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## **Executive Summary**

This report covers the supply of biofuels under the Renewable Transport Fuel Obligation<sup>1</sup> from 15 April 2008 to 14 April 2009.

This version uses the data set after the verification process. 94.3% of the volume of biofuel has been verified.

The headline figures<sup>2</sup> are:

1,284 million litres of biofuel have been supplied under the RTFO. This is approximately 2.7%<sup>3</sup> of total road transport fuel<sup>4</sup>. 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 81%.

The most widely reported source of biodiesel was American soy (24% of biodiesel supplied). The most widely reported source of bioethanol was Brazilian sugarcane (79% of bioethanol supplied).

Over the period, 20%<sup>5,6</sup> of biofuels met an environmental standard, compared to a target of 30%<sup>7</sup>.

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

Greenhouse gas savings of 46%<sup>6</sup> 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'.

Over 160 million 2008/09 certificates had been traded up to October 2009. Most trading was done between fossil fuel suppliers. Biofuel suppliers have traded out more than 9 million 2008/09 certificates. The majority of trades were of between 100,000 and 1,000,000 certificates. Trading peaked between April and July 2009, the same period in which the RFA confirmed to suppliers the size of obligations for 2008/09. There has been no significant involvement of certificate traders in the market.

## Executive Summary

## Notes

<sup>1</sup>. 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.

<sup>2</sup>. 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. This version is based on the dataset after the verification process.

Every quarter we publish an extended report that identifies the carbon and sustainability performance of individual companies. These reports are available on our website at:

[www.renewablefuelsagency.gov.uk/rtfo](http://www.renewablefuelsagency.gov.uk/rtfo)

<sup>3</sup>. In the provisional fourth quarterly report, certificates had been awarded for 1251 million litres which was approximately 2.6% of total road transport fuel.

<sup>4</sup>. In months one to five, we reported on the percentage of biofuels in the total road transport fuel supply. Due to the identification of a discrepancy in the RTFO Order, our reporting instructions for month six were revised and we did not collect data on the total supply of fossil road transport fuel for the rest of the year 2008/09. We are hence unable to report the percentage of biofuel from our data for the first obligation year. 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 discrepancy in the RTFO Order is available from our website.](#)

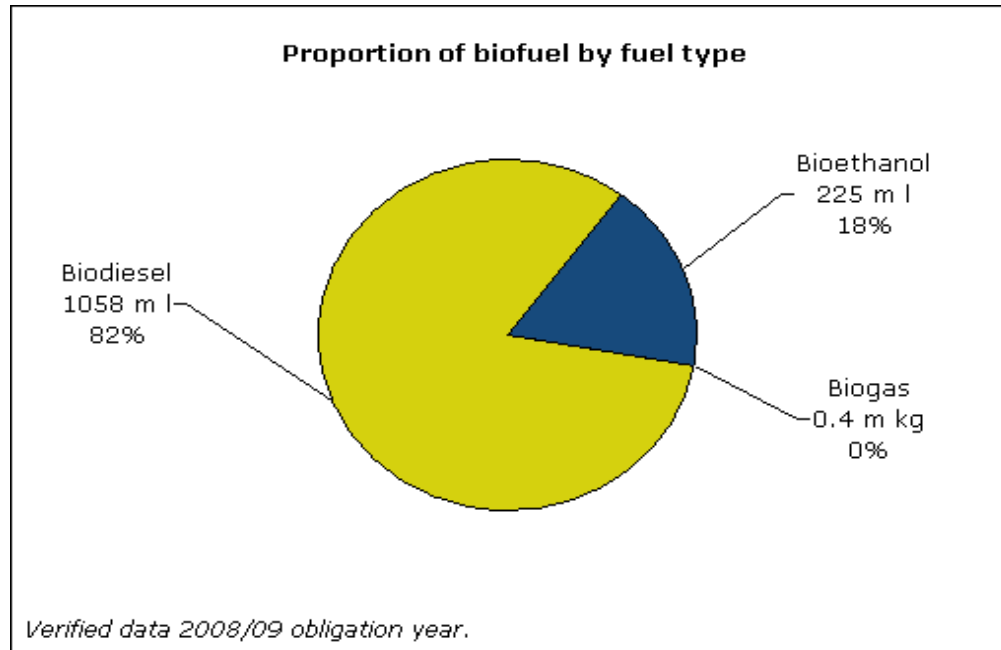
<sup>5</sup>. Under the RTFO Order, these reports must not contain information from which the volumes of fuel being reported by individual suppliers might be derived. To protect the volumes of individual suppliers, in previous months certain quantities of fuel reporting meeting the Qualifying Standard 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.

### **Executive Summary**

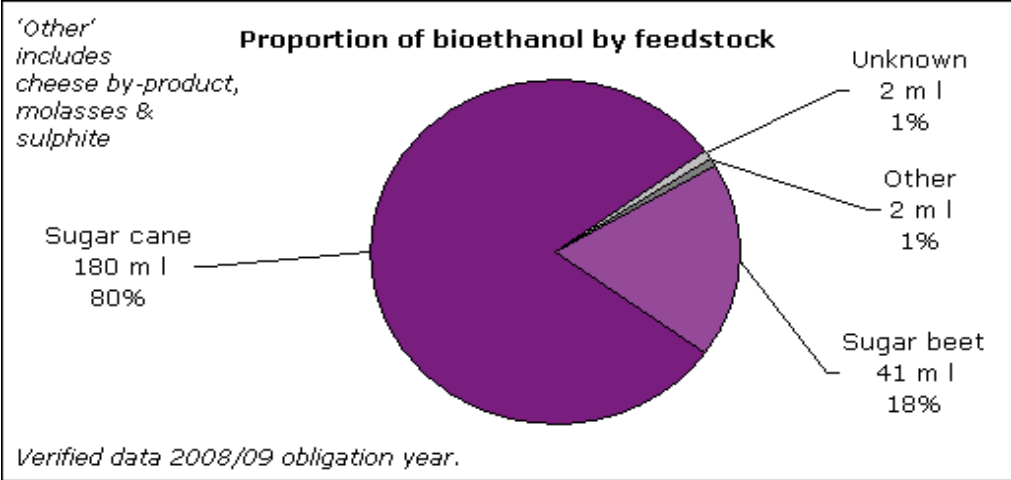
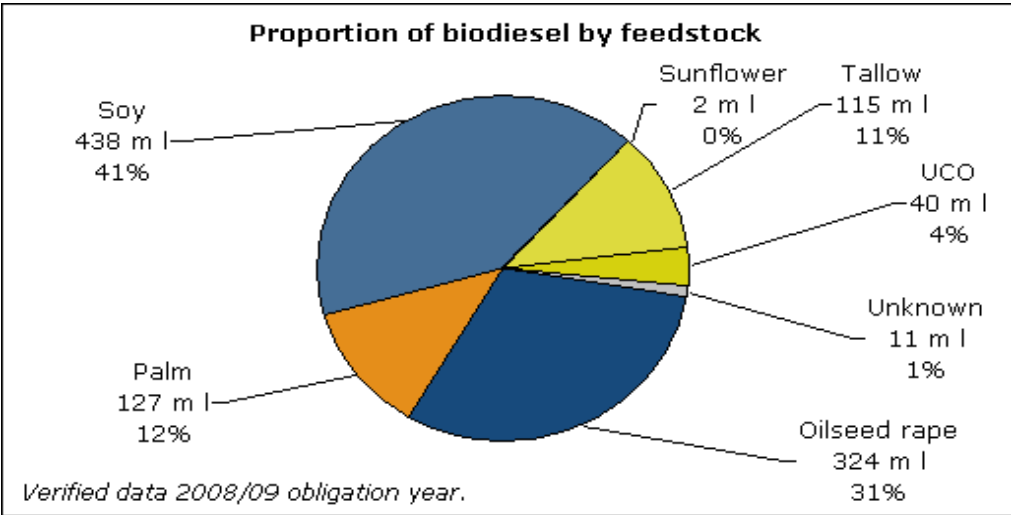
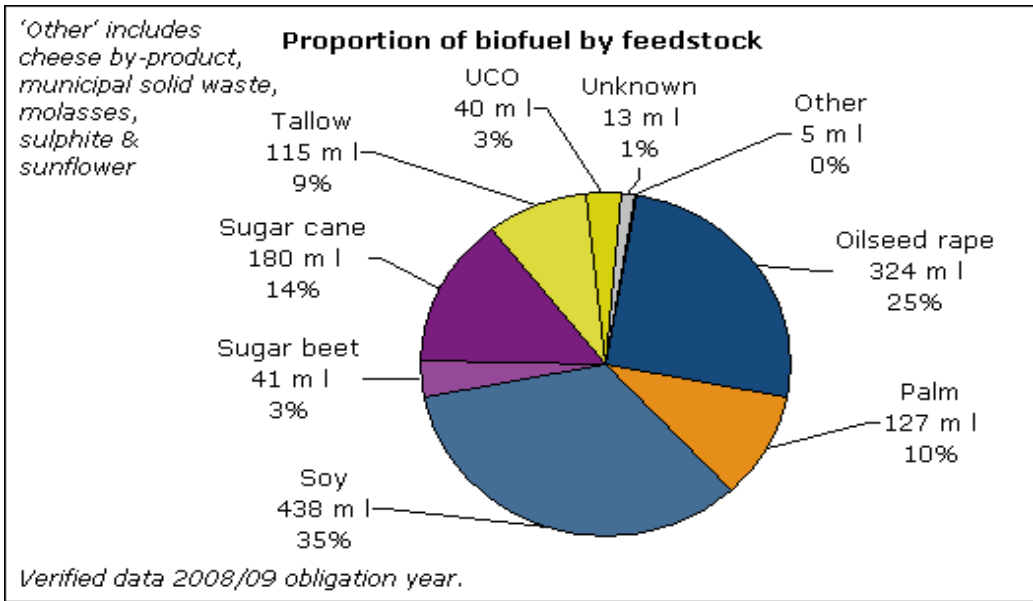
<sup>6</sup> Of the C&S data reported to the RFA, 94.3% was verified, 0.3% came from small suppliers and was not subject to verification, and the remaining 5.4% did not receive the limited assurance verification required. This 5.4% has not been counted towards overall performance against the government's targets.

<sup>7</sup> The Government set a target that 30% of feedstocks should meet environmental sustainability standards in the obligation year 2008/09. The ability of suppliers to source certifiably sustainable fuels was limited, as there was 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. Suppliers can arrange their own audits against the RTFO Meta-Standard. Supply of certified feedstock is not limited for all feedstocks - there is enough RSPO palm oil unsold to meet the entire UK demand for palm oil biodiesel feedstock.

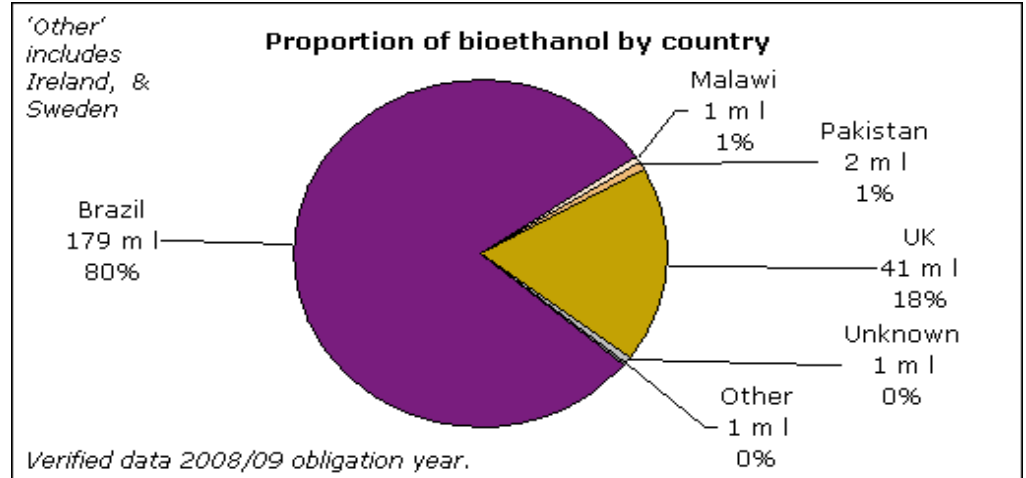
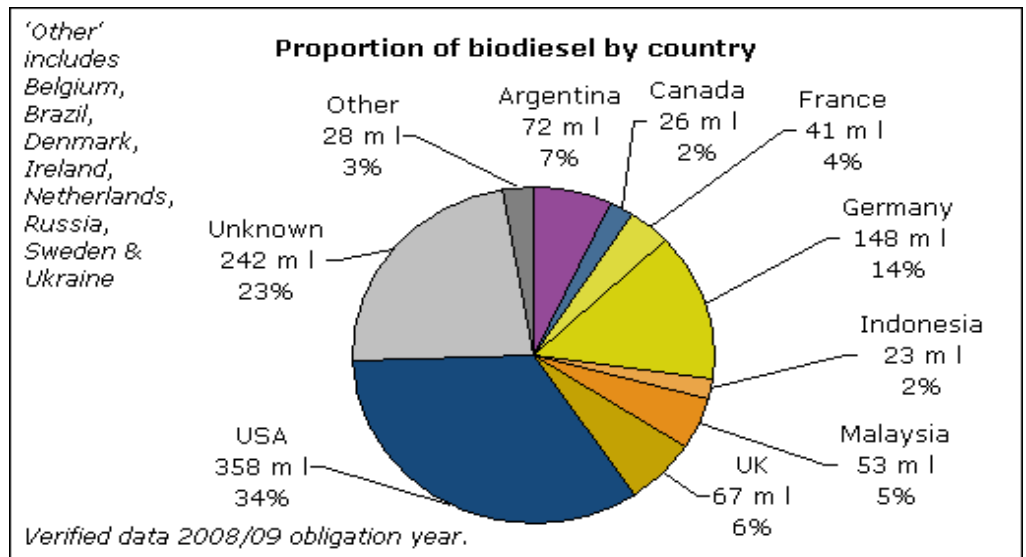
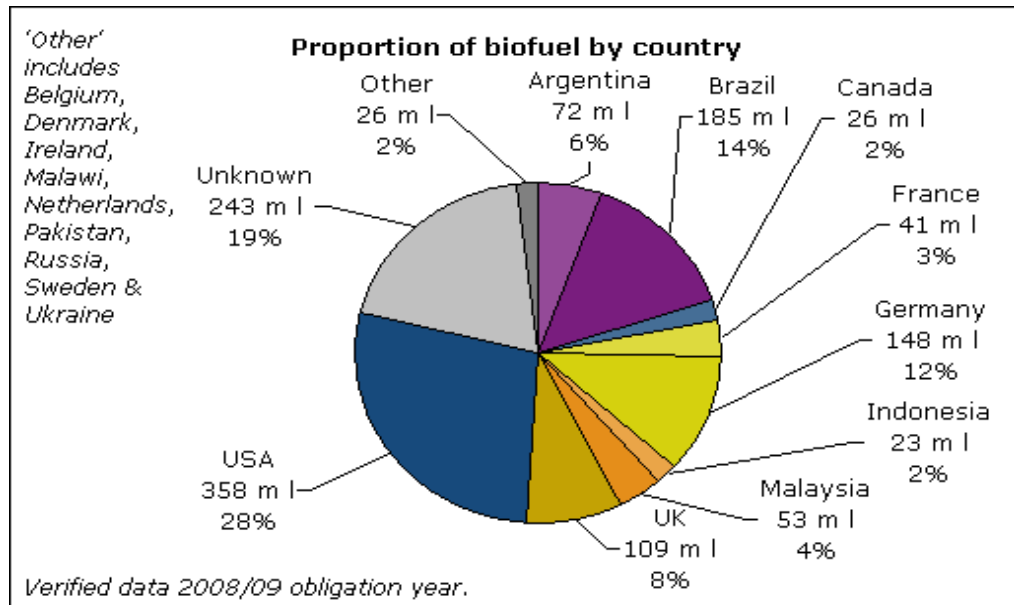
## Volumes and proportions by fuel type



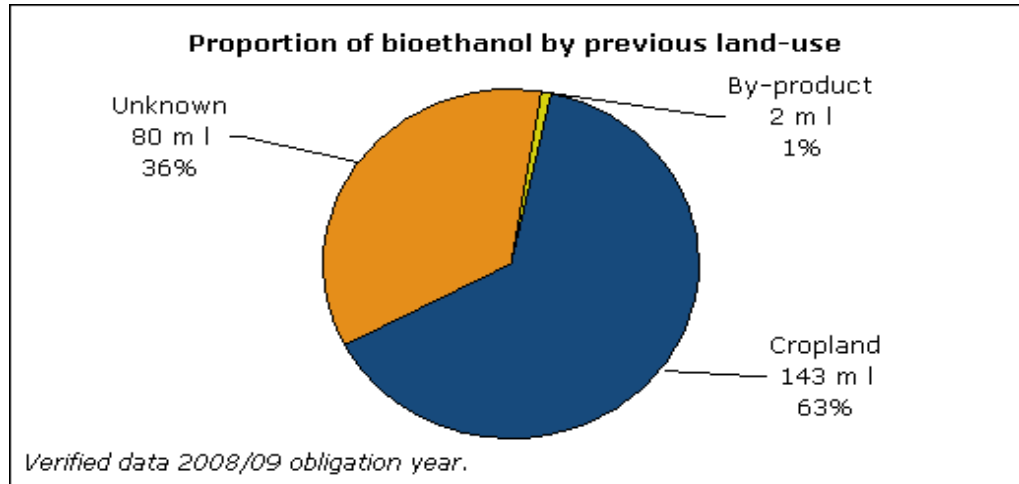
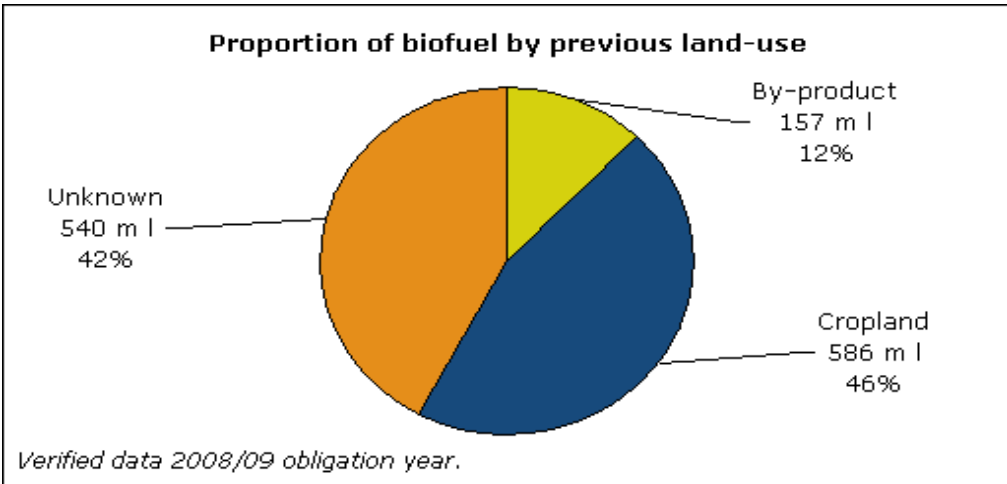
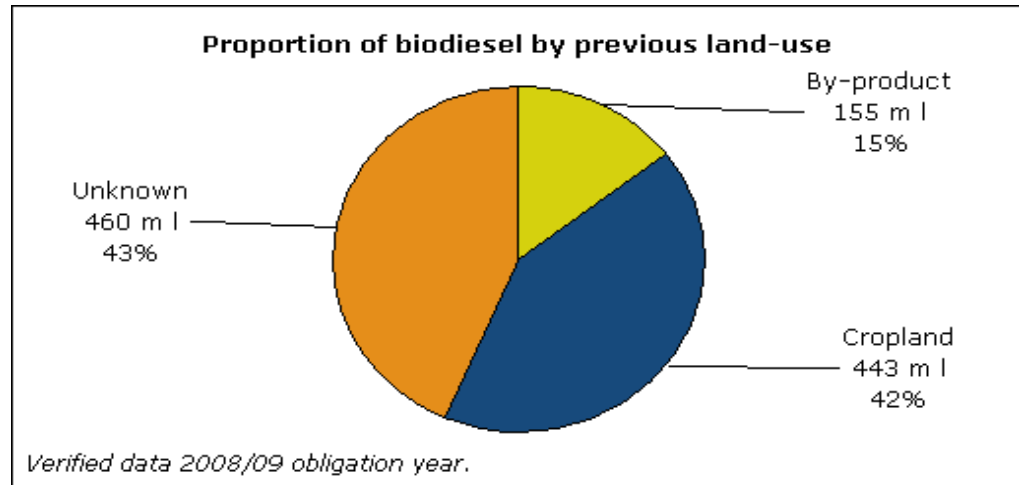
**Proportions by feedstock**



**Proportions by country**

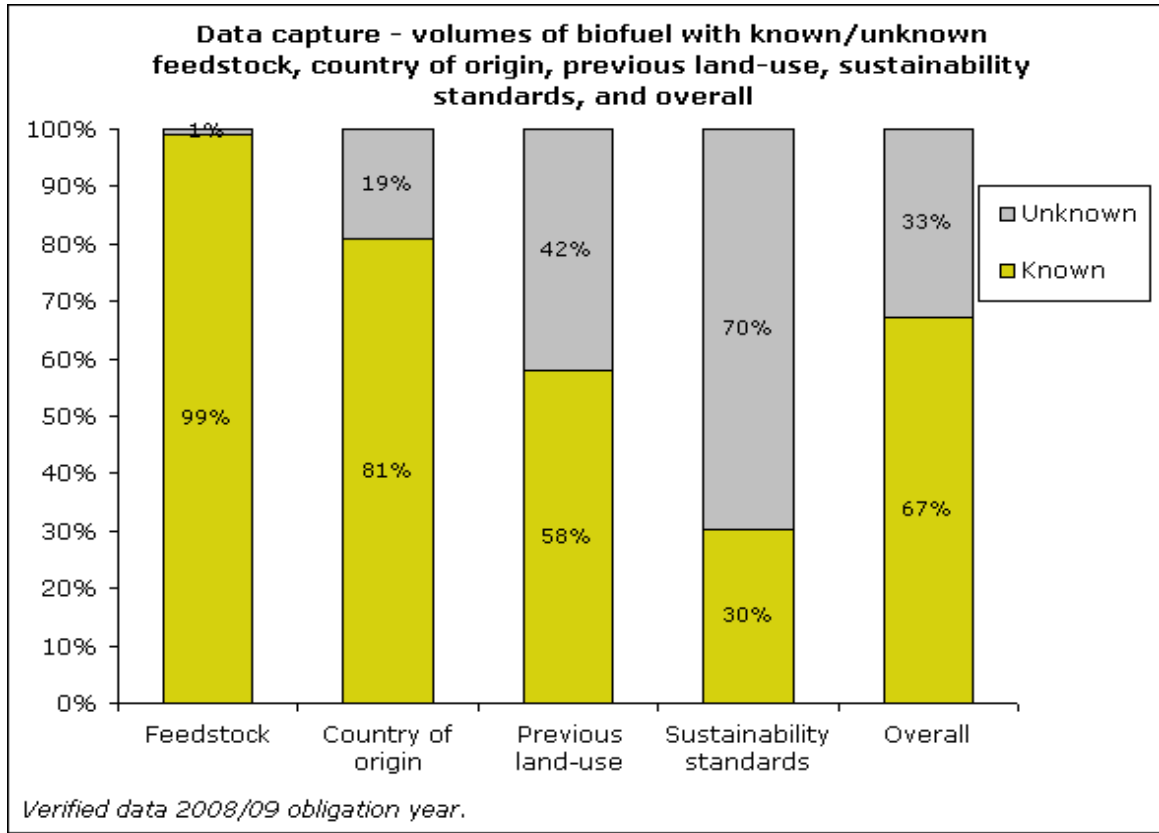
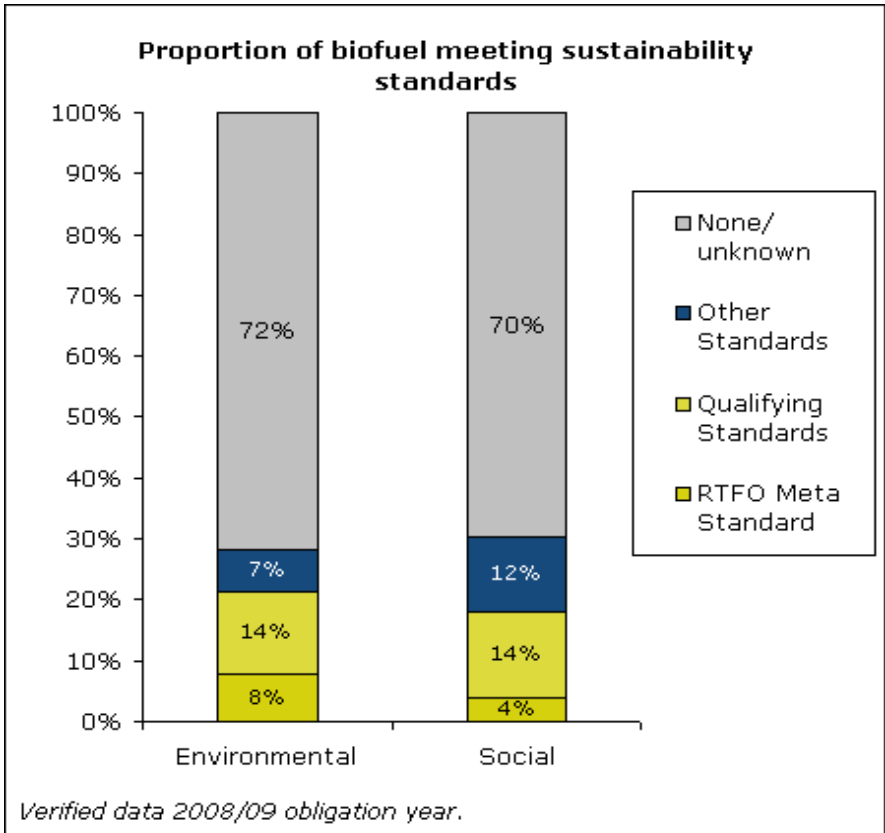


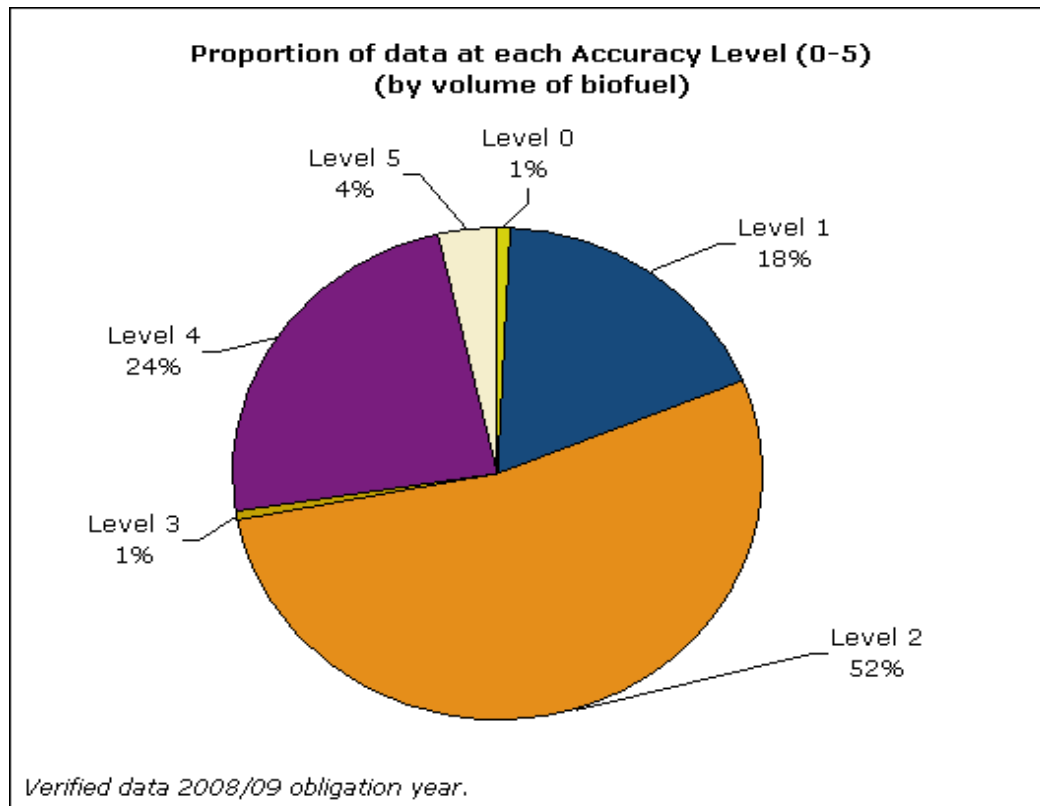
**Proportions by previous land-use**



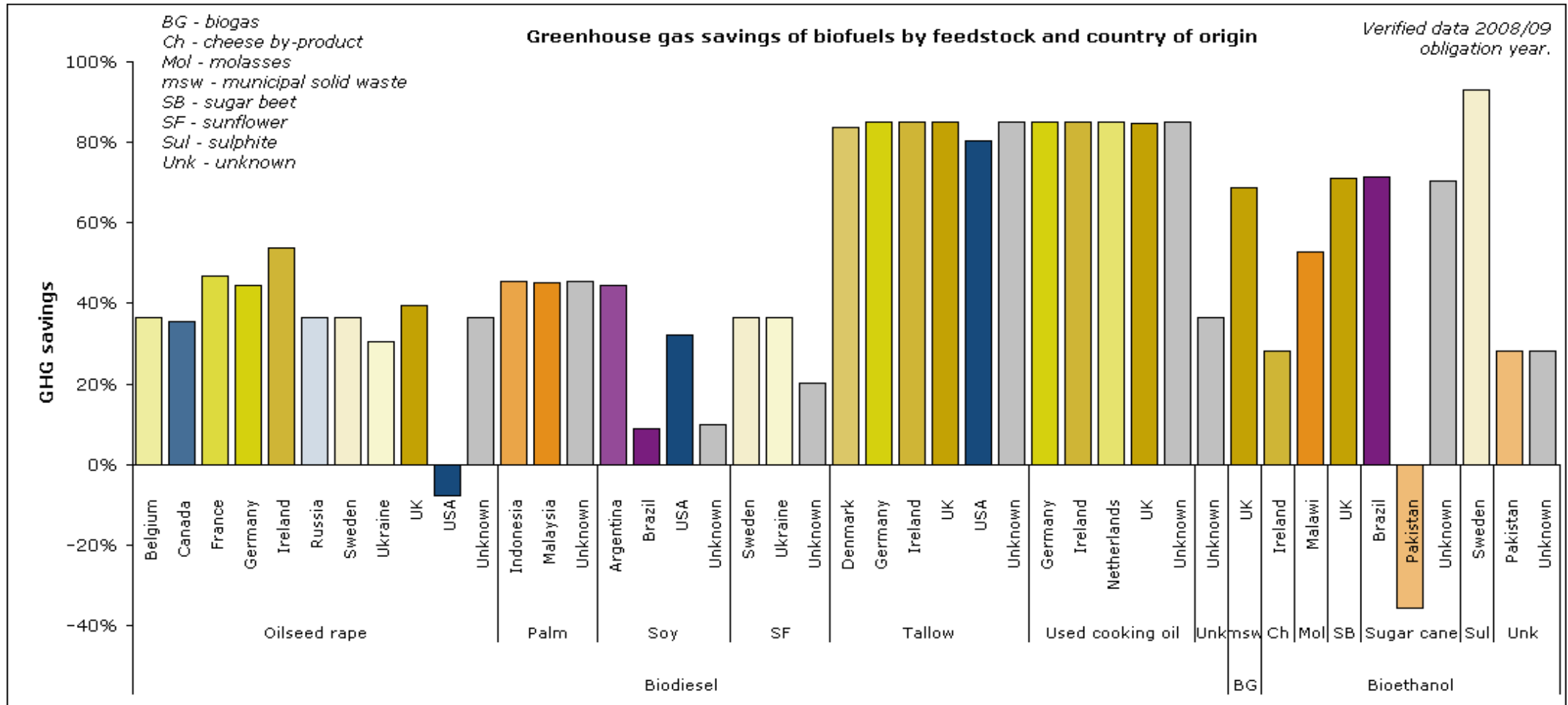


**Sustainability, data-capture and accuracy**

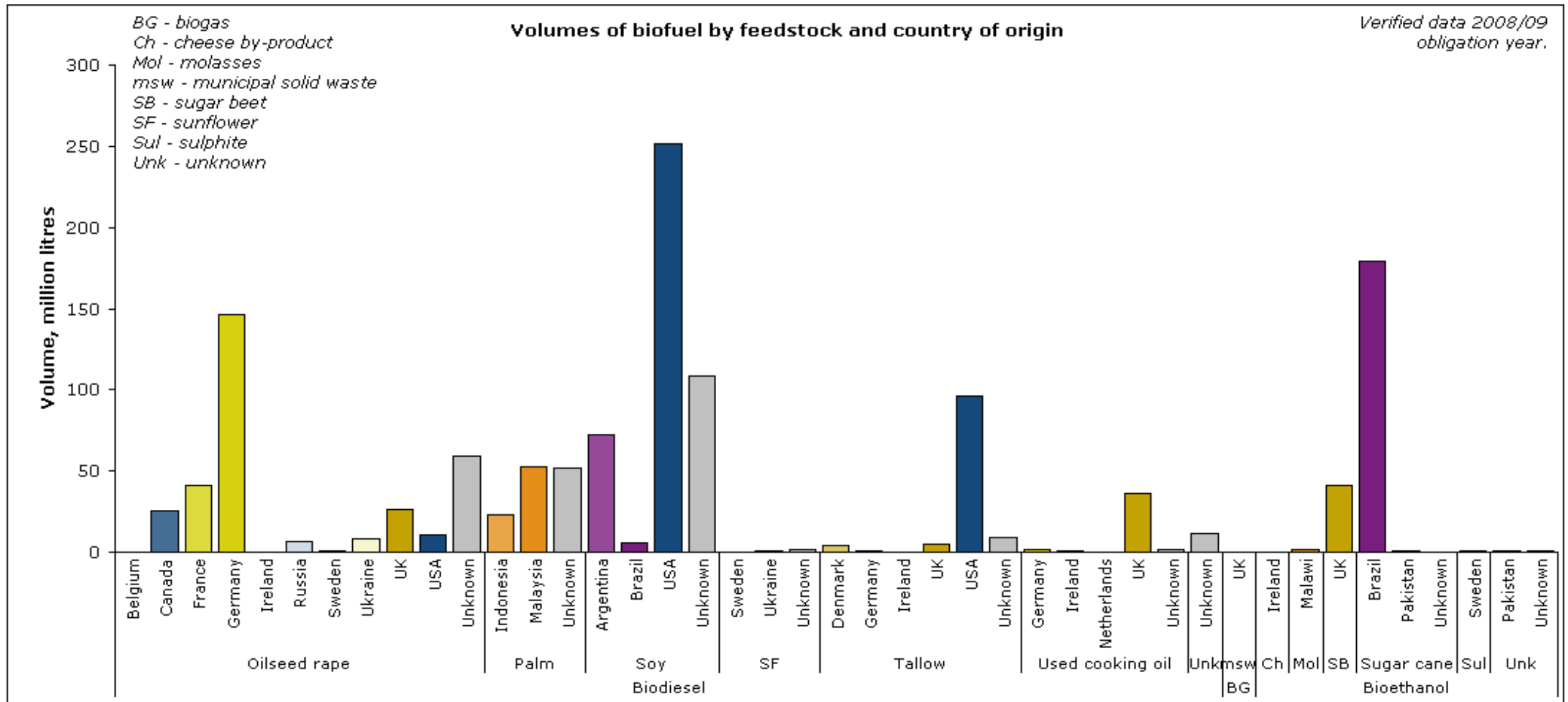




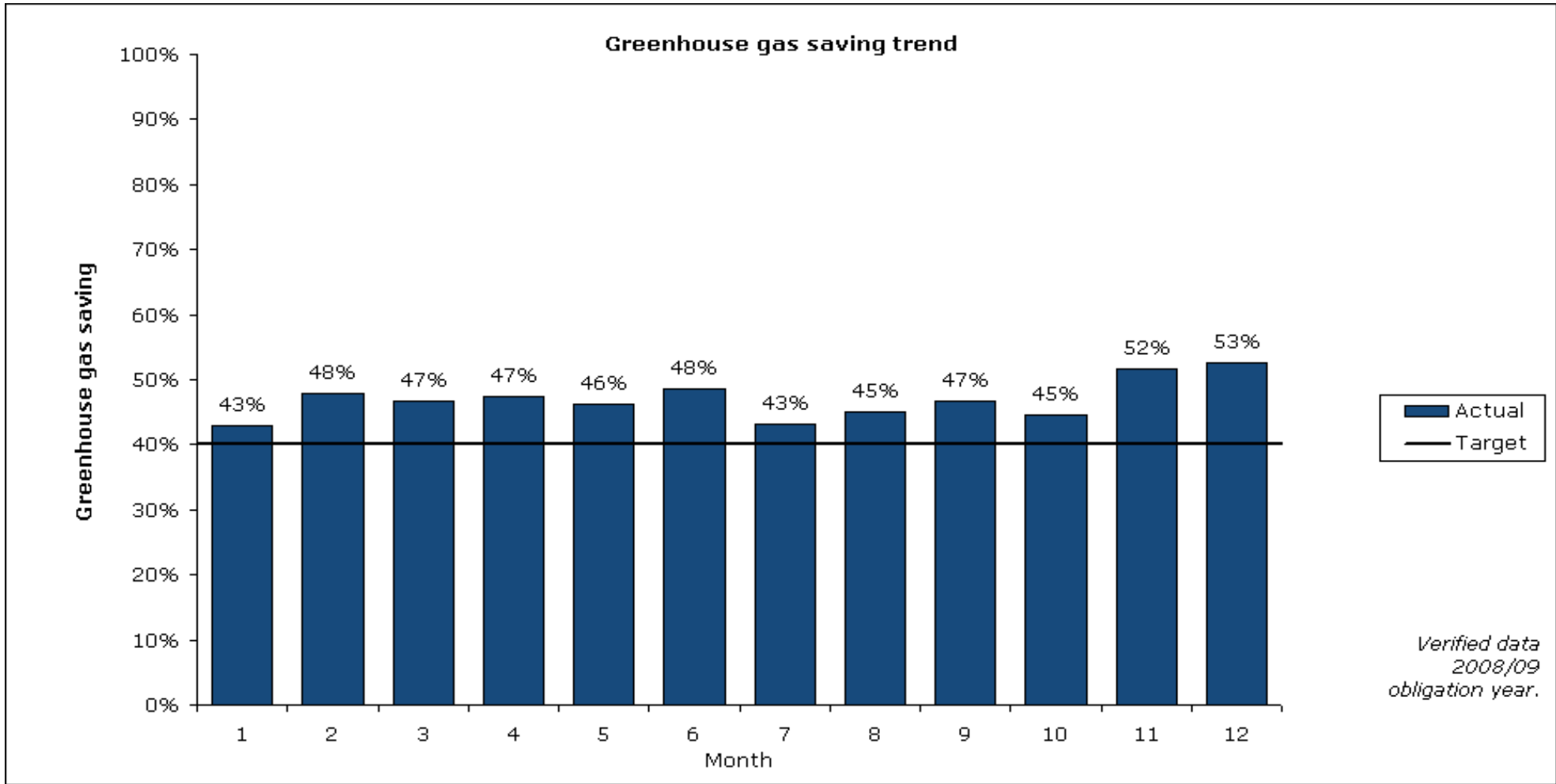
## Greenhouse gas savings



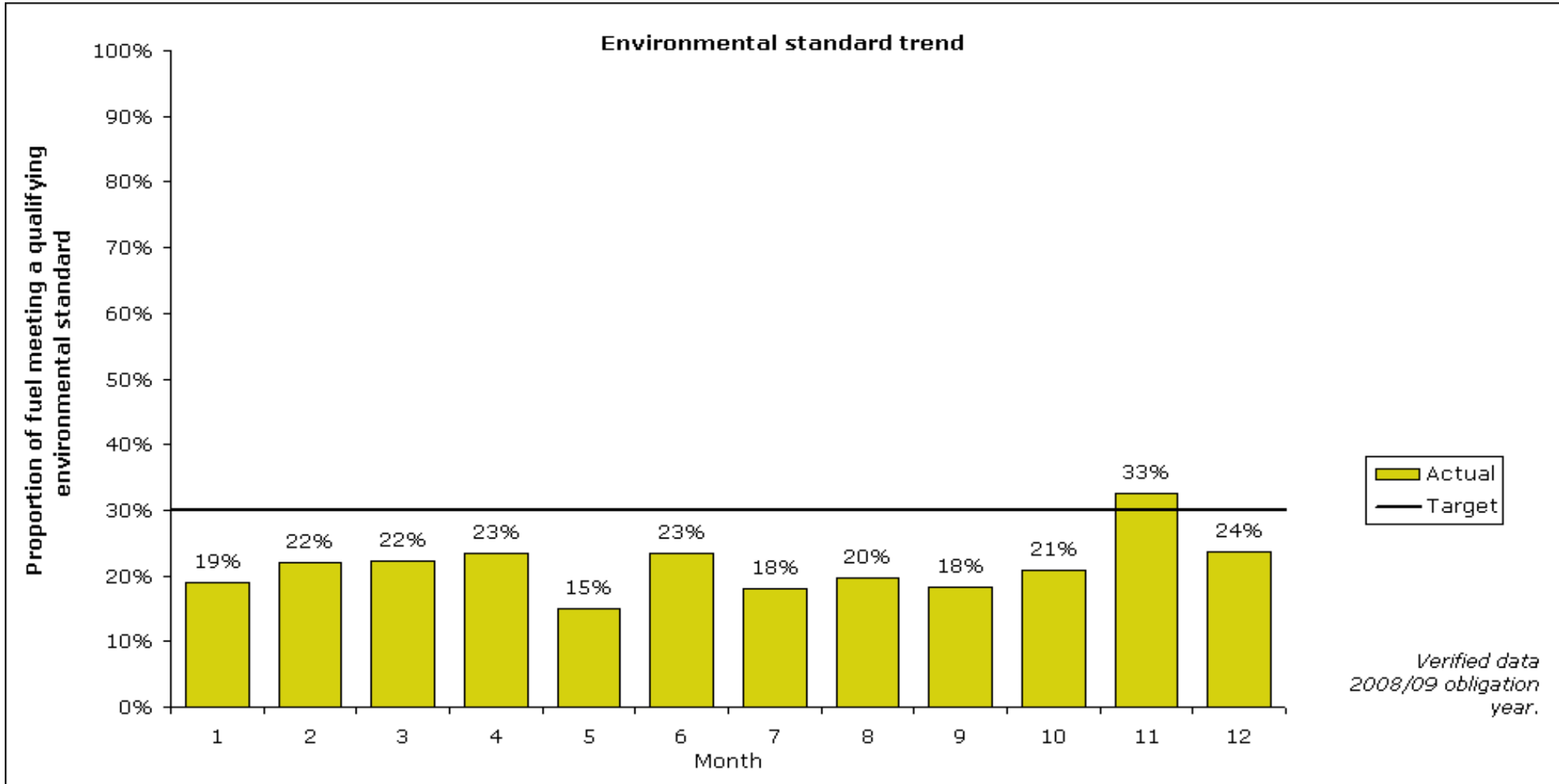
## Volume by feedstock and country



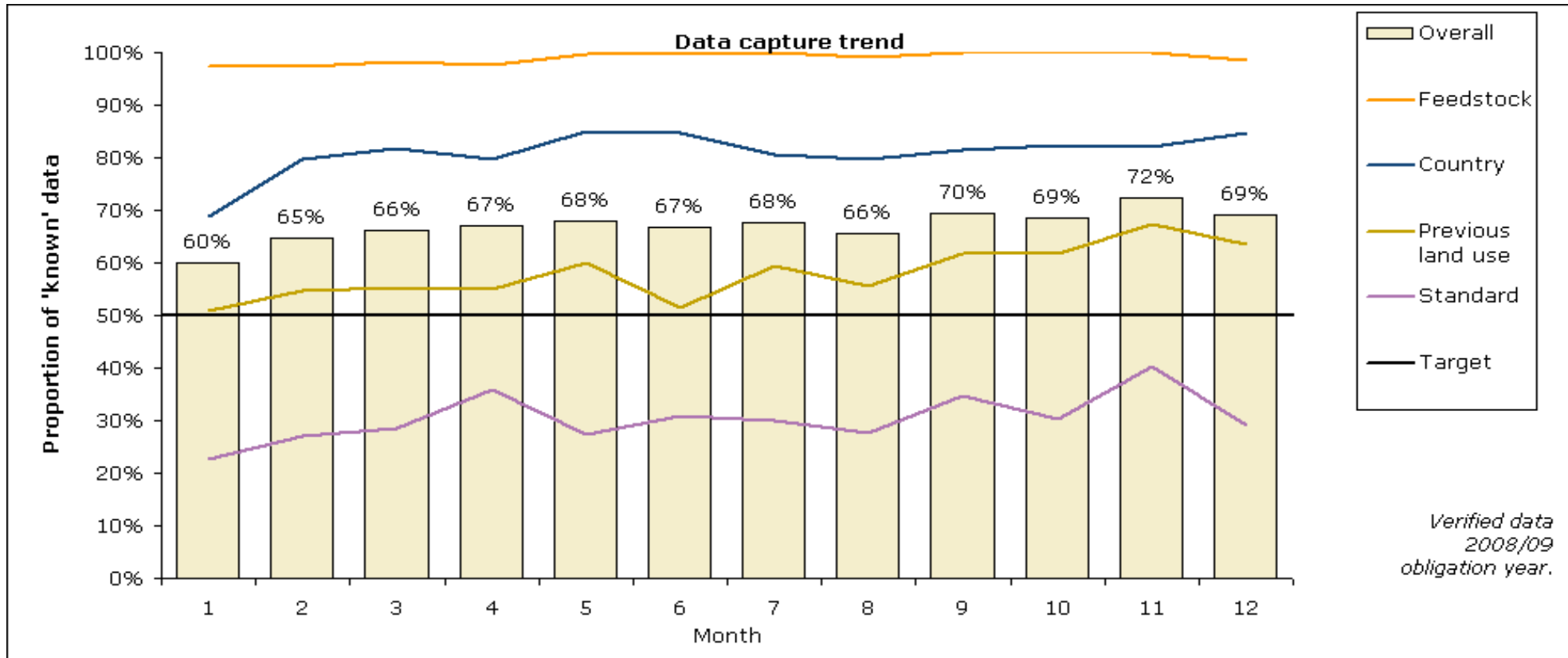
**Performance trends against the RTFO's targets**



**Performance trends against the RTFO's targets**

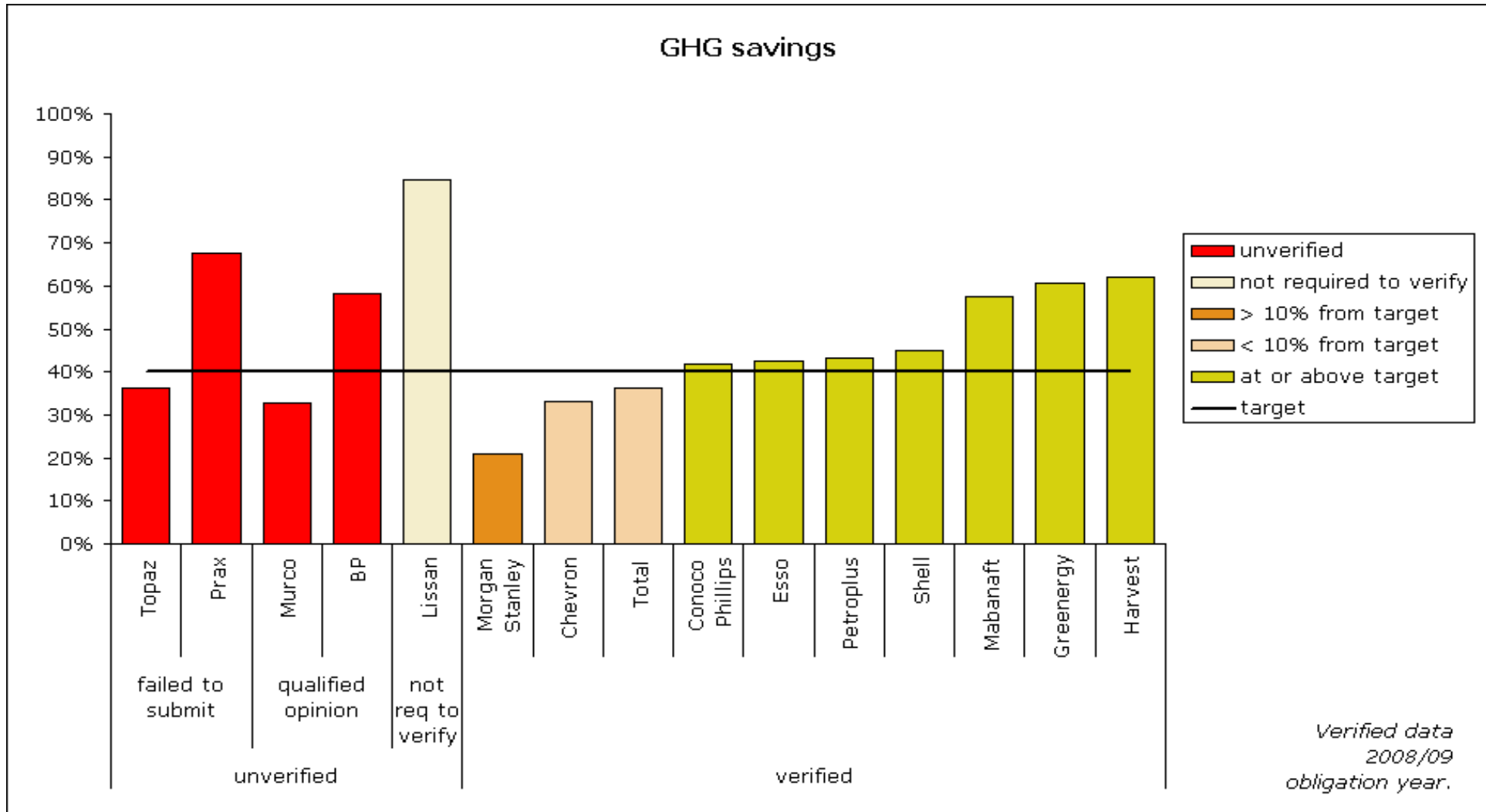


**Performance trends against the RTFO's targets**



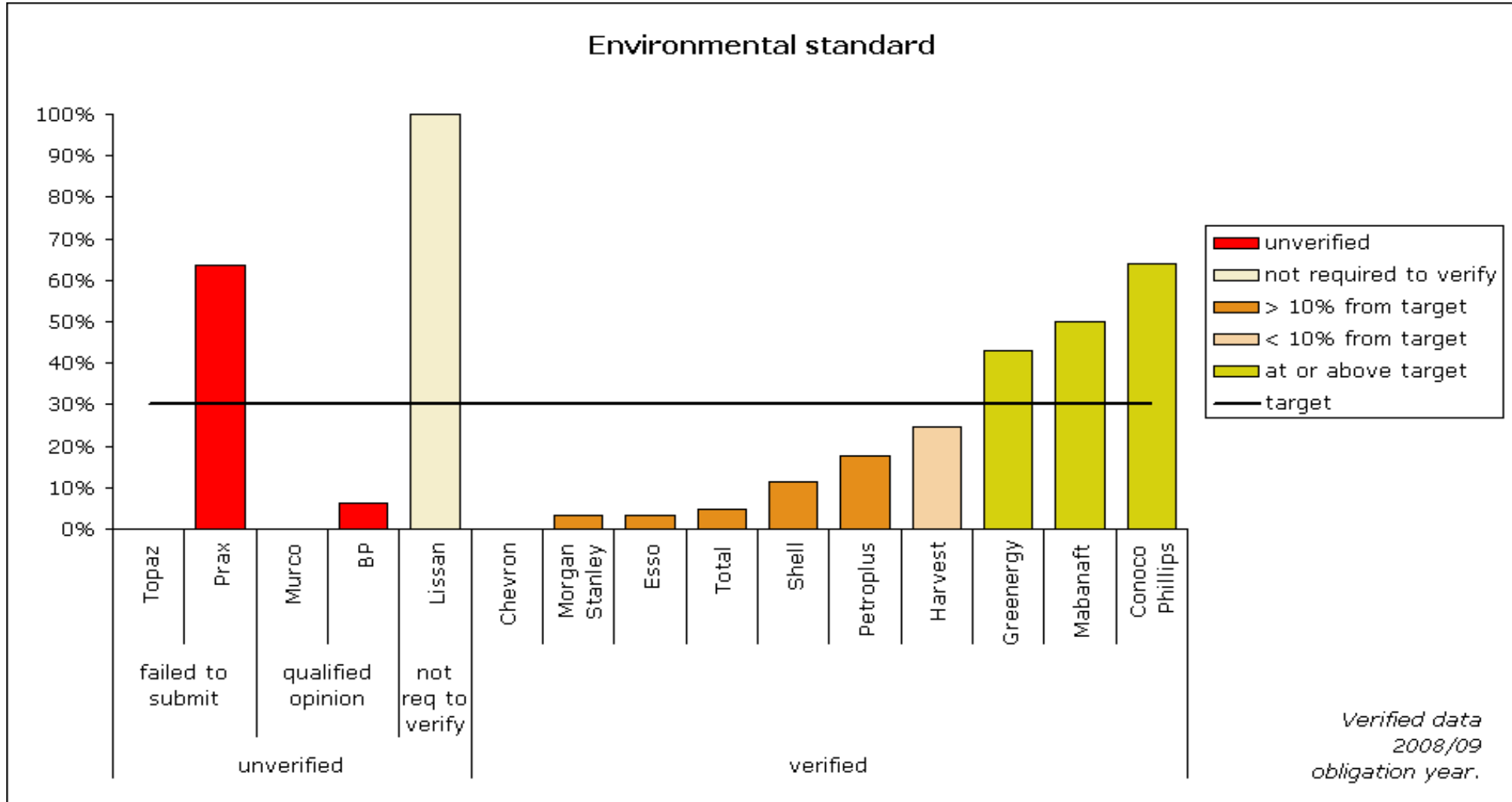
These trend graphs are based on the final 2008/09 verified data set. Fuel suppliers are encouraged to revise their data where they are able to provide more accurate information later in the year - for instance, adding information if they found out the previous land use of a biofuel plantation, or removing information if they had reason to believe that a sustainability standard might have been incorrectly reported. The data may not therefore correspond exactly to the data in previous RFA reports.

### Fossil fuel company performance against the RTFO's targets

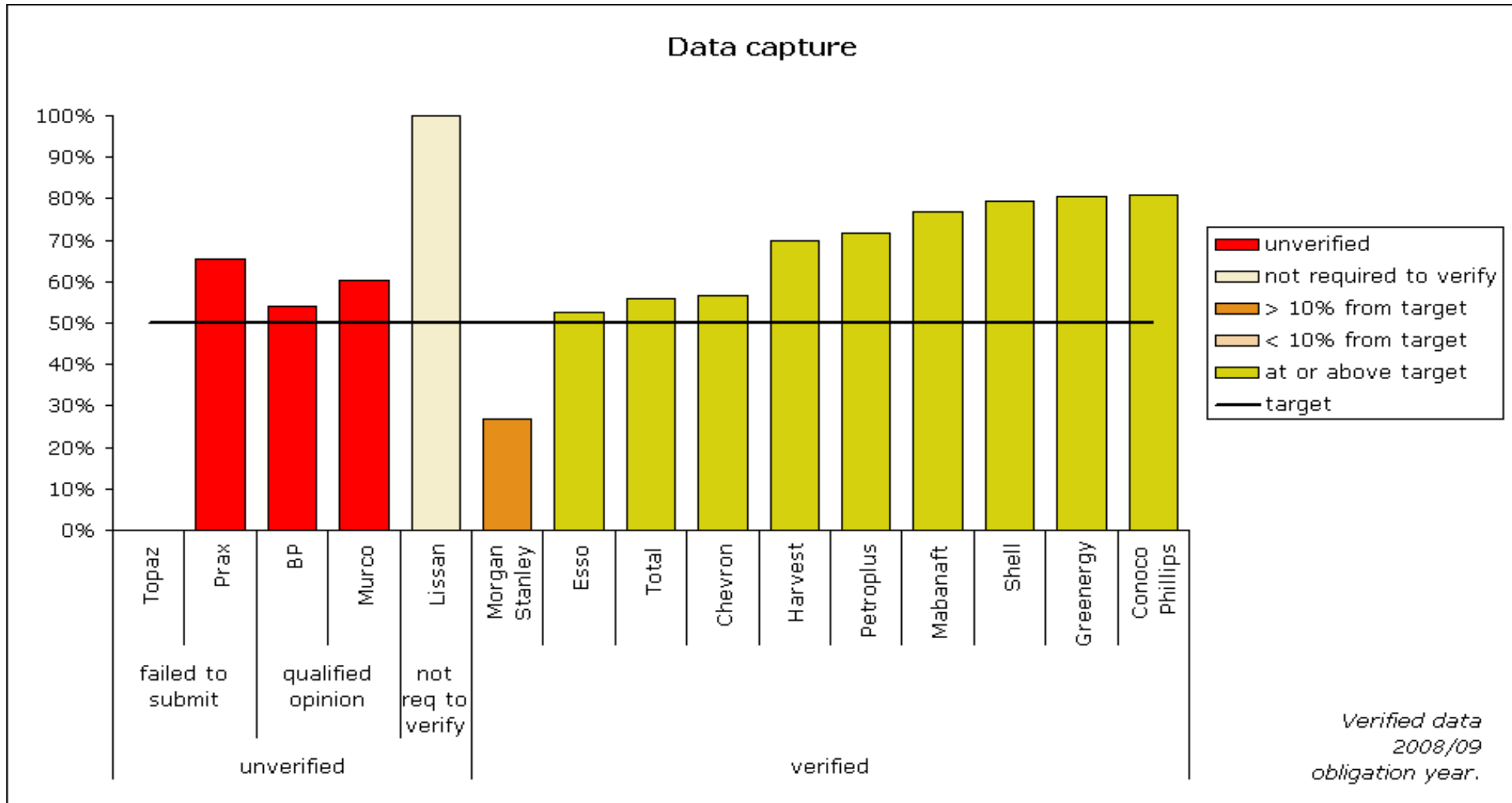




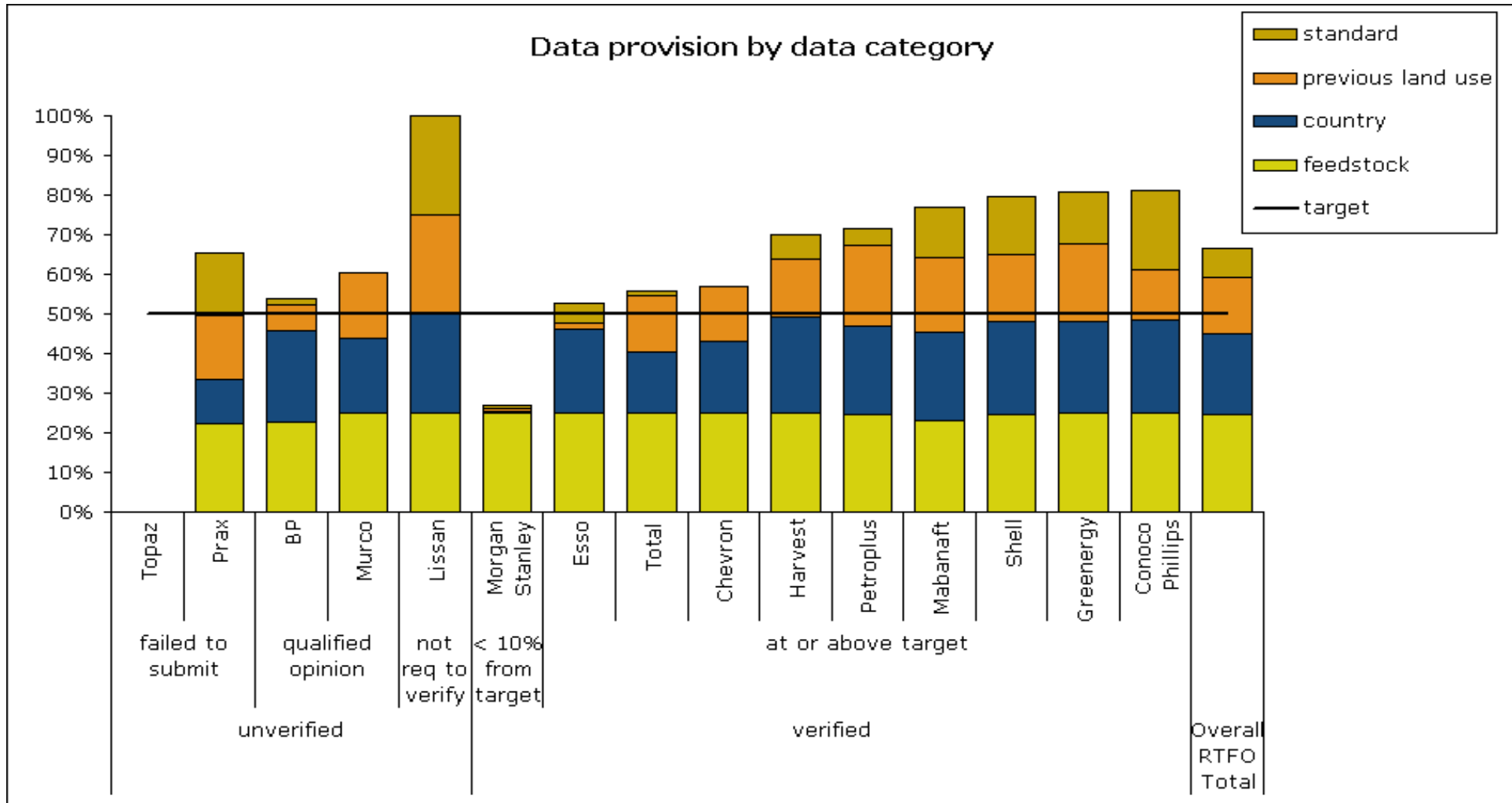
### Fossil fuel company performance against the RTFO's targets



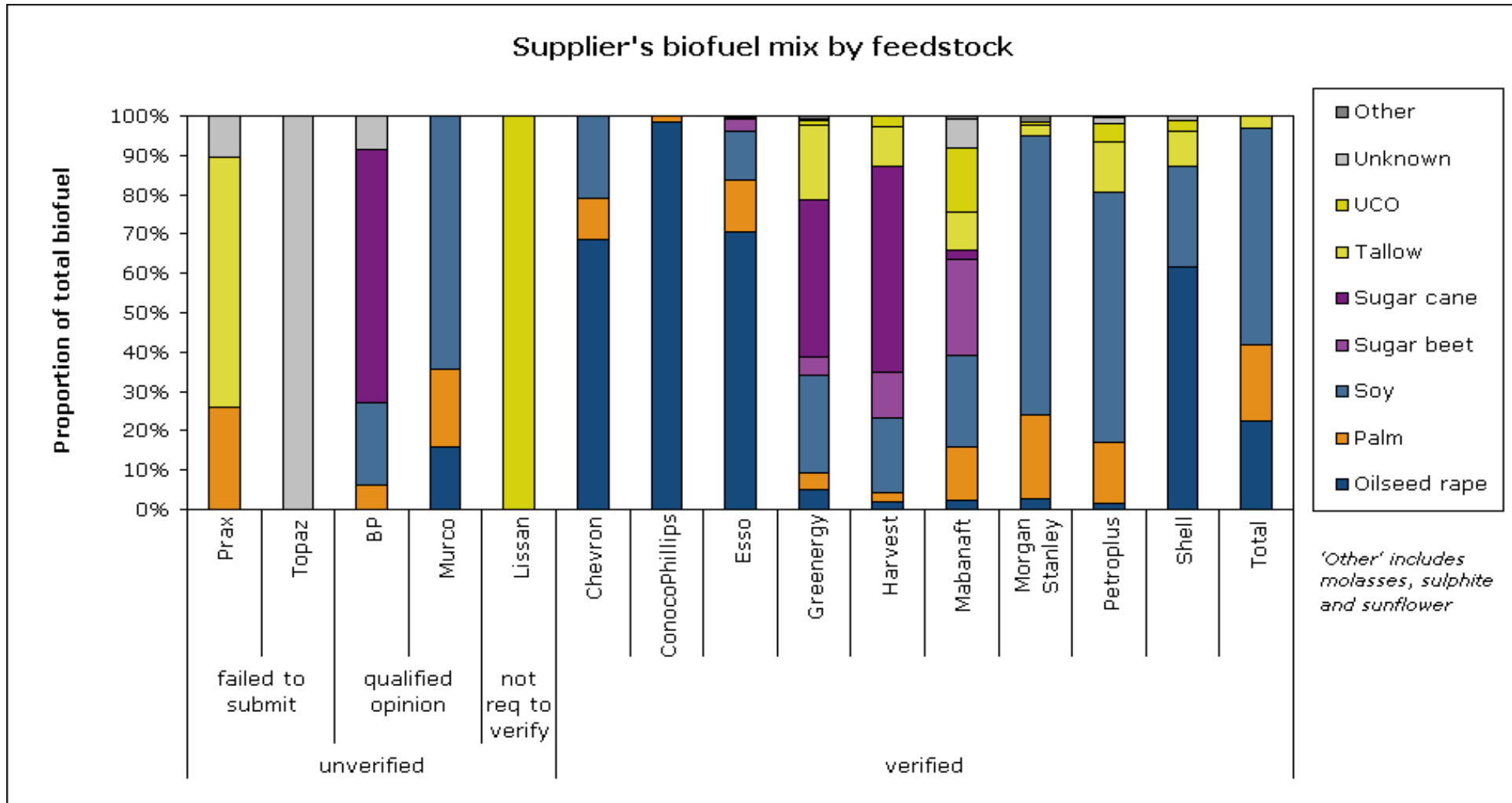
### Fossil fuel company performance against the RTFO's targets



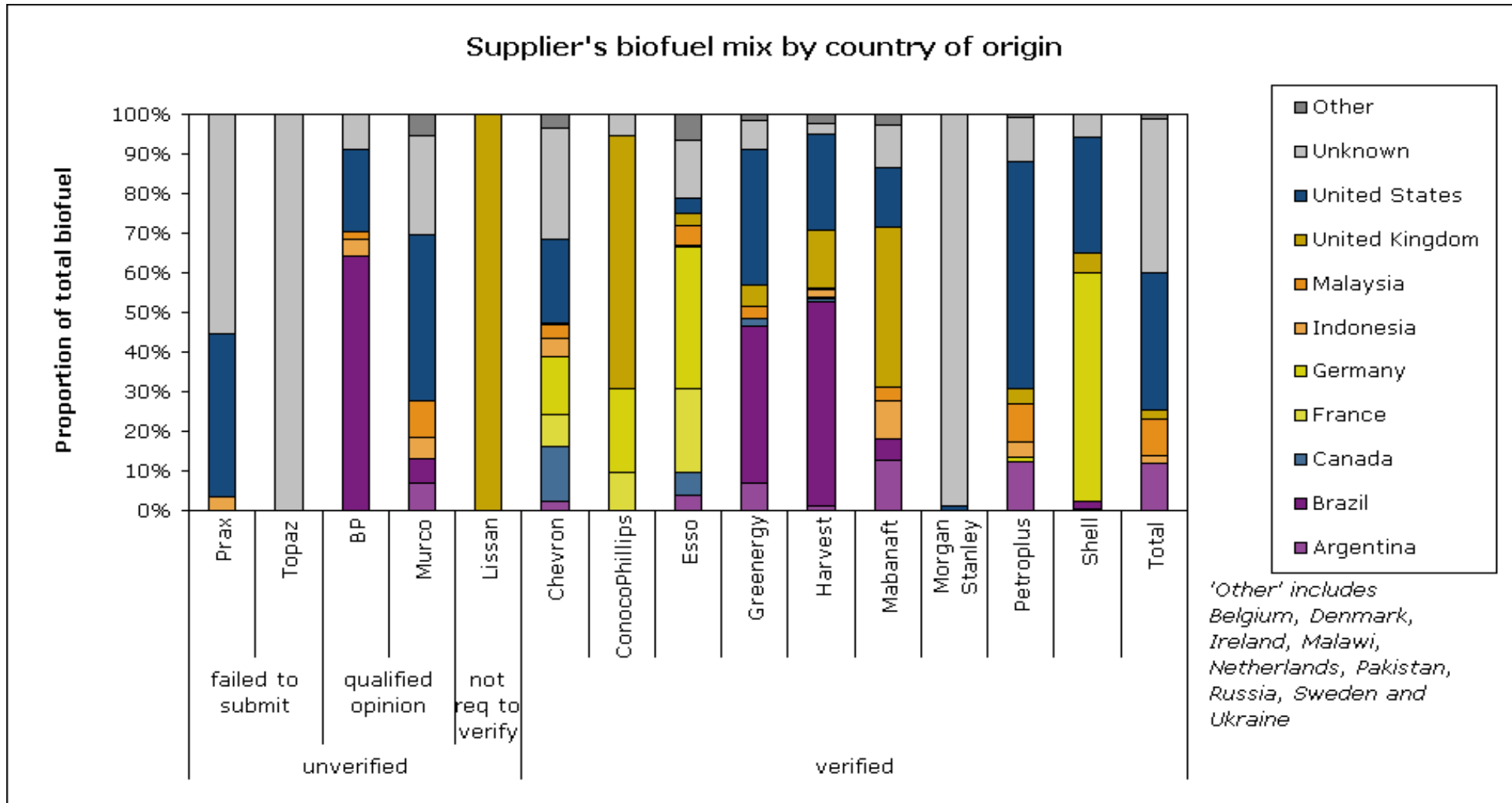
### Fossil fuel company performance against the RTFO's targets



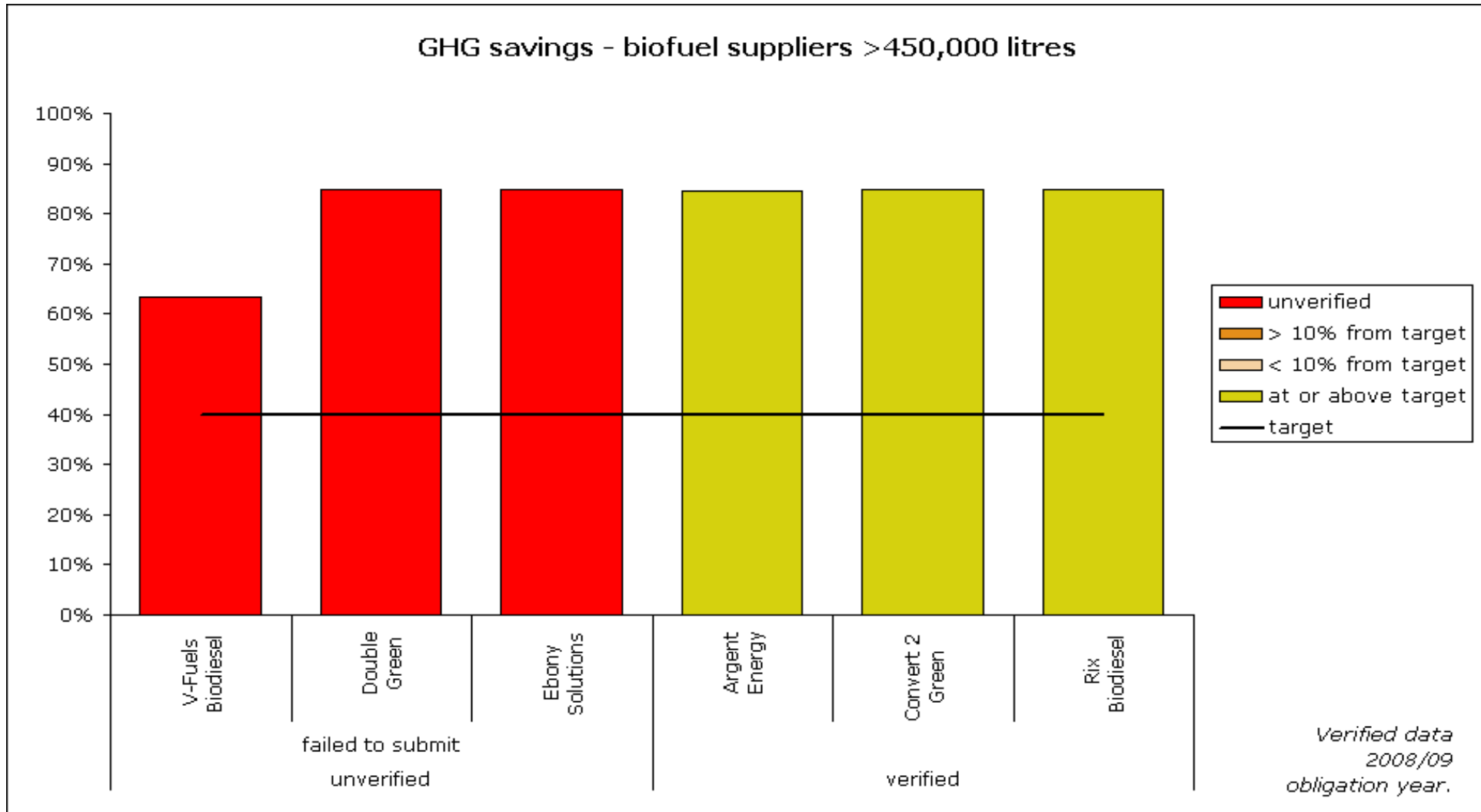
### Fossil fuel company performance against the RTFO's targets



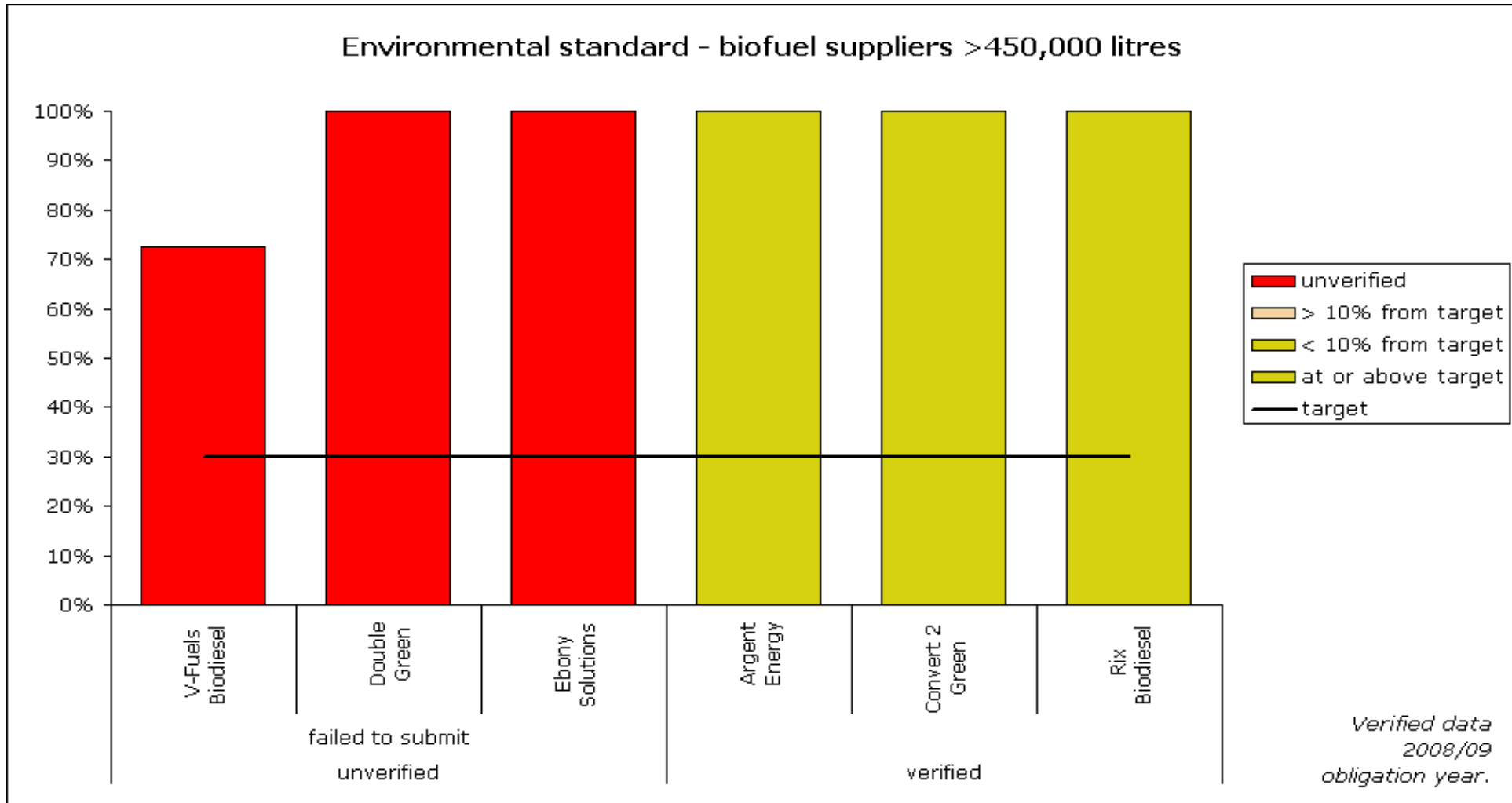
### Fossil fuel company performance against the RTFO's targets



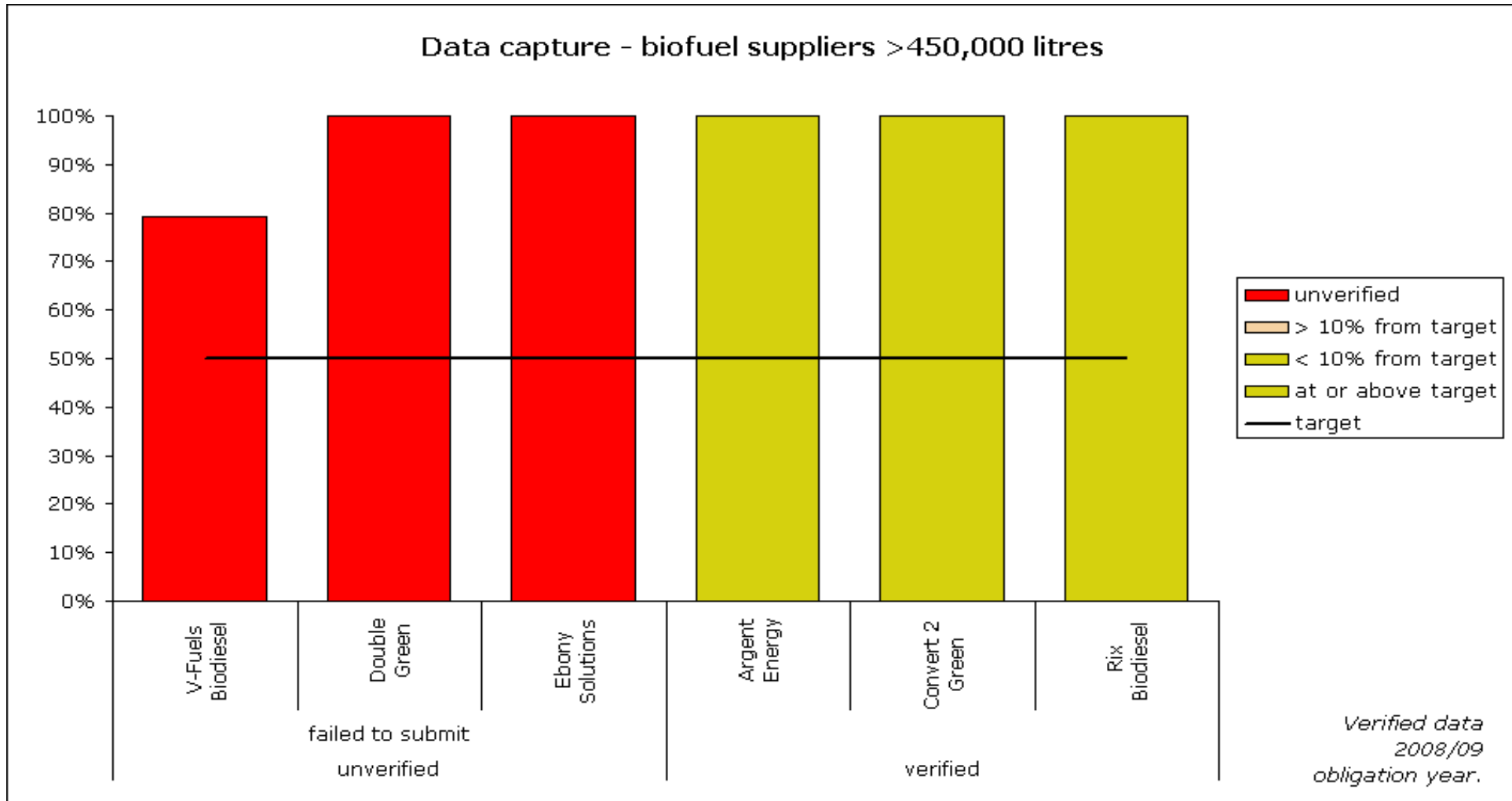
### Performance against the RTFO's targets - biofuel suppliers > 450,000 litres



**Performance against the RTFO's targets -  
 biofuel suppliers > 450,000 litres**



### Performance against the RTFO's targets - biofuel suppliers > 450,000 litres





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

**Table 1: Performance of the RTFO against the three Government's targets.**

Annual Supplier Target	2008/09 Obligation period	
	Target	Actual
Percentage of feedstock meeting a Qualifying Environmental Standard	30%	20%
Annual GHG saving of fuel supplied	40%	46%
Data reporting of renewable fuel characteristics	50%	64%

The performance against government targets is stated after adjusting for claims which should have been verified but could not be verified.

Of the C&S data reported to the RFA, 94.3% was verified, 0.3% came from small suppliers and was not subject to verification, and the remaining 5.4% did not receive the limited assurance verification required. This 5.4% has not been counted towards overall performance against the government's targets.

Therefore the data in Table 1 on overall RTFO performance against the targets may not match the detailed data in the other tables and charts.

**Table 2: Volume of biofuels supplied for road transport under the RTFO.**

Fuel type	Volume, million l, or million kg
Biodiesel	1,057.7
Bioethanol	225.4
Biogas	0.4
<b>Total</b>	<b>1,283.6</b>

**Table 3: Carbon and sustainability data of biofuels by fuel type.**

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 <sub>2</sub> e)/MJ	Greenhouse gas saving, %	Accuracy level, (0-5)
				RTFO	Qualifying Standards	Other standards	None/unknown	RTFO	Qualifying Standards	Other standards	None/unknown			
Biodiesel	1,057,746,689	1,057.7	82%	2%	15%	8%	74%	0%	15%	11%	74%	50	42%	2.2
Bioethanol	225,390,279	225.4	18%	33%	9%	0%	59%	23%	11%	18%	48%	25	70%	3.3
Biogas	415,700	0.4	0.03%	0%	100%	0%	0%	0%	100%	0%	0%	27	69%	5.0
<b>Total Mean</b>	<b>1,283,552,668</b>	<b>1,283.6</b>	<b>100%</b>	<b>8%</b>	<b>14%</b>	<b>7%</b>	<b>72%</b>	<b>4%</b>	<b>14%</b>	<b>12%</b>	<b>70%</b>	<b>46</b>	<b>47%</b>	<b>2.4</b>

Table 4: 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 <sub>2</sub> e)/MJ	Greenhouse gas saving, %	Accuracy level, (0-5)		
					RTFO	Qualifying Standards	Other standards	None/unknown	RTFO	Qualifying Standards	Other standards	None/unknown					
Feedstock	Oilseed rape	324,228,296	324.2	31%	28%	8%	0%	28%	65%	0%	0%	0%	35%	65%	52	40%	2.1
	Palm	127,008,760	127.0	12%	0%	0%	1%	0%	99%	0%	1%	0%	0%	99%	47	45%	2.0
	Soy	438,100,662	438.1	41%	0%	0%	0%	0%	100%	0%	0%	0%	0%	100%	62	28%	2.1
	Sunflower	2,329,572	2.3	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	100%	64	26%	1.4
	Tallow	115,185,487	115.2	11%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%	16	81%	3.0
	Used cooking oil	39,522,422	39.5	4%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%	13	85%	2.9
	Unknown	11,371,490	11.4	1%	0%	0%	0%	0%	100%	0%	0%	0%	0%	100%	55	36%	0.0
	<b>Total Mean</b>	<b>1,057,746,689</b>	<b>1,057.7</b>	<b>100%</b>		<b>2%</b>	<b>15%</b>	<b>8%</b>	<b>74%</b>	<b>0%</b>	<b>15%</b>	<b>11%</b>	<b>74%</b>	<b>50</b>	<b>42%</b>	<b>2.2</b>	
Country of origin	Argentina	72,317,371	72.3	7%	0%	0%	0%	0%	100%	0%	0%	0%	100%	48	44%	2.0	
	Belgium	352,188	0.4	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%	55	36%	2.0	
	Brazil	5,941,238	5.9	1%	0%	0%	0%	1%	99%	0%	0%	1%	99%	79	9%	2.0	
	Canada	25,767,985	25.8	2%	0%	0%	0%	0%	100%	0%	0%	0%	100%	56	36%	2.0	
	Denmark	4,269,617	4.3	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	14	84%	2.2	
	France	40,652,710	40.7	4%	0%	0%	0%	23%	77%	0%	0%	23%	77%	46	47%	2.1	
	Germany	147,734,446	147.7	14%	0%	0%	1%	52%	47%	0%	1%	52%	47%	47	45%	2.1	
	Indonesia	22,854,318	22.9	2%	0%	0%	2%	0%	98%	0%	2%	0%	98%	47	46%	2.0	
	Ireland	1,350,593	1.4	0%	0%	0%	93%	0%	7%	0%	93%	0%	7%	15	83%	2.3	
	Malaysia	52,465,478	52.5	5%	0%	0%	0%	0%	100%	0%	0%	0%	100%	47	45%	3.0	
	Netherlands	66,819	0.1	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	13	85%	2.0	
	Russia	6,420,670	6.4	1%	0%	0%	0%	0%	100%	0%	0%	0%	100%	55	36%	2.0	
	Sweden	1,023,211	1.0	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%	55	36%	2.0	
	Ukraine	8,828,804	8.8	1%	0%	0%	0%	34%	66%	0%	0%	34%	66%	60	31%	2.0	
	United Kingdom	67,345,554	67.3	6%	38%	61%	0%	0%	1%	0%	61%	38%	1%	28	67%	3.5	
	United States	358,111,128	358.1	34%	0%	27%	0%	0%	73%	0%	27%	0%	73%	48	44%	2.8	
Unknown	242,244,559	242.2	23%	0%	0%	4%	0%	96%	0%	4%	0%	96%	62	28%	1.0		
<b>Total Mean</b>	<b>1,057,746,689</b>	<b>1,057.7</b>	<b>100%</b>		<b>2%</b>	<b>15%</b>	<b>8%</b>	<b>74%</b>	<b>0%</b>	<b>15%</b>	<b>11%</b>	<b>74%</b>	<b>50</b>	<b>42%</b>	<b>2.2</b>		
Previous land-use	By-product	154,707,909	154.7	15%	0%	100%	0%	0%	0%	0%	0%	0%	0%	16	82%	3.0	
	Cropland	442,898,108	442.9	42%	3%	0%	0%	15%	82%	0%	0%	18%	82%	54	38%	2.5	
	Unknown	460,140,672	460.1	44%	2%	0%	0%	5%	92%	0%	0%	8%	92%	58	32%	1.6	
	<b>Total Mean</b>	<b>1,057,746,689</b>	<b>1,057.7</b>	<b>100%</b>		<b>2%</b>	<b>15%</b>	<b>8%</b>	<b>74%</b>	<b>0%</b>	<b>15%</b>	<b>11%</b>	<b>74%</b>	<b>50</b>	<b>42%</b>	<b>2.2</b>	

Table 5: 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 <sub>2</sub> 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%	100%	0%	0%	61	28%	2.0
	Molasses	1,349,299	1.3	1%	0%	100%	0%	0%	0%	100%	0%	0%	40	53%	2.0
	Sugar beet	41,350,654	41.4	18%	100%	0%	0%	0%	0%	0%	100%	0%	25	71%	4.0
	Sugar cane	180,262,890	180.3	80%	18%	9%	0%	73%	29%	13%	0%	59%	25	71%	3.2
	Sulphite	787,299	0.8	0%	0%	100%	0%	0%	0%	100%	0%	0%	6	93%	2.0
	Unknown	1,639,177	1.6	1%	0%	0%	0%	100%	0%	0%	0%	100%	61	28%	0.5
	<b>Total Mean</b>	<b>225,390,279</b>	<b>225.4</b>	<b>100%</b>		<b>33%</b>	<b>9%</b>	<b>0%</b>	<b>59%</b>	<b>23%</b>	<b>11%</b>	<b>18%</b>	<b>48%</b>	<b>25</b>	<b>70%</b>
Country of origin	Brazil	179,167,004	179.2	79%	18%	10%	0%	72%	29%	13%	0%	58%	24	71%	3.2
	Ireland	960	0.0	0%	0%	100%	0%	0%	0%	100%	0%	0%	61	28%	2.0
	Malawi	1,349,299	1.3	1%	0%	100%	0%	0%	0%	100%	0%	0%	40	53%	2.0
	Pakistan	1,872,164	1.9	1%	0%	0%	0%	100%	0%	0%	0%	100%	91	-8%	1.6
	Sweden	787,299	0.8	0%	0%	100%	0%	0%	0%	100%	0%	0%	6	93%	2.0
	United Kingdom	41,350,654	41.4	18%	100%	0%	0%	0%	0%	0%	100%	0%	25	71%	4.0
	Unknown	862,899	0.9	0%	0%	0%	0%	100%	0%	0%	0%	100%	59	31%	0.1
<b>Total Mean</b>	<b>225,390,279</b>	<b>225.4</b>	<b>100%</b>		<b>33%</b>	<b>9%</b>	<b>0%</b>	<b>59%</b>	<b>23%</b>	<b>11%</b>	<b>18%</b>	<b>48%</b>	<b>25</b>	<b>70%</b>	<b>3.3</b>
Previous land-use	By-product	2,137,558	2.1	1%	0%	100%	0%	0%	0%	100%	0%	0%	27	68%	2.0
	Cropland	143,137,957	143.1	64%	51%	12%	0%	37%	36%	16%	29%	19%	24	72%	3.8
	Unknown	80,114,764	80.1	36%	0%	0%	0%	100%	0%	0%	0%	100%	27	68%	2.6
	<b>Total Mean</b>	<b>225,390,279</b>	<b>225.4</b>	<b>100%</b>		<b>33%</b>	<b>9%</b>	<b>0%</b>	<b>59%</b>	<b>23%</b>	<b>11%</b>	<b>18%</b>	<b>48%</b>	<b>25</b>	<b>70%</b>

Table 6: 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 <sub>2</sub> 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	415,700	0.4	100%	0%	100%	0%	0%	0%	100%	0%	0%	27	69%	5.0
Country of origin	United Kingdom	415,700	0.4	100%	0%	100%	0%	0%	0%	100%	0%	0%	27	69%	5.0
Previous land-use	By-product	415,700	0.4	100%	0%	100%	0%	0%	0%	100%	0%	0%	27	69%	5.0

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

Table 7: 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 <sub>2</sub> e)/MJ	Greenhouse gas saving, %	Accuracy level, (0-5)
							RTFO	Qualifying Standards	Other standards	None/unknown	RTFO	Qualifying Standards	Other standards	None/unknown			
Biodiesel	Oilseed rape	Belgium	Cropland	352,188	0.4	0%	0%	0%	100%	0%	0%	0%	100%	55	36%	2.0	
		Canada	Unknown	14,304,260	14.3	1%	0%	0%	100%	0%	0%	0%	100%	56	35%	2.0	
			Unknown	11,463,725	11.5	1%	0%	0%	100%	0%	0%	0%	100%	55	36%	2.0	
		France	Cropland	6,585,846	6.6	1%	0%	0%	100%	0%	0%	0%	100%	46	47%	2.0	
			Unknown	34,066,864	34.1	3%	0%	0%	28%	72%	0%	0%	28%	72%	46	47%	2.1
		Germany	Cropland	87,263,298	87.3	7%	0%	0%	75%	25%	0%	0%	75%	25%	48	45%	2.1
			Unknown	58,668,598	58.7	5%	0%	0%	19%	81%	0%	0%	19%	81%	48	45%	2.1
		Ireland	Cropland	99,458	0.1	0%	0%	0%	0%	100%	0%	0%	0%	100%	40	54%	5.0
		Russia	Unknown	6,420,670	6.4	1%	0%	0%	0%	100%	0%	0%	0%	100%	55	36%	2.0
		Sweden	Cropland	999,063	1.0	0%	0%	0%	0%	100%	0%	0%	0%	100%	55	36%	2.0
		Ukraine	Unknown	7,974,036	8.0	1%	0%	0%	38%	62%	0%	0%	38%	62%	60	31%	2.0
			Cropland	14,487,072	14.5	1%	98%	0%	0%	2%	0%	0%	98%	2%	52	40%	4.6
		Unknown	11,780,415	11.8	1%	94%	0%	0%	6%	0%	0%	94%	6%	53	39%	4.4	
	United States	Cropland	5,794,353	5.8	0%	0%	0%	0%	100%	0%	0%	0%	100%	93	-8%	2.0	
		Unknown	4,591,704	4.6	0%	0%	0%	0%	100%	0%	0%	0%	100%	93	-8%	2.0	
	Unknown	Cropland	9,352,211	9.4	1%	0%	0%	0%	100%	0%	0%	0%	100%	55	36%	1.0	
		Unknown	50,024,535	50.0	4%	0%	0%	0%	100%	0%	0%	0%	100%	55	36%	1.0	
	Palm	Indonesia	Cropland	16,933,806	16.9	1%	0%	0%	3%	0%	97%	0%	3%	0%	47	46%	2.0
			Unknown	5,920,512	5.9	0%	0%	0%	0%	100%	0%	0%	0%	100%	47	46%	2.0
		Malaysia	Cropland	40,825,513	40.8	3%	0%	0%	0%	100%	0%	0%	0%	100%	48	45%	3.3
			Unknown	11,639,965	11.6	1%	0%	0%	0%	100%	0%	0%	0%	100%	47	46%	2.1
		Unknown	Unknown	51,688,964	51.7	4%	0%	0%	0%	100%	0%	0%	0%	100%	47	46%	1.0
		Argentina	Cropland	47,083,786	47.1	4%	0%	0%	0%	100%	0%	0%	0%	100%	48	44%	2.0
	Soy	Unknown	Unknown	25,233,585	25.2	2%	0%	0%	0%	100%	0%	0%	0%	100%	48	44%	2.0
		Brazil	Cropland	127,535	0.1	0%	0%	0%	0%	100%	0%	0%	0%	100%	78	10%	2.0
			Unknown	5,813,703	5.8	0%	0%	0%	1%	99%	0%	0%	1%	99%	79	9%	2.0
		United States	Cropland	197,283,486	197.3	15%	0%	0%	0%	100%	0%	0%	0%	100%	59	32%	2.8
		Unknown	54,370,611	54.4	4%	0%	0%	0%	100%	0%	0%	0%	100%	58	33%	2.2	
	Unknown	Cropland	551,465	0.6	0%	0%	0%	0%	100%	0%	0%	0%	100%	78	10%	1.0	
		Unknown	107,636,491	107.6	8%	0%	0%	0%	100%	0%	0%	0%	100%	78	10%	1.0	
	Sunflower	Sweden	Unknown	24,148	0.0	0%	0%	0%	0%	100%	0%	0%	0%	100%	55	36%	2.0
		Ukraine	Cropland	854,768	0.9	0%	0%	0%	0%	100%	0%	0%	0%	100%	55	36%	2.0
		Unknown	Unknown	1,450,656	1.5	0%	0%	0%	0%	100%	0%	0%	0%	100%	69	20%	1.0
	Tallow	Denmark	By-product	4,269,617	4.3	0%	0%	100%	0%	0%	0%	100%	0%	0%	14	84%	2.2
		Germany	By-product	548,879	0.5	0%	0%	100%	0%	0%	0%	100%	0%	0%	13	85%	2.0
		Ireland	By-product	401,978	0.4	0%	0%	100%	0%	0%	0%	100%	0%	0%	13	85%	2.0
		United Kingdom	By-product	5,156,672	5.2	0%	0%	100%	0%	0%	0%	100%	0%	0%	13	85%	2.2
		United States	By-product	96,070,974	96.1	7%	0%	100%	0%	0%	0%	100%	0%	0%	17	80%	3.2
		Unknown	By-product	8,737,367	8.7	1%	0%	100%	0%	0%	0%	100%	0%	0%	13	85%	1.0
		Germany	By-product	1,253,671	1.3	0%	0%	100%	0%	0%	0%	100%	0%	0%	13	85%	2.0
	UCO	Ireland	By-product	849,157	0.8	0%	0%	100%	0%	0%	0%	100%	0%	0%	13	85%	2.2
		Netherlands	By-product	66,819	0.1	0%	0%	100%	0%	0%	0%	100%	0%	0%	13	85%	2.0
		United Kingdom	By-product	35,921,395	35.9	3%	0%	100%	0%	0%	0%	100%	0%	0%	13	85%	3.0
		Unknown	By-product	1,431,380	1.4	0%	0%	100%	0%	0%	0%	100%	0%	0%	13	85%	1.0
		Unknown	Unknown	11,371,490	11.4	1%	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
	Molasses	Malawi	By-product	1,349,299	1.3	0%	0%	100%	0%	0%	0%	100%	0%	0%	40	53%	2.0
	Sugar beet	United Kingdom	Cropland	41,350,654	41.4	3%	100%	0%	0%	0%	0%	100%	0%	25	71%	4.0	
	Sugar cane	Brazil	Cropland	101,787,303	101.8	8%	32%	17%	0%	52%	51%	23%	0%	27%	24	72%	3.7
			Unknown	77,379,701	77.4	6%	0%	0%	0%	100%	0%	0%	0%	100%	25	71%	2.6
		Pakistan	Unknown	1,046,364	1.0	0%	0%	0%	0%	100%	0%	0%	0%	100%	115	-36%	2.0
			Unknown	49,522	0.0	0%	0%	0%	0%	100%	0%	0%	0%	100%	25	71%	1.0
	Sulphite	Sweden	By-product	787,299	0.8	0%	0%	100%	0%	0%	0%	100%	0%	0%	6	93%	2.0
	Unknown	Pakistan	Unknown	825,800	0.8	0%	0%	0%	0%	100%	0%	0%	0%	100%	61	28%	1.0
		Unknown	Unknown	813,377	0.8	0%	0%	0%	0%	100%	0%	0%	0%	100%	61	28%	0.0
	Bioogas	MSW	United Kingdom	By-product	415,700	0.4	0%	0%	100%	0%	0%	0%	100%	0%	27	69%	5.0
	<b>Total Mean</b>				<b>1,283,552,668</b>	<b>1283.6</b>	<b>100%</b>	<b>8%</b>	<b>14%</b>	<b>7%</b>	<b>72%</b>	<b>4%</b>	<b>14%</b>	<b>12%</b>	<b>70%</b>	<b>46</b>	<b>47%</b>

Hover your mouse over the shaded boxes to access additional information on the data

Table 8: 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 <sub>2e</sub> )/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	QS	Other	None/unknown				
<i>BP Oil UK Ltd</i>	73%	0%	27%	0%	0%	0%	0%	6%	0%	94%	0%	6%	0%	94%	36	58%	1.8	54%
<i>Chevron Ltd</i>	45%	0%	55%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%	58	33%	1.7	57%
<i>ConocoPhillips Ltd</i>	50%	0%	50%	0%	0%	0%	64%	0%	16%	20%	0%	0%	80%	20%	50	42%	4.1	81%
<i>Esso Petroleum Company Ltd</i>	94%	0%	6%	0%	0%	0%	3%	0%	16%	80%	0%	0%	19%	80%	50	43%	1.9	53%
<i>Greenenergy Fuels Ltd</i>	22%	21%	57%	0%	0%	0%	16%	27%	0%	57%	18%	29%	5%	48%	34	61%	3.4	81%
<i>Harvest Energy Ltd</i>	42%	13%	45%	0%	0%	0%	12%	13%	0%	76%	0%	13%	12%	76%	33	62%	2.3	70%
<i>Lissan Coal Company Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	13	85%	2.4	100%
<i>Mabanaft UK Ltd</i>	24%	26%	50%	0%	0%	0%	24%	26%	0%	50%	0%	26%	24%	50%	37	57%	2.3	77%
<i>Morgan Stanley Capital Group Inc.</i>	97%	3%	0%	0%	0%	0%	0%	3%	0%	97%	0%	3%	0%	97%	68	21%	1.0	27%
<i>Murco Petroleum Ltd</i>	34%	0%	66%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%	58	33%	1.8	60%
<i>Petroplus Refining Teesside Ltd</i>	19%	18%	64%	0%	0%	0%	0%	18%	0%	82%	0%	18%	0%	82%	49	43%	2.6	72%
<i>Prax Petroleum Ltd <sup>1</sup></i>	36%	64%	0%	0%	0%	0%	0%	64%	0%	36%	0%	64%	0%	36%	28	68%	1.8	65%
<i>Shell UK Ltd</i>	33%	11%	56%	0%	0%	0%	0%	11%	47%	42%	0%	11%	47%	42%	47	45%	1.9	79%
<i>Topaz Energy Ltd</i>	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%	55	36%	0.0	0%
<i>Total UK Ltd</i>	42%	3%	55%	0%	0%	0%	2%	3%	0%	95%	0%	3%	2%	95%	55	36%	2.2	56%
<i>ABAKO Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	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%	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%	0%	100%	0%	0%	13	85%	3.0	100%
<i>Biesel (UK) Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	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%	0%	100%	0%	0%	13	85%	2.0	100%
<i>Biofuel Refineries Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	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%	0%	100%	0%	0%	13	85%	2.0	100%
<i>Celtic Biodiesel Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	13	85%	2.0	100%
<i>Convert2Green Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	13	85%	2.0	100%
<i>Devon Biofuels</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	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%	0%	100%	0%	0%	13	85%	2.0	100%
<i>Double Green Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	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%	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%	0%	100%	0%	0%	13	85%	2.0	100%
<i>Gasrec Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	27	69%	5.0	100%
<i>Goldenfuels</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	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%	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%	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%	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%	0%	100%	0%	0%	13	85%	2.0	100%
<i>Longma Clean Energy</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	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%	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%	0%	100%	0%	55	36%	2.0	100%
<i>Muirhouse Farm Partnership</i>	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%	0%	0%	100%	0%	55	36%	2.0	100%
<i>Ozone Friendly Fuels Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	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%	0%	100%	0%	0%	13	85%	3.0	100%
<i>PRS Environmental</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	13	85%	2.0	100%
<i>Pure Energy Fuels Ltd</i>	57%	25%	18%	0%	0%	0%	0%	25%	0%	75%	0%	25%	0%	75%	48	45%	2.2	67%
<i>Pure Fuels Ltd</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	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%	0%	100%	0%	0%	13	85%	2.0	100%
<i>Regenatex Ltd</i>	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%	78	10%	2.0	50%
<i>Rix Biodiesel</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	13	85%	2.0	100%
<i>Shepherds Bakery</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	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%	0%	100%	0%	0%	13	85%	2.5	100%
<i>Veg Oil Motoring</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	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%	0%	30%	28	67%	5.0	93%
<i>V-Fuels Biodiesel Ltd</i>	28%	71%	2%	0%	0%	0%	2%	71%	0%	28%	0%	71%	2%	28%	32	63%	3.2	79%
<i>Wight Made Diesel</i>	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	13	85%	2.0	100%

**Table 9: Number of RTFO targets<sup>2</sup> met or exceeded by fossil fuel companies<sup>3</sup>.**

Verification	Fossil fuel company	targets met (year to date)	Number of targets met (unverified 12 month report)	Change from unverified report
verified	ConocoPhillips Ltd	3	3	—
	Greenenergy Fuels Ltd		3	—
	Lissan Coal Company Ltd		3	—
	Mabanaft UK Ltd		3	—
	Esso Petroleum Company Ltd	2	1	↑
	Harvest Energy Ltd		2	—
	Petroplus Refining Teesside Ltd		2	—
	Shell UK Ltd		2	—
	Chevron Ltd	1	1	—
	Total UK Ltd		1	—
Morgan Stanley	0	2	↓	
unverified	Prax Petroleum Ltd <sup>1,4</sup>	3	3	—
	BP Oil UK Ltd <sup>4</sup>	2	2	—
	Murco Petroleum Ltd <sup>4</sup>	1	1	—
	Topaz Energy Ltd <sup>4</sup>	0	1	↓

<sup>1</sup>. Prax Petroleum Ltd is a fossil fuel company but was not obligated for 2008/09

<sup>2</sup>. 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).

<sup>3</sup>. Fossil fuel companies supply >95% of the biofuels in the UK market.

<sup>4</sup>. No limited assurance, target claimed.

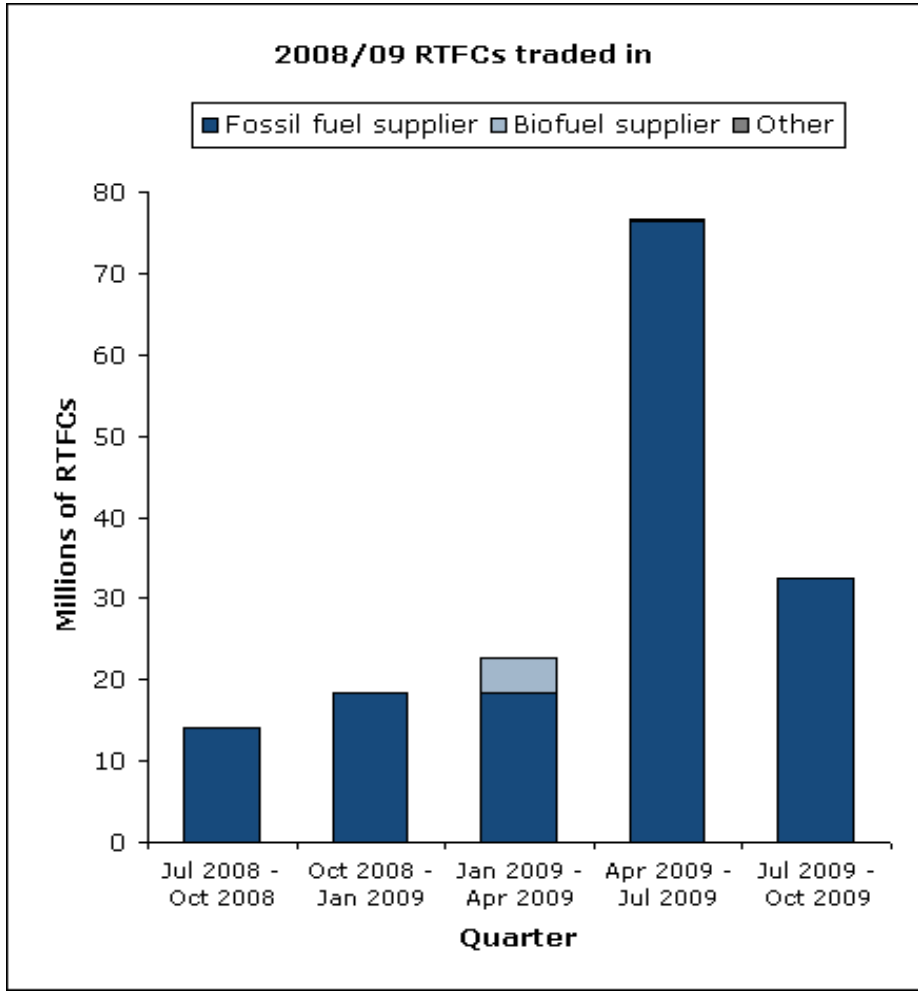
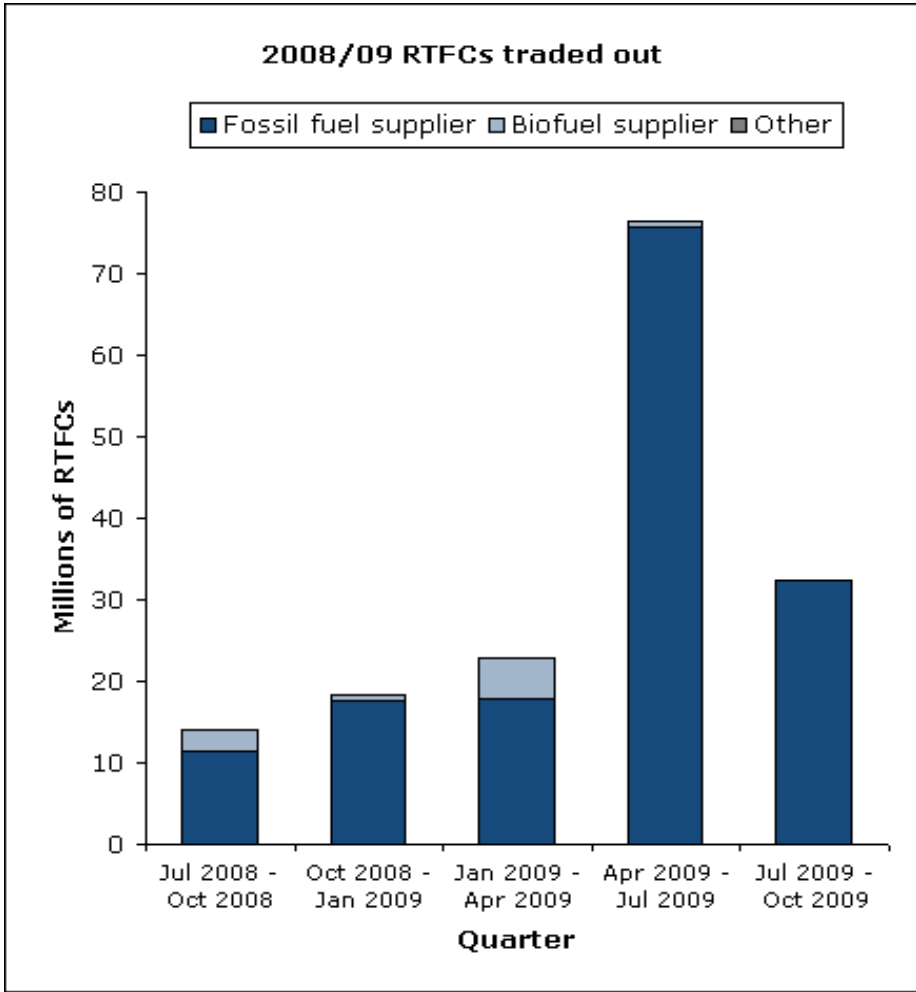
## Trading of RTFCs

RTFCs traded per quarter by type of account holder

Table 10: RTFCs traded from Obligation Year 2008/09

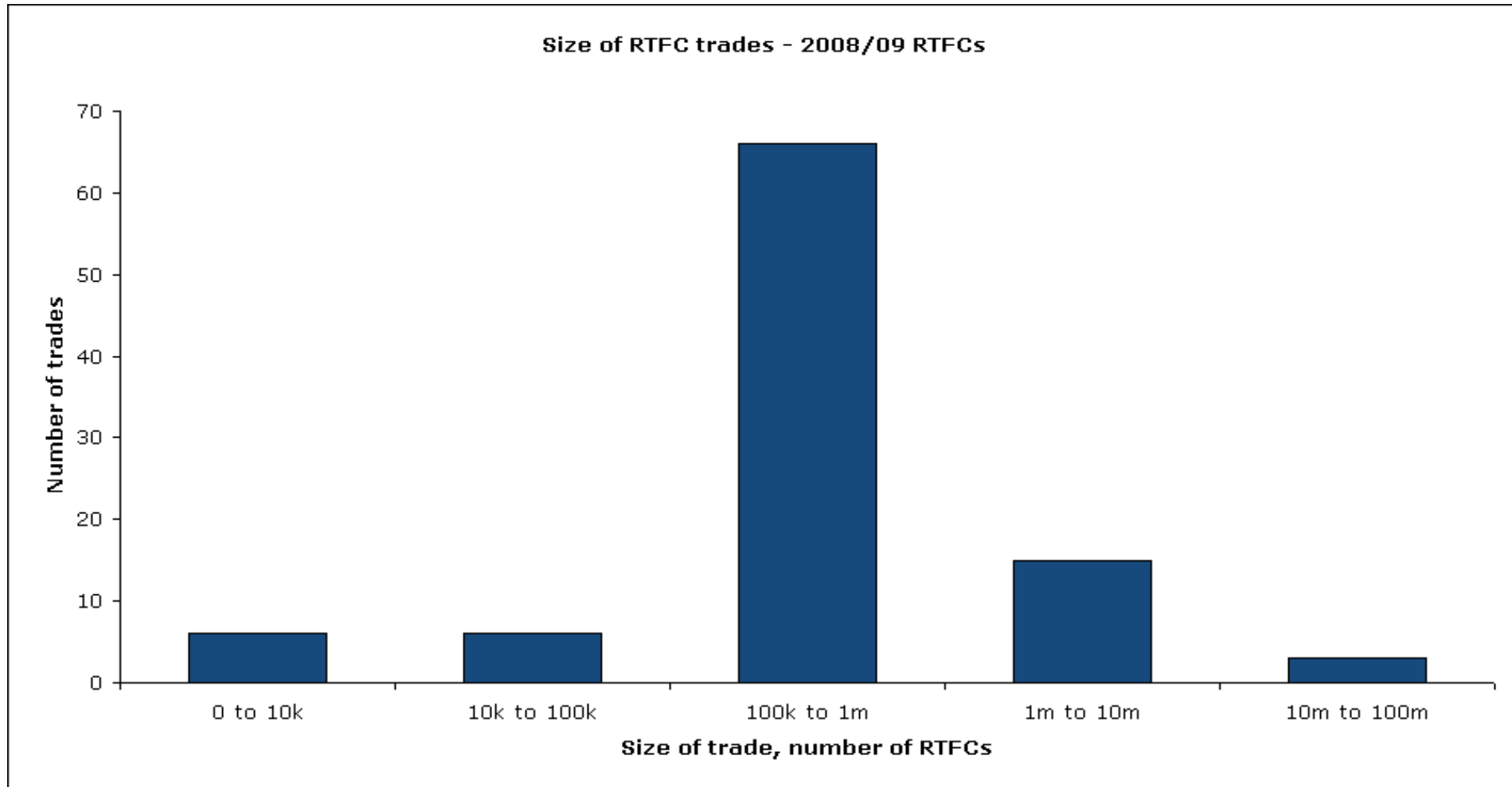
<i>Qtr</i>	<i>Quarter</i>	<i>From</i>	<i>To</i>	<i>RTFCs</i>	<i>%</i>
<i>Q2</i>	Jul 2008 - Oct 2008	Biofuel supplier	Fossil fuel supplier	2,791,602	2%
		Fossil fuel supplier	Fossil fuel supplier	11,347,500	7%
<i>Q3</i>	Oct 2008 - Jan 2009	Biofuel supplier	Fossil fuel supplier	809,000	0%
		Fossil fuel supplier	Fossil fuel supplier	17,538,750	11%
<i>Q4</i>	Jan 2009 - Apr 2009	Biofuel supplier	Biofuel supplier	3,063,335	2%
			Fossil fuel supplier	1,883,310	1%
			Other	10,000	0%
		Fossil fuel supplier	Biofuel supplier	1,175,000	1%
			Fossil fuel supplier	16,601,408	10%
			Other	10,000	0%
<i>Q5</i>	Apr 2009 - Jul 2009	Biofuel supplier	Biofuel supplier	83,812	0%
			Fossil fuel supplier	830,000	1%
<i>Q6</i>	Jul 2009 - Oct 2009	Fossil fuel supplier	Fossil fuel supplier	75,625,694	46%
<i>Grand Total</i>				32,395,869	20%
				164,185,280	100%

## Trading of RTFCs





## Trading of RTFCs



**RFA Quarterly Report 4: 15 April 2008 - 14 April 2009<sup>1</sup>**  
**Notes on data - Verified data set<sup>2</sup>**

## **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 seen by the Government as an essential 'stepping stone' towards mandatory sustainability criteria, which are due to be introduced from December 2010 by the EU's Renewable Energy Directive.

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 were required to provide an independent verifier's opinion on their information, and this verified information is available in this report and the RFA's Annual Report to Parliament:

[www.renewablefuelsagency.gov.uk/yearone](http://www.renewablefuelsagency.gov.uk/yearone)

The carbon and sustainability data covers the direct impacts arising from biofuel cultivation. The RFA also reports on 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.

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No schemes currently meet all of the environmental and social principles; although two schemes meet all of the environmental principles and one meets both of the social principles. 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 tallow<sup>3</sup>) are automatically considered to meet 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 relatively newly established. This limited the ability of fuel suppliers to source sustainability certified feedstocks. Also, the market is relatively new, and the expectation was that it would 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. Supply of certified feedstock is not limited for all feedstocks - there is enough RSPO palm oil unsold to meet the entire UK demand for palm oil biodiesel feedstock.

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### **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 seven 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

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Table 7 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 8 provides data on company C&S performance. Table 9 specifies how many of the C&S reporting targets each of the fossil fuel companies are meeting.

RTFCs

Contains data on trades of certificates between companies over time.

**4. Verified data**

This report contains verified<sup>1</sup> data from the first reporting year<sup>2</sup> on biofuels supplied to the UK market and reported to the RFA.

The exact timing of the months that 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 15<sup>th</sup> to 14<sup>th</sup> of the month basis.
- Smaller fuel companies (typically biofuel suppliers) report by calendar month or quarter.

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## 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.

Annual Supplier Target	2008-09	2009-10	2010-11
Percentage of feedstock meeting a Qualifying Environmental Standard	30%	50%	80%
Annual GHG saving of fuel supplied	40%	45%	50%
Data reporting of renewable fuel characteristics	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 the first obligation year were revised from month six. Therefore, for the first obligation year we do not have our own data on the total supply of fossil road transport fuel. We have estimated the percentage of biofuel as a proportion of total road transport fuel using data published by HMRC.

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Similarly, due to the reinterpretation of the Order after the discrepancy was identified, we needed additional information from companies to identify whether they were obligated. For the first obligation year we therefore do not use the terms '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'.

All 'fossil fuel companies' in this report are obligated except Prax. Many had their obligation reduced due to the discrepancy; however, Prax had their obligation completely removed as they blend all their biofuel pre-duty point.

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

### **Footnotes**

<sup>1</sup> 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.

<sup>2</sup> Suppliers applying for < 450 000 renewable transport fuel certificates are not required to submit a verifier's opinion.

<sup>3</sup> 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/tallowfinalreport.pdf>

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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.



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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 (CO<sub>2</sub>e).

**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.

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### 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.

Annual Supplier Target	2008-09	2009-10	2010-11
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Data reporting of renewable fuel characteristics	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 are 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.