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RFA Quarterly Report 4: 15 April 2008 - 14 April 2009¹

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 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 verifier'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 the environmental and social principles; although two schemes meet all of the environmental 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 (e.g. used cooking oil and tallow²) 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 report

The information in this report includes:

- volumes of fuel by fuel type (e.g. biodiesel, bioethanol);
- volumes of fuel by feedstock (e.g. used cooking oil, soy);
- volumes of fuel by country of origin (e.g. UK, Brazil);
- volumes of fuel meeting sustainability standards;
- lifecycle greenhouse gas savings of fuels;
- company performance against the Government's carbon and sustainability (C&S) reporting targets.

The information is provided in six 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.

RTFO trends

Presents data on RTFO performance against the three Government targets.

Fossil company graphs

Presents data ranking fossil fuel company performance against the C&S reporting targets.

RTFO summary data

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

RTFO detailed data

Table 6 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.

Company data

Table 7 provides data on company C&S performance. Table 8 specifies how many of the C&S reporting targets each of the fossil fuel companies are meeting.

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 year¹ to date on biofuels entering the UK market from those companies that are registered with the RFA.

The exact timing of the months the data covers 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):

- Large fuel companies (typically predominately fossil fuel suppliers) report to HMRC on a 15th to 14th of the month basis.
- Smaller fuel companies (typically biofuel suppliers) report by calendar month or quarter.

4. Provisional data

This data is based on information submitted monthly to the RFA by fuel suppliers, but the final verification 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 year¹ to date on biofuels entering the UK market from those companies that are registered with the RFA.

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- Large fuel companies (typically predominately fossil fuel suppliers) report to HMRC on a 15th to 14th of the month basis.
- Smaller fuel companies (typically biofuel suppliers) report by calendar month or quarter.

5. 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 over the obligation year. The targets take market factors into account and therefore increase over time with the expectation that the biofuel market will also expand. 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 RFA expects, and Government targets recognise, the need for continuous improvement so that by 2010 comprehensive sustainability data is provided for almost all biofuels supplied to the UK. The RFA nevertheless expects companies to report to the best of their abilities from the start of the scheme.

6. Discrepancy in the RTFO

In months one to five, we reported on the percentage of biofuels in the total road transport fuel supply. Due to the identification that the RTFO Order contained a discrepancy, our reporting instructions for month six were revised and we no longer have data on the total supply of fossil road transport fuel, and are hence unable to report the percentage of biofuel.

Similarly, due to the reinterpretation of the Order after the discrepancy was identified, we need additional information from companies to identify whether they are actually obligated. We are therefore no longer referring to 'obligated' and 'non-obligated' companies – instead we are referring to companies that have in the past reported the supply of both fossil fuel and biofuel to us as 'fossil fuel companies' and companies that have reported only the supply of biofuel as 'biofuel companies'.

[Additional information about the discrepancy in the RTFO Order is available from our website.](#)

Footnotes

¹ The reporting or obligation year runs from 15 April 2008 to 14 April 2009. This report contains data from 15 April 2008 to 14 April 2009.

² Recent research has called into question the overall environmental benefits of using tallow as a feedstock for biofuels: <http://www.dft.gov.uk/pgr/roads/environment/rtfo/tallow/tallowfinalresport.pdf>



RFA Quarterly Report 4: 15 April 2008 - 14 April 2009 Executive Summary

This report covers the supply of biofuels under the Renewable Transport Fuel Obligation¹ from 15 April 2008 to 14 April 2009.

The headline figures² are:

1251 million litres of biofuel have been supplied under the RTFO. This is approximately 2.6% of total road transport fuel.³ More biodiesel (82%) has been supplied than bioethanol (18%).

The majority of feedstock has been imported. The feedstock is known for 99% of fuel supplied. Both the feedstock and country of origin are known for 83%.

The most widely reported source of biodiesel was American soy (27% of biodiesel supplied). The most widely reported source of bioethanol was Brazilian sugarcane (81% of bioethanol supplied).

Over the period, 24%⁴ of biofuels met an environmental standard, compared to a target of 30%⁵.

99% of the fuel reported as coming from UK feedstocks met environmental sustainability standards.

Greenhouse gas savings of 47% 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'.

In our quarterly reports, as well as the overall performance of biofuels supplied under the RTFO, we identify the performance of individual companies.

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All are either achieving or are close to achieving carbon savings in line with the Government's target for 2008-09. Ten of the 15 fossil fuel suppliers we report on are currently exceeding the target.

ConocoPhillips, Greenergy, Ineos, Lissan, Mabanafit and Prax are exceeding the current environmental sustainability target. Several companies (Chevron, Murco, and Topaz) have not reported any biofuels meeting the qualifying environmental standard, and Esso have reported less than 2% of their biofuels meeting a qualifying environmental standard.

ConocoPhillips, Greenergy, Lissan, Mabanafit and Prax are meeting all three of the Government targets. All companies are now meeting at least one target.

Notes

¹ The RTFO applies to road transport 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 In months one to five, we reported on the percentage of biofuels in the total road transport fuel supply. Due to the identification that the RTFO Order was misdrafted, our reporting instructions for month six were revised and we no longer have data on the total supply of fossil road transport fuel. We are hence unable to report the percentage of biofuel from our data. The percentage figure supplied is derived from HMRC data for May 2008 to April 2009. Note that this period does not tally completely with our data, but provides an approximation.

[Additional information about the misdrafting of the RTFO Order is available from our website.](#)

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4. Under the RTFO Order, these reports must not contain information from which the volumes of fuel being reported by individual suppliers might be derived. To protect the volumes of individual suppliers, in previous months certain quantities of fuel reporting meeting the Qualifying Standard or RTFO Meta-Standard have been removed from the overall RTFO figures. In this report, all fuel meeting the Qualifying Standard or Meta-Standard has been included in the overall RTFO figures and company specific figures, but some has still been excluded from the reporting by feedstock and country. The figures by country and feedstock do not therefore tally exactly with the overall figures.
5. 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 there is no operational sustainability standard for several feedstock/country combinations. 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.

RFA Quarterly Report 4: 15 April 2008 - 14 April 2009 Glossary

Obligated company

- An obligated company is one that supplies > 450 000 litres/year of relevant hydrocarbon oil road transport fuel. Any fossil fuel that is supplied blended with biofuel prior to the duty point is excluded.

[Additional information about the misdrafting of the RTFO Order is available from our website.](#)

- 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/year of relevant 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.

RFA Quarterly Report 4: 15 April 2008 - 14 April 2009
Glossary

- 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 and 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.

Feedstocks

BG - biogas

Ch - cheese by-product

Mol - molasses

msw - municipal solid waste

UCO - used cooking oil

SF - sunflower

Sul - sulphite

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Carbon Intensity

- Carbon intensity is a measure of the greenhouse gas (GHG) emissions of the fuel chain from 'field-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, called carbon dioxide equivalent (CO₂e).

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 or biogas, respectively. A negative value means that more GHGs have been emitted by using the biofuel than if the fossil fuel was used.

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.

RFA Quarterly Report 4: 15 April 2008 - 14 April 2009 Glossary

C&S reporting targets

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<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:

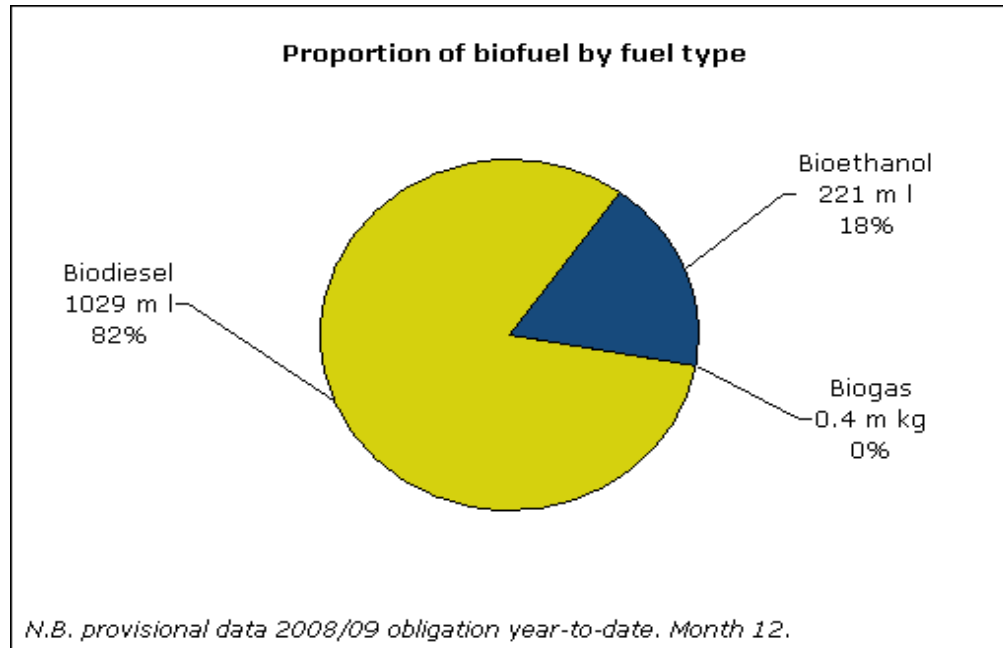
1. biofuel feedstock
2. feedstock country of origin
3. sustainability standard
4. land-use on 30 November 2005.

- 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.

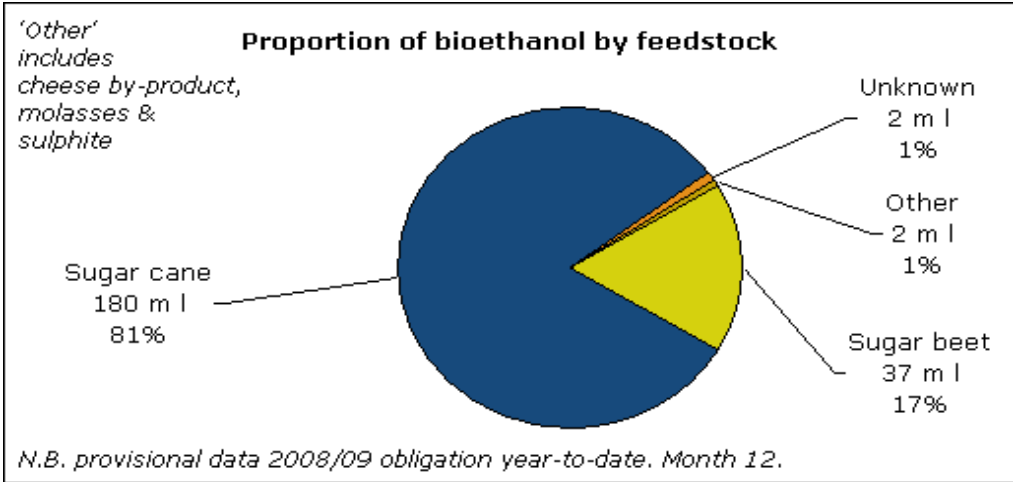
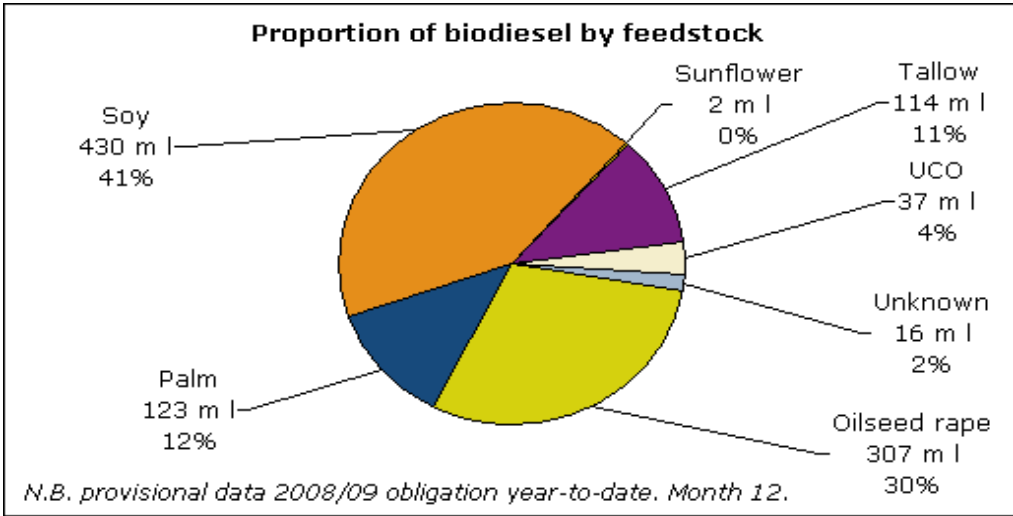
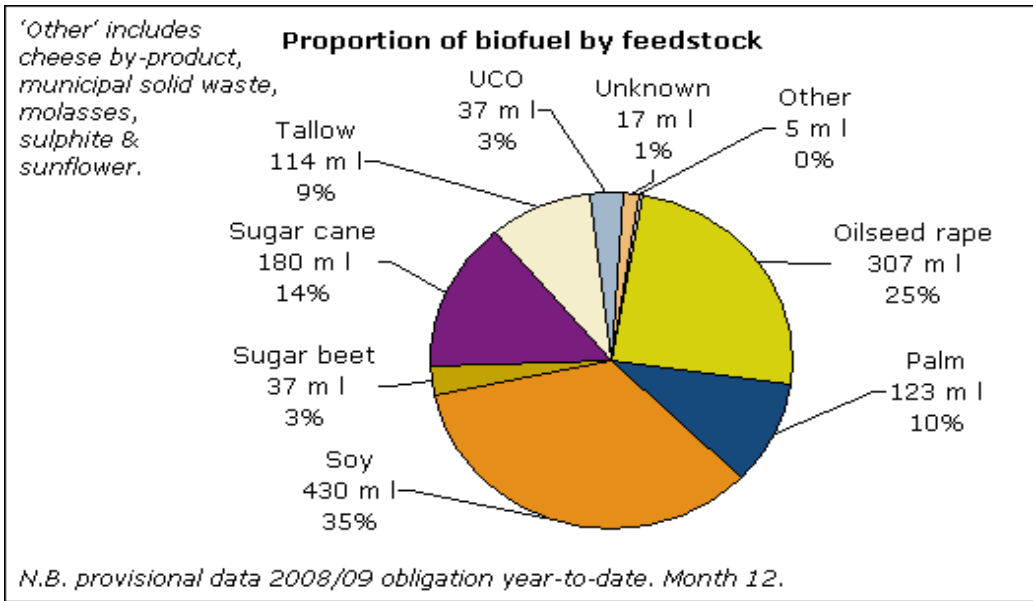
- Where a by-product has been used as the feedstock, reporting 'by-product' for the sustainability information fields will be counted as a completed report.

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

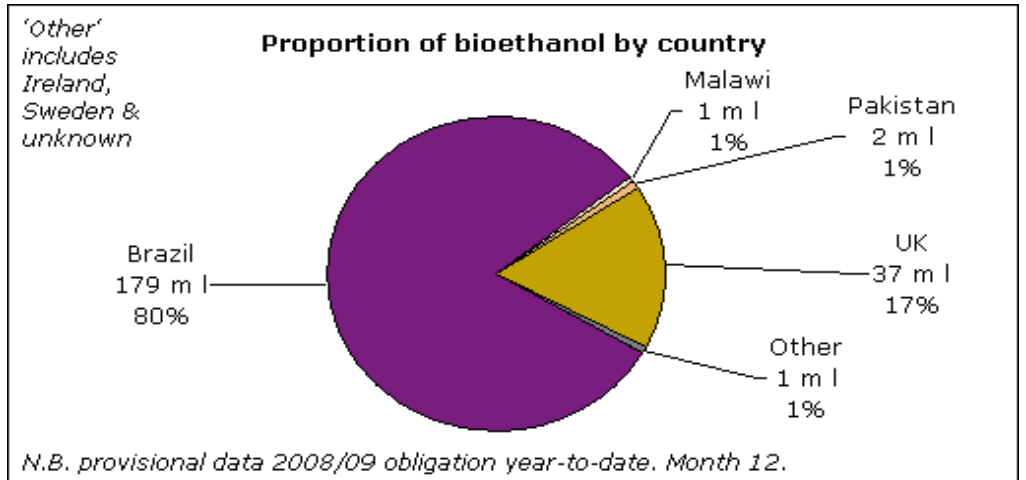
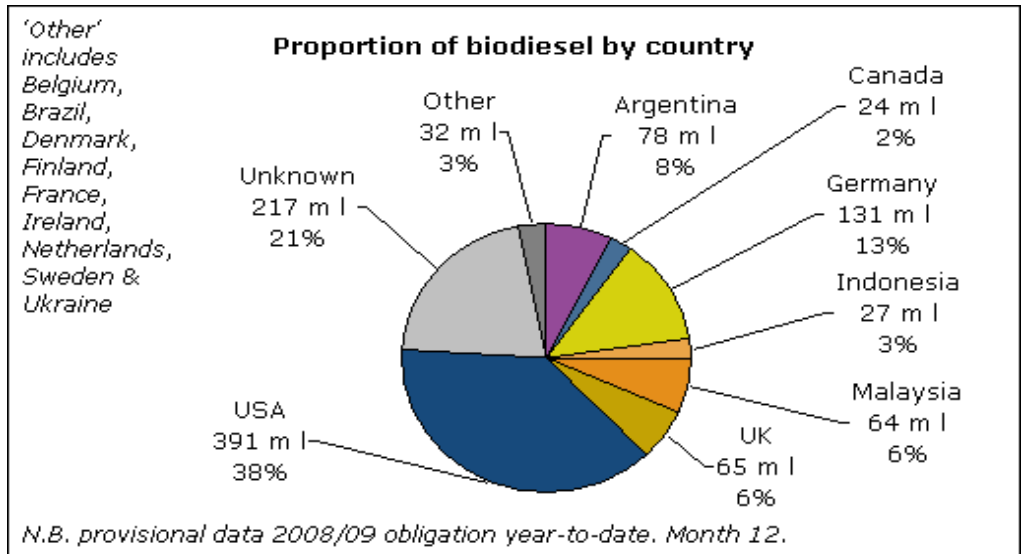
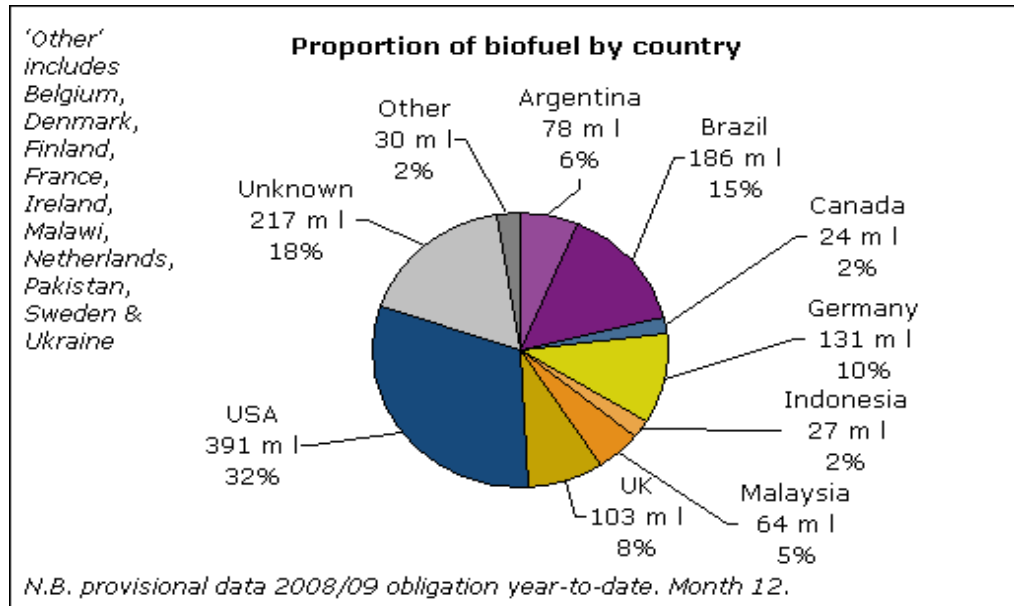
Volumes and proportions by fuel type



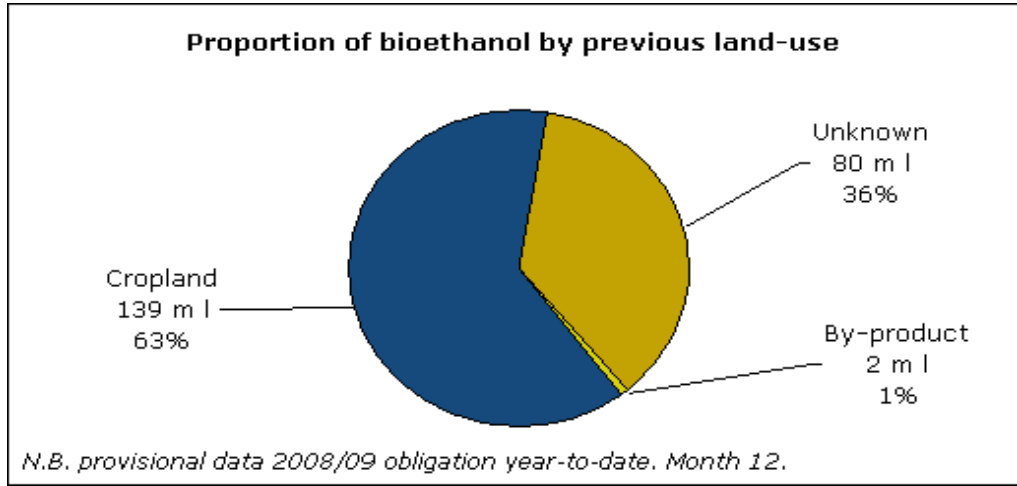
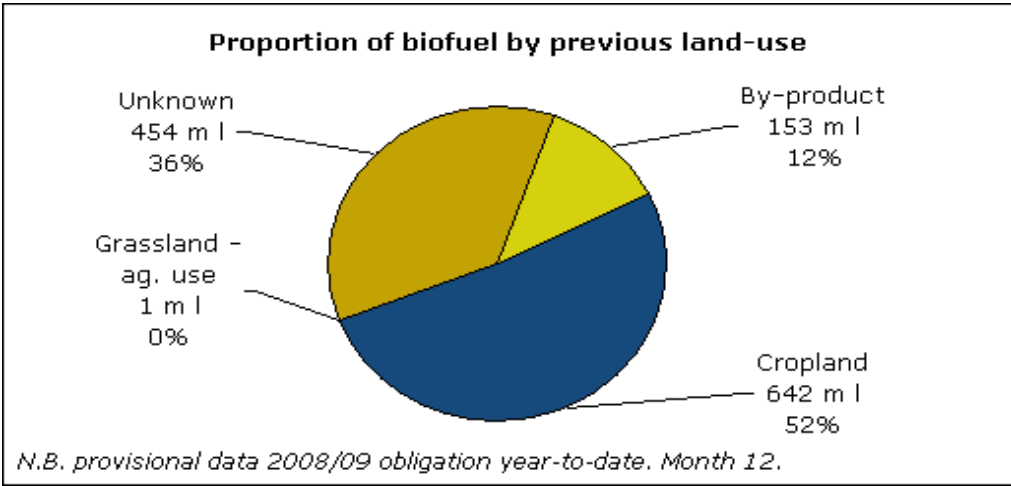
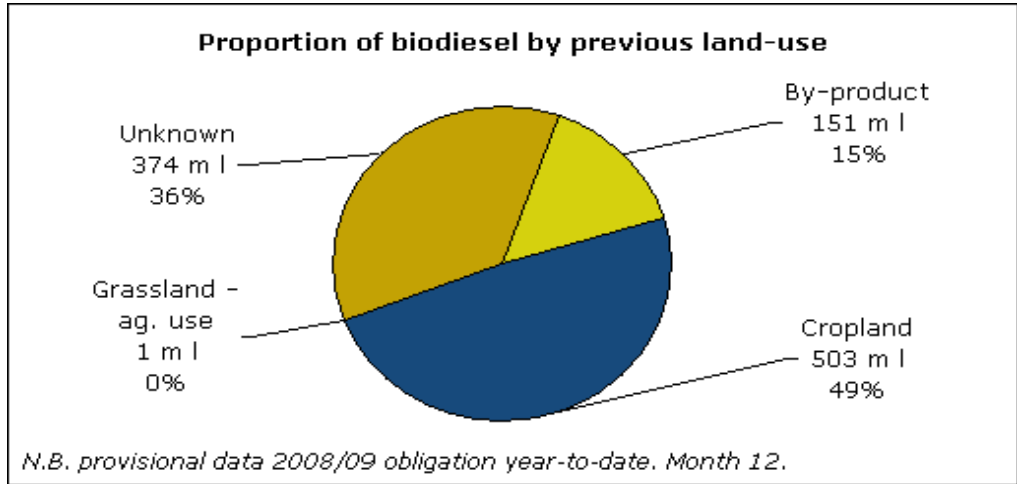
Proportions by feedstock



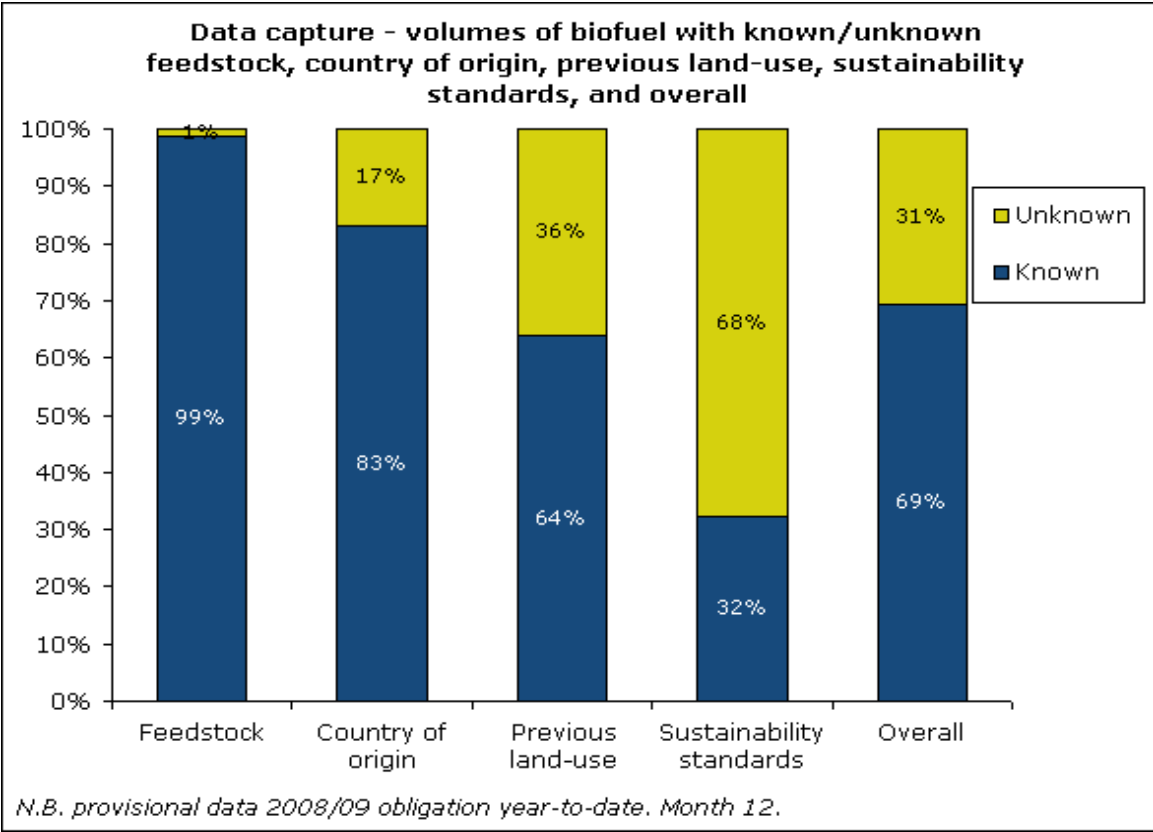
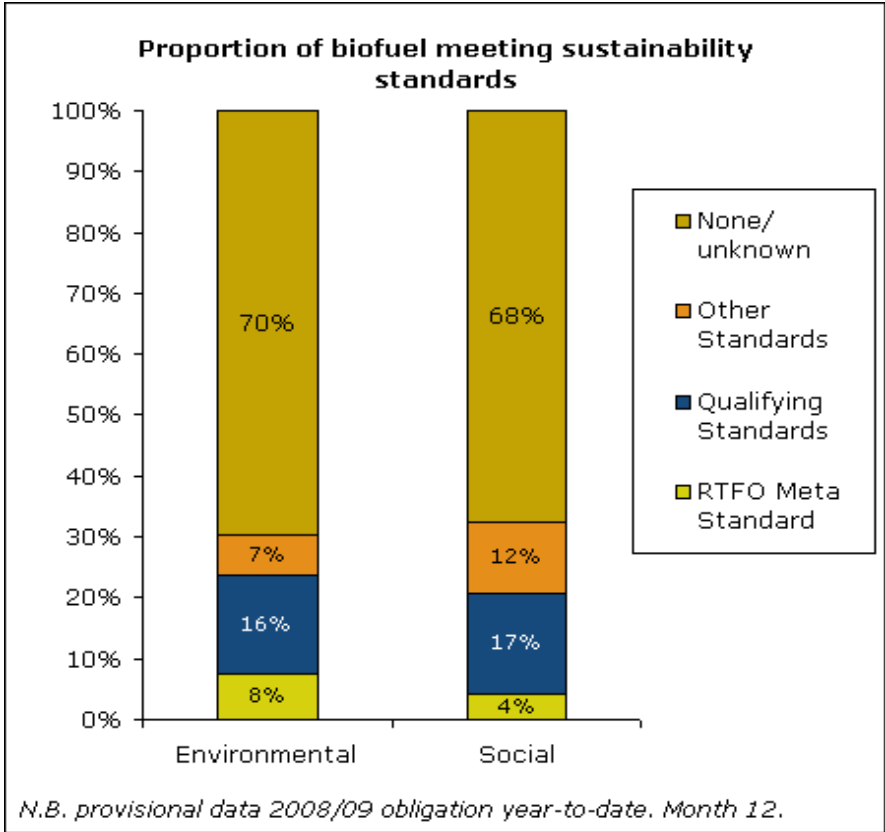
Proportions by country

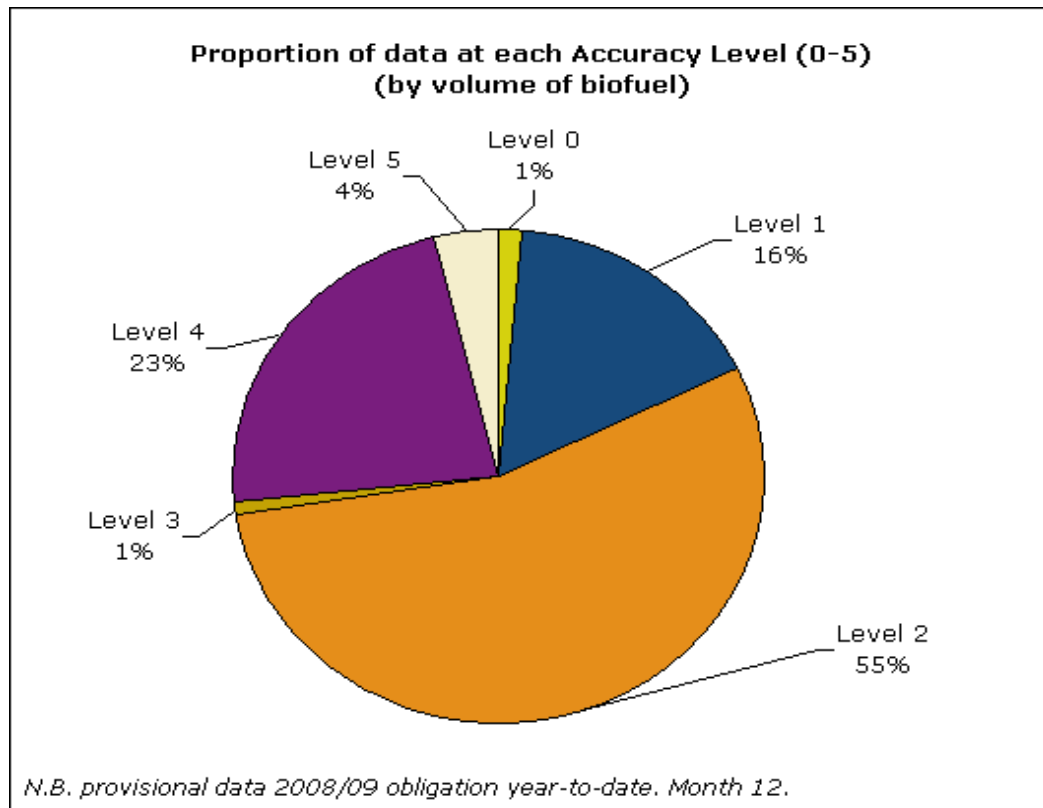


Proportions by previous land-use

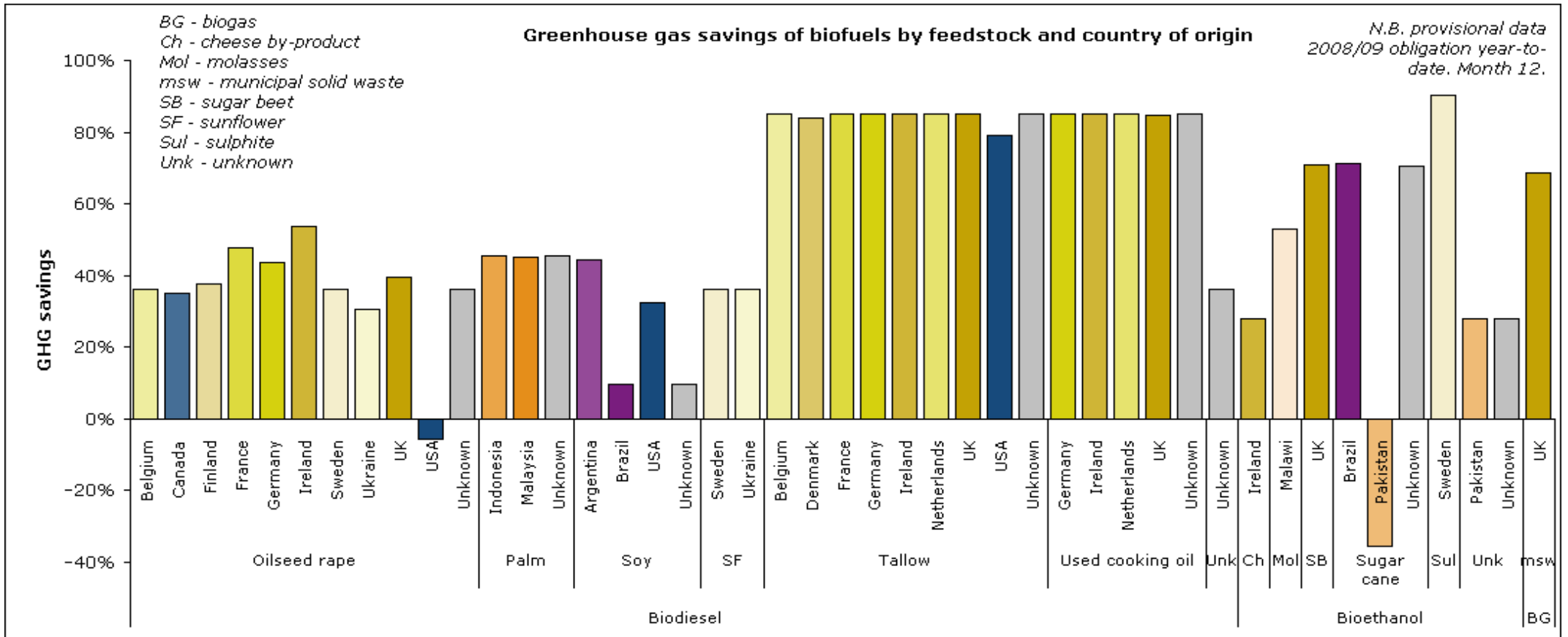


Sustainability, data-capture and accuracy

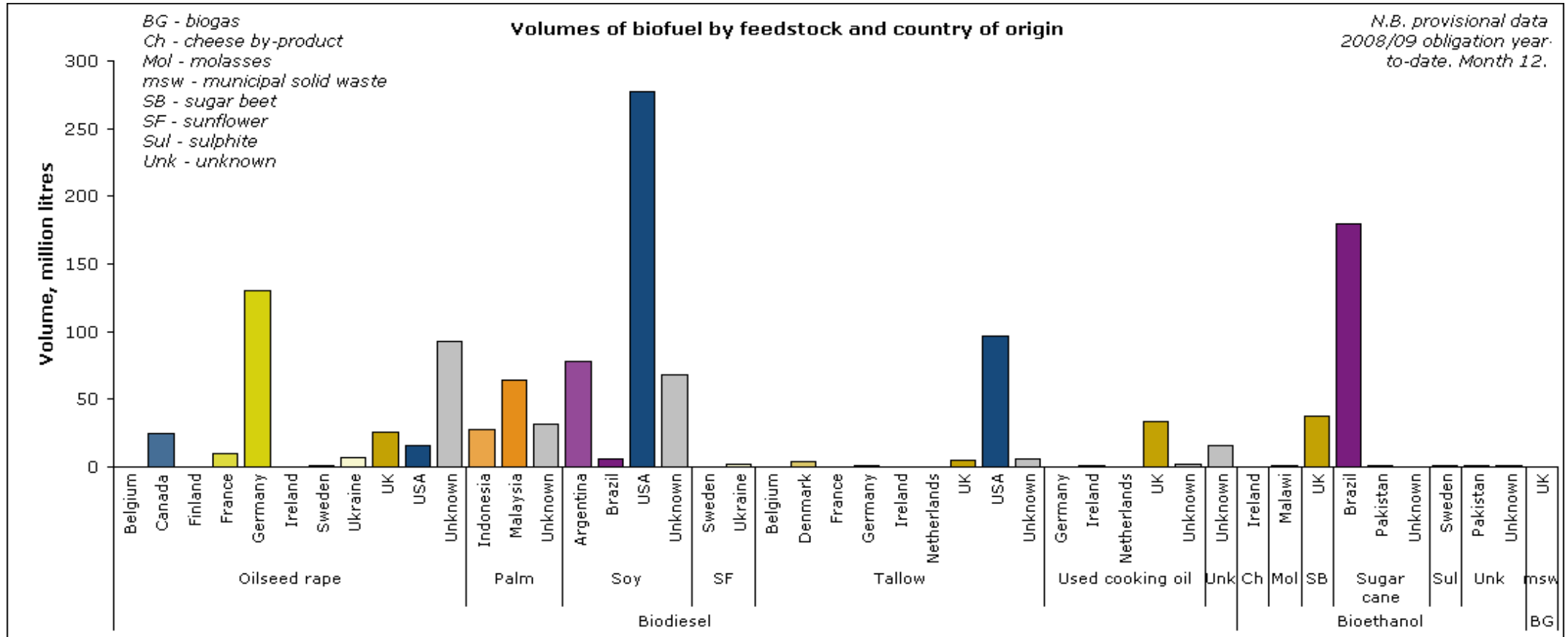




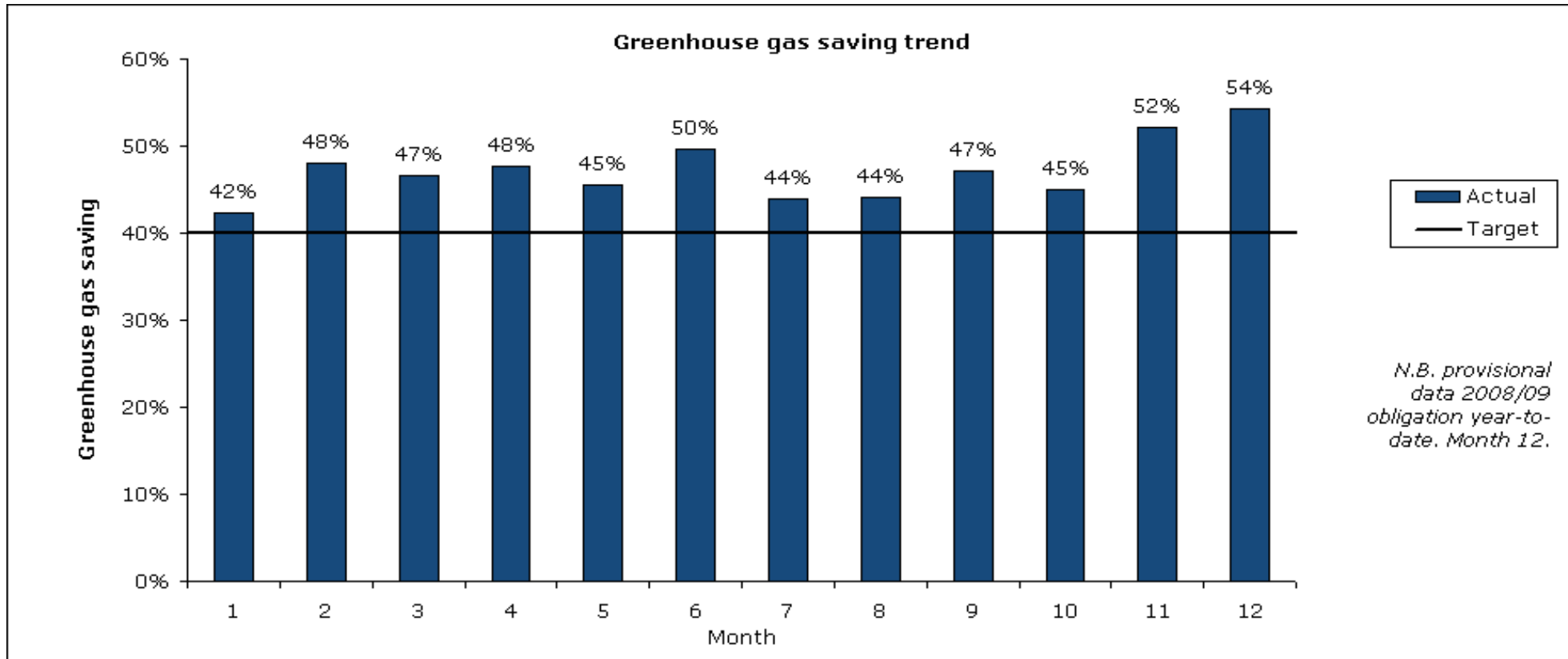
Greenhouse gas savings



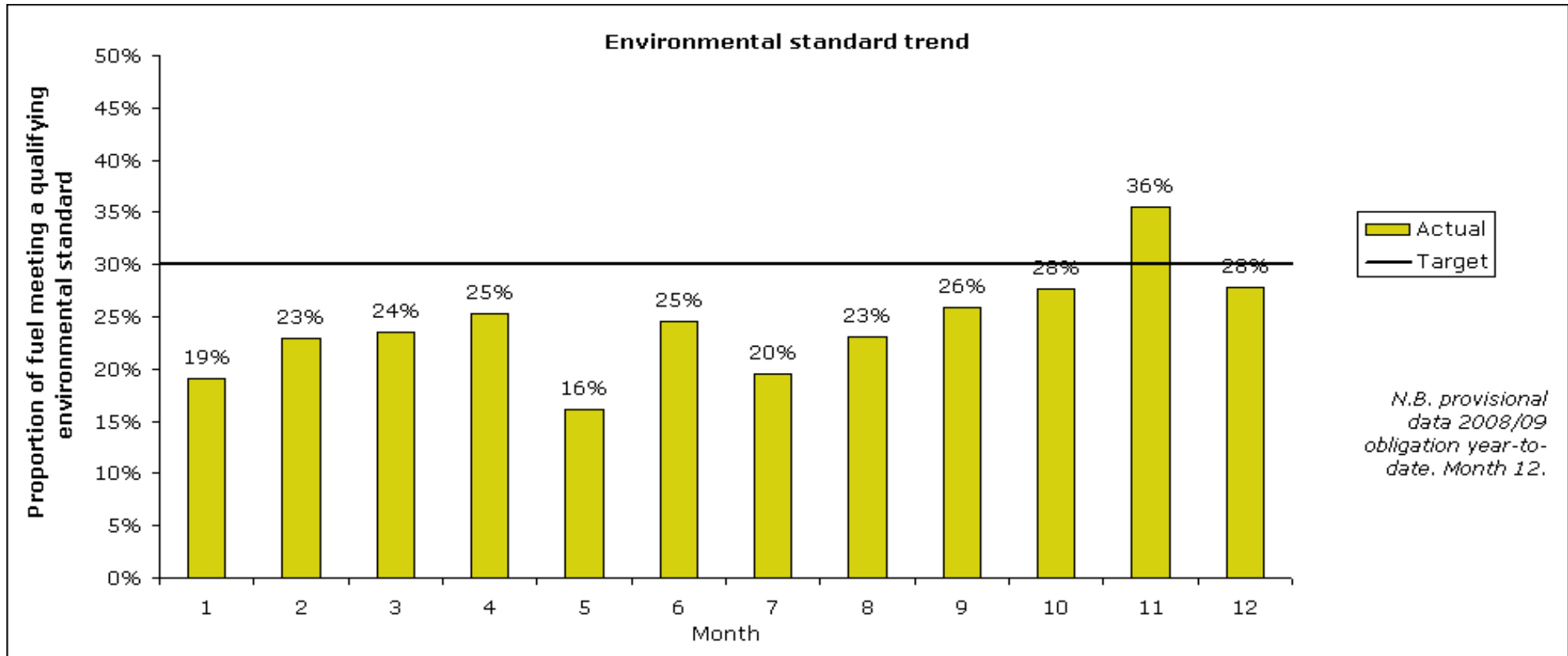
Volume by feedstock and country



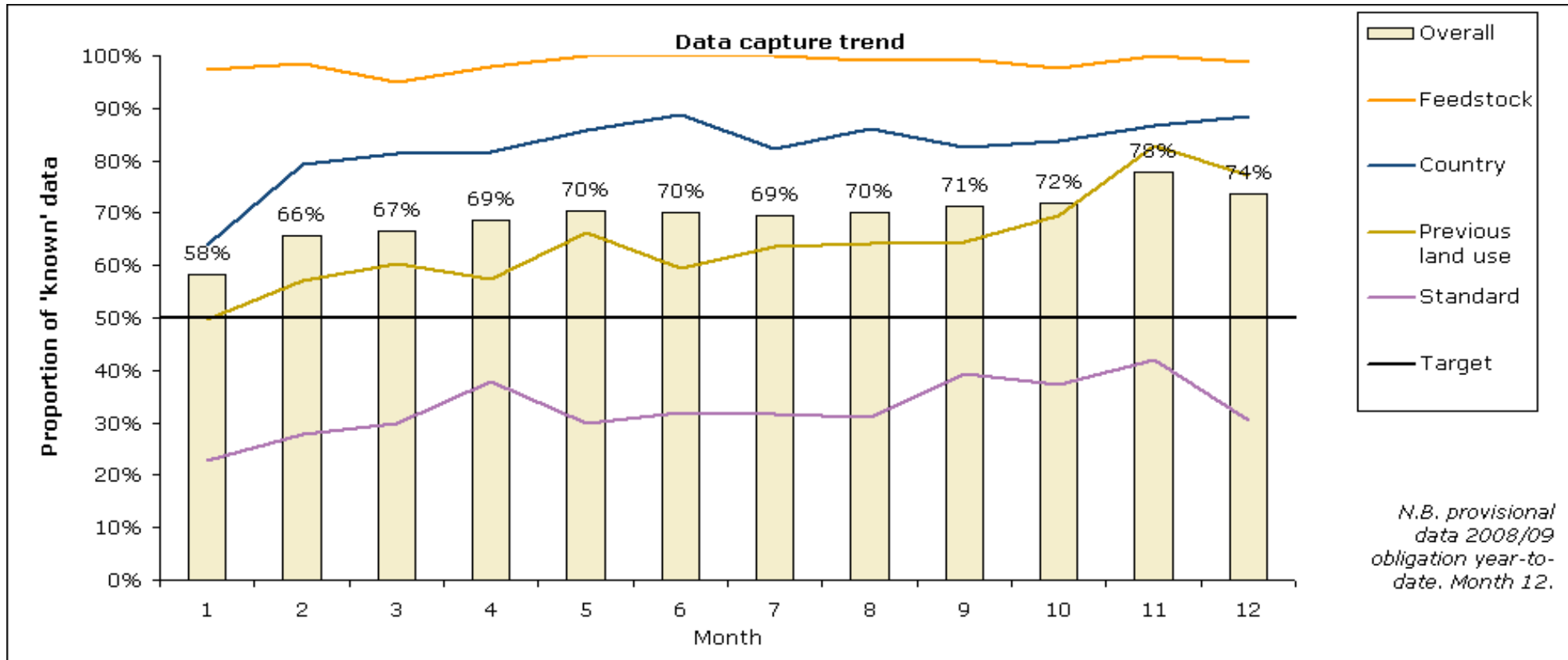
Performance trends against the RTFO's targets



Performance trends against the RTFO's targets

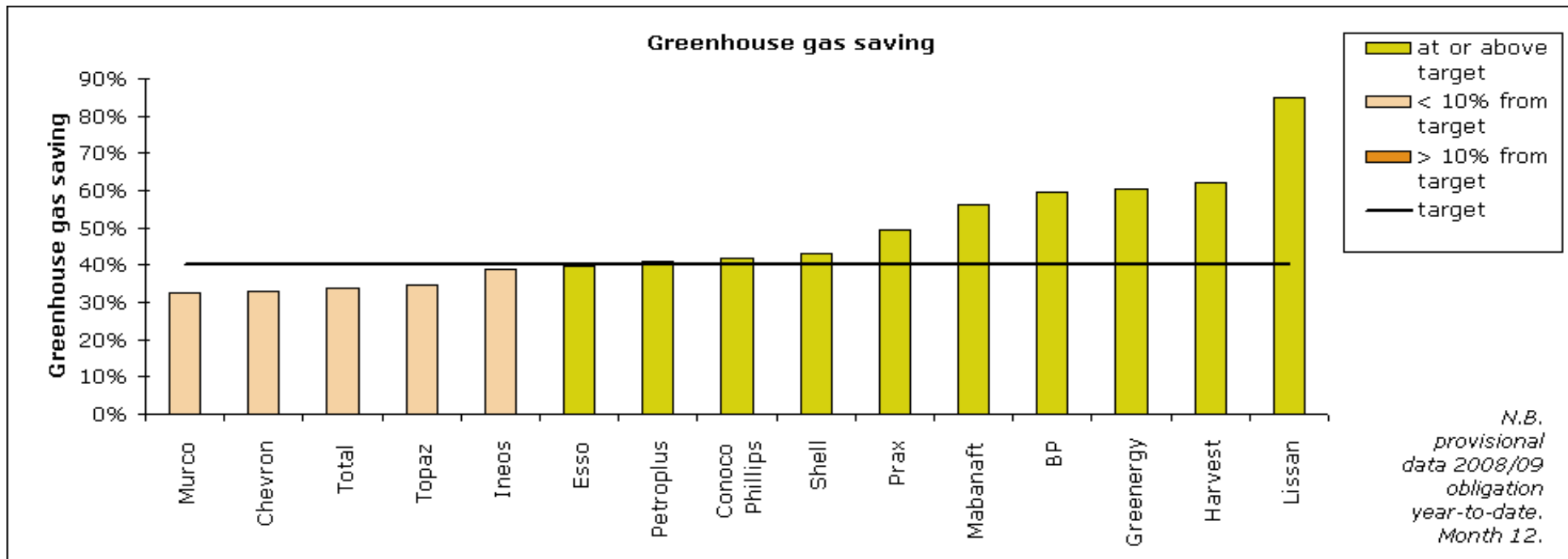


Performance trends against the RTFO's targets

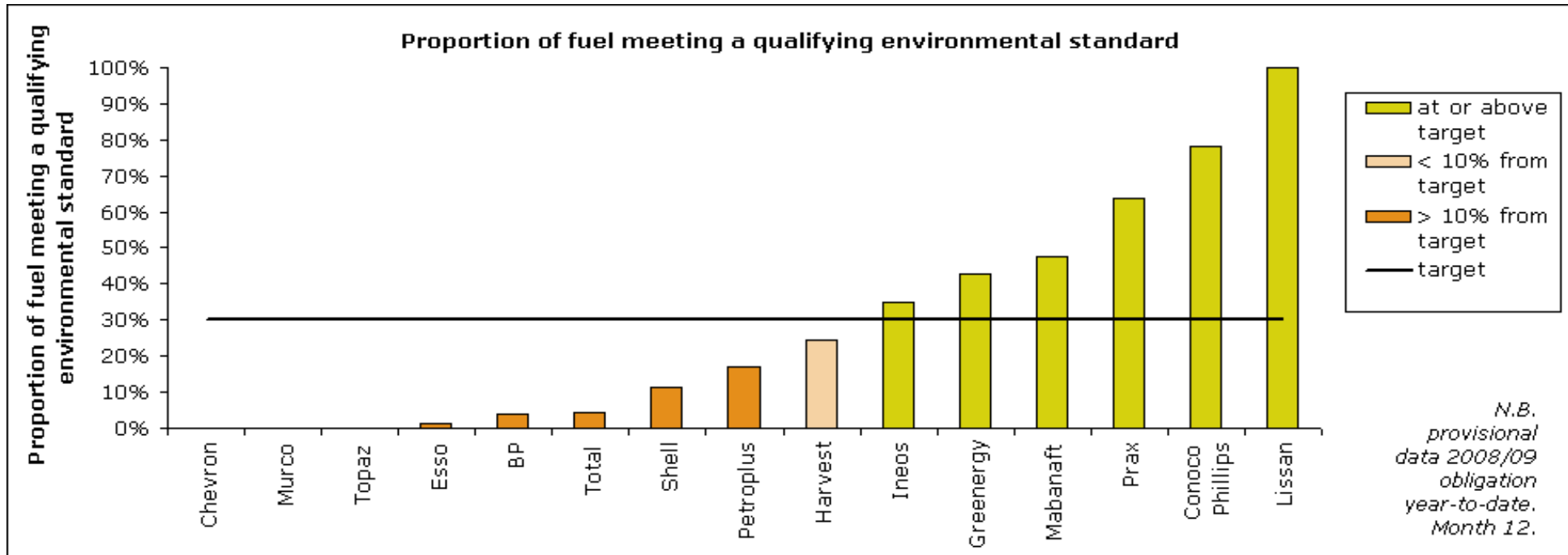


These trend graphs are based on the most up to date information available to the RFA when the report is published. Fuel suppliers are encouraged to revise their data where they are able to provide more accurate information later in the year - for instance adding information if they found out the previous land use of a biofuel plantation, or removing information if they had reason to believe that a sustainability standard might have been incorrectly reported. These data may not therefore correspond exactly to the data in previous RFA reports. All data is subject to final verification at the end of the year.

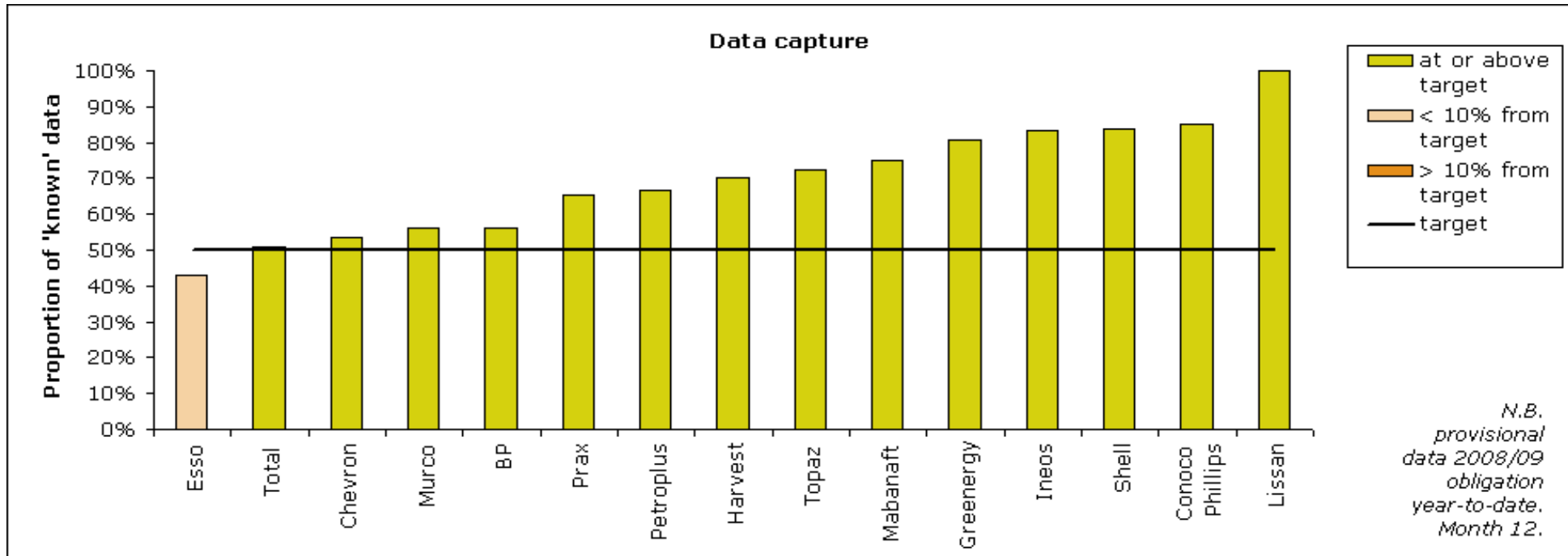
Fossil fuel company performance against the RTFO's targets



Fossil fuel company performance against the RTFO's targets



Fossil fuel company performance against the RTFO's targets



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

Table 1: Volume of biofuels supplied for road transport under the RTFO.

		Volume, million l, or million kg
Fuel type	Biodiesel	1028.9
	Bioethanol	221.3
	Biogas	0.4
	Total	1250.6

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

		Volume, l or kg	Volume, million l or million kg	Volume, %	Proportion meeting an environmental standard				Proportion meeting a social standard				Carbon intensity, g(CO ₂ e)/MJ	Greenhouse gas saving, %	Accuracy level, (0-5)
					RTFO	Qualifying Standards	Other standards	None/ unknown	RTFO	Qualifying Standards	Other standards	None/ unknown			
Fuel type	Biodiesel	1028856649	1028.9	82%	2%	18%	8%	72%	0%	18%	11%	72%	50	42%	2.2
	Bioethanol	221342825	221.3	18%	17%	1%	0%	82%	1%	1%	16%	82%	25	70%	3.3
	Biogas	415700	0.4	0.03%	0%	100%	0%	0%	0%	0%	100%	0%	27	69%	4.0
	Total	1250615174	1250.6	100%											
Mean					5%	15%	7%	74%	0%	15%	12%	74%	46	47%	2.4

Table 3: Carbon and sustainability data of biodiesel 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 ₂ e)/MJ	Greenhouse gas saving, %	Accuracy level, (0-5)
					RTFO	Qualifying Standards	Other standards	None/ unknown	RTFO	Qualifying Standards	Other standards	None/ unknown			
Feedstock	<i>Oilseed rape</i>	307152854	307.2	30%	8%	2%	27%	64%	0%	1%	35%	64%	54	38%	2.0
	<i>Palm</i>	123110547	123.1	12%	0%	16%	0%	84%	0%	16%	0%	84%	47	45%	2.1
	<i>Soy</i>	429770388	429.8	42%	0%	2%	0%	98%	0%	2%	0%	98%	60	31%	2.2
	<i>Sunflower</i>	2244526	2.2	0%	0%	0%	0%	100%	0%	0%	0%	100%	55	36%	2.0
	<i>Tallow</i>	113837681	113.8	11%	0%	100%	0%	0%	0%	100%	0%	0%	17	80%	3.0
	<i>Used cooking oil</i>	36989063	37.0	4%	0%	99%	0%	1%	0%	99%	0%	1%	13	85%	2.9
	<i>Unknown</i>	15751590	15.8	2%	0%	0%	0%	100%	0%	0%	0%	100%	55	36%	0.0
	Total Mean	1028856649	1028.9	100%		2%	18%	8%	72%	0%	18%	11%	72%	50	42%
Country of origin	<i>Argentina</i>	78361297	78.4	8%	0%	3%	0%	97%	0%	3%	0%	97%	48	44%	2.0
	<i>Belgium</i>	168718	0.2	0%	0%	15%	0%	85%	0%	15%	0%	85%	49	44%	2.0
	<i>Brazil</i>	6320383	6.3	1%	0%	0%	1%	99%	0%	0%	1%	99%	78	10%	2.0
	<i>Canada</i>	24298803	24.3	2%	0%	0%	0%	100%	0%	0%	0%	100%	56	35%	2.0
	<i>Denmark</i>	3755629	3.8	0%	0%	100%	0%	0%	0%	100%	0%	0%	14	84%	2.0
	<i>Finland</i>	65453	0.1	0%	0%	0%	0%	100%	0%	0%	0%	100%	54	38%	2.0
	<i>France</i>	9606883	9.6	1%	0%	1%	61%	38%	0%	1%	61%	38%	45	48%	3.0
	<i>Germany</i>	131167100	131.2	13%	0%	4%	56%	40%	0%	3%	57%	40%	48	44%	2.1
	<i>Indonesia</i>	27283824	27.3	3%	0%	29%	0%	71%	0%	29%	0%	71%	47	46%	2.0
	<i>Ireland</i>	1350593	1.4	0%	0%	93%	0%	7%	0%	93%	0%	7%	15	83%	2.3
	<i>Malaysia</i>	63781312	63.8	6%	0%	18%	0%	82%	0%	18%	0%	82%	47	45%	2.8
	<i>Netherlands</i>	133914	0.1	0%	0%	100%	0%	0%	0%	100%	0%	0%	13	85%	2.0
	<i>Sweden</i>	1023211	1.0	0%	0%	0%	0%	100%	0%	0%	0%	100%	55	36%	2.0
	<i>Ukraine</i>	9435904	9.4	1%	0%	0%	27%	73%	0%	0%	27%	73%	59	32%	2.0
	<i>UK</i>	64979789	65.0	6%	39%	59%	0%	2%	0%	59%	39%	2%	29	67%	3.6
<i>USA</i>	390625621	390.6	38%	0%	26%	0%	74%	0%	26%	0%	74%	50	42%	2.6	
<i>Unknown</i>	216498215	216.5	21%	0%	4%	0%	96%	0%	4%	0%	96%	59	31%	0.9	
Total Mean	1028856649	1028.9	100%		2%	18%	8%	72%	0%	18%	11%	72%	50	42%	2.2
Previous land-use	<i>By-product</i>	150826744	150.8	15%	0%	100%	0%	0%	0%	100%	0%	0%	16	81%	3.0
	<i>Cropland</i>	503192769	503.2	49%	3%	7%	12%	79%	0%	6%	15%	79%	54	37%	2.4
	<i>Grassland - ag. use</i>	813277	0.8	0%	0%	0%	100%	0%	0%	0%	100%	0%	168	-94%	2.0
	<i>Unknown</i>	374023859	374.0	36%	3%	0%	5%	91%	0%	0%	9%	91%	58	33%	1.6
	Total Mean	1028856649	1028.9	100%		2%	18%	8%	72%	0%	18%	11%	72%	50	42%

Table 4: Carbon and sustainability data of bioethanol 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 ₂ e)/MJ	Greenhouse gas saving, %	Accuracy level, (0-5)	
					RTFO	Qualifying Standards	Other standards	None/unknown	RTFO	Qualifying Standards	Other standards	None/unknown				
Feedstock	Cheese (by-product)	960	0.0	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	61	28%	2.0
	Molasses	1349299	1.3	1%	0%	100%	0%	0%	0%	0%	100%	0%	0%	40	53%	2.0
	Sugar beet	37306578	37.3	17%	100%	0%	0%	0%	3%	0%	97%	0%	0%	25	71%	4.0
	Sugar cane	180259512	180.3	81%	0%	0%	0%	100%	0%	0%	0%	100%	0%	25	71%	3.2
	Sulphite	787299	0.8	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	8	90%	2.0
	Unknown	1639177	1.6	1%	0%	0%	0%	0%	100%	0%	0%	0%	100%	61	28%	0.8
	Total Mean	221342825	221.3	100%		17%	1%	0%	82%	1%	1%	16%	82%	25	70%	3.3
Country of origin	Brazil	179163626	179.2	81%	0%	0%	0%	100%	0%	0%	0%	100%	0%	24	71%	3.2
	Ireland	960	0.0	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%	61	28%	2.0
	Malawi	1349299	1.3	1%	0%	100%	0%	0%	0%	100%	0%	0%	0%	40	53%	2.0
	Pakistan	2145121	2.1	1%	0%	0%	0%	100%	0%	0%	0%	100%	0%	87	-3%	1.5
	Sweden	787299	0.8	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%	8	90%	2.0
	UK	37306578	37.3	17%	100%	0%	0%	0%	3%	0%	97%	0%	0%	25	71%	4.0
	Unknown	589942	0.6	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%	58	32%	0.5
Total Mean	221342825	221.3	100%		17%	1%	0%	82%	1%	1%	16%	82%	25	70%	3.3	
Previous land-use	By-product	2137558	2.1	1%	0%	100%	0%	0%	0%	0%	100%	0%	0%	28	67%	2.0
	Cropland	139090999	139.1	63%	27%	0%	0%	73%	1%	0%	26%	73%	0%	24	72%	3.8
	Unknown	80114268	80.1	36%	0%	0%	0%	100%	0%	0%	0%	100%	0%	27	68%	2.6
	Total Mean	221342825	221.3	100%		17%	1%	0%	82%	1%	1%	16%	82%	25	70%	3.3

Table 5: Carbon and sustainability data of biogas from different feedstocks, countries, and according to the previous land-use.

		Volume, kg	Volume, million kg	Volume, %	Proportion meeting an environmental standard				Proportion meeting a social standard				Carbon intensity, g(CO ₂ e)/MJ	Greenhouse gas saving, %	Accuracy level, (0-5)	
					RTFO	Qualifying Standards	Other standards	None/unknown	RTFO	Qualifying Standards	Other standards	None/unknown				
Feedstock	MSW	415700	0.4	100%	0%	100%	0%	0%	0%	0%	100%	0%	0%	27	69%	4.0
Country of origin	UK	415700	0.4	100%	0%	100%	0%	0%	0%	0%	100%	0%	0%	27	69%	4.0
Previous land-use	By-product	415700	0.4	100%	0%	100%	0%	0%	0%	0%	100%	0%	0%	27	69%	4.0

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

Table 6: 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 or kg	Volume, million l or million kg	Volume, %	Proportion meeting an environmental standard				Proportion meeting a social standard				Carbon intensity, g(CO ₂ e)/MJ	Greenhouse gas saving, %	Accuracy level, (0-5)	
							RTFO	Qualifying Standards	Other standards	None/unknown	RTFO	Qualifying Standards	Other standards	None/unknown				
Bioethanol	Oilseed rape	Belgium	Cropland	33653	0.0	0%	0%	0%	0%	100%	0%	0%	0%	0%	100%	55	36%	2.0
			Unknown	109159	0.1	0%	0%	0%	0%	100%	0%	0%	0%	0%	100%	55	36%	2.0
		Canada	Cropland	18828060	18.8	2%	0%	0%	0%	100%	0%	0%	0%	0%	100%	56	35%	2.0
			Unknown	5470743	5.5	0%	0%	0%	0%	100%	0%	0%	0%	0%	100%	56	35%	2.0
		Finland	Unknown	65453	0.1	0%	0%	0%	0%	100%	0%	0%	0%	0%	100%	54	38%	2.0
		France	Cropland	1813754	1.8	0%	0%	0%	0%	100%	0%	0%	0%	0%	100%	44	49%	4.9
			Unknown	7703185	7.7	1%	0%	0%	0%	24%	0%	0%	0%	76%	45	47%	2.5	
		Germany	Cropland	81138095	81.1	6%	0%	6%	0%	75%	19%	0%	4%	77%	19%	48	45%	2.1
			Grassland - ag. use	813277	0.8	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	168	-94%	2.0
		Unknown	Unknown	48153468	48.2	4%	0%	0%	0%	24%	76%	0%	0%	24%	76%	48	45%	2.1
			Cropland	99458	0.1	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%	40	54%	5.0
		Sweden	Cropland	999063	1.0	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%	55	36%	2.0
			Unknown	7215526	7.2	1%	0%	0%	0%	36%	64%	0%	0%	36%	64%	60	31%	2.0
		Ukraine	Cropland	12845210	12.8	1%	99%	0%	0%	1%	0%	0%	99%	1%	52	40%	4.9	
		United Kingdom	Unknown	13247683	13.2	1%	93%	0%	0%	0%	7%	0%	0%	93%	7%	53	39%	4.0
	Cropland		11479311	11.5	1%	0%	0%	0%	0%	100%	0%	0%	0%	100%	91	-5%	2.0	
	Unknown	Unknown	4591704	4.6	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%	93	-8%	2.0	
		Cropland	9736444	9.7	1%	0%	0%	0%	0%	100%	0%	0%	0%	100%	55	36%	1.0	
	Unknown	Unknown	82809608	82.8	7%	0%	0%	0%	0%	100%	0%	0%	0%	100%	55	36%	1.0	
		Cropland	21261399	21.3	2%	0%	37%	0%	0%	63%	0%	37%	0%	63%	47	46%	2.0	
	Palm	Indonesia	Unknown	6022425	6.0	0%	0%	0%	0%	100%	0%	0%	0%	100%	47	46%	2.0	
			Cropland	50163698	50.2	4%	0%	23%	0%	77%	0%	23%	0%	77%	47	45%	3.0	
		Malaysia	Unknown	13617614	13.6	1%	0%	0%	0%	100%	0%	0%	0%	100%	47	45%	2.2	
	Unknown	Unknown	32045411	32.0	3%	0%	0%	0%	0%	100%	0%	0%	0%	100%	47	46%	1.0	
	Soy	Argentina	Cropland	60323229	60.3	5%	4%	0%	4%	96%	0%	4%	0%	96%	48	44%	2.0	
			Unknown	18038068	18.0	1%	0%	0%	0%	100%	0%	0%	0%	100%	48	44%	2.0	
		Brazil	Unknown	346522	0.3	0%	0%	0%	0%	100%	0%	0%	0%	100%	78	10%	2.0	
	United States	Cropland	5973861	6.0	0%	0%	0%	1%	99%	0%	0%	1%	99%	78	10%	2.0		
		Unknown	231846978	231.8	19%	0%	3%	0%	97%	0%	3%	0%	97%	58	32%	2.5		
	Unknown	Unknown	45486085	45.5	4%	0%	0%	0%	100%	0%	0%	0%	100%	58	33%	2.3		
		Cropland	57517	0.1	0%	0%	0%	0%	100%	0%	0%	0%	100%	77	11%	1.0		
	Unknown	Unknown	67698128	67.7	5%	0%	0%	0%	0%	100%	0%	0%	0%	100%	78	10%	1.0	
		Cropland	2220378	2.2	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%	55	36%	2.0	
	Tallow	Sweden	Unknown	24148	0.0	0%	0%	0%	0%	100%	0%	0%	0%	100%	55	36%	2.0	
			Cropland	2220378	2.2	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%	55	36%	2.0
		Belgium	By-product	25906	0.0	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	13	85%	2.0
			Denmark	By-product	3755629	3.8	0%	0%	100%	0%	0%	0%	100%	0%	0%	14	84%	2.0
			France	By-product	89944	0.1	0%	0%	100%	0%	0%	0%	100%	0%	0%	13	85%	2.0
			Germany	By-product	697854	0.7	0%	0%	100%	0%	0%	0%	100%	0%	0%	13	85%	2.0
			Ireland	By-product	401978	0.4	0%	0%	100%	0%	0%	0%	100%	0%	0%	13	85%	2.0
			Netherlands	By-product	67095	0.1	0%	0%	100%	0%	0%	0%	100%	0%	0%	13	85%	2.0
			United Kingdom	By-product	5188156	5.2	0%	0%	100%	0%	0%	0%	100%	0%	0%	13	85%	2.2
			United States	By-product	97221543	97.2	8%	0%	100%	0%	0%	0%	100%	0%	0%	18	79%	3.2
			Unknown	By-product	6389576	6.4	1%	0%	100%	0%	0%	0%	100%	0%	0%	13	85%	1.0
			Germany	By-product	364406	0.4	0%	0%	100%	0%	0%	0%	100%	0%	0%	13	85%	2.0
Ireland	By-product	849157		0.8	0%	0%	100%	0%	0%	0%	100%	0%	0%	13	85%	2.2		
Netherlands	By-product	66819	0.1	0%	0%	100%	0%	0%	0%	100%	0%	0%	13	85%	2.0			
	United Kingdom	By-product	33698740	33.7	3%	0%	99%	0%	1%	0%	99%	0%	1%	13	85%	3.1		
Unknown	By-product	2009941	2.0	0%	0%	100%	0%	0%	0%	100%	0%	0%	13	85%	1.0			
Unknown	Unknown	15751590	15.8	1%	0%	0%	0%	0%	100%	0%	0%	0%	100%	55	36%	0.0		
Bioethanol	Cheese (by-product)	Ireland	By-product	960	0.0	0%	0%	100%	0%	0%	0%	100%	0%	0%	61	28%	2.0	
		Malawi	By-product	1349299	1.3	0%	0%	100%	0%	0%	0%	100%	0%	0%	40	53%	2.0	
	Sugar beet	United Kingdom	Cropland	37306578	37.3	3%	100%	0%	0%	0%	3%	0%	97%	0%	25	71%	4.0	
		Brazil	Cropland	101784421	101.8	8%	0%	0%	0%	100%	0%	0%	0%	100%	24	72%	3.7	
	Unknown	Unknown	77379205	77.4	6%	0%	0%	0%	0%	100%	0%	0%	0%	100%	25	71%	2.6	
		Pakistan	Unknown	1046364	1.0	0%	0%	0%	0%	100%	0%	0%	0%	100%	115	-36%	2.0	
	Unknown	Unknown	49522	0.0	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%	25	71%	1.0	
		Sweden	By-product	787299	0.8	0%	0%	100%	0%	0%	0%	100%	0%	0%	8	90%	2.0	
	Unknown	Pakistan	Unknown	1098757	1.1	0%	0%	0%	0%	100%	0%	0%	0%	100%	61	28%	1.0	
		Unknown	Unknown	540420	0.5	0%	0%	0%	0%	100%	0%	0%	0%	100%	61	28%	0.4	
	Bioogas	MSW	United Kingdom	By-product	415700	0.4	0%	0%	100%	0%	0%	0%	100%	0%	0%	27	69%	4.0
				By-product	15751590	15.8	1%	0%	0%	0%	0%	100%	0%	0%	0%	100%	55	36%
Total Mean				1250615174	1250.3	100%	5%	15%	7%	74%	0%	15%	12%	74%	46	47%	2.4	

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

Table 7: Company performance against the RTFO targets and carbon and sustainability criteria

Company	Proportion in each previous land-use category						Proportion meeting an environmental standard				Proportion meeting a social standard			Carbon intensity, g(CO _{2e})/MJ	Greenhouse gas saving, %	Accuracy level, (0-5)	Data capture, %
	unknown	by-product	cropland	grassland ag. use	grassland non ag. use	forestland	RTFO	QS	Other	None/unknown	RTFO or QS	Other	None/unknown				
<i>BP Oil UK Ltd</i>	79%	0%	21%	0%	0%	0%	0%	4%	0%	96%	4%	0%	96%	35	60%	2.0	56%
<i>Chevron Ltd</i>	54%	0%	46%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	58	33%	1.7	54%
<i>ConocoPhillips Ltd</i>	41%	0%	59%	0%	0%	0%	64%	15%	3%	19%	10%	72%	19%	50	42%	4.3	85%
<i>Esso Petroleum Company Ltd</i>	95%	0%	4%	0%	0%	0%	1%	0%	17%	82%	0%	18%	82%	52	40%	1.5	43%
<i>Greenergy Fuels Ltd</i>	22%	21%	57%	0%	0%	0%	16%	27%	0%	57%	47%	5%	48%	34	61%	3.4	81%
<i>Harvest Energy Ltd</i>	42%	13%	45%	0%	0%	0%	12%	13%	0%	76%	14%	11%	76%	33	62%	2.3	70%
<i>Ineos Refining Ltd</i>	1%	3%	95%	1%	0%	0%	0%	35%	1%	64%	35%	1%	64%	53	39%	2.0	83%
<i>Lissan Coal Company Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	13	85%	2.4	100%
<i>Mabanaft UK Ltd</i>	27%	22%	52%	0%	0%	0%	26%	22%	0%	52%	22%	26%	52%	38	56%	2.3	75%
<i>Murco Petroleum Ltd</i>	51%	0%	49%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	58	33%	1.7	56%
<i>Petropius Refining Teesside Ltd</i>	26%	17%	57%	0%	0%	0%	0%	17%	0%	83%	17%	0%	83%	51	41%	2.3	67%
<i>Prax Petroleum Ltd</i>	36%	64%	0%	0%	0%	0%	0%	64%	0%	36%	64%	0%	36%	44	50%	1.6	65%
<i>Shell UK Ltd</i>	20%	11%	68%	0%	0%	0%	0%	11%	47%	42%	11%	47%	42%	49	43%	2.0	84%
<i>Topaz Energy Ltd</i>	10%	0%	90%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	56	35%	0.6	72%
<i>Total UK Ltd</i>	54%	3%	43%	0%	0%	0%	1%	3%	0%	96%	3%	1%	96%	57	34%	2.0	51%
<i>ABAKO Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	13	85%	2.5	100%
<i>Argent Energy (UK) Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	13	85%	5.0	100%
<i>Associated British Bio-Fuels Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	13	85%	3.0	100%
<i>Biesel (UK) Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	13	85%	2.0	100%
<i>Bio UK Fuels (Sheffield) Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	13	85%	2.0	100%
<i>Biofuel Refineries Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	12	86%	5.0	100%
<i>Biomotive Fuels Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	13	85%	2.0	100%
<i>Celtic Biodiesel Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	13	85%	2.0	100%
<i>Convert2Green Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	13	85%	2.0	100%
<i>Devon Biofuels</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	13	85%	2.0	100%
<i>Doncaster Bio Fuels</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	13	85%	2.0	100%
<i>Double Green Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	13	85%	4.3	100%
<i>Ebony Solutions Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	13	85%	2.4	100%
<i>Edible Oil Direct Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	13	85%	2.0	100%
<i>Gasrec Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	27	69%	4.0	100%
<i>Goldenfuels</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	13	85%	2.0	100%
<i>Green Fuels Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	14	84%	2.0	100%
<i>GreenerDiesel.com (UK) Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	13	85%	2.0	100%
<i>GreenFuel Supply Solutions Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	32	63%	3.0	100%
<i>Kassero Edible Oils Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	13	85%	2.0	100%
<i>Longma Clean Energy</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	13	85%	2.0	100%
<i>MFS Fuel Supplies Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	13	85%	2.0	100%
<i>MPB Bioproducts Ltd</i>	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%	0%	100%	0%	55	36%	2.0	100%
<i>Muirhouse Farm Partnership</i>	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%	0%	100%	0%	55	36%	2.0	100%
<i>Ozone Friendly Fuels</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	13	85%	2.6	100%
<i>Pilkington Oils Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	13	85%	3.0	100%
<i>PRS Environmental</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	13	85%	2.0	100%
<i>Pure Fuels Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	13	85%	2.0	100%
<i>Refuel Energy Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	13	85%	2.0	100%
<i>Regenattec Ltd</i>	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	78	10%	2.0	50%
<i>Rix Biodiesel</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	13	85%	2.0	100%
<i>Shepherds Bakery</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	13	85%	2.0	100%
<i>Uptown Oil Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	13	85%	2.4	100%
<i>Veg Oil Motoring</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	1	99%	2.0	100%
<i>Verdant Fuel Ltd</i>	0%	0%	100%	0%	0%	0%	70%	0%	0%	30%	0%	70%	30%	28	67%	5.0	93%
<i>V-Fuels Biodiesel Ltd</i>	28%	71%	2%	0%	0%	0%	2%	71%	0%	28%	71%	2%	28%	32	63%	3.2	79%
<i>Wight Made Diesel</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	13	85%	2.0	100%

Table 8: Number of RTFO targets met or exceeded by fossil fuel companies. *

<i>Number of targets met (year to date)</i>	<i>Fossil fuel company</i>	<i>Number of targets met (previous quarterly report)</i>	<i>Change from previous quarterly report</i>
3	<i>ConocoPhillips Ltd</i>	3	—
	<i>Greenenergy Fuels Ltd</i>	2	↑
	<i>Lissan Coal Company Ltd</i>	3	—
	<i>Mabanaft UK Ltd</i>	3	—
	<i>Prax Petroleum Ltd</i>	2	↑
2	<i>BP Oil UK Ltd</i>	2	—
	<i>Harvest Energy Ltd</i>	2	—
	<i>Ineos Refining Ltd</i>	2	—
	<i>Petroplus Refining Teesside Ltd</i>	2	—
	<i>Shell UK Ltd</i>	2	—
1	<i>Chevron Ltd</i>	1	—
	<i>Esso Petroleum Company Ltd</i>	1	—
	<i>Murco Petroleum Ltd</i>	1	—
	<i>Topaz Energy Ltd</i>	1	—
	<i>Total UK Ltd</i>	1	—
0			

* The RTFO targets are to have: 30% of biofuels meeting qualifying environmental standards; GHG savings of 40%; and 50% data capture in four key sustainability fields (feedstock, country of origin, previous land-use, standard). Fossil fuel companies supply >95% of the biofuels in the UK market.