Department for Transport

Renewable Fuel Statistics 2020 Third Provisional Report

About this release

This quarterly release covers the supply of renewable fuel in 2020, based on data available on 22 December 2020 which has been reported under the Renewable Transport Fuel Obligation (RTFO). Data can be supplied up to five months after the end of the year. Therefore, this report contains an incomplete dataset for the year so far and should be read as provisional. The final report for 2020 is scheduled for release in November 2021.

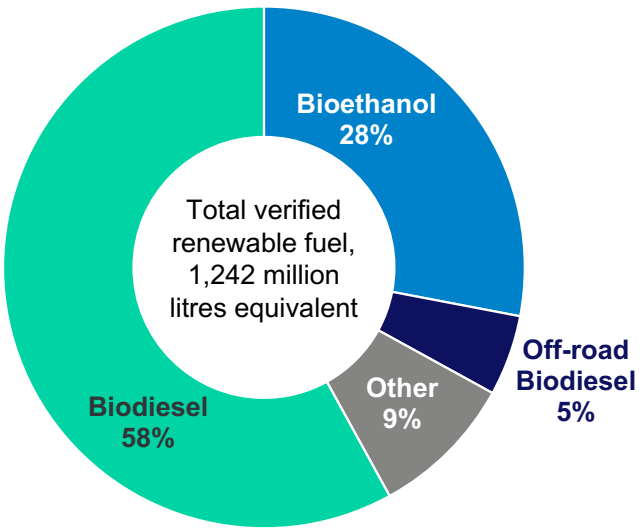
In this publication

Renewable fuels are produced from biomass or some other renewable energy source. They are often blended with conventional fuels such as petrol or diesel, but they produce lower greenhouse gas emissions as their energy is from renewable sources.

In 2020:

- **2,158 million litres equivalent (eq.) of renewable fuel** has been supplied, which constitutes 6% of total road and non-road mobile machinery fuel for the year.
- **1,242 million litres eq. (58%) has been verified** so far under the Renewable Transport Fuel Obligation (see Background Information).
- Of this 1,242 million litres eq., an average **greenhouse gas (GHG) saving of 81%** was achieved when compared to fossil fuel use. This drops to 75% when indirect land-use change is accounted for (*see note on page 3*).
- **13%** of all verified renewable fuel supplied to the UK in this period was produced from UK origin feedstocks.

Figure 1: Volume of verified renewable fuel by fuel type (table RF_0105a)



Of the 1,242 million litres eq. of renewable fuel verified so far in 2020, biodiesel comprised 58% of supply, and bioethanol 28%. There were also small amounts of other renewable fuels including biomethanol, biomethane, off-road biodiesel and biopropane.

** Biogases (such as biomethane and biopropane) are reported in kg but are converted to equivalent litres using standard multiplication factors (as laid-out in the RTFO).*
*** Figures may not sum due to rounding.*

RESPONSIBLE STATISTICIAN: Ellie Page 020 7944 3077 environment.stats@dft.gov.uk
RESPONSIBLE DATA OWNER: Chrissie Frankland 07866 012833 RTFO-compliance@dft.gov.uk
FURTHER INFORMATION: Media: 020 7944 4833

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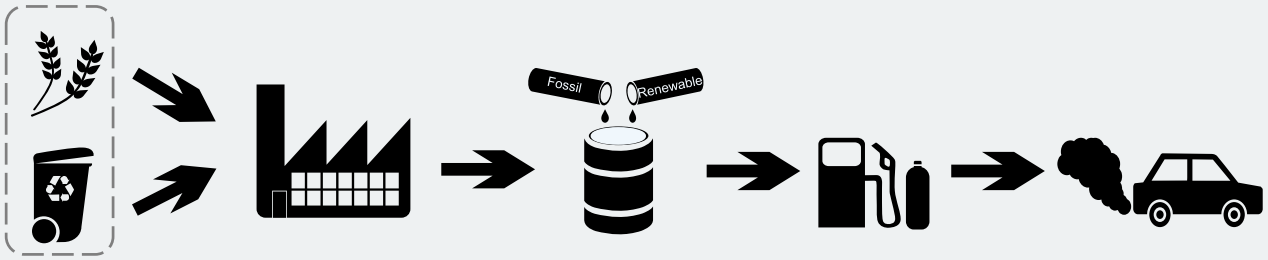
Overview

Figure 2: What is a renewable fuel?



The materials renewable fuels are made from are typically a form of biomass known as **feedstocks**. These are either grown specifically to process into fuel or are waste products such as food waste.

These feedstocks are then processed by renewable fuel manufacturers, producing fuels which behave similarly to conventional propulsion fuel such as petrol and diesel.

These renewable fuels are then mixed with petrol, diesel and other fuels by fuel suppliers, who are required to have a set proportion of renewable fuels in their fuel stock.

These mixed fuels are then sold at pumps at petrol stations and on the market.

Renewable fuels deliver greenhouse gas savings as they are sourced from feedstocks which extract CO_2 from the atmosphere.

Some renewable fuels have a significantly different production process, in particular Renewable Fuels of Non-Biological Origin (RFNBOs). For more information see the Notes and Definitions.

Figure 3: Highlights - 2020

Renewable fuels made up **6%** of total road and non-road mobile machinery fuel so far in 2020.

Of the 2,158 million litres eq. of renewable fuels, 1,242 million litres eq. has been **verified**.

Verified renewable fuels achieved an average **greenhouse gas** saving of **81%**.

81%

Biodiesel made up **58%** of verified renewable fuel.

Bioethanol made up **28%** of verified renewable fuel.

Waste feedstocks made up **75%** of verified renewable fuel.

74% of biodiesel was produced from **used cooking oil**.

32% of bioethanol was produced from **corn**.

United Kingdom feedstocks made up **13%** of verified renewable fuel.

Greenhouse Gas Savings

GHG savings represent the difference in GHG emissions between using renewable fuel as opposed to the conventional fuel they replace. The Motor Fuel GHG Emissions Reporting Regulations set obligations for fuel suppliers to reduce their average GHG intensity.

Indirect Land Use Change (ILUC)

Relates to the unintended consequences of changing land use for renewable fuel production. For example the expansion of crop land for feedstocks driving deforestation elsewhere. This reduces the GHG savings from the renewable fuel produced.

Greenhouse Gas Savings

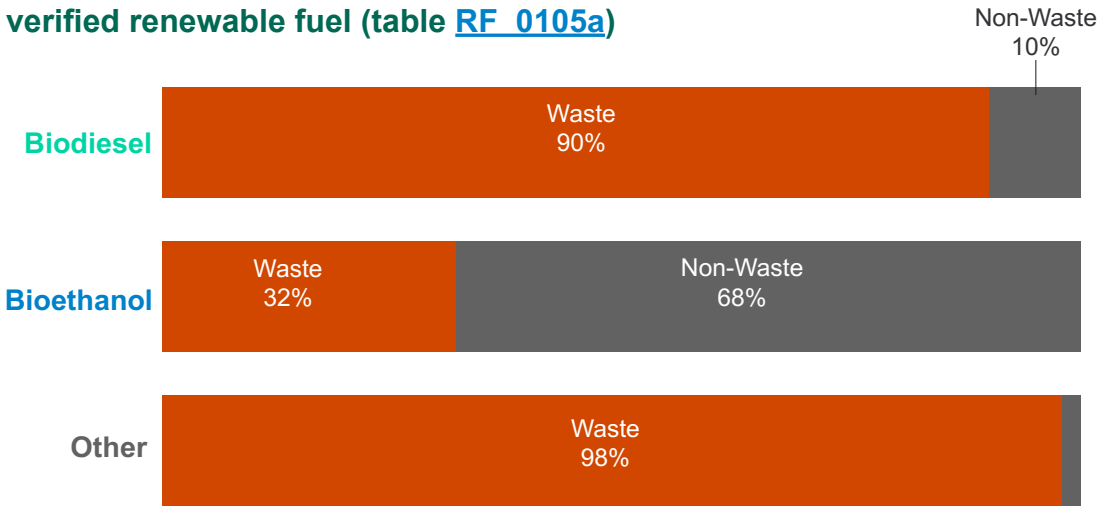
Renewable fuels in the UK fuel supply achieved an aggregated GHG saving of 81% compared to fossil fuels. Accounting for emissions from indirect land-use change (ILUC) reduces this GHG saving to 75%.

Under the GHG Reporting Regulations, in 2020 fuel suppliers are obligated to achieve an average 6% reduction in GHG emissions for their total fuel supply, compared to a baseline set in the Regulations. So far in 2020, there has been a 4.5% reduction. This figure is expected to increase as more renewable fuel is verified.

Waste Feedstock

Waste feedstocks made up over three quarters (75%) of all verified renewable fuel so far this year. Waste feedstocks have been used more in biodiesel production (90%) than in bioethanol production (32%).

Figure 4: Proportion of waste and non-waste feedstock amongst verified renewable fuel (table RF_0105a)



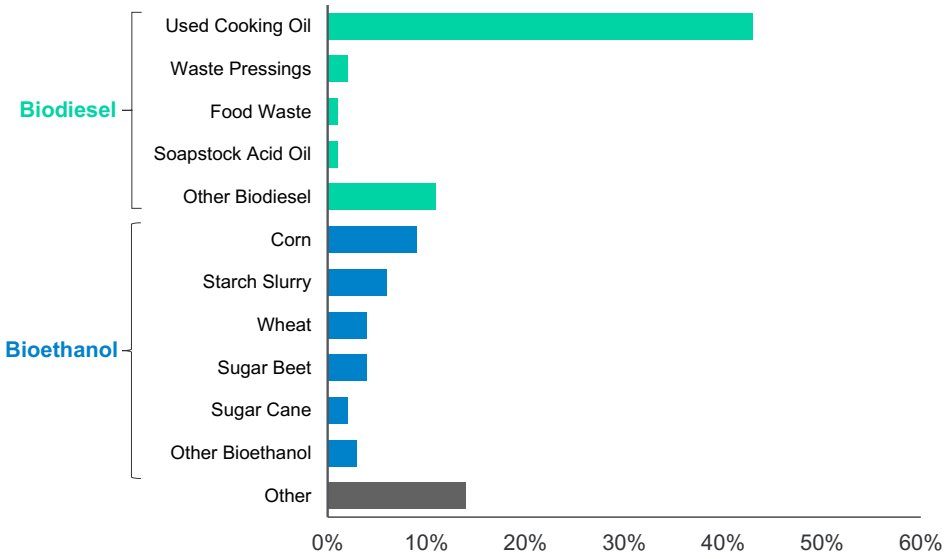
Renewable fuel produced from waste feedstocks typically delivers greater GHG savings than fuel derived from feedstocks produced specifically to be made into renewable fuel. Therefore they are encouraged under the RTFO and are typically awarded double counting certificates. Waste feedstocks include used cooking oil, municipal organic waste, waste agricultural products such as corn husks, and sewage sludge.

Feedstocks
Any renewable resource that can be used directly as an energy source, or converted to a transport fuel or other energy product.

Feedstock

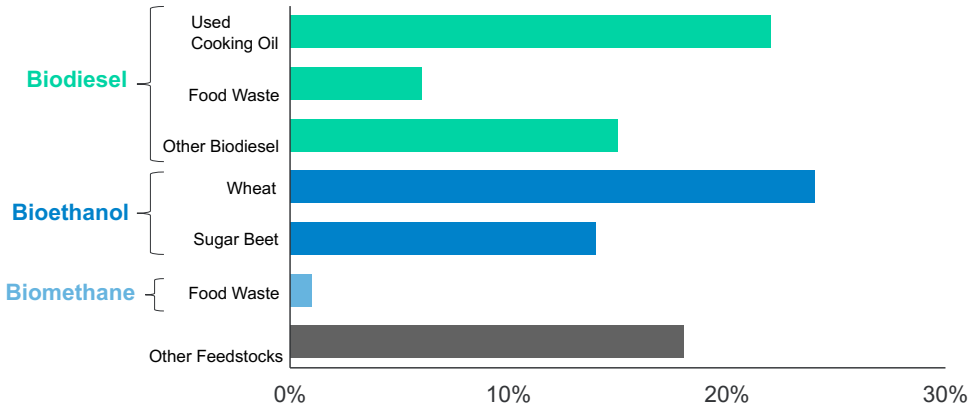
The majority (51%) of all verified renewable fuel was produced from used cooking oil (UCO), which is used in several different types of renewable fuel. UCO comprised 74% of biodiesel. For bioethanol, the most common feedstock was corn (32%). Corn-based bioethanol comprised 9% of total renewable fuel.

Figure 5: Supply of verified renewable fuel to the UK by feedstock and fuel type (table RF_0105a)



Of the 165 million litres eq. of verified renewable fuel produced from UK origin feedstock, the most common by feedstock and fuel type was bioethanol from wheat (39 million litres, 24% of renewable fuel from UK origin feedstock). The most common source of biodiesel from UK origin feedstock was used cooking oil (36 million litres, 22% of renewable fuel from UK origin feedstock).

Figure 6: UK origin verified renewable fuel by feedstock (table RF_0105a)



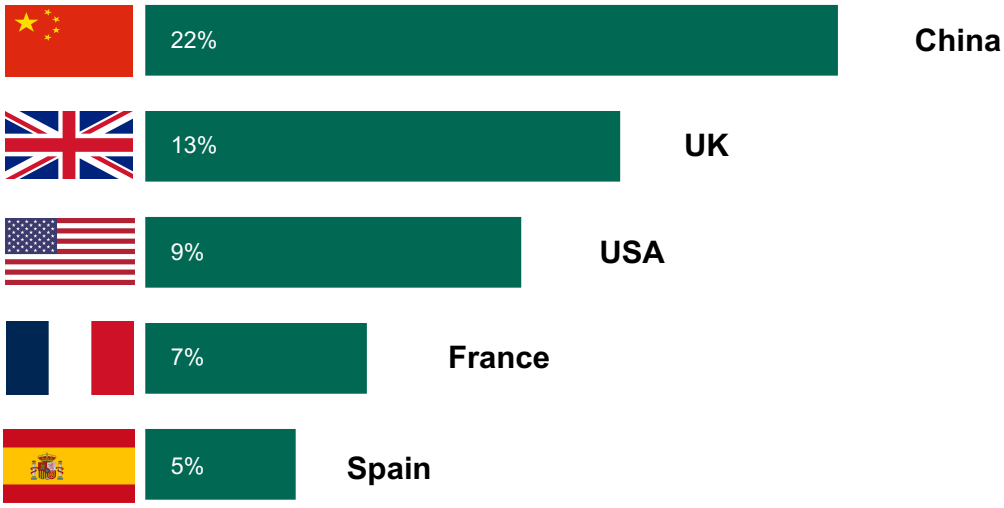
Country of Origin

UK origin feedstocks made up 13% of verified renewable fuel supplied to the UK so far this year. The top 5 feedstock origin countries together account for 56% of renewable fuel.

Of the 1,242 million litres eq. of verified renewable fuel supplied so far in 2020, the most widely reported source for biodiesel supplied to the UK (by feedstock and country of origin) was used cooking oil from China (244 million litres, 20% of renewable fuel supplied, 34% of total biodiesel supplied).

The most widely reported source for bioethanol supplied to the UK (by feedstock and country of origin) was starch slurry from France (43 million litres, 3% of renewable fuel supplied, 12% of total bioethanol supplied).

Figure 7: Top 5 countries supplying verified renewable fuel to the UK (table RF_0105a)



Development Fuel

Specific fuels made from sustainable wastes or residues, (excluding segregated oils and fats such as used cooking oils and tallow). These fuels are awarded development fuel certificates, which are double counted.

Development Fuel

A specific target for 'development fuels' was introduced from 1 January 2019. This target takes into account the fuel type, production pathway and the feedstock. These fuels include aviation fuel, drop-in fuels, substitute natural gas and hydrogen (see notes and definitions).

The RTFO Administrator has verified 306 litres eq. of hydrogen so far in 2020, which qualified as a development fuel. However, this has been removed from the data and totals for this publication as the information is commercially sensitive. This is due to there being a small number of companies reporting development fuel so far.

Double Counting

Renewable fuel produced from waste feedstocks, crop residues and dedicated energy crops are incentivised by awarding double the RTFCs per litre or kilogram supplied.

Certificates Awarded Under the RTFO

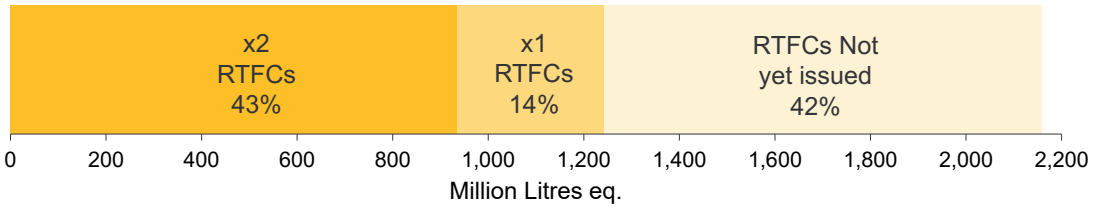
Renewable Transport Fuel Certificates (RTFCs)

RTFCs are awarded to transport fuel suppliers whose renewable fuel meets the sustainability criteria. In 2020, 2,174 million RTFCs have so far been issued to 1,242 million litres eq. of renewable fuel. This is out of a total of 2,158 million litres eq. supplied so far in 2020.

Double Counting Feedstock

Of the 2,174 million RTFCs awarded to renewable fuel that met the sustainability criteria, 1,866 million were issued to fuel from a waste/ residue or “Double Counting” feedstock.

Figure 8: Renewable fuel to which RTFCs have been issued (table RF_0102)



Verified Renewable Fuel

Verified renewable fuel refers to fuel that has received RTFCs for having met the Sustainability Criteria. For more, see the Notes and Definitions.

Sustainability Criteria

To receive Renewable Fuel Certificates, fuels supplied must meet the sustainability criteria set out in the amended Renewable Transport Fuel Obligations Order 2007 and the RTFO Carbon and Sustainability guidance. Renewable fuel must deliver minimum GHG savings and must not originate from land with high biodiversity value of carbon stock.

Obligations Under the RTFO

Suppliers of fuel for road and non-road mobile machinery (e.g. tractors) that supply 450,000 litres or more per year have an obligation under the RTFO Order. Obligated suppliers may meet their obligation by redeeming Renewable Transport Fuel Certificates (RTFCs) or by paying a fixed sum for each litre of fuel for which they wish to 'buy-out' of their obligation. RTFCs are gained by supplying sustainable renewable fuels. In 2020, such suppliers must redeem RTFCs and development fuel RTFCs (dRTFCs) for 9.6% and 0.15% of their share of total fuel, respectively. The RTFC target does not increase after 2020, it will stay at 9.6% until 2032. The target increase from 2021 onwards will be focused on increasing dRTFCs, to 2.8% in 2032.

One certificate may be claimed for every litre or kilogram of sustainable renewable fuel supplied. Fuel from certain wastes of residues, fuel from dedicated energy crops, and renewable fuels from non-biological origin (RFNBOs) are incentivised by awarding double the RTFCs per litre or kilogram supplied.

Companies have up to five months after the end of the year before they must apply for RTFCs. Partly as a result of this delay, 42% of renewable fuel so far supplied this year is not yet verified. Each provisional report typically has a higher proportion of renewable fuel which has been verified, and the final report describes all verified renewable fuel supplied in the year.

Further Details
Further information on the data can be found in the Notes and Definitions.

Related Information
Previously published reports can be found on the DfT website: https://www.gov.uk/government/collections/renewable-fuel-statistics.

The publication timetable can be found at Annex B.

Background Information

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 only reported once RTFCs have been issued. There will therefore be a difference between the volume of renewable fuel supplied and the number of RTFCs issued/ C&S data available. The final report for an obligation period will show the final position.

Renewable fuel mix reporting

The data reported by fuel suppliers under the RTFO is in line with mass balance rules. A mass balance system requires suppliers throughout the supply chain to account for their product on a units in - units out basis, but does not require physical separation of certified feedstock or fuel from uncertified material. It ensures that for every unit of sustainable renewable fuel sold, the corresponding sustainable feedstock has been produced. This can mean the actual feedstock mix might differ from that reported. Nonetheless, the feedstocks and renewable fuels reported in this document represent those that are incentivised and rewarded under the RTFO.

Strengths and Weaknesses of the data

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

The Administrator validates volume data submitted by fuel suppliers against that held by the HMRC regarding fuel duty liabilities. 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. For further information see the notes and definitions.

Official Statistics

Official Statistics are produced to high professional standards set out in the Code of Practice for Statistics. However, these statistics have not been assessed by the Office for Statistics Regulation. 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: Renewable Fuel Statistics Content of Tables

Reports are published quarterly.

The final report for this reporting period (scheduled for publication in November 2021) will report on the carbon and sustainability performance of individuals suppliers. These reports are available online at:
https://www.gov.uk/government/collections/renewable-fuel-statistics

Table 1 - Typical content of renewable fuel statistics tables

Table	Previously reported as	Description	Provisional Report	Final Report
RF_0101	RTFO_01	Volume of fuel supplied	Yes	Yes
RF_0102	RTFO_02	Fuels issued with RTFCs and number of RTFCs issued	Yes	Yes
RF_0103	RTFO_03	RTFC balance by obligation period	Yes	Yes
RF_0104	RTFO_04	RTFC trades to date by company type	Yes	Yes
RF_0105a	RTFO_05	RTFO wide carbon and sustainability data	Yes	Yes
RF_0106	RTFO_06	RTFO wide voluntary scheme data	Yes	Yes
RF_0105b	-	Feedstock and country of origin over time	No	Yes
RF_0107	RTFO_07	Performance against obligation by supplier	No	Yes
RF_0108a	RTFO_08a	Feedstock by supplier as a % of their supply	No	Yes
RF_0108b	RTFO_08b	Country of origin by supplier as a % of their supply	No	Yes
RF_0109	RTFO_09	% of renewable fuel that was sustainable by supplier	No	Yes
RF_0110	RTFO_10	Carbon and sustainability data by supplier	No	Yes
RF_0111	RTFO_11	RTFO wide fuel supply by volume and energy	No	Yes
RF_0112	RTFO_12	Civil penalties and other non-compliance	No	Yes
RF_0114	-	Total greenhouse gas savings over time	No	Yes

Annex B: Renewable Fuel Statistics Reporting Timescales

Table 2 - Publication dates and contents of each report

	2019 statistics	2020 statistics	2021 statistics
August 2020	Fifth Provisional Report	First Provisional Report	
November 2020	Final Report	Second Provisional Report	
February 2021		Third Provisional Report	
May 2021		Fourth Provisional Report	
August 2021		Fifth Provisional Report	First Provisional Report
November 2021		Final Report	Second Provisional Report

Highlighted reports indicate summary report for the period.