



Monthly Report: 15 April - 14 August 2008

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RFA Monthly Report 4: 15 April - 14 August 2008 *

1. Introduction

To encourage suppliers to source sustainable biofuels, the RFA requires fuel suppliers claiming Renewable Transport Fuel Certificates to submit monthly reports on the lifecycle greenhouse gas (GHG) saving and the sustainability of the biofuels they supply.

Reporting is also seen by the Government as an essential 'stepping stone' towards a mandatory assurance scheme.

This Monthly Report provides information on the carbon and sustainability performance of renewable fuels supplied under the RTFO. The data is derived from the monthly reports on biofuels provided by individual fuel suppliers. At the end of the reporting year fuel suppliers are required to provide an independent auditor's opinion on their information, and this verified information will be available in the RFA's annual report.

The carbon and sustainability data covers the *direct* impacts arising from biofuel cultivation that are potentially within the influence of companies sourcing or producing biofuels through effective supply chain management. The RFA will separately monitor the potential *indirect* impacts of biofuel production such as indirect land-use change or changes to food and other commodity prices (e.g. *The Gallagher Review of the indirect effects of biofuels production* which was published on 8 July 2008).

2. Sustainability and the RTFO meta-standard

The RTFO is built around seven sustainability principles; five environmental and two social. These seven principles have been used to define the RTFO sustainability meta-standard. A meta-standard approach enables the use of existing certification schemes to meet the standard. Existing schemes, such as the UK's Assured Combinable Crops Scheme, are assessed against the RTFO principles. No schemes currently meet all of either the environmental or social principles. However, any scheme that meets an adequate number of criteria is considered a 'qualifying standard', and fuel companies can report these to the RFA. Fuels from wastes (used cooking oil and tallow) are also automatically considered to be sustainable to the qualifying level. Suppliers are also permitted to set up their own auditing procedures to demonstrate that feedstocks meet the RTFO meta-standard. Other standards can also be reported to the RFA and count towards the data capture target; these include standards that have not yet been benchmarked against the RTFO meta-standard, or standards that have been benchmarked, but do not meet sufficient criteria to be awarded the qualifying level status.

While there are currently several qualifying standards for the RTFO, these are mostly either under development or only newly established – the ACCS is the only well established certification scheme, and is only applicable to UK crops. This currently limits the ability of fuel suppliers to source certifiably sustainable feedstocks. Also, the market is relatively new, and the expectation is that it will take time to develop operational procedures that will enable suppliers to track information about sustainability through their supply chains. It is intended that by creating a market for sustainable crops, the RTFO will support the development and expansion of these certification schemes, and that suppliers will be increasingly able to source their feedstocks sustainably.

3. Content of this Monthly Report

The information in this Monthly Report includes:

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

The information is provided in three sets of Excel sheets:

RTFO graphs

Illustrates key data graphically and includes: volumes and proportions of fuel by fuel type, feedstock, and country of origin; data on the sustainability of the biofuels supplied; and percentage data capture for each category. The data is presented in both pie chart and bar chart formats.

RTFO summary data

Provides four tables with summaries of all the road transport biofuel supplied to the UK for each fuel type, country of origin, feedstock, and previous land-use.

RTFO detailed data

Table 5 provides more detailed data broken down by fuel type, feedstock, country of origin and previous land-use. So, for example, data is provided on the volumes of fuel and the C&S information of bioethanol from Brazilian sugar cane, or biodiesel obtained from oilseed rape grown in the UK on cropland, and also meeting a Qualifying Standard.

This data is based on information submitted monthly to the RFA by fuel suppliers, but the final audit of this data occurs annually (by 28 September each year in respect of the previous financial year's data). Revisions to the data may occur at any point up until that time. The RFA will publish a comprehensive end of year dataset using data that has been independently verified by 31 January 2010.

Each Monthly Report released by the RFA will contain data from the reporting year^{*} to date on biofuels entering the UK market from those companies that are registered with the RFA.

The exact timing of the four months the data covers for Tables 1-5 is different for major and minor fuel suppliers, due to the way they report data on volumes of fuel to HM Revenue and Customs (HMRC):



Executive Summary

This is the fourth monthly report on the supply of biofuels under the Renewable Transport Fuel Obligation¹.

The headline figures² for the first four months are:

Biofuels accounted for 2.67% of fuel supplied. More biodiesel (84%) has been supplied than bioethanol (16%).

The majority of feedstock has been imported. The feedstock is known for 96% of biofuels. Both the feedstock and country of origin are known for 76%. The most widely reported biodiesel feedstock was American soy (24% of biodiesel supplied). The most widely used bioethanol feedstock was Brazilian sugarcane (81% of bioethanol supplied).

Over the four month period, 19% of biofuels met an environmental standard, compared to a target of 30%². 98% of the fuel reported as coming from UK feedstocks met environmental sustainability standards.

Greenhouse gas savings of 43% were achieved against a Government target of 40%. This figure excludes the emissions from indirect land-use changes considered in the agency's 'Gallagher Review'.

N.B. All data in this monthly report is from the obligation year to date for the first time. Previous RFA monthly/quarterly reports presented data from the year to date in the graphs, and the latest month's data in the RTFO level tables 1-5. This change aids clarity and is in response to feedback as part of the RFA's commitment to continuously review and improve our reporting.

Notes

- ¹. The RTFO applies across the whole of the UK. Refiners, importers and any others who supply more than 450,000 litres of relevant hydrocarbon oil for road transport annually to the UK market are obligated by it.
- ². Data comes from monthly reports submitted by fuel suppliers to the RFA. The RFA performs checks on the data, which is also subject to an annual verification process by independent auditors. The RFA will publish a final, fully verified dataset at the end of year.
- ³. 30% of feedstocks should meet environmental sustainability standards in the year 2008-9. The ability of suppliers to source certifiably sustainable fuels is currently limited, as the British ACCS scheme is the only qualifying environmental standard that is well established. Certified sustainable feedstock is expected to become increasingly available over time, as feedstock standards develop in response to the demand created by the RTFO and growing concern about the sustainability of agricultural commodities more widely.

Glossary

Obligated company

- An obligated company is one that supplies > 450 000 litres/year of relevant hydrocarbon oil road transport fuel.
- Obligated suppliers must either:
 - supply biofuels; or
 - pay into a buy-out fund; or
 - purchase certificates from other companies supplying biofuels; or
 - a combination of any of the above.
- Obligated companies supply > 95% of the biofuels in the UK market.

Non-obligated company

- Non-obligated companies are those that supply < 450 000 litres of hydrocarbon oil road transport fuel, or only supply biofuels.
- Non-obligated companies are not required to register with us, but can choose to do so and gain one Renewable Transport Fuel Certificate (RTFC) for every litre of biofuel supplied.

Sustainability standards

- Sustainability assurance schemes are divided into Environmental and Social Standards and these are split into three levels:
 1. RTFO sustainable biofuel meta-standard (RTFO) - this is a higher standard than most existing sustainability standards and covers seven key environmental and social principles.

2. Qualifying Standards (QS) - meet the majority of the environmental and/or social criteria defined under the RTFO meta-standard.
 3. Other Standards - these have either not yet been benchmarked, or have been benchmarked against the RTFO meta-standard, but do not meet sufficient criteria to be awarded QS status.
 4. None/unknown - for where the feedstock was not certified against a standard, or the data is unavailable.
- Suppliers can report a Benchmarked or Qualifying Standard and conduct supplementary audits to meet a QS or the RTFO meta-Standard, respectively.

 - Suppliers producing biofuels from by-products have no or little control over how the source feedstocks were produced. Therefore, in recognition of the use of a waste for these biofuels they are automatically awarded a QS.

Previous land-use

- This is the use of the land on which the feedstock crop was grown prior to 30 Nov 2005. There are five categories:
 1. unknown
 2. cropland
 3. grassland - agricultural use
 4. grassland - non-agricultural use
 5. forestland.
- By-products e.g. used cooking oil, tallow, do not require any additional land as these are waste products from other processes.
- 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.

Carbon Intensity

- Carbon intensity is a measure of the greenhouse gas (GHG) emissions of the fuel chain from 'well-to-wheel'.
- Different GHGs have different potencies (some have 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 (CO_{2e}).

Greenhouse gas emissions

- Greenhouse gas (GHG) 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 the farm to the forecourt incorporating data on feedstock, country of origin and land-use change.
- GHG saving refers to the amount of GHGs that have not been emitted to the atmosphere due to replacing petrol and diesel with bioethanol and biodiesel, respectively.

Accuracy level

- Accuracy level is a measure of the amount of data provided by the supplier on a particular batch of biofuels.
- This data is used for calculation of the greenhouse gas emissions of the fuel chain.
- It ranges from 0 to 5 where 5 is the highest:
 - 0 - unknown feedstock or country of origin
 - 1 - known feedstock or country of origin
 - 2 - known feedstock AND country of origin
 - 3 - data input based on RFA-defined defaults
 - 4 - data input based on industry-defined defaults

- 5 - 'real' data input to the fuel chain e.g. information on fertiliser inputs and crop yield of the source feedstock.

C&S reporting targets

- The Government has set targets for three key aspects of the reporting scheme. The targets are not mandatory (and there is no penalty for failing to meet them), but illustrate the level of performance which the Government expects from fuel suppliers. The Government has said that the targets will be subject to review in the light of suppliers' performance and other developments.

| <i>Annual Supplier Target</i> | <i>2008-09</i> | <i>2009-10</i> | <i>2010-11</i> |
|--|----------------|----------------|----------------|
| <i>Percentage of feedstock meeting a Qualifying Environmental Standard</i> | 30% | 50% | 80% |
| <i>Annual GHG saving of fuel supplied</i> | 40% | 45% | 50% |
| <i>Data reporting of renewable fuel characteristics</i> | 50% | 70% | 90% |

- The data reporting of renewable fuel characteristics target refers to the amount of data provided by transport fuel suppliers as opposed to reporting 'unknown' against the four sustainability components:

1. biofuel feedstock
2. feedstock country of origin
3. sustainability standard
4. land-use on 30 November 2005.

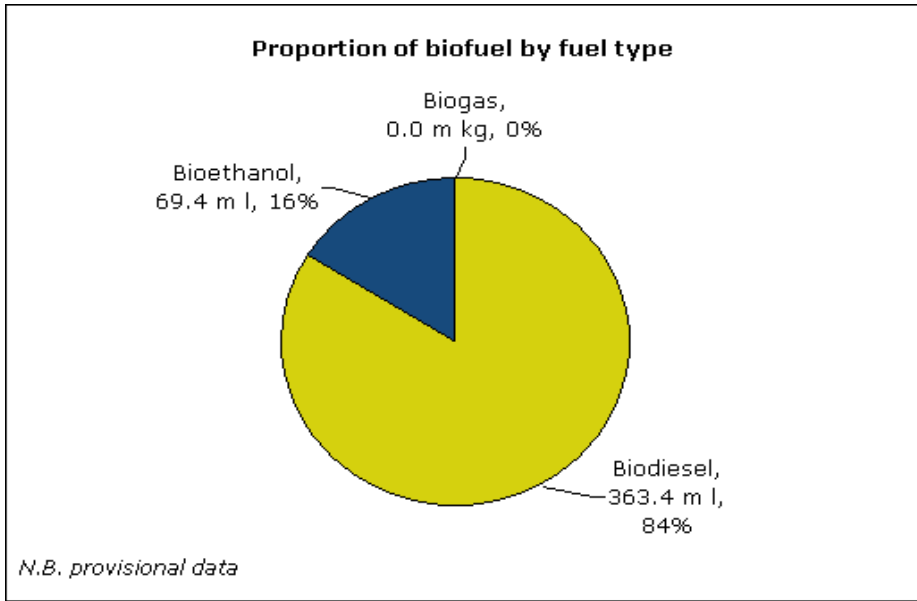
- Whilst 'unknown' reporting is permitted, suppliers will be encouraged to identify and report accurate information about the feedstocks used. Where 'unknown' or 'none' is reported this does not count towards the data capture target.

- Where a by-product has been used as the feedstock, reporting 'by-product' for the sustainability information fields will be counted as a completed report.

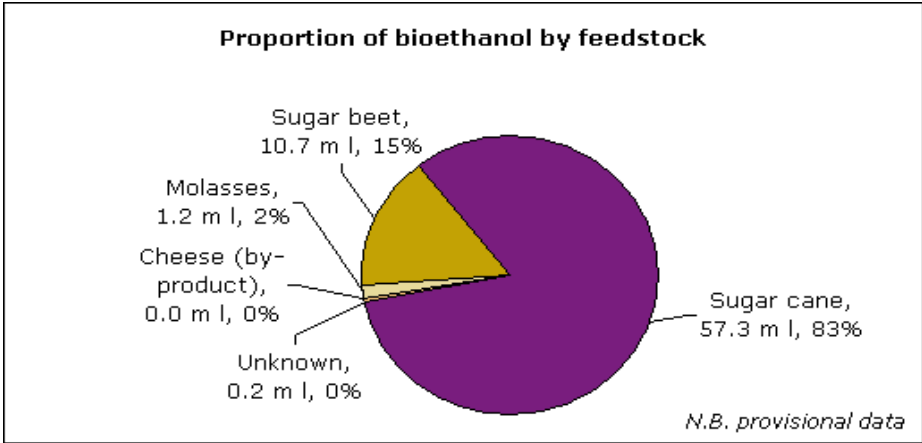
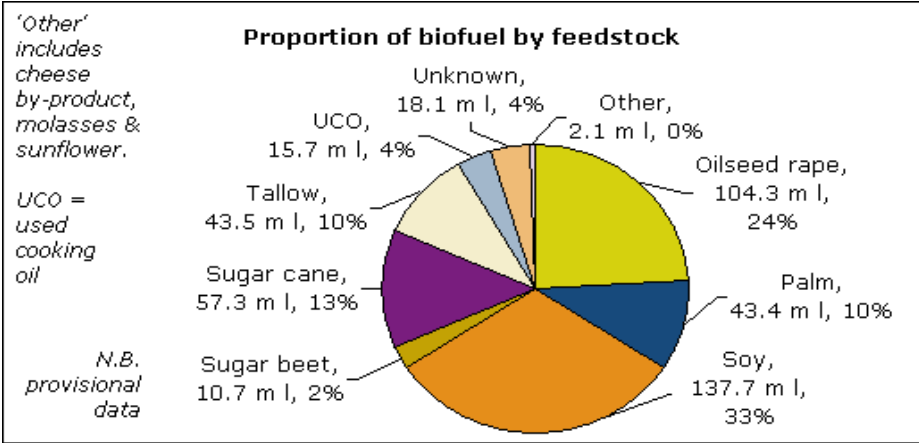
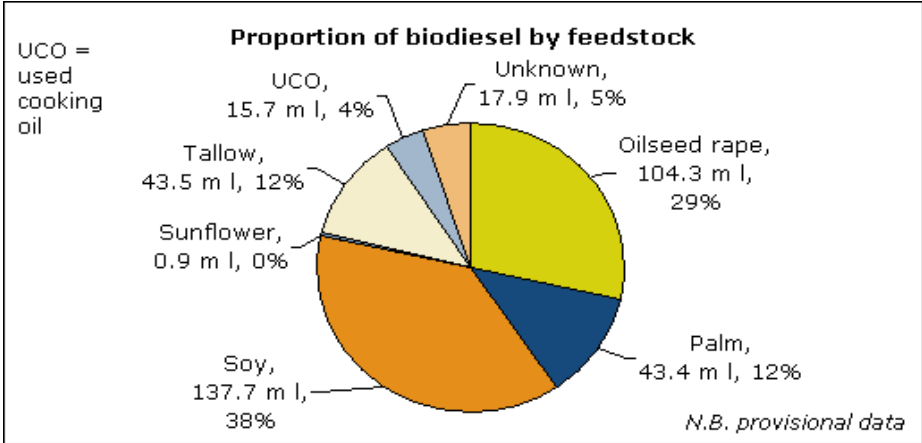
- Reporting a non-Qualifying Standard is also counted as a completed data field for the 'standard' field.

All graphs present data from the obligation year to date.

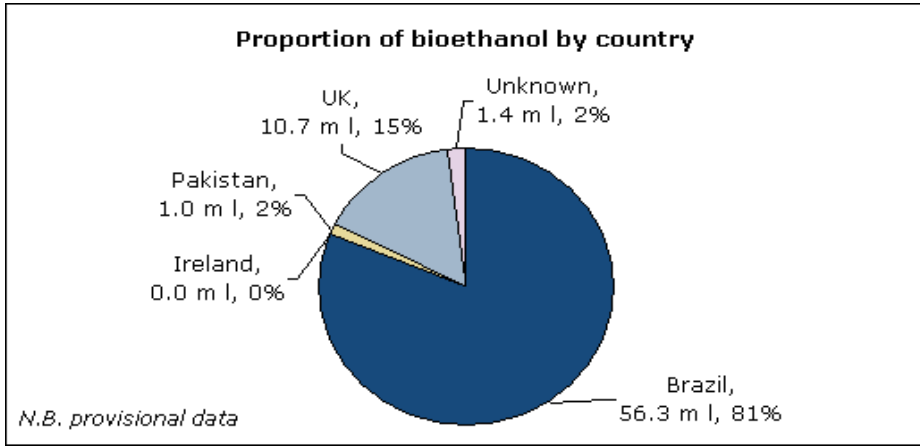
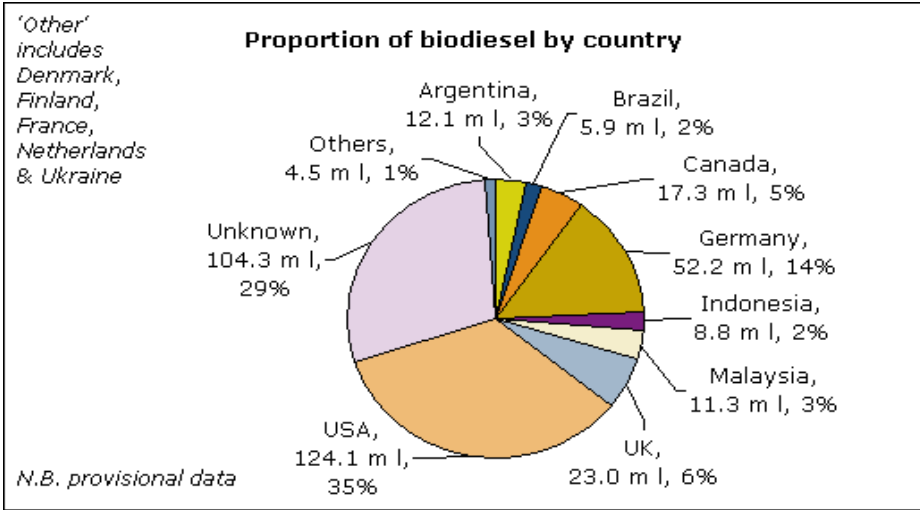
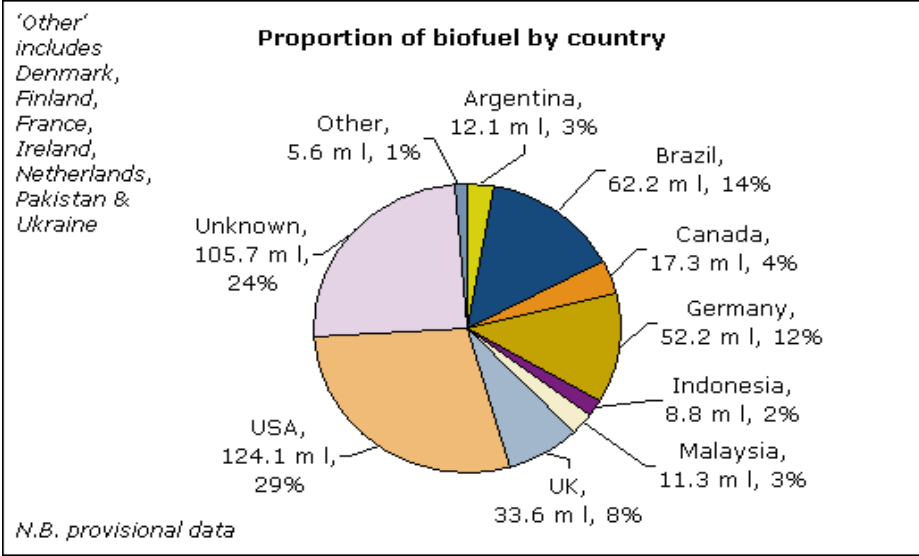
Volumes and proportions by fuel type



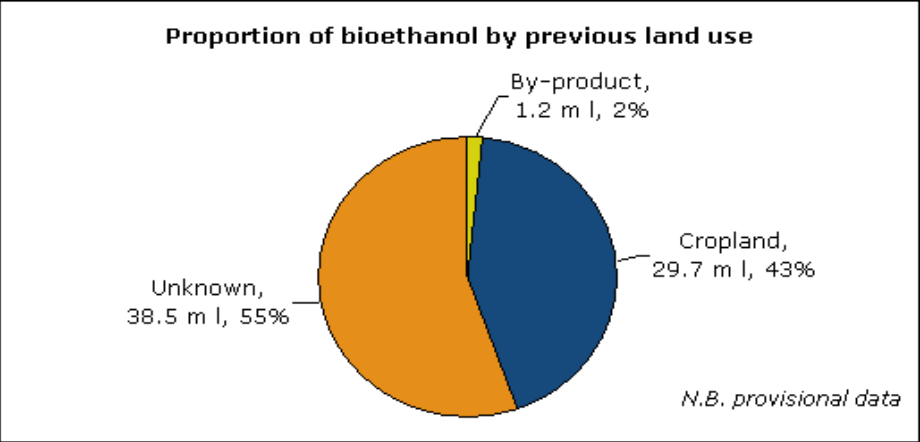
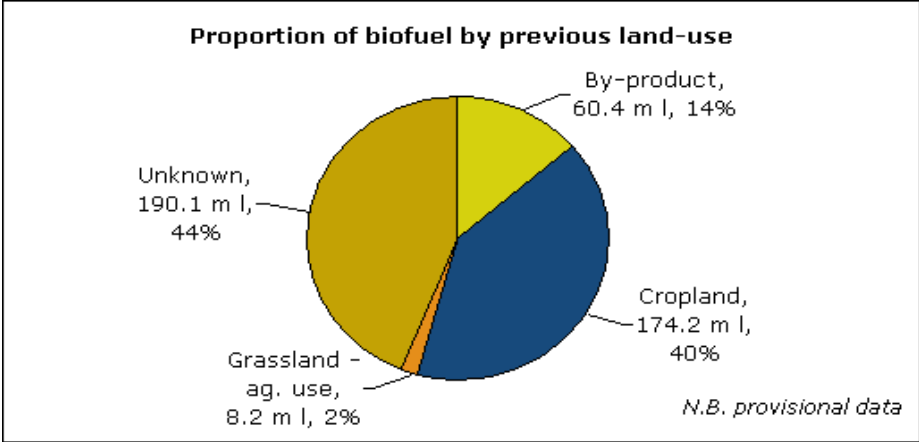
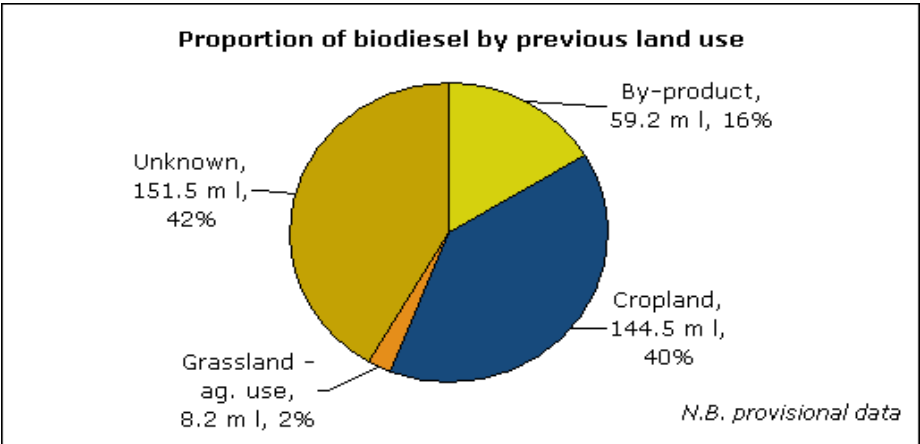
Proportions by feedstock



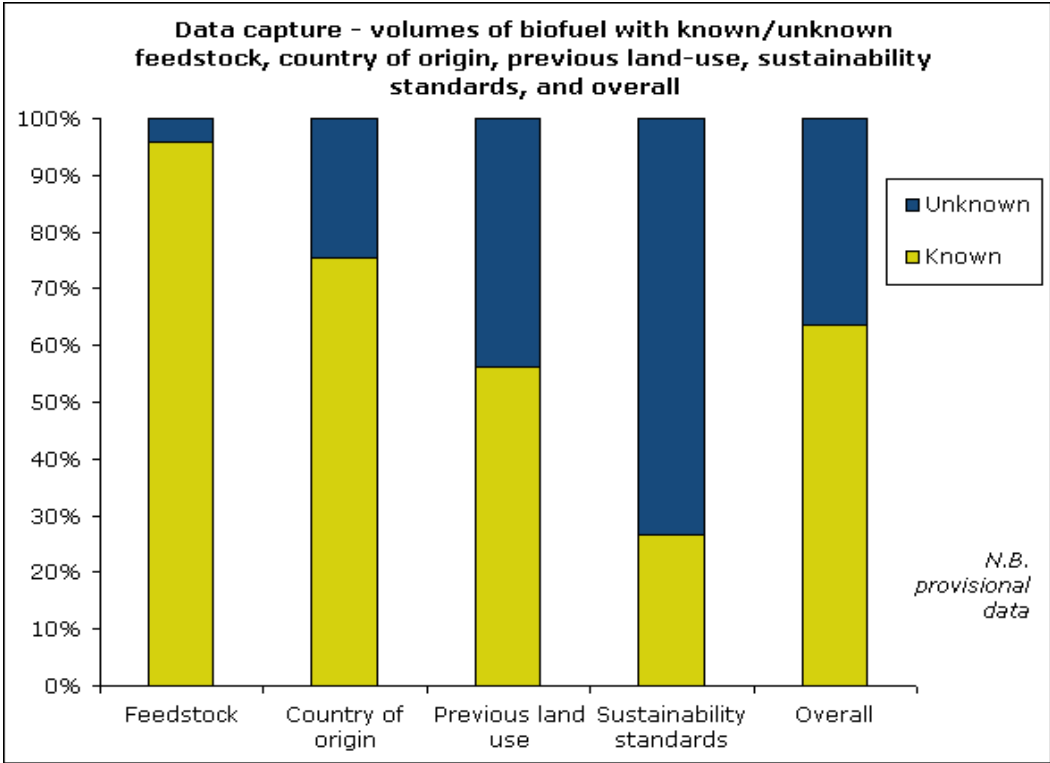
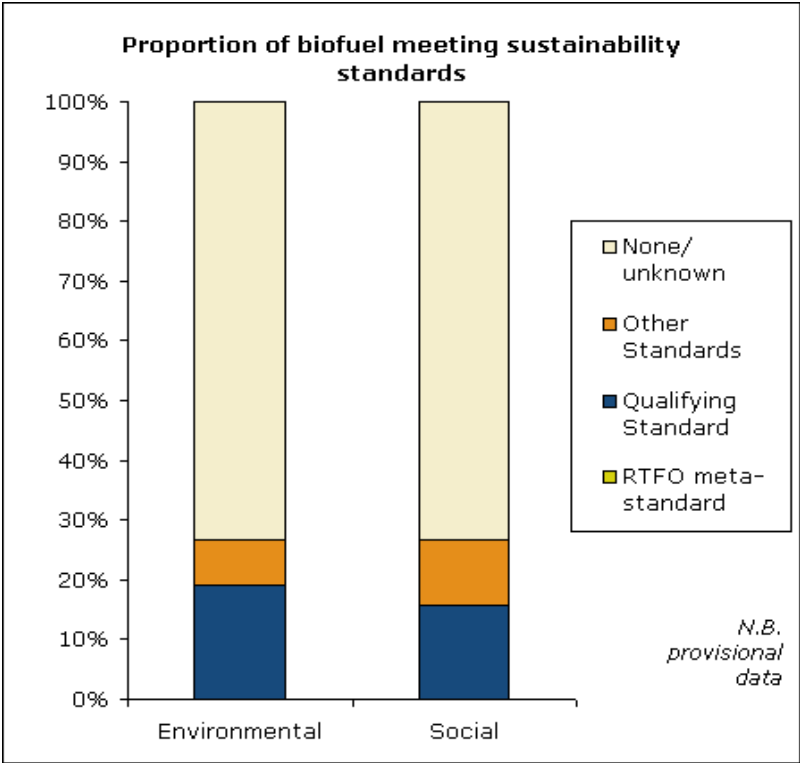
Proportions by country



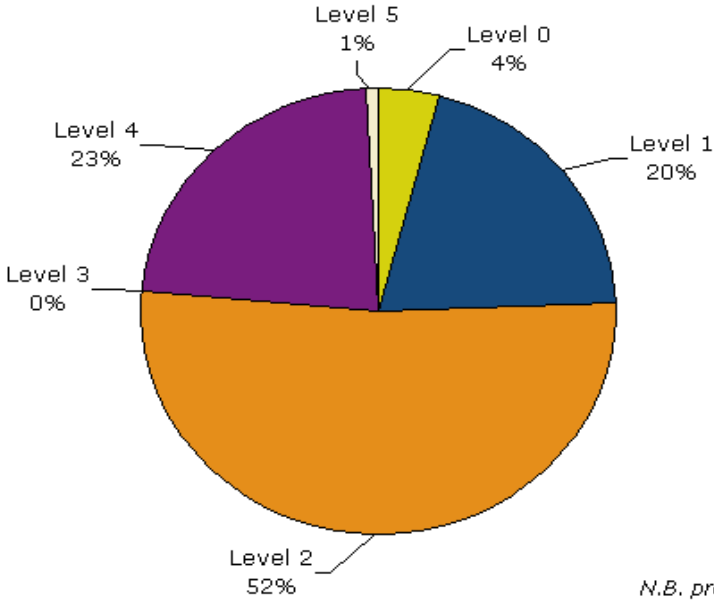
Proportions by previous land-use



Sustainability, data-capture and accuracy

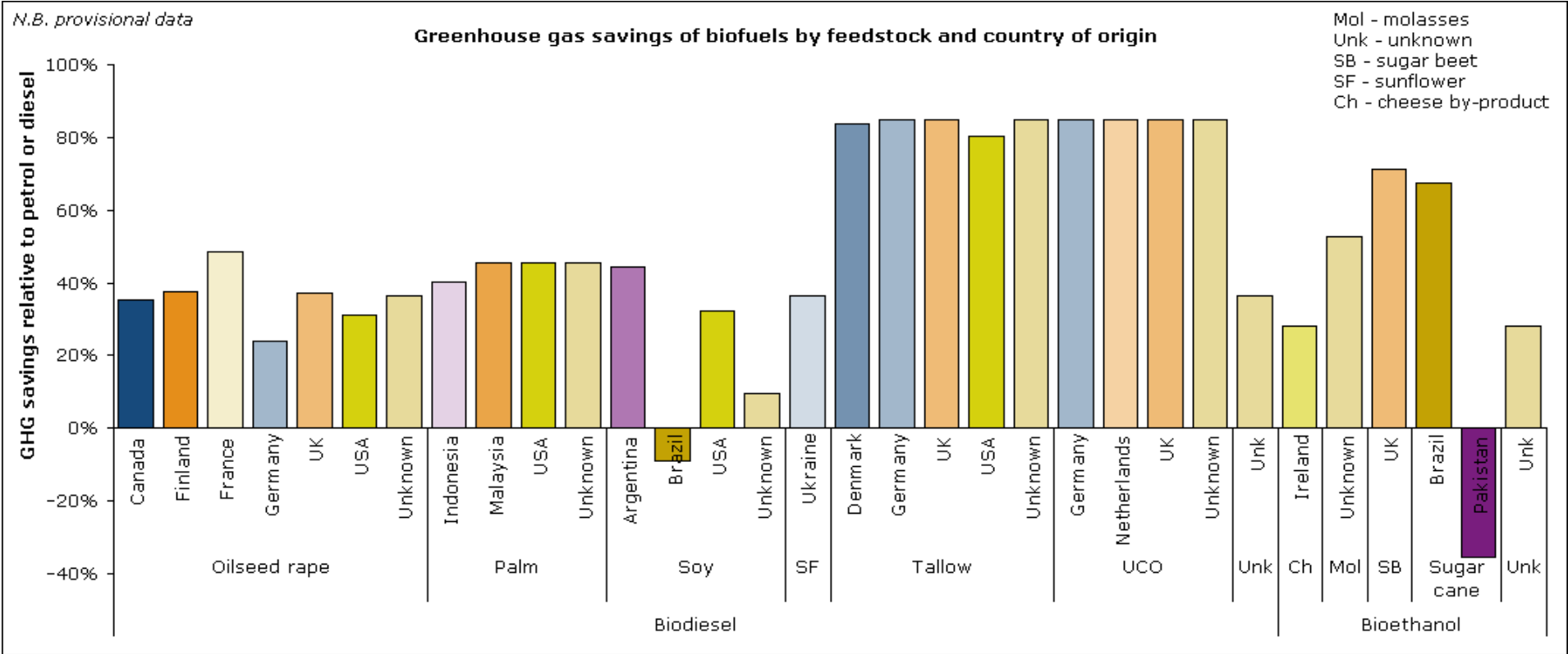


**Proportion of data at each Accuracy Level (0-5)
(by volume of biofuel)**

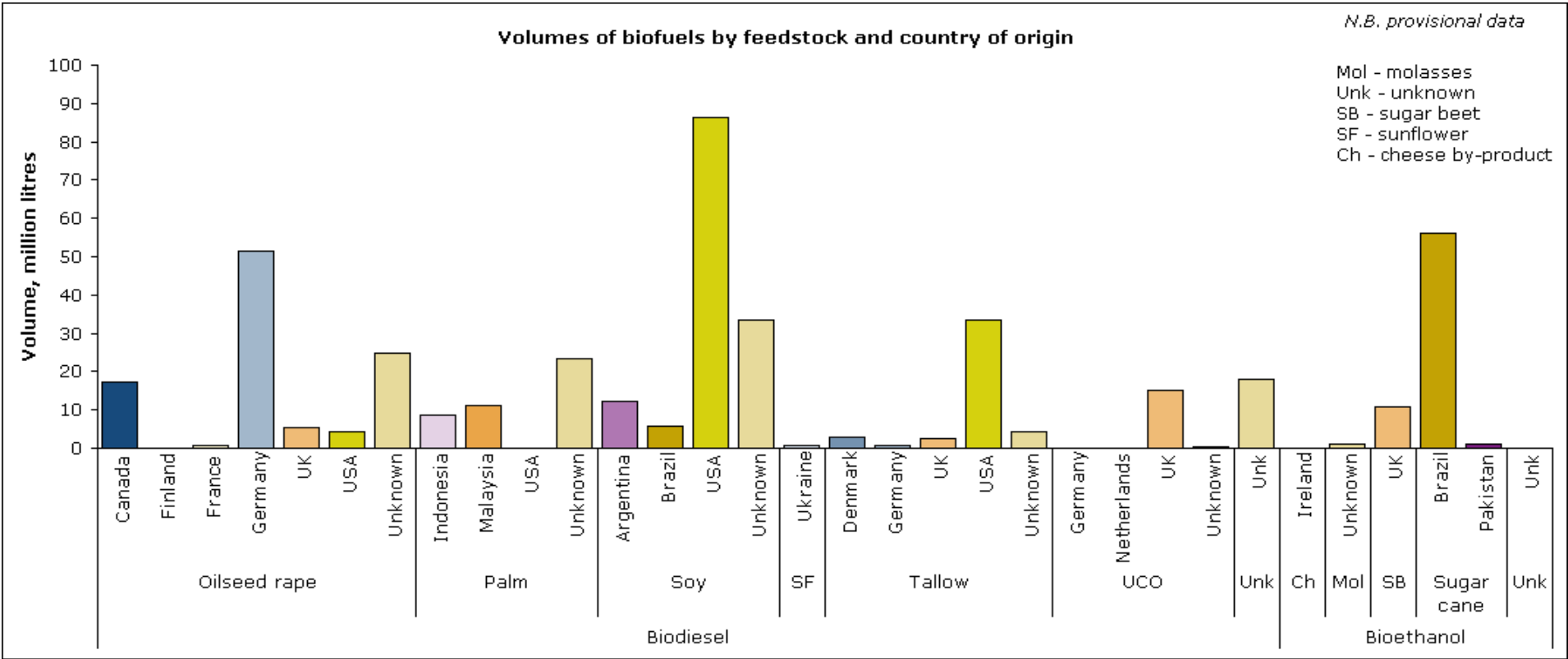


N.B. provisional data

Greenhouse gas savings



Volume by feedstock and country



Data is from the obligation year to date.

Check the notes and glossary for further information about terms in the darker shaded boxes

Table 1: Meeting the RTFO - volumes of fossil and biofuels supplied for road transport.

| | | Volume, million l, or mass, million kg | Fuel type | Volume, million l | Biofuels as a proportion of total road transport fuels supplied |
|-----------|--------------|--|-----------|-------------------|---|
| Fuel type | Biodiesel | 363.4 | Diesel | 8283.8 | 4.20% |
| | Bioethanol | 69.4 | Petrol | 7482.5 | 0.92% |
| | Biogas | 0.0 | | | |
| | Total | 432.8 | | 15766.3 | 2.67% |

Table 2: Carbon and sustainability data of biofuels by fuel type.

| | | Volume, l | Volume, million l or million kg | Volume, % | Proportion meeting an environmental standard | | | | Proportion meeting a social standard | | | | Carbon intensity, g(CO _{2e})/MJ | Greenhouse gas saving, % | Accuracy level, (0-5) |
|-----------|-------------------|------------------|---------------------------------|-------------|--|------------|-----------------|--------------|--------------------------------------|------------|-----------------|--------------|---|--------------------------|-----------------------|
| | | | | | RTFO | QS | Other standards | None/unknown | RTFO | QS | Other standards | None/unknown | | | |
| Fuel type | Biodiesel | 363406418 | 363.4 | 84% | 0% | 20% | 9% | 72% | 0% | 18% | 10% | 72% | 53 | 39% | 2.0 |
| | Bioethanol | 69441390 | 69.4 | 16% | 0% | 17% | 0% | 83% | 0% | 2% | 15% | 83% | 29 | 66% | 3.4 |
| | Biogas | 0 | 0.0 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| | Total Mean | 432847808 | 432.8 | 100% | 0% | 19% | 7% | 73% | 0% | 16% | 11% | 73% | 49 | 43% | 2.2 |

Table 3: Carbon and sustainability data of biodiesel from different feedstocks, countries, and according to the previous land-use.

| | | Volume, l | Volume, million l | Volume, % | Proportion meeting an environmental standard | | | | Proportion meeting a social standard | | | | Carbon intensity, g(CO _{2e})/MJ | Greenhouse gas saving, % | Accuracy level, (0-5) |
|-------------------|---------------------|------------------|-------------------|-------------|--|------------|-----------------|--------------|--------------------------------------|------------|-----------------|--------------|---|--------------------------|-----------------------|
| | | | | | RTFO | QS | Other standards | None/unknown | RTFO | QS | Other standards | None/unknown | | | |
| Feedstock | Oilseed rape | 104336928 | 104.3 | 29% | 0% | 4% | 31% | 65% | 0% | 0% | 35% | 65% | 61 | 30% | 1.8 |
| | Palm | 43411769 | 43.4 | 12% | 0% | 17% | 0% | 83% | 0% | 17% | 0% | 83% | 48 | 44% | 1.5 |
| | Soy | 137738428 | 137.7 | 38% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 64 | 26% | 2.2 |
| | Sunflower | 858339 | 0.9 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 55 | 36% | 2.0 |
| | Tallow | 43485941 | 43.5 | 12% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 16 | 81% | 2.7 |
| | Used cooking oil | 15674831 | 15.7 | 4% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.9 |
| | Unknown | 17900182 | 17.9 | 5% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 55 | 36% | 0.0 |
| | Total Mean | 363406418 | 363.4 | 100% | 0% | 20% | 9% | 72% | 0% | 18% | 10% | 72% | 53 | 39% | 2.0 |
| Country of origin | Argentina | 12119478 | 12.1 | 3% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 48 | 44% | 2.0 |
| | Brazil | 5904420 | 5.9 | 2% | 0% | 6% | 0% | 94% | 0% | 6% | 0% | 94% | 94 | -9% | 2.0 |
| | Canada | 17308351 | 17.3 | 5% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 56 | 35% | 2.0 |
| | Denmark | 2703081 | 2.7 | 1% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 14 | 84% | 2.0 |
| | Finland | 65453 | 0.1 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 54 | 38% | 2.0 |
| | France | 890754 | 0.9 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 44 | 49% | 3.5 |
| | Germany | 52185807 | 52.2 | 14% | 0% | 1% | 61% | 38% | 0% | 1% | 61% | 38% | 65 | 24% | 2.0 |
| | Indonesia | 8759416 | 8.8 | 2% | 0% | 28% | 0% | 72% | 0% | 28% | 0% | 72% | 52 | 40% | 2.0 |
| | Malaysia | 11277389 | 11.3 | 3% | 0% | 43% | 0% | 57% | 0% | 43% | 0% | 57% | 47 | 46% | 2.1 |
| | Netherlands | 1651 | 0.0 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 |
| | Ukraine | 858339 | 0.9 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 55 | 36% | 2.0 |
| | UK | 22967145 | 23.0 | 6% | 0% | 96% | 0% | 4% | 0% | 77% | 19% | 4% | 23 | 74% | 2.7 |
| | USA | 124064576 | 124.1 | 34% | 0% | 27% | 0% | 73% | 0% | 27% | 0% | 73% | 47 | 45% | 2.7 |
| | Unknown | 104300558 | 104.3 | 29% | 0% | 5% | 0% | 95% | 0% | 5% | 0% | 95% | 59 | 32% | 0.8 |
| Total Mean | 363406418 | 363.4 | 100% | 0% | 20% | 9% | 72% | 0% | 18% | 10% | 72% | 53 | 39% | 2.0 | |
| Previous land-use | By-product | 59160772 | 59.2 | 16% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 15 | 82% | 2.8 |
| | Cropland | 144539712 | 144.5 | 40% | 0% | 6% | 17% | 77% | 0% | 5% | 17% | 77% | 54 | 37% | 2.3 |
| | Grassland - ag. use | 8183802 | 8.2 | 2% | 0% | 2% | 90% | 8% | 0% | 2% | 90% | 8% | 178 | -105% | 2.0 |
| | Unknown | 151522132 | 151.5 | 42% | 0% | 3% | 0% | 97% | 0% | 0% | 3% | 97% | 59 | 32% | 1.3 |
| | Total Mean | 363406418 | 363.4 | 100% | 0% | 20% | 9% | 72% | 0% | 18% | 10% | 72% | 53 | 39% | 2.0 |

Table 4: Carbon and sustainability data of bioethanol from different feedstocks, countries, and according to the previous land-use.

| | | Volume, Volume, l | Volume, million l | Volume, % | Proportion meeting an environmental standard | | | | Proportion meeting a social standard | | | | Carbon intensity, g(CO _{2e})/MJ | Greenhouse gas saving, % | Accuracy level, (0-5) | |
|----------------------|-----------------------|----------------------|----------------------|--------------|--|-----------|--------------------|------------------|--------------------------------------|-----------|--------------------|------------------|---|--------------------------------|-----------------------------|------------|
| | | | | | RTFO | QS | Other standards | None/ unknown | RTFO | QS | Other standards | None/ unknown | | | | |
| Feedstock | Cheese (by-product) | 960 | 0.0 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 61 | 28% | 2.0 | |
| | Molasses | 1197623 | 1.2 | 2% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 40 | 53% | 1.3 | |
| | Sugar beet | 10666844 | 10.7 | 15% | 0% | 100% | 0% | 0% | 0% | 0% | 100% | 0% | 24 | 71% | 4.0 | |
| | Sugar cane | 57331668 | 57.3 | 83% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 29 | 66% | 3.3 | |
| | Unknown | 244295 | 0.2 | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 61 | 28% | 0.0 |
| | Total Mean | 69441390 | 69.4 | 100% | | 0% | 17% | 0% | 83% | 0% | 2% | 15% | 83% | 29 | 66% | 3.4 |
| Country of origin | Brazil | 56285304 | 56.3 | 81% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 28 | 68% | 3.3 | |
| | Ireland | 960 | 0.0 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 61 | 28% | 2.0 | |
| | Pakistan | 1046364 | 1.0 | 2% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 115 | -36% | 2.0 | |
| | UK | 10666844 | 10.7 | 15% | 0% | 100% | 0% | 0% | 0% | 0% | 100% | 0% | 24 | 71% | 4.0 | |
| | Unknown | 1441918 | 1.4 | 2% | 0% | 83% | 0% | 17% | 0% | 83% | 0% | 17% | 44 | 49% | 1.1 | |
| | Total Mean | 69441390 | 69.4 | 100% | | 0% | 17% | 0% | 83% | 0% | 2% | 15% | 83% | 29 | 66% | 3.4 |
| Previous land-use | By-product | 1198583 | 1.2 | 2% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 40 | 53% | 1.3 | |
| | Cropland | 29698377 | 29.7 | 43% | 0% | 36% | 0% | 64% | 0% | 0% | 36% | 64% | 25 | 71% | 4.0 | |
| | Unknown | 38544430 | 38.5 | 56% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 31 | 63% | 3.0 | |
| | Total Mean | 69441390 | 69.4 | 100% | | 0% | 17% | 0% | 83% | 0% | 2% | 15% | 83% | 29 | 66% | 3.4 |



Data is from the obligation year to date.

Check the notes and glossary for further information about terms in the darker shaded boxes

Table 5: Carbon and sustainability data for biofuels by fuel type, feedstock, country of origin and previous land-use.

| Fuel type | Feedstock | Country of origin | Previous land-use | Volume, l | Volume, million l | Volume, % | Proportion meeting an environmental standard | | | | Proportion meeting a social standard | | | | Carbon intensity, g(CO _{2e})/MJ | Greenhouse gas saving, % | Accuracy level, (0-5) | | |
|-------------------|------------------|-------------------|---------------------|------------|-------------------|--------------|--|-----------|-----------------|--------------|--------------------------------------|-----------|-----------------|--------------|---|--------------------------|-----------------------|------------|-----|
| | | | | | | | RTFO | QS | Other standards | None/unknown | RTFO | QS | Other standards | None/unknown | | | | | |
| Biodiesel | Oilseed rape | Canada | Cropland | 11837608 | 11.8 | 3% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 56 | 35% | 2.0 | | |
| | | Unknown | Unknown | 5470743 | 5.5 | 1% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 56 | 35% | 2.0 | | |
| | | Finland | Unknown | 65453 | 0.1 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 54 | 38% | 2.0 | | |
| | | France | Unknown | 890754 | 0.9 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 44 | 49% | 3.5 | | |
| | | Cropland | Cropland | 31096323 | 31.1 | 7% | 0% | 0% | 79% | 21% | 0% | 0% | 79% | 21% | 48 | 44% | 2.0 | | |
| | | Germany | Grassland - ag. use | 7662511 | 7.7 | 2% | 0% | 0% | 96% | 4% | 0% | 0% | 96% | 4% | 168 | -94% | 2.0 | | |
| | | Unknown | Unknown | 12817959 | 12.8 | 3% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 48 | 45% | 2.1 | | |
| | | UK | Cropland | 468867 | 0.5 | 0% | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 51 | 40% | 2.5 | |
| | | Unknown | Unknown | 4822803 | 4.8 | 1% | 0% | 83% | 0% | 17% | 0% | 0% | 83% | 17% | 55 | 37% | 2.4 | | |
| | | USA | Unknown | 4262012 | 4.3 | 1% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 60 | 31% | 2.0 | |
| | Unknown | Cropland | 1927145 | 1.9 | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 55 | 36% | 1.0 | | |
| | Unknown | Unknown | 23014750 | 23.0 | 5% | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 55 | 36% | 1.0 | | |
| | Palm | Indonesia | Cropland | Cropland | 5382362 | 5.4 | 1% | 0% | 46% | 0% | 54% | 0% | 46% | 0% | 54% | 47 | 46% | 2.0 | |
| | | | Grassland - ag. use | 361133 | 0.4 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 162 | -88% | 2.0 | | |
| | | | Unknown | Unknown | 3015921 | 3.0 | 1% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 47 | 46% | 2.0 | |
| | | Malaysia | Cropland | Cropland | 7935178 | 7.9 | 2% | 0% | 61% | 0% | 39% | 0% | 61% | 0% | 39% | 47 | 46% | 2.2 | |
| | | | Unknown | Unknown | 3342211 | 3.3 | 1% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 47 | 46% | 2.0 | |
| | | USA | Unknown | 123567 | 0.1 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 47 | 46% | 1.0 | | |
| | | Unknown | Cropland | 152250 | 0.2 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 47 | 46% | 1.0 | | |
| | | Unknown | Unknown | 23099147 | 23.1 | 5% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 47 | 46% | 1.0 | | |
| | | Soy | Argentina | Cropland | Cropland | 11837825 | 11.8 | 3% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 48 | 44% | 2.0 |
| | | | | Unknown | Unknown | 281653 | 0.3 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 48 | 44% | 2.0 |
| | Brazil | | Cropland | Cropland | 206538 | 0.2 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 78 | 10% | 2.0 | |
| | | | Grassland - ag. use | 160158 | 0.2 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 668 | -673% | 2.0 | | |
| | Unknown | | Unknown | 5537724 | 5.5 | 1% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 78 | 10% | 2.0 | | |
| | USA | | Cropland | 72837277 | 72.8 | 17% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 58 | 32% | 2.6 | | |
| | Unknown | Unknown | 13550153 | 13.6 | 3% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 58 | 33% | 2.6 | | | |
| | Sunflower | Unknown | Unknown | 33327100 | 33.3 | 8% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 78 | 10% | 1.0 | | |
| | Tallow | Ukraine | Cropland | 858339 | 0.9 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 55 | 36% | 2.0 | | |
| | | Denmark | By-product | 2703081 | 2.7 | 1% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 14 | 84% | 2.0 | | |
| | | Germany | By-product | 547110 | 0.5 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 | | |
| | | UK | By-product | 2521031 | 2.5 | 1% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 | | |
| | | USA | By-product | 33291567 | 33.3 | 8% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 17 | 80% | 3.1 | | |
| | | Unknown | By-product | 4423152 | 4.4 | 1% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 1.0 | | |
| | | Germany | By-product | 61904 | 0.1 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 | | |
| | | Netherlands | By-product | 1651 | 0.0 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 | | |
| | Used cooking oil | UK | By-product | 15154444 | 15.2 | 4% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 3.0 | | |
| | | Unknown | By-product | 456832 | 0.5 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 1.0 | | |
| | | Unknown | Unknown | 17900182 | 17.9 | 4% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 55 | 36% | 0.0 | | |
| | | Ireland | By-product | 960 | 0.0 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 61 | 28% | 2.0 | | |
| | Bioethanol | Molasses | Unknown | By-product | 1197623 | 1.2 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 40 | 53% | 1.3 | |
| | | Sugar beet | UK | Cropland | 10666844 | 10.7 | 2% | 0% | 100% | 0% | 0% | 0% | 0% | 100% | 0% | 24 | 71% | 4.0 | |
| Sugar cane | | Brazil | Cropland | 19031533 | 19.0 | 4% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 25 | 71% | 4.0 | | |
| | | Unknown | Unknown | 37253771 | 37.3 | 9% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 29 | 66% | 3.0 | | |
| Pakistan | | Unknown | Unknown | 1046364 | 1.0 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 115 | -36% | 2.0 | | |
| Unknown | | Unknown | Unknown | 244295 | 0.2 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 61 | 28% | 0.0 | | |
| Total Mean | | | | | 432847808 | 432.8 | 100% | 0% | 19% | 7% | 73% | 0% | 16% | 11% | 73% | 49 | 43% | 2.2 | |