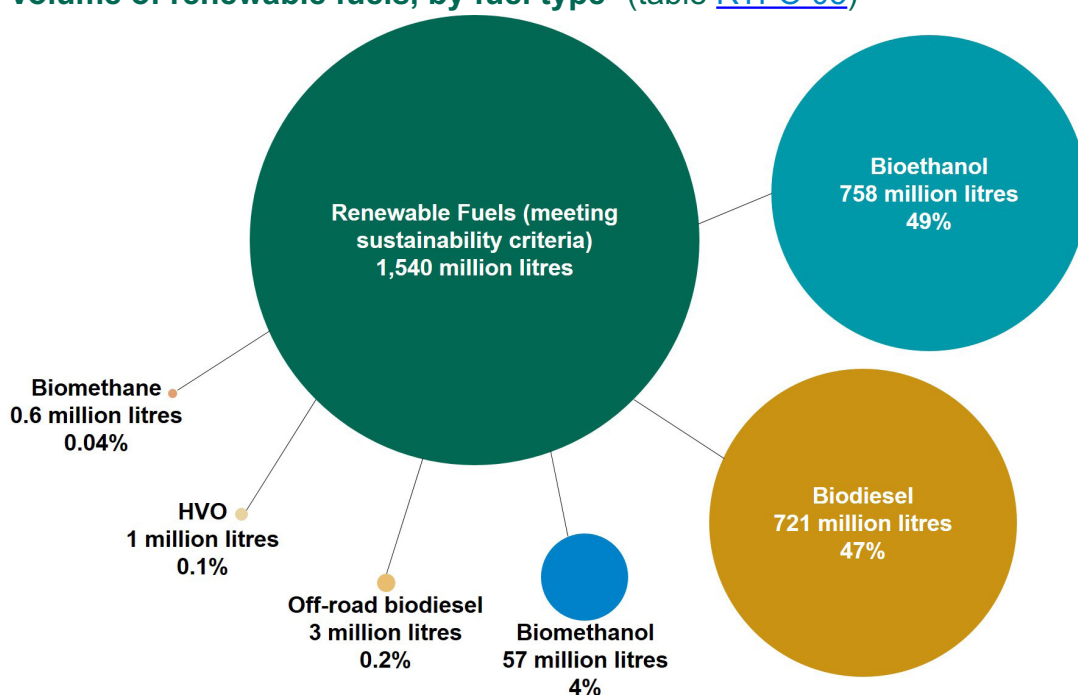
The legislation is of key importance in our efforts to deliver reductions in carbon dioxide emissions from fuels used for transport purposes and non-road mobile machinery (NRMM).

Final returns show 1,541 million litres of renewable fuel have been supplied in period 9, which is 3% of total road and non-road mobile machinery fuel.

1,540 million litres (99.96%) of this renewable fuel has been demonstrated to meet the sustainability requirements.

Of the 1,540 million litres meeting the sustainability requirements, **bioethanol** comprised **49%** of supply, **biodiesel 47%** and **biomethanol 4%**. There were also small volumes of off-road biodiesel, HVO and biomethane.

Volume of renewable fuels, by fuel type* (table [RTFO 05](#))



* Figures may not add up to 100% due to rounding

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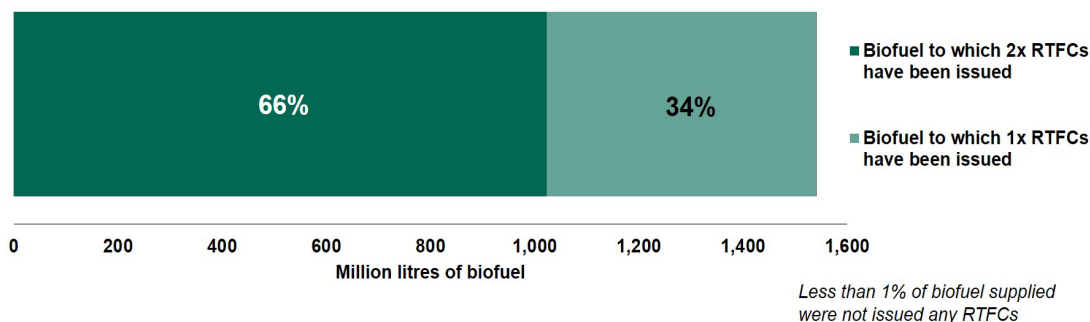
Renewable Transport Fuel Certificates

Renewable Transport Fuel Certificates¹ (RTFCs) are awarded to transport fuel suppliers that meet sustainability criteria.

- In period 9, **2,564 million** RTFCs have been issued for fuel meeting the sustainability requirements.
- This includes **2,047 million certificates** which have been issued to “double counting” feedstocks.

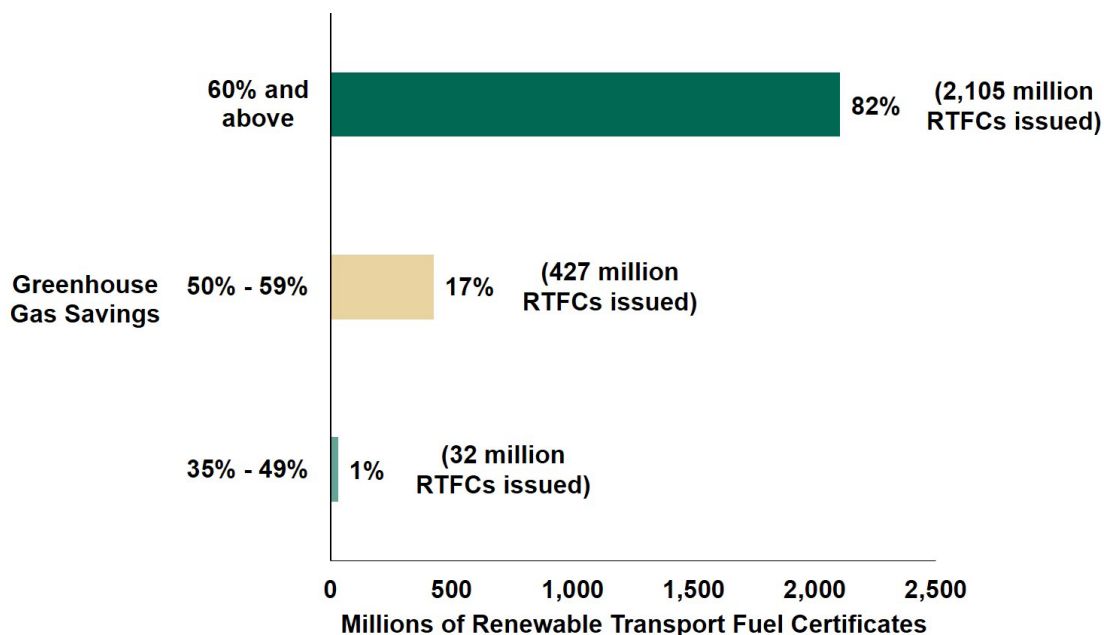
Of the biofuel supplied into the UK in period 9, **99.96%** has been demonstrated to be sustainable, of which **66%** was eligible for double counted certificates.

Figure 1: Biofuel to which Renewable Transport Fuel Certificates have been issued (table [RTFO 02](#))



Sustainability criteria ensure that biofuels deliver minimum greenhouse gas (GHG) savings compared to fossil fuels and that their production does not adversely impact on biodiversity.

Figure 2: Renewable Transport Fuel Certificates issued by greenhouse gas savings category (table [RTFO 02](#))



Nearly all (**99%**) of the RTFCs issued in 2016/17 have been to biofuel that delivered 50% or more GHG savings. This does not include emissions from indirect land-use change (ILUC).

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

Sustainability Criteria

To receive Renewable Transport Fuel Certificates, fuels supplied must meet the sustainability criteria set out in the [Renewable Energy Directive](#) (RED) and the [Renewable Transport Fuel Obligations Order](#) (2007).

Feedstock

Any renewable, biological material that can be used directly as a fuel, or converted to another form of fuel or energy product is defined as feedstock.

What is double counting?

To encourage the use of fuels that offer environmental benefits some biofuels, such as waste-based biofuels and residues, are double counted and issued with twice the number of RTFCs per litre.

Note on figures

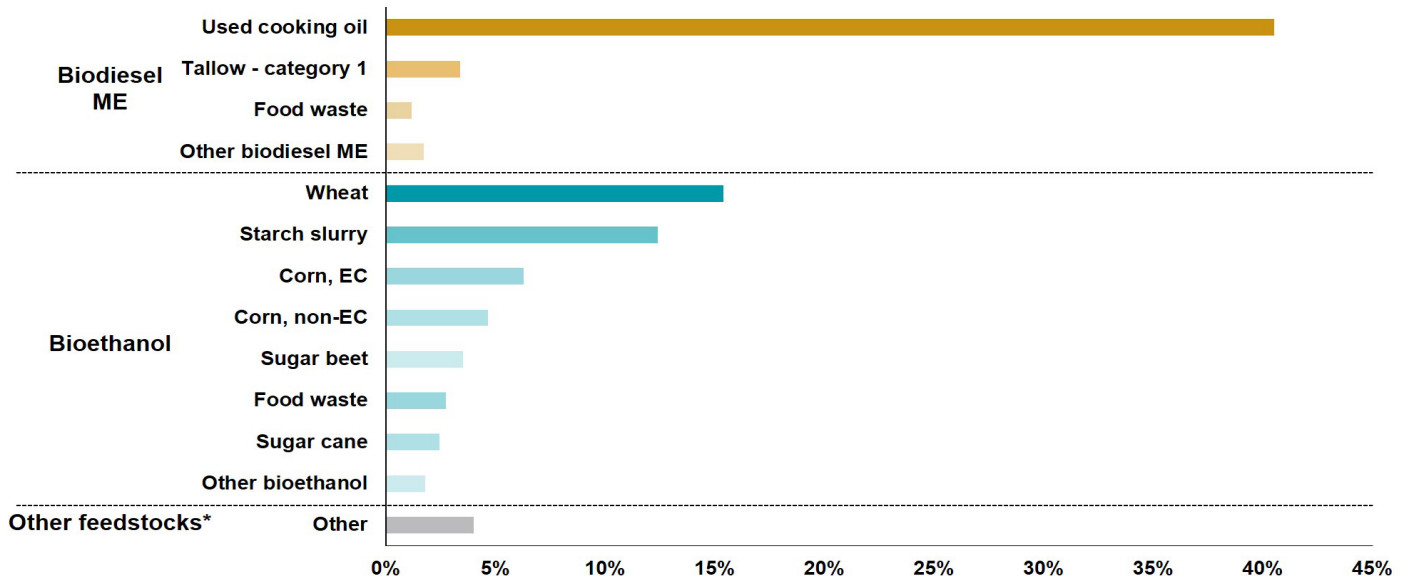
Please note that throughout the publication, figures may not sum to totals due to rounding.

Carbon and Sustainability Characteristics

Certain carbon and the sustainability criteria have to be met by suppliers in order to receive RTFCs.

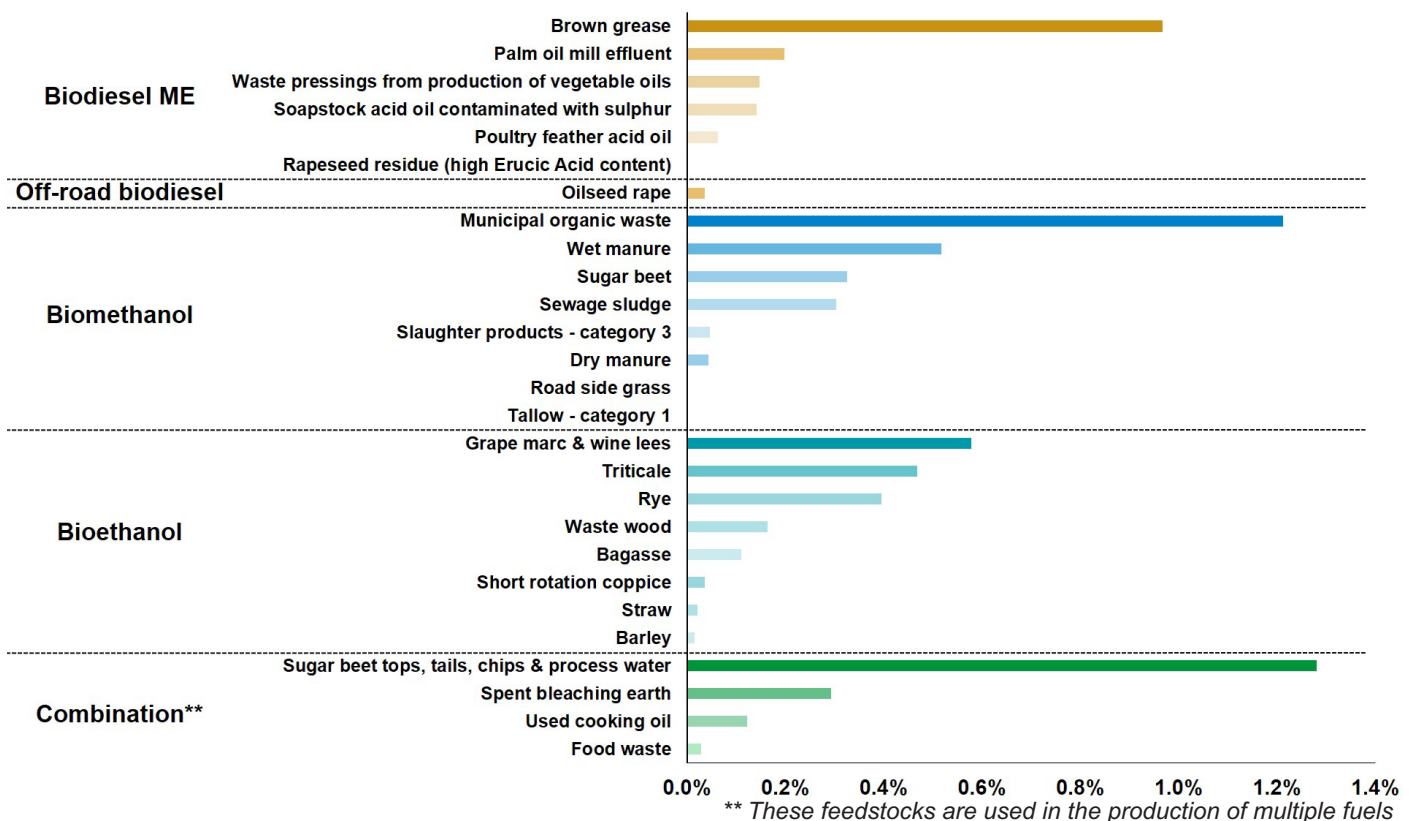
Of the 1,540 million litres of biofuel meeting sustainability criteria, waste feedstocks continue to make-up a large proportion of the overall feedstock mix, with **used cooking oil** having the largest share at **41%**.

Figure 3: Supply of biofuel to the UK by feedstock: main fuels and feedstocks (table [RTFO 05](#))



* "Other feedstocks" includes feedstocks from sources other than biodiesel or bioethanol, which make up **4% (62 million litres)** of total biofuel meeting sustainability criteria. The chart below shows the detailed breakdown of feedstocks under "Other biodiesel", "Other bioethanol" and "Other feedstocks":

Figure 3a: Supply of "other" biofuel to the UK by feedstock (table [RTFO 05](#))



Carbon and Sustainability Characteristics (continued)

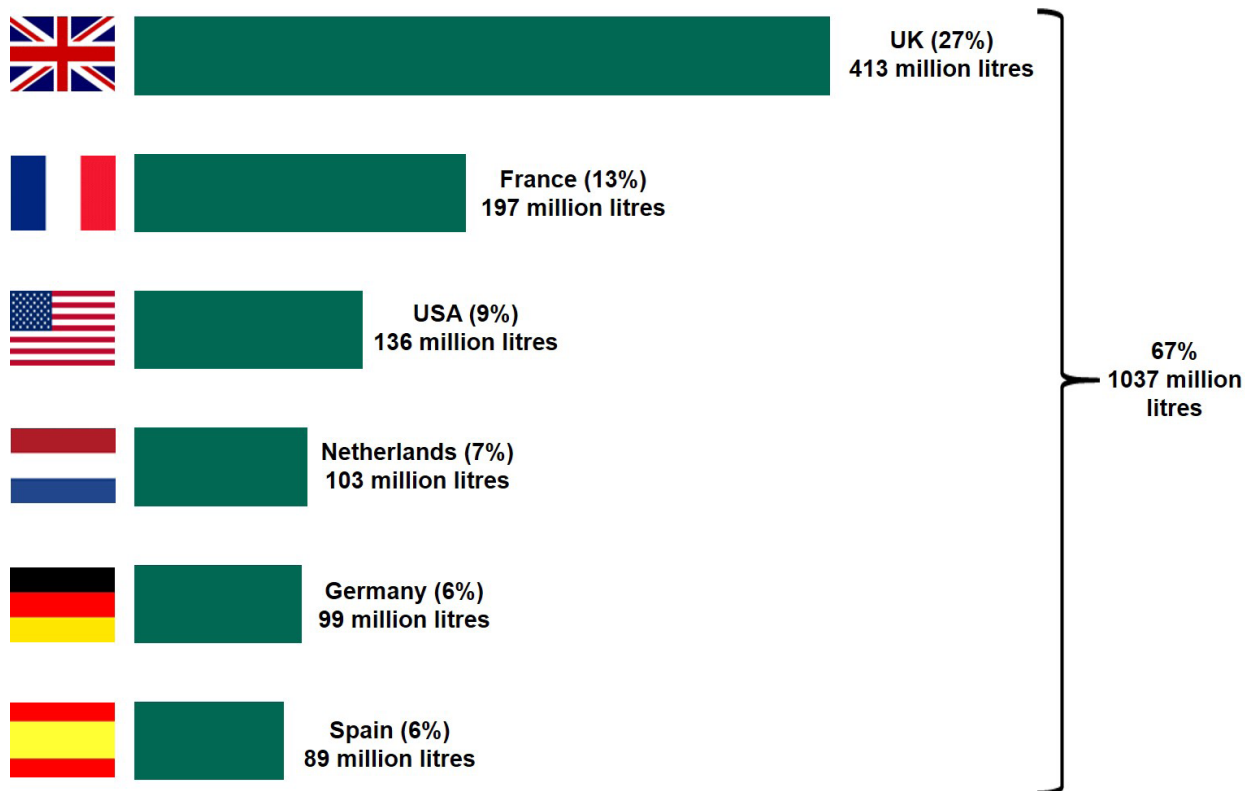
Double counted feedstock

- Of the 1,540 million litres of renewable fuels meeting the sustainability criteria, **66%** was made from a waste/non-agricultural residue (double counting) feedstock.

Country of origin

- In 2016/17, the top 6 countries supplying biofuel to the UK, including the UK itself, make up **67%** of total sustainable supply, with **UK feedstocks** accounting for **27%** of the biofuel.

Figure 4: Top 6 countries supplying biofuel to the UK (table [RTFO 05](#))



- The most widely reported source for biodiesel (by feedstock and country of origin) was **used cooking oil** from the UK (141 million litres, 9% of total fuel, 20% of biodiesel. If off-road biodiesel is included, this total becomes 143 million litres).
- The most widely reported source for bioethanol (by feedstock and country of origin) was **wheat** from the UK (192 million litres, 12% of total fuel, 25% of bioethanol).

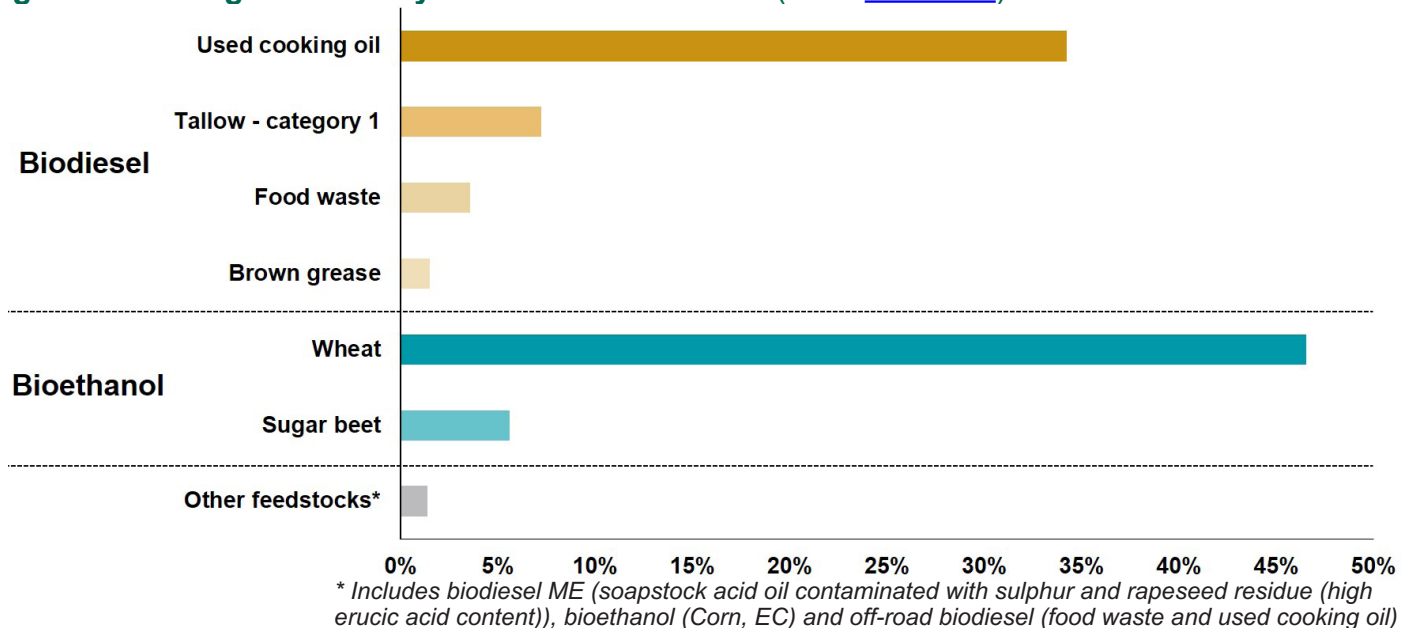
Statistical Tables

Tables for this release are available on [GOV.UK](#).

Carbon and Sustainability Characteristics (continued)

Of all feedstock originating in the UK, **wheat** makes up the largest share (**47%**) whilst **used cooking oil** makes up **34%**.

Figure 5: UK origin biofuel by feedstock for 2016/17 (table [RTFO 05](#))



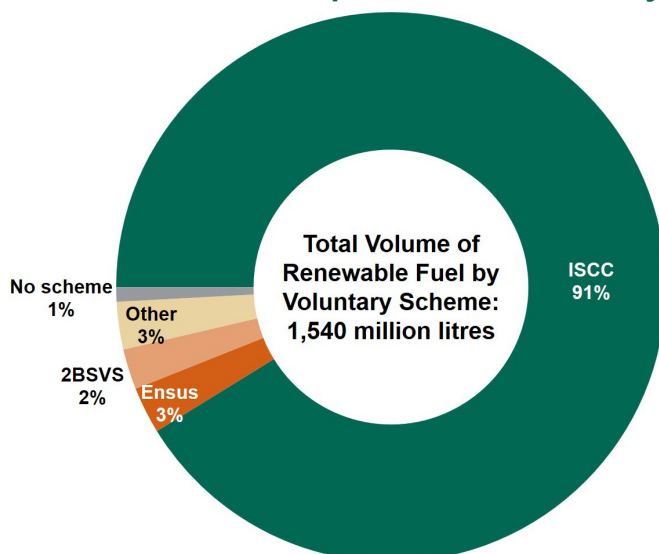
Contribution to greenhouse gas savings

- An aggregate greenhouse gas saving of **76%** compared to fossil fuels was achieved in this period. Including emissions from indirect land-use change (ILUC) reduces this to **71%**.

Schemes for certification and traceability

- Almost all (**99%**) of biofuel feedstocks have met the sustainability criteria and been supplied using a voluntary scheme.
- From the current voluntary schemes listed, the International Sustainability and Carbon Certification Scheme (ISCC) accounts for **91%** of biofuel.

Figure 6: Percent of fuel reported via a voluntary scheme (table [RTFO 06](#))



What is a voluntary scheme?

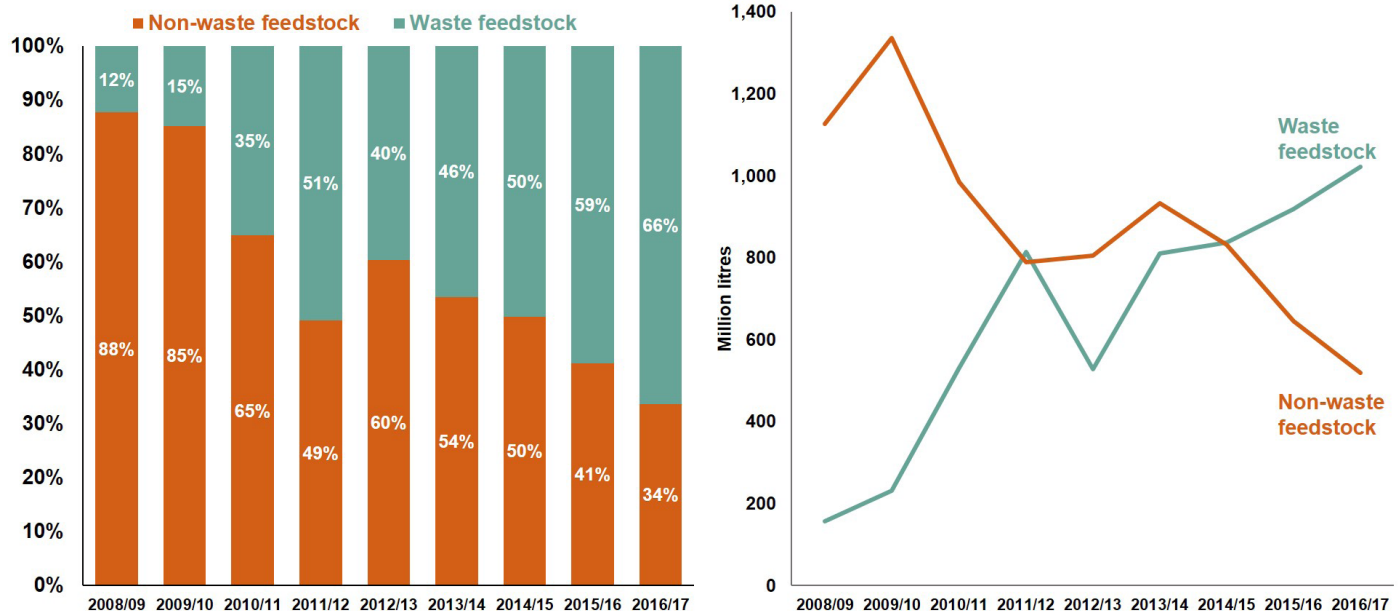
Voluntary schemes verify compliance with the EU's biofuel sustainability criteria, which is a prerequisite for RTFCs to be issued.

Other voluntary schemes used in period 9 include NTA 8080 (2%), Abengoa (<1%), RSB (<1%), Bonsucro (<1%) and Red Tractor (<1%).

Time Trends in the Supply of Biofuels

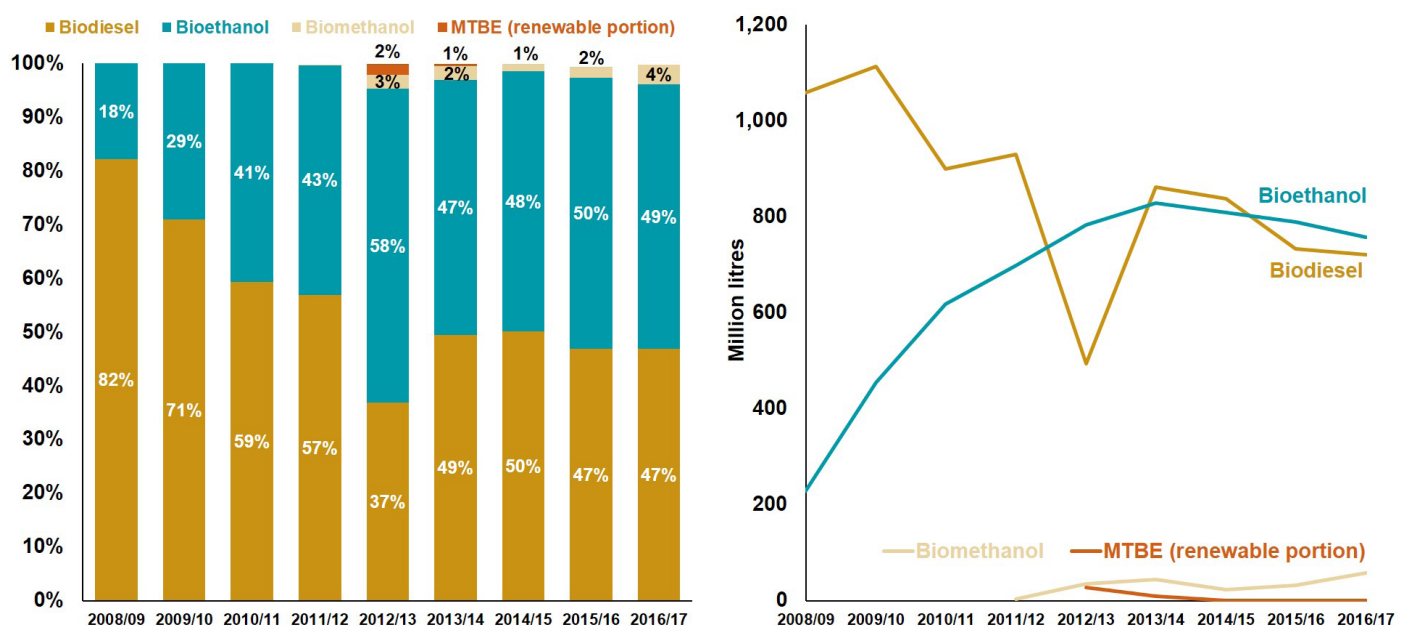
Waste derived fuels which benefit from double counted RTFCs have been increasing over time. In 2016/17, **waste** accounts for **66%** of the total, up from 59% in 2015/16. Volumes of waste derived fuels have been increasing since 2012/13. Non-waste feedstock volumes have been falling since 2013/14.

Figure 7: Biofuels from wastes 2008/09 to 2016/17 by percentage and volume



The share of **biodiesel** amongst all renewable fuels has varied over time and was at **47%** for 2016/17. The share of **bioethanol** has also varied and is now at **49%**. There were also small amounts (less than 1%) of biomethane, off-road biodiesel and HVO. Volumes of bioethanol have been decreasing since 2013/14 which may partly be due to a decrease in the supply of petrol. Volumes of biodiesel have also fallen since 2013/14. The supply of biomethanol has been increasing in recent years to an all-time high in 2016/17, contributing 4% to total biofuel supply.

Figure 8: Supply of biofuels in the UK by fuel type, 2008/09 to 2016/17 by percentage and volume

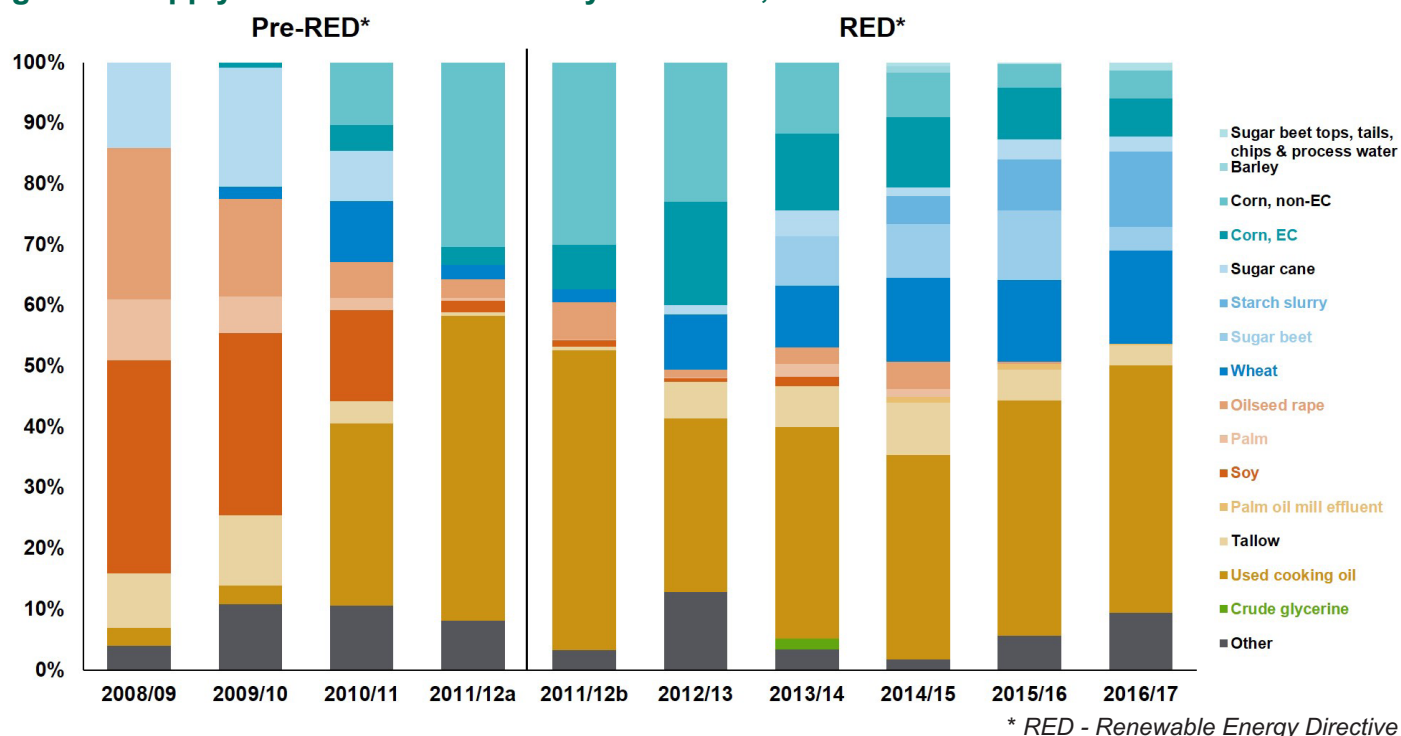


Note: Small amounts of other fuels are also present. These have been omitted from the chart.

Time Trends in the Supply of Biofuels (continued)

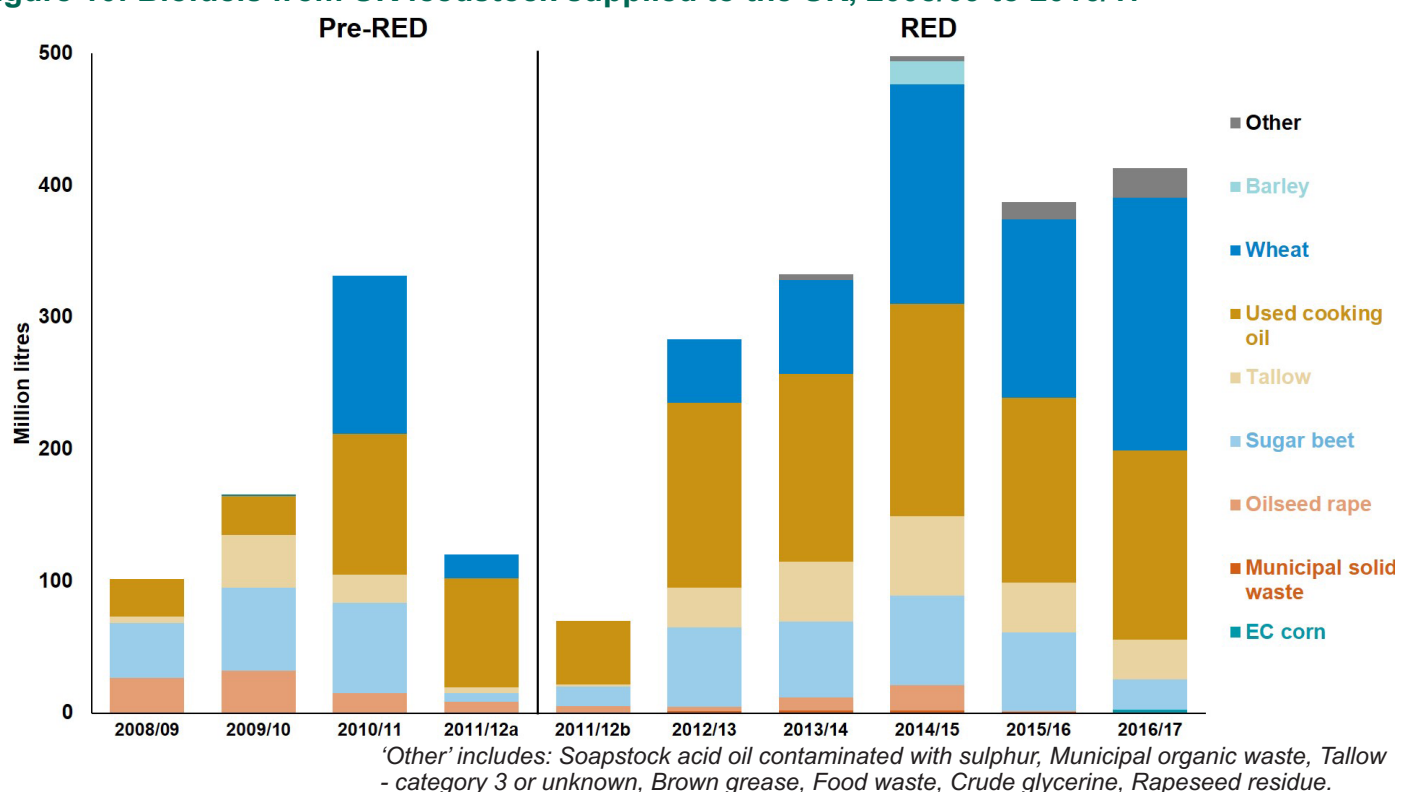
The feedstock mix has also shifted over time. Used cooking oil has been the main feedstock supplied to the UK since 2010/11.

Figure 9: Supply of biofuels to the UK by feedstock, 2008/09 to 2016/17



Biofuels from UK feedstock make up **27%** of total feedstock in 2016/17. **47%** of the UK feedstock comprised of waste derived fuels.

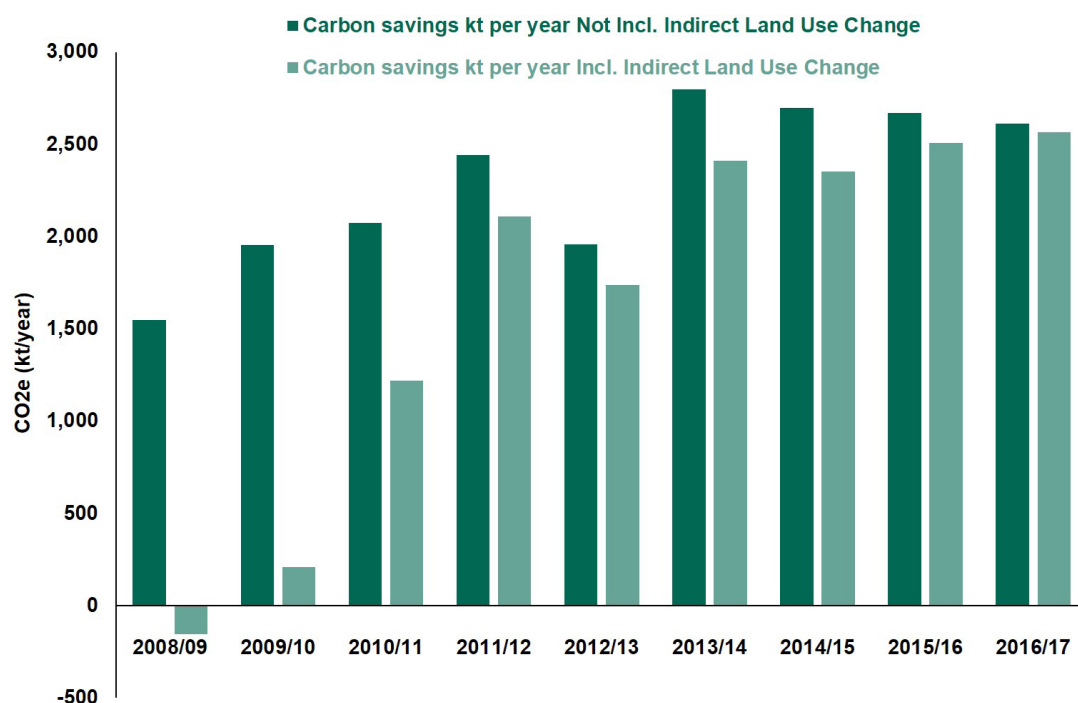
Figure 10: Biofuels from UK feedstock supplied to the UK, 2008/09 to 2016/17



Time Trends in the Supply of Biofuels (continued)

Greenhouse gas savings have improved over time especially when indirect land use change (ILUC) is taken into account.

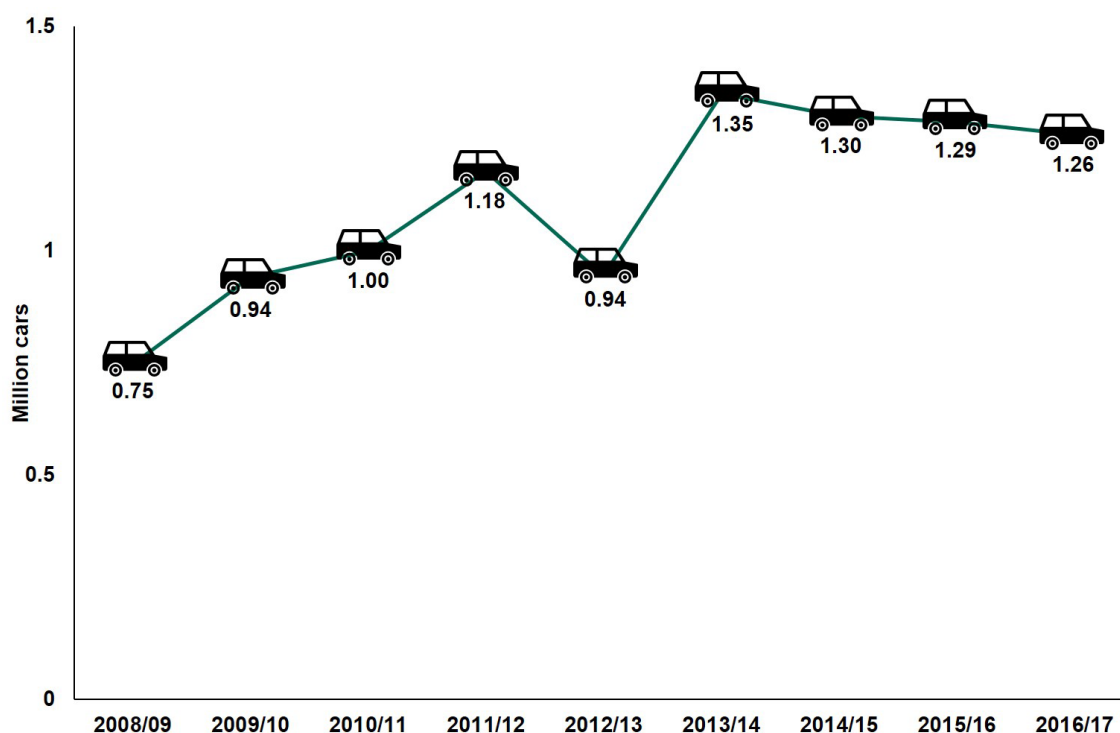
Figure 11: Greenhouse gas saving delivered by biofuel supplied to the UK, 2008/09 to 2016/17



Indirect Land Use Change (ILUC)


Relates to the unintended consequences of changing land use due to biofuel production, for example, the expansion of crop land.

Figure 11a: Greenhouse gas savings - equivalent number of average cars taken off the road, 2008/09 to 2016/17



Note on figures

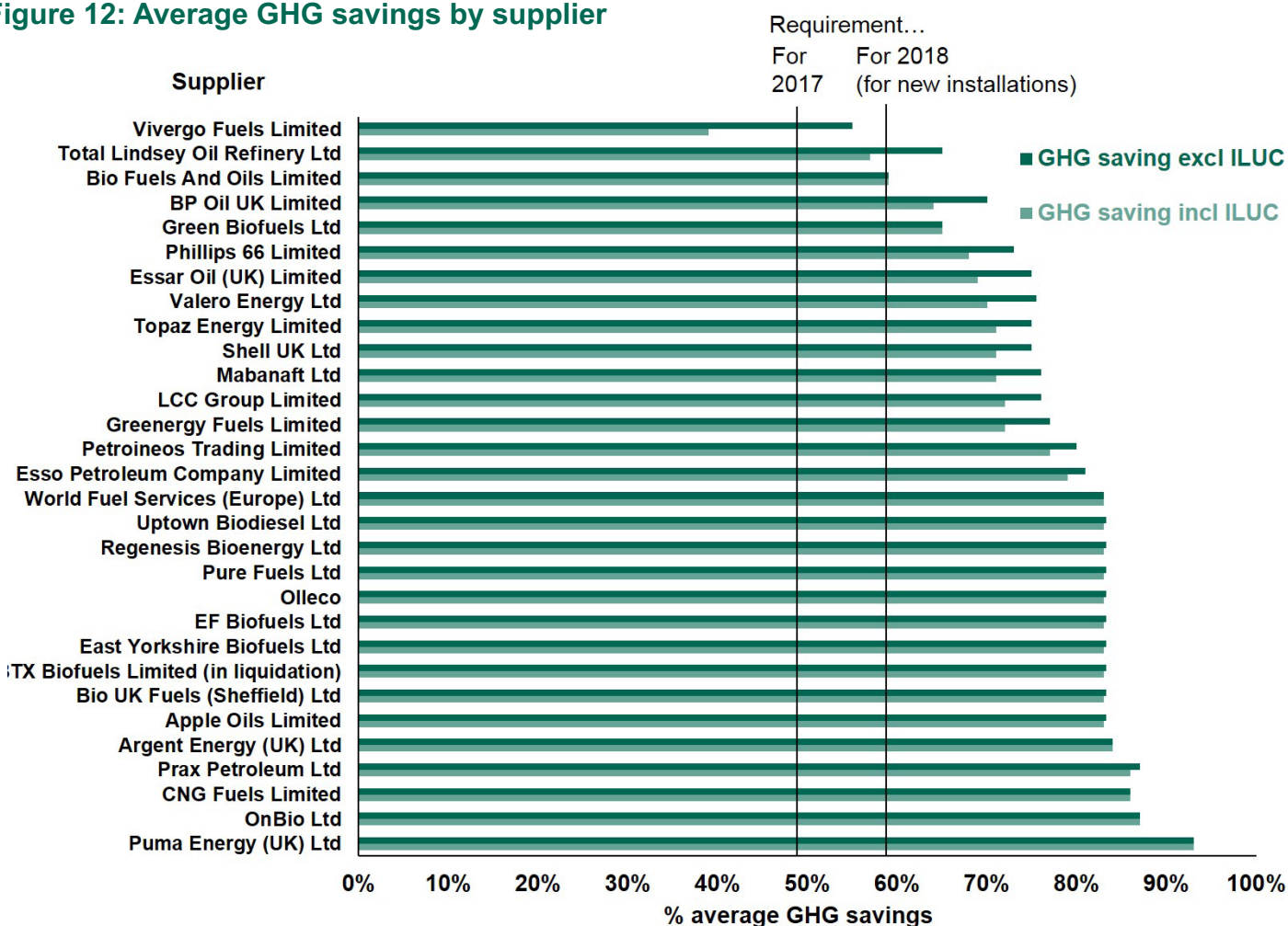
The figure used for average car emissions is a Department for Transport estimate as of 2014.

 Total greenhouse gas savings in 2016/17 were the equivalent of taking **1.26 million** cars off the road (1.24 million cars if Indirect Land Use Change is included).

Time Trends in the Supply of Biofuels (continued)

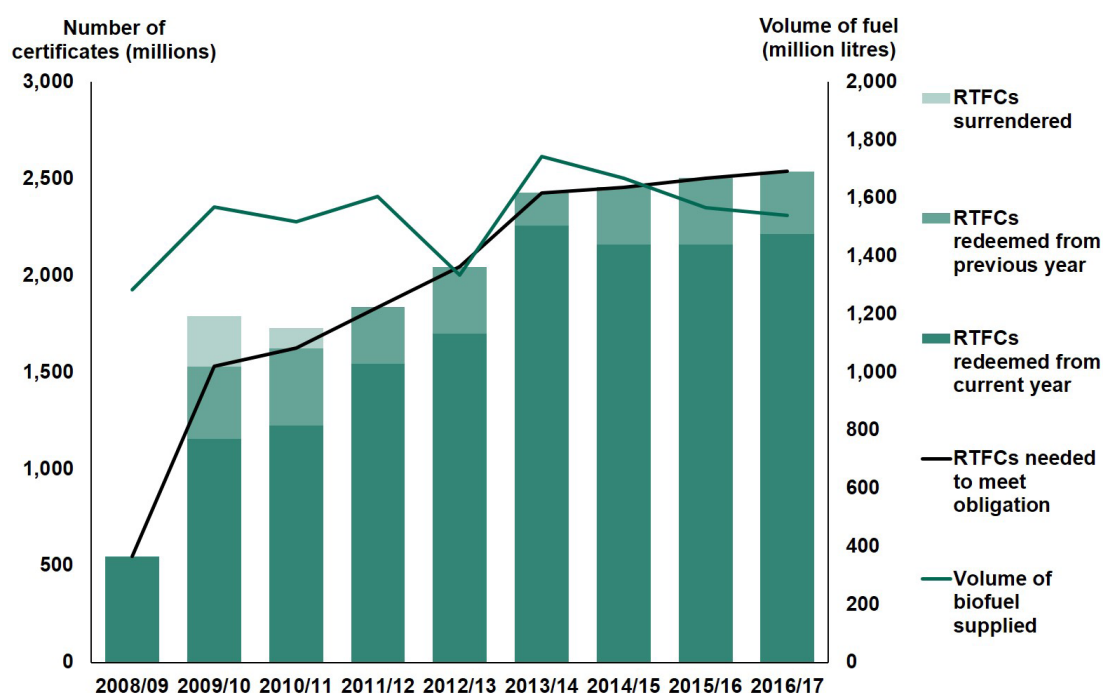
The figure below gives supplier information on greenhouse gas savings.

Figure 12: Average GHG savings by supplier



The figure below shows activity in Renewable Transport Fuel Certificates across years.

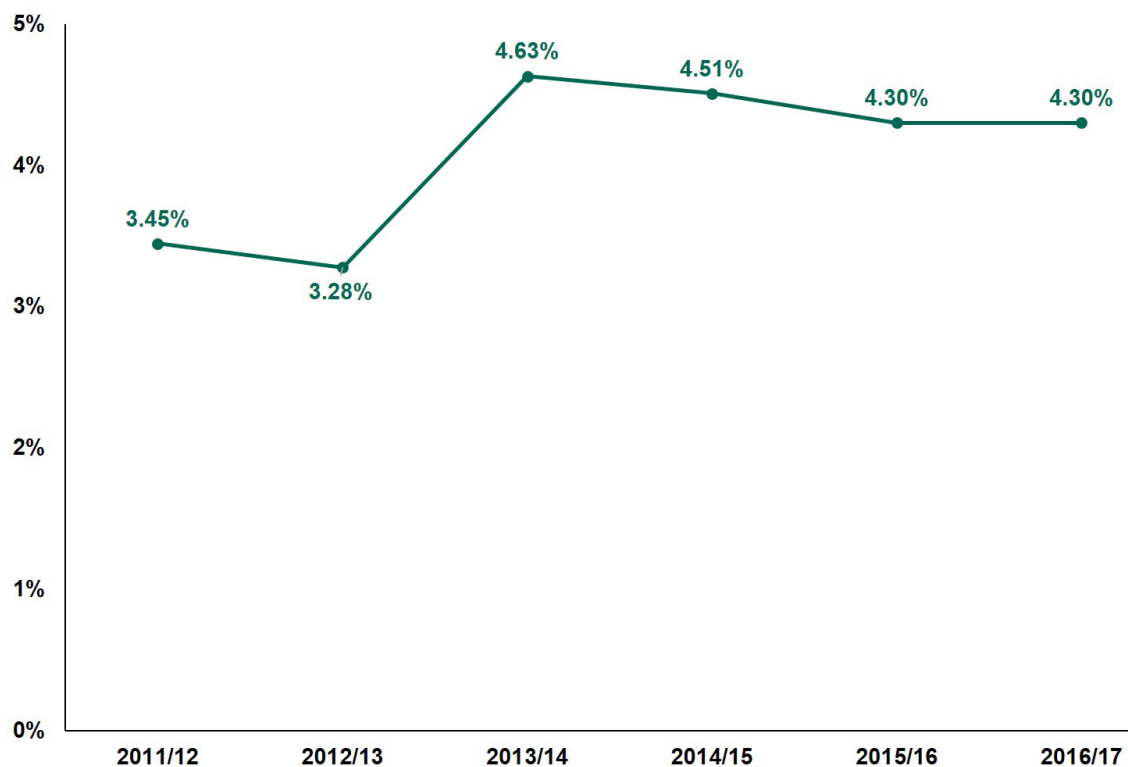
Figure 13: Activity in Renewable Transport Fuel Certificates, 2008/09 to 2016/17



Time Trends in the Supply of Biofuels (continued)

Under the Renewable Energy Directive (RED) the UK has a 10% target for renewables in transport energy by 2020. Progress towards this target includes an allowance for double counting fuels that meet RED requirements.

Figure 14: Supply of renewable fuels against RED transport energy targets, 2008/09 to 2016/17

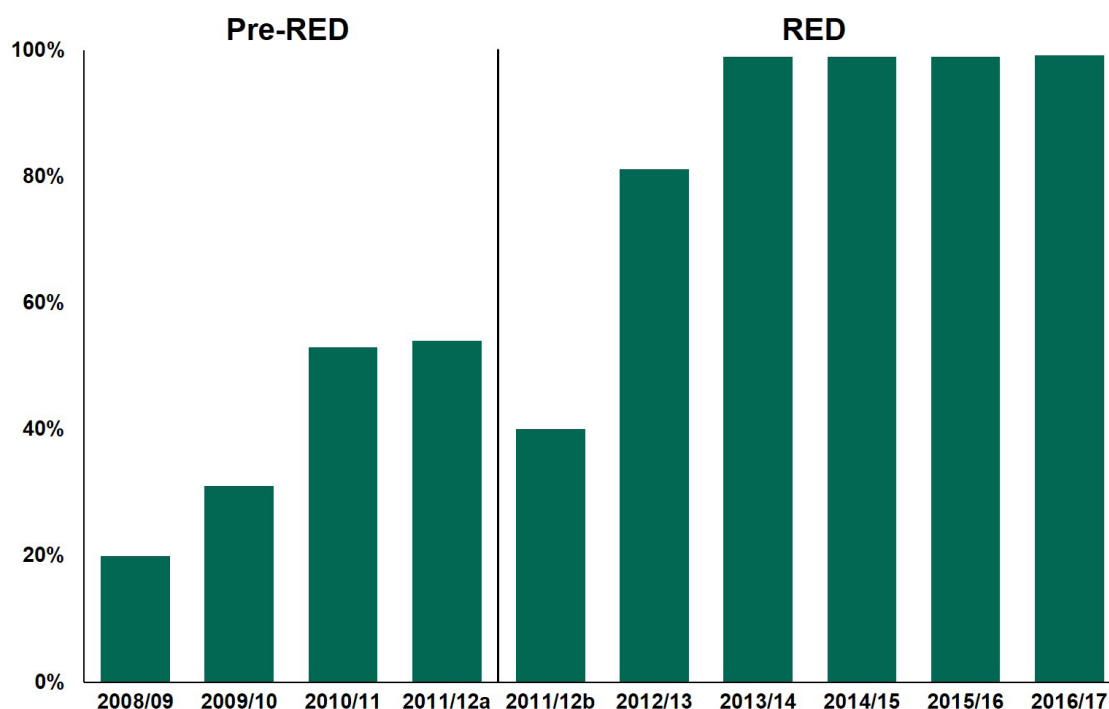


What is RED?

The Renewable Energy Directive (RED) was introduced in 2011/12 and includes sustainability criteria for biofuels.

The uptake of voluntary schemes has remained at **99%** for the past couple of years, compared to 20% in the first year of the RTFO.

Figure 15: Percent of renewable fuel meeting a voluntary scheme sustainability criteria, 2008/09 to 2016/17



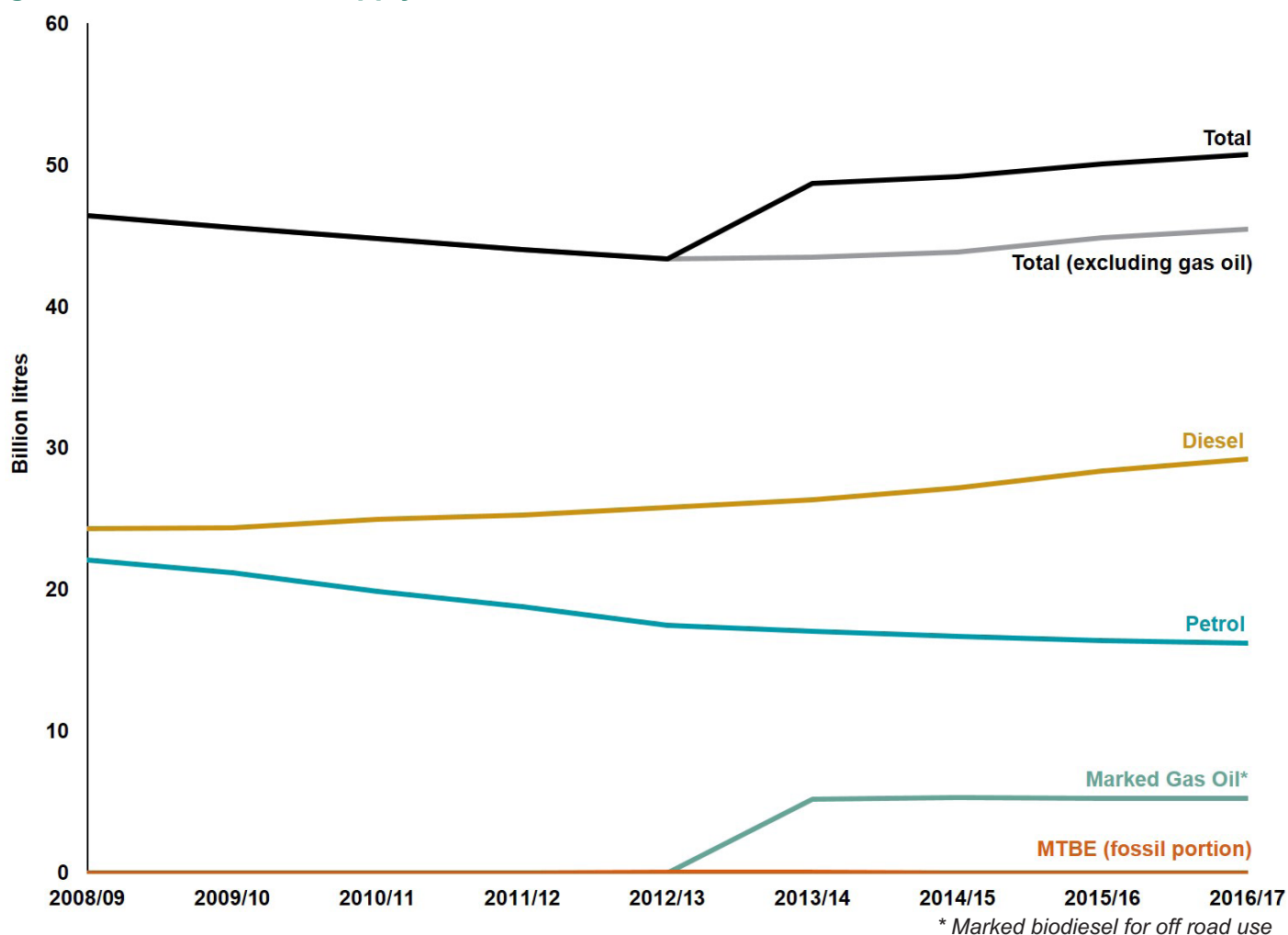
What is a voluntary scheme?

Voluntary schemes verify compliance with the EU's biofuel sustainability criteria, which is a prerequisite for RTFCs to be issued.

Time Trends in the Supply of Biofuels (continued)

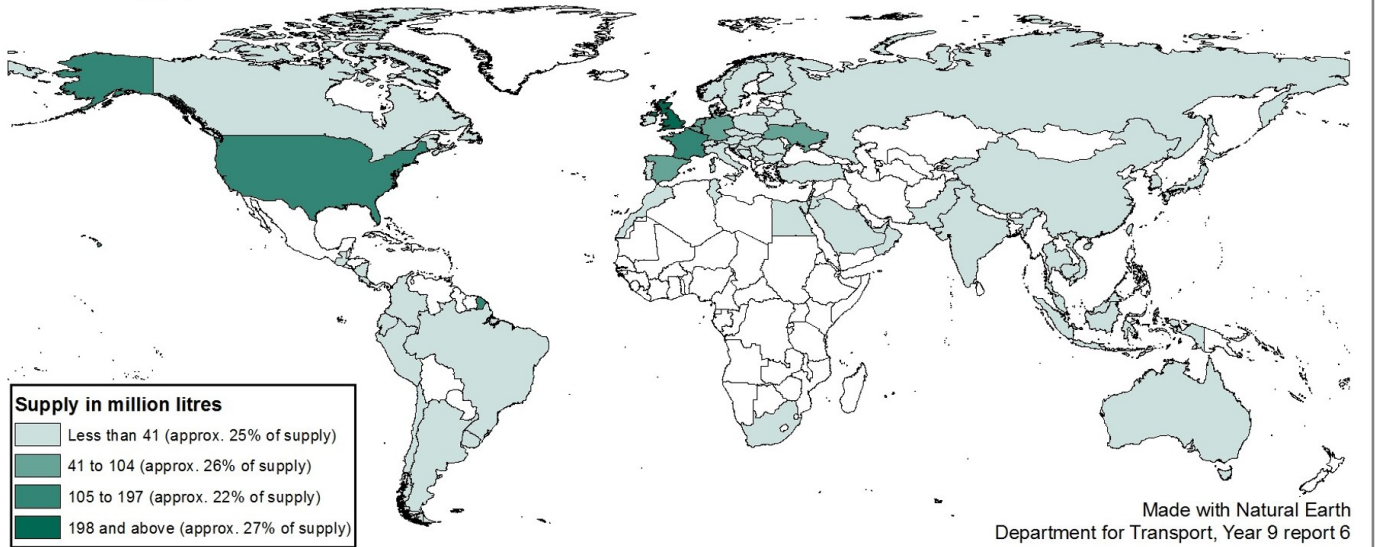
Amongst fossil fuel supply, volumes of petrol are falling slowly while diesel volumes are increasing.

Figure 16: Trends in the supply of fossil fuels, 2008/09 to 2016/17



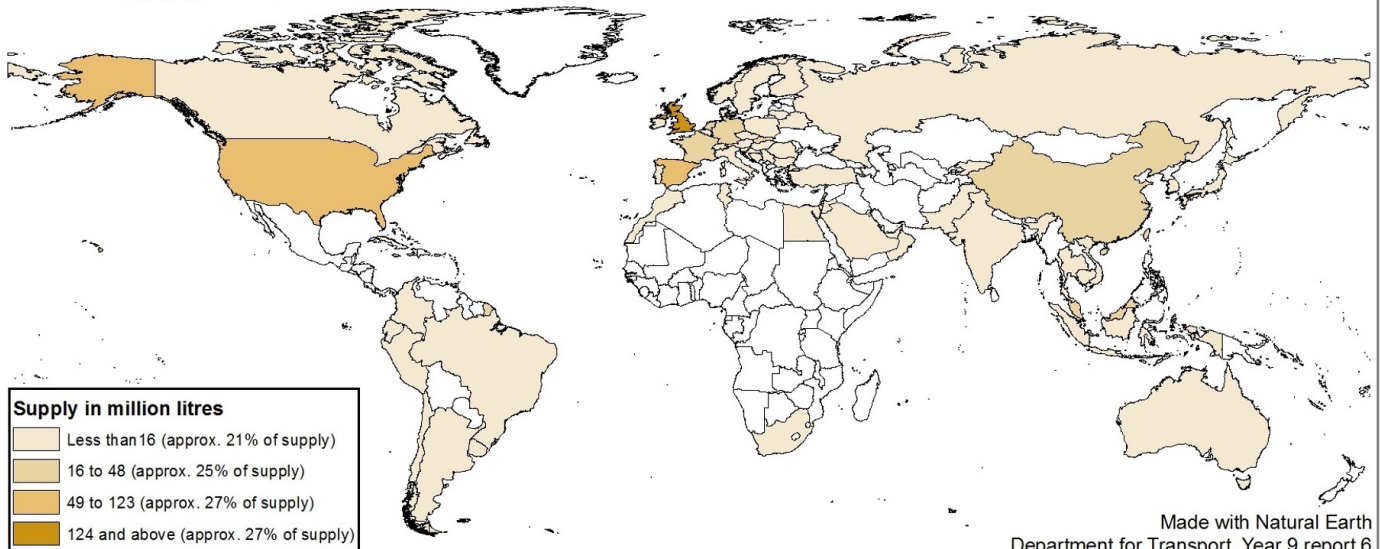
Maps of Biofuel Supply

Global Supply of Biofuel to the UK



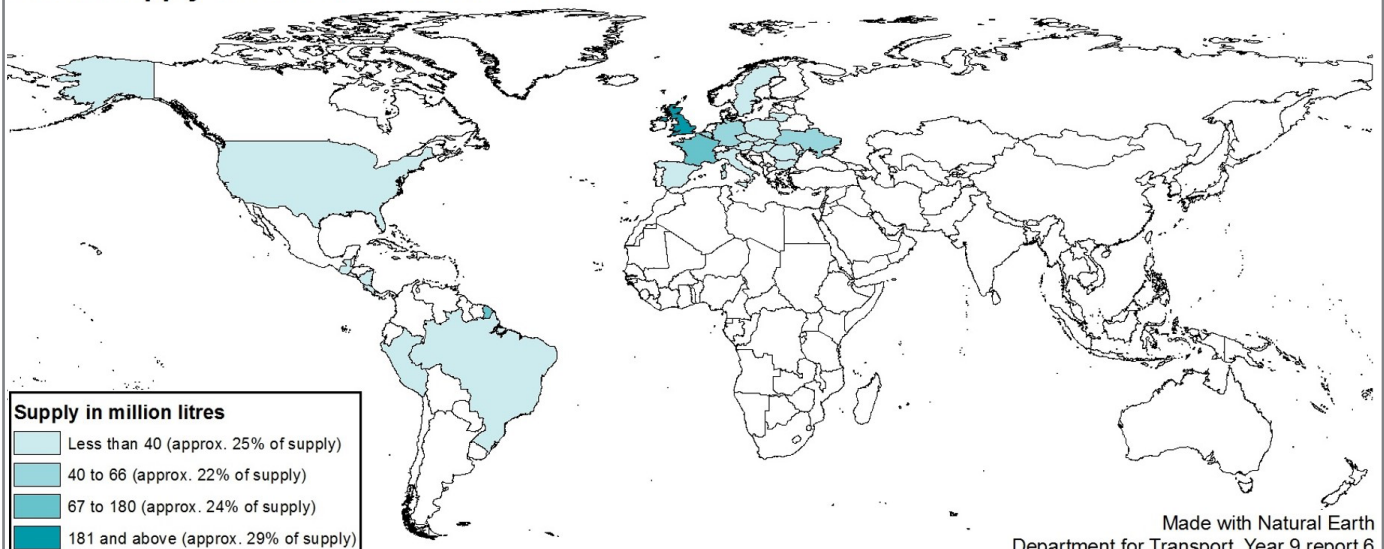
Includes volumes of biodiesel (HVO, off-road and ME), bioethanol, biomethanol and biomethane

Global Supply of Biodiesel to the UK



Includes volumes of HVO and off-road biodiesel

Global Supply of Bioethanol to the UK



Sources of data in this report

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

Fuel 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 (15th November following the obligation period). The final report for an obligation period will show the final position.

Data on RTFCs (issues, redemptions, surrenders, transfers) is 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 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 HMRC's 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;

Further Details

Further information on the data can be found in the [Notes and Definitions](#).

Next Update

The next publication will be year 10 (2017/18) report 3, on 3rd May 2018.

Data are published quarterly.

Carbon and Sustainability data on biofuel supplied by fuel suppliers are published annually.

Related Information

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.

Background Information (continued)

- 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.

Official Statistics

Official Statistics are produced to high professional standards set out in the Code of Practice for Official Statistics. They undergo regular quality assurance reviews to ensure they meet customer needs.

Details of ministers and officials who received pre-release access to these statistics up to 24 hours before release can be found in the pre-release access list.

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Annex A: RTFO Statistics Reporting Timescales and Contents

Reports are published quarterly.

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
RTFO 13	Performance against GHG reporting Requirements	No	No	No	No	No	Yes

Annex A: RTFO Statistics Reporting Timescales and Contents (continued)

Table 2 – Publication dates and contents of each report

		Publication Date									
		2-Feb-17	4-May-17	3-Aug-17	2-Nov-17	1-Feb-18	3-May-18	2-Aug-18	1-Nov-18	7-Feb-19	7-May-19
Obligation period 9 2016/17	Quarter 1	Report 2	Report 3	Report 4	Report 5	Report 6					
	Quarter 2	Report 2	Report 3	Report 4	Report 5	Report 6					
	Quarter 3		Report 3	Report 4	Report 5	Report 6					
	Quarter 4			Report 4	Report 5	Report 6					
Obligation period 10 2017/18	Quarter 1				Report 1	Report 2	Report 3	Report 4	Report 5	Report 6	
	Quarter 2					Report 2	Report 3	Report 4	Report 5	Report 6	
	Quarter 3						Report 3	Report 4	Report 5	Report 6	
	Quarter 4							Report 4	Report 5	Report 6	
Obligation period 11 2018/19	Quarter 1								Report 1	Report 2	Report 3
	Quarter 2									Report 2	Report 3
	Quarter 3										Report 3
	Quarter 4										