# Verified RFA Quarterly Report 8: 15 April 2009 - 14 April 2010

**Verified data set**

**Contents**

2.9 billion litres of biofuel have been supplied under the RTFO in the first 24 months.

This report covers the supply of biofuels under the Renewable Transport Fuel Obligation[1] from 15 April 2009 to 14 April 2010. The headline figures[2] are:

In the full twelve months of the 2009/10 obligation period, 1,568 million litres of biofuel have been supplied, which is approximately 3.33% of total road transport fuel reported to the RFA against an annual target of 3.25%[3]. More biodiesel (71%) has been supplied than bioethanol (29%).

The feedstock is known for 95% of fuel supplied. Both the feedstock and country of origin are known for 86%.
The most widely reported source of biodiesel was soy from Argentina (29% of biodiesel supplied). The most widely reported source of bioethanol was sugarcane from Brazil (68% of bioethanol supplied).

Over the period, 31%[4] of biofuels met an environmental standard, compared to a target of 50%[5].

The majority of feedstock has been imported; 11% of the biofuel was reported as coming from UK feedstocks.
93% of the fuel reported as coming from UK feedstocks met environmental sustainability standards.

Greenhouse gas savings of 51% were achieved against a Government target[6] of 45%. This figure may not include all emissions from direct land use change and excludes the emissions from indirect land-use changes considered in the Agency's 'Gallagher Review'.

## 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 for suppliers of over 450,000 litres of biofuel is also subject to an annual verification process by independent auditors. This is the final, fully verified dataset for year 2. Of the carbon and sustainability data reported to the RFA, 98.7% was verified, 0.2% came from companies supplying less that 450,000 litres of biofuel so did not need to verify, and the remaining 1.1% did not receive the limited assurance verification required.

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

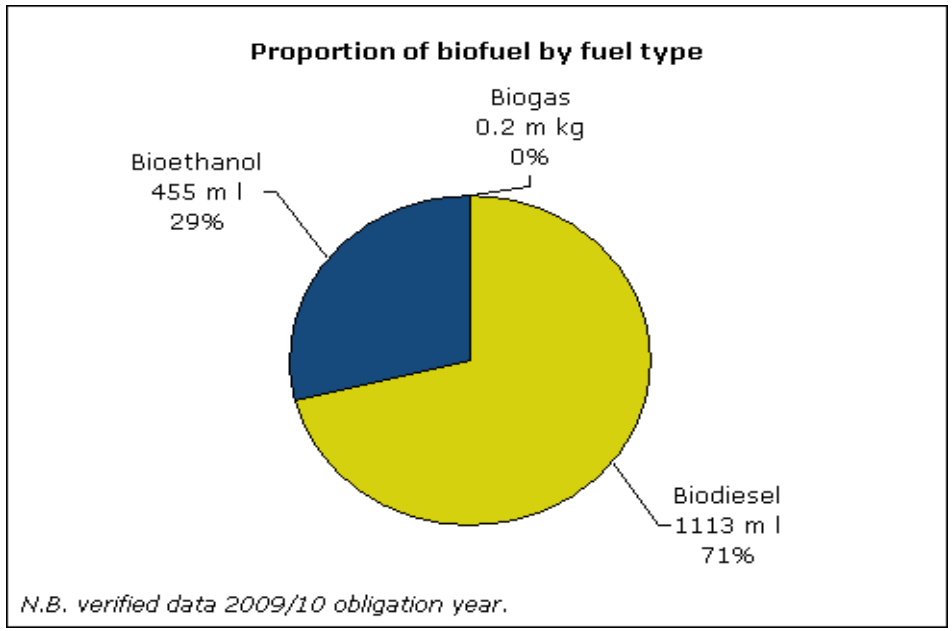
3. Obligated suppliers can meet their volume obligation by surrendering the appropriate number of RTFCs to the RFA and/or by paying into a buy-out fund. The RTFCs can be obtained by supplying their own biofuels or by purchasing RTFCs from other biofuel suppliers. A quarter of their obligation can be met by surplus RTFCs from the previous obligation year.

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 reported as 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 figures.

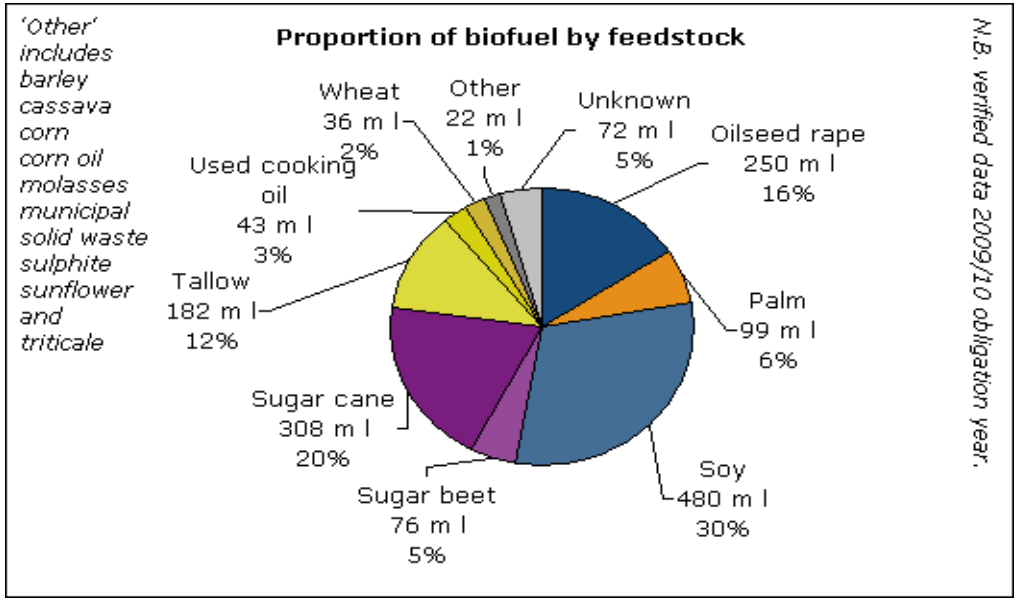
5. 50% of feedstocks should meet environmental sustainability standards in the year 2009/10. The ability of suppliers to source certifiably sustainable fuels is currently limited by the lack of operational sustainability standards for several feedstock/country combinations. Certified sustainable feedstock is expected to become increasingly available over time as feedstock standards develop in response to the demand created by the RTFO and the RED; and growing concern about the sustainability of agricultural commodities more widely. Suppliers can arrange their own audits against the RTFO Meta-Standard. There is more than enough RSPO certified palm oil to meet the entire UK demand for palm oil biodiesel feedstock.

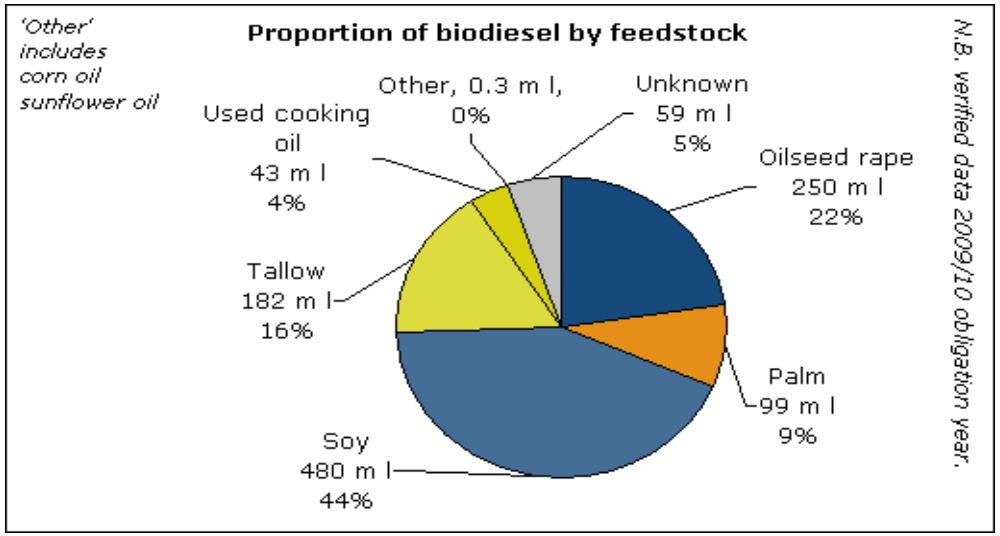
6. Throughout this report 'Government targets' refers to RTFO targets set by the Government in 2007.

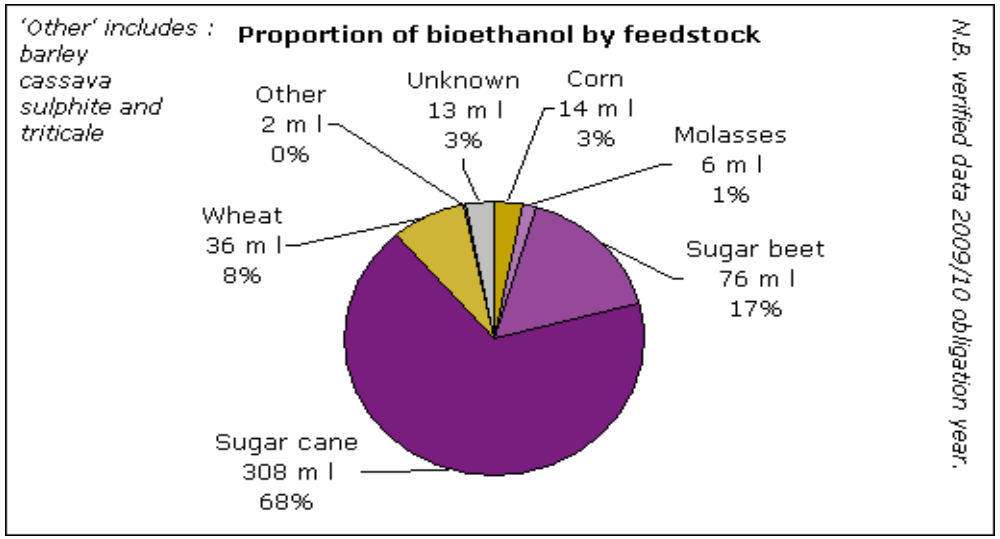
# Volumes and proportions by fuel type



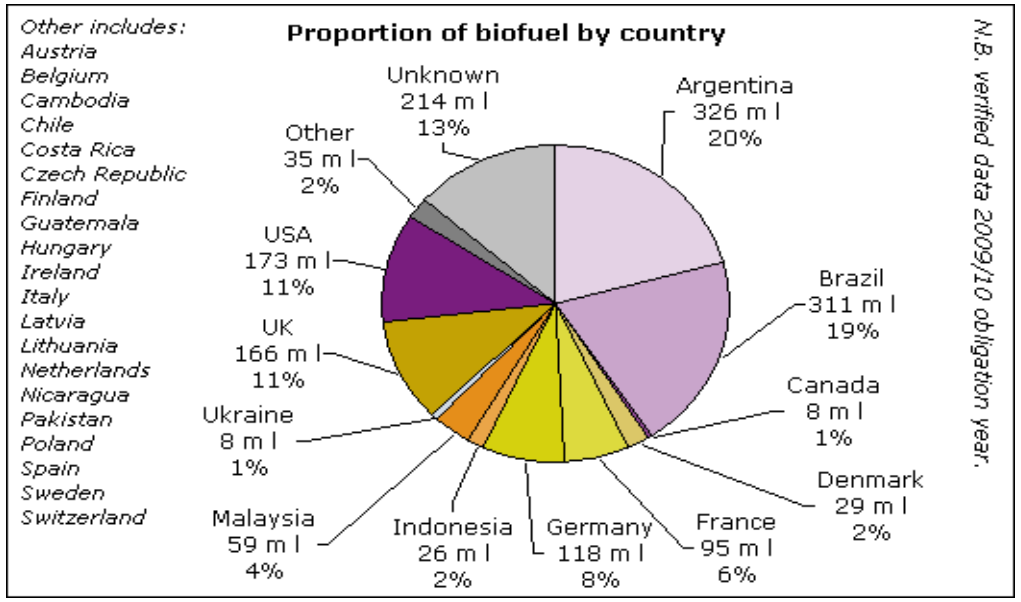
# Proportions by feedstock

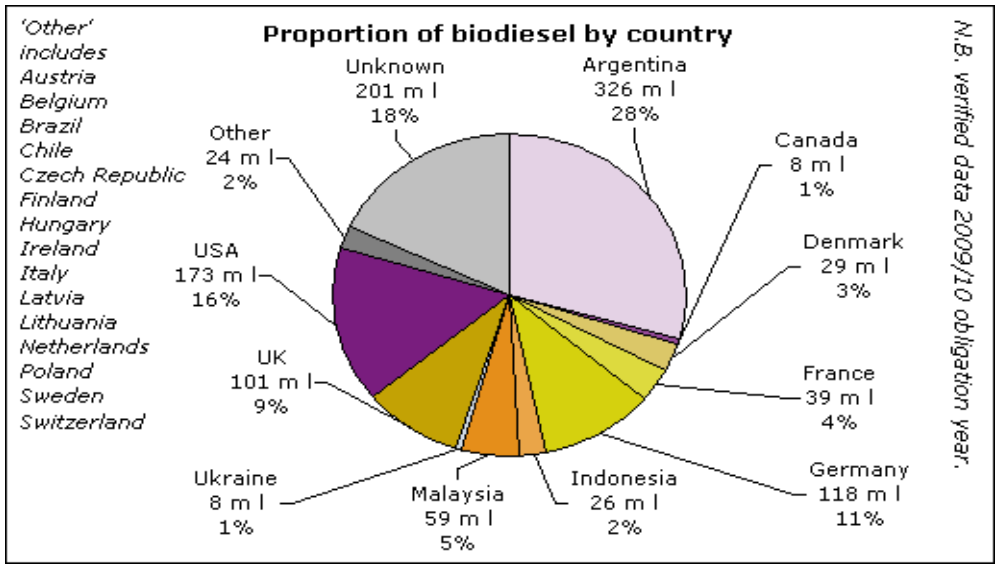


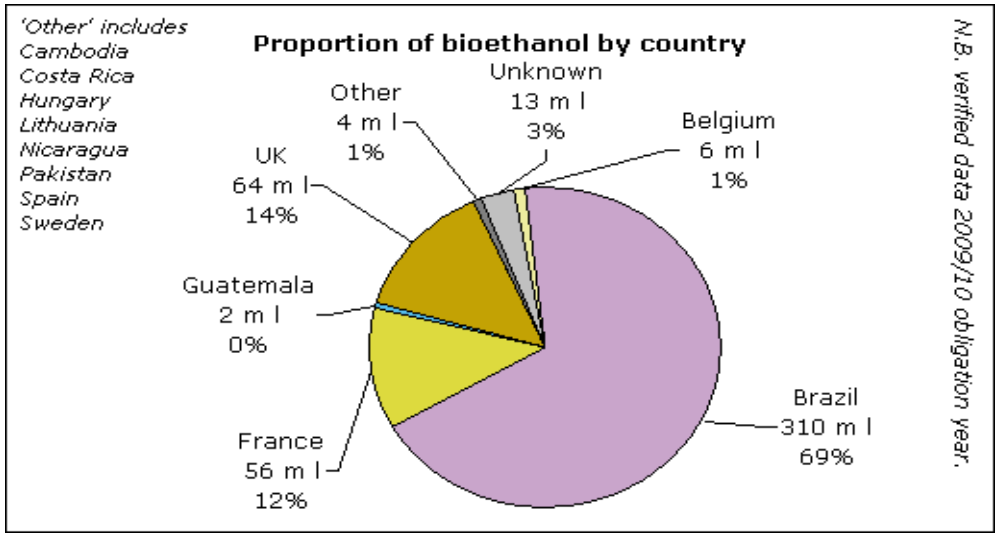



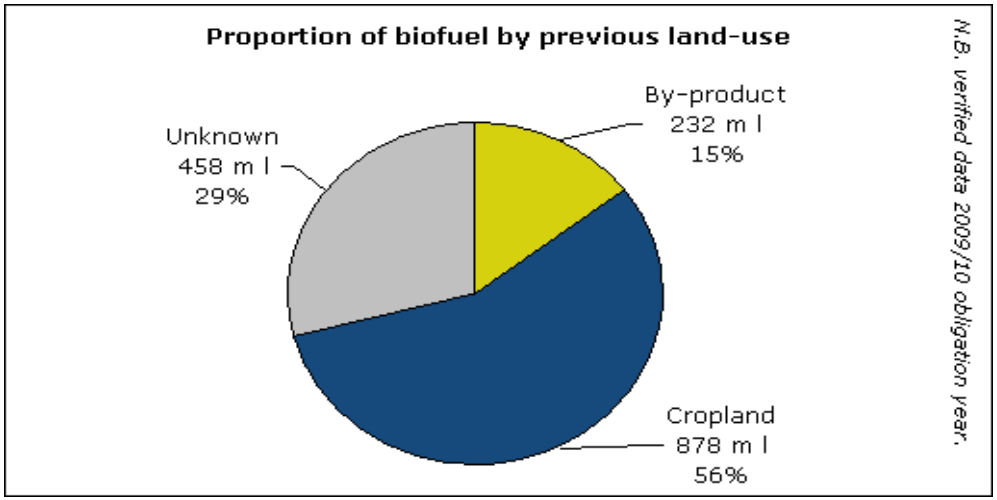
# Proportions by country

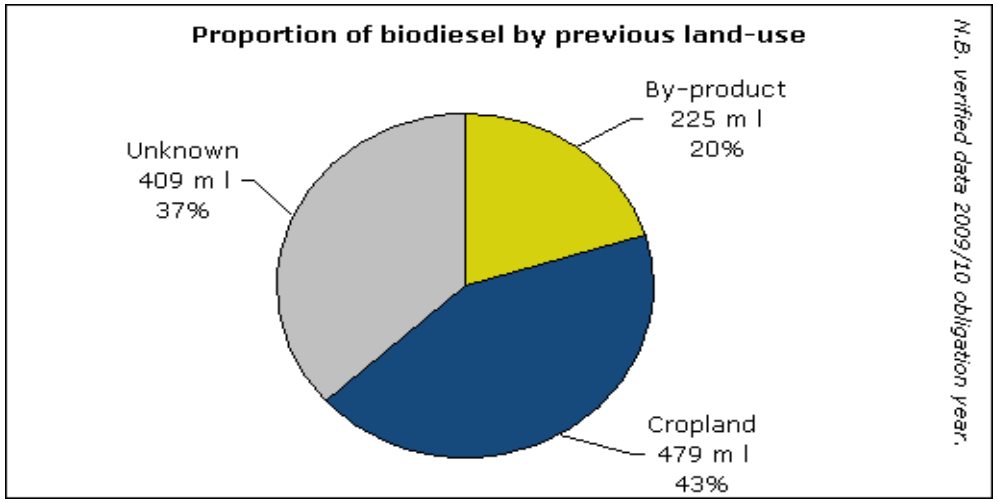


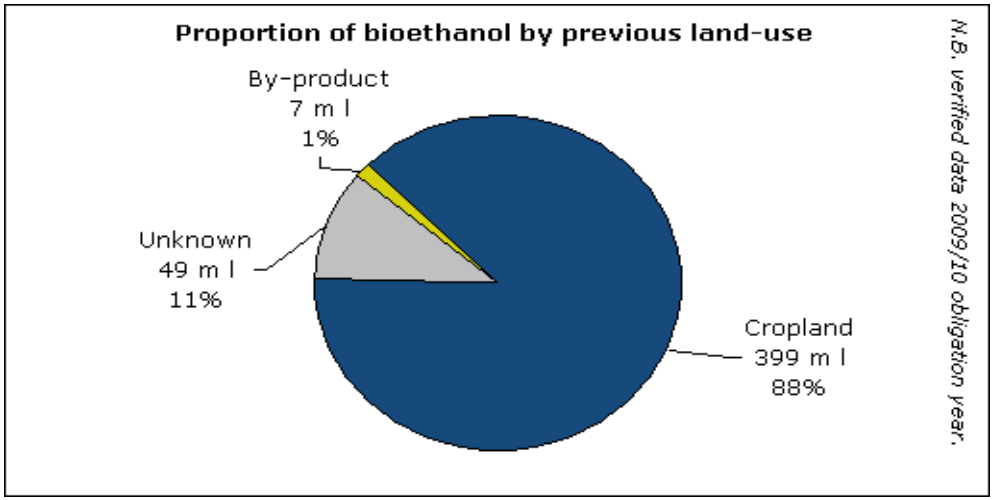



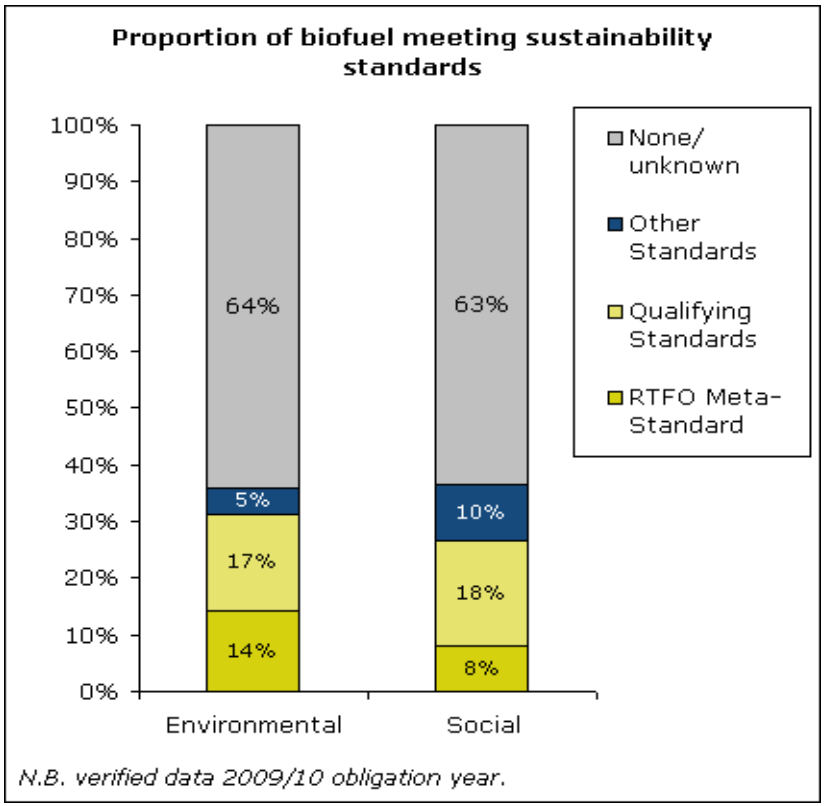
## Proportions by previous land-use

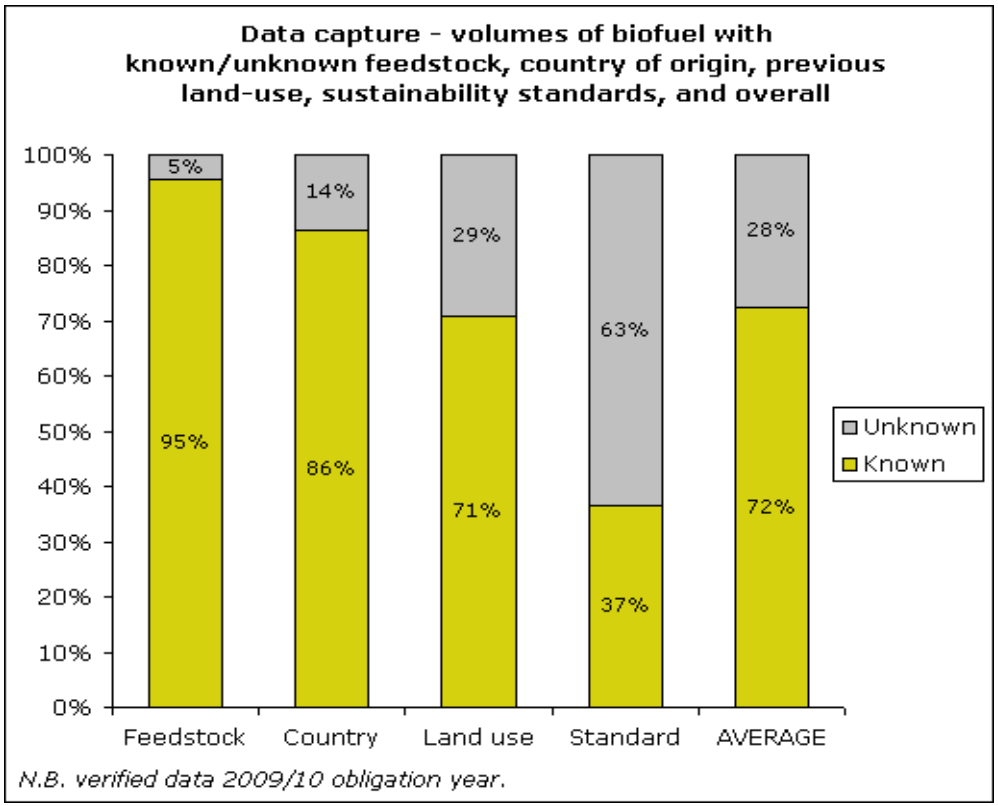


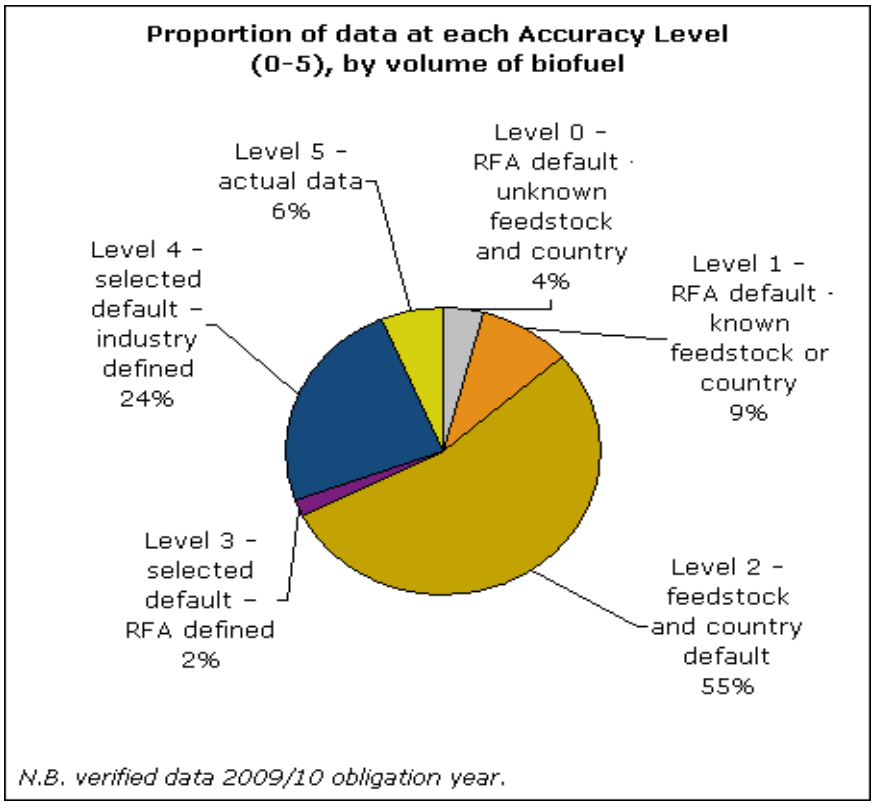



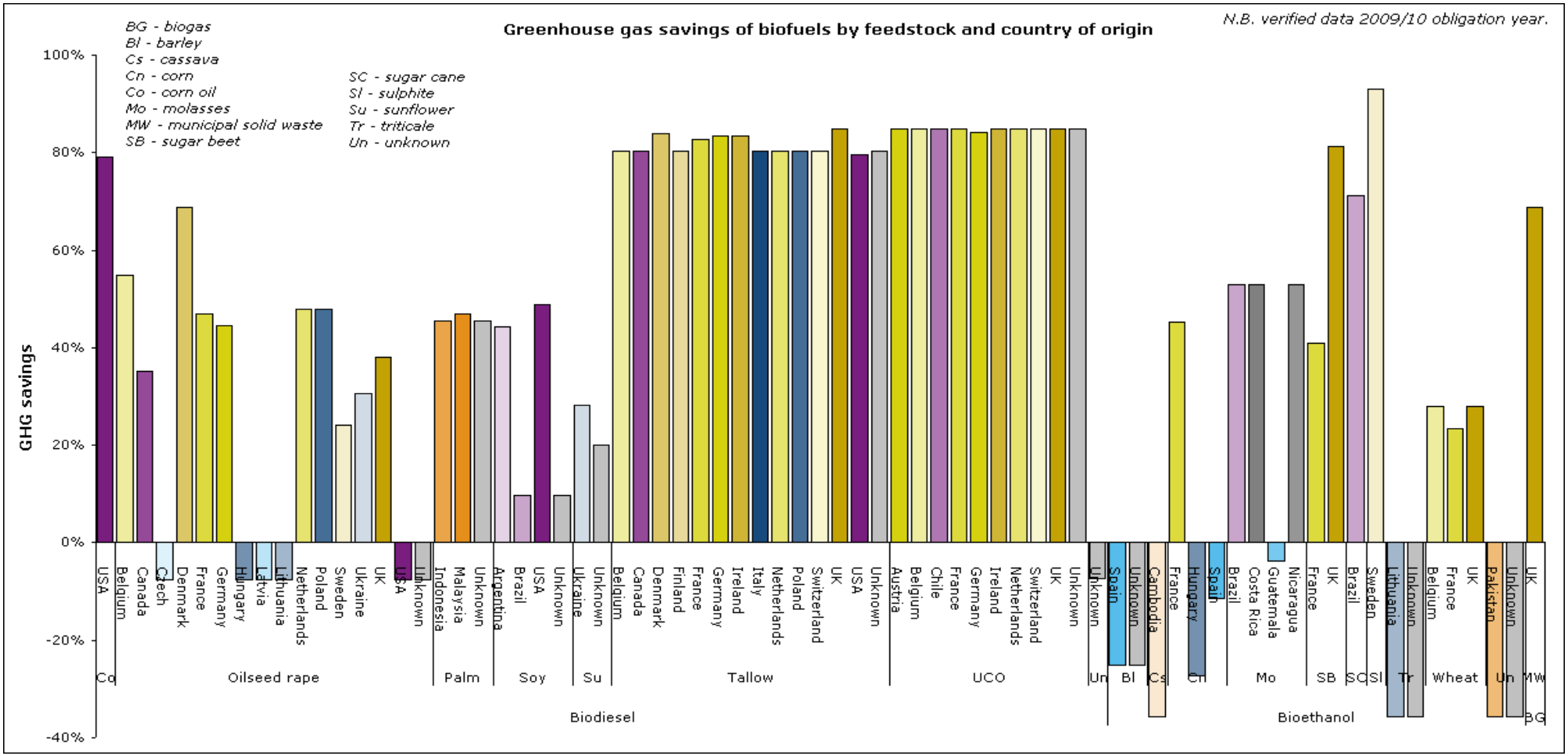
# Sustainability, data-capture and accuracy



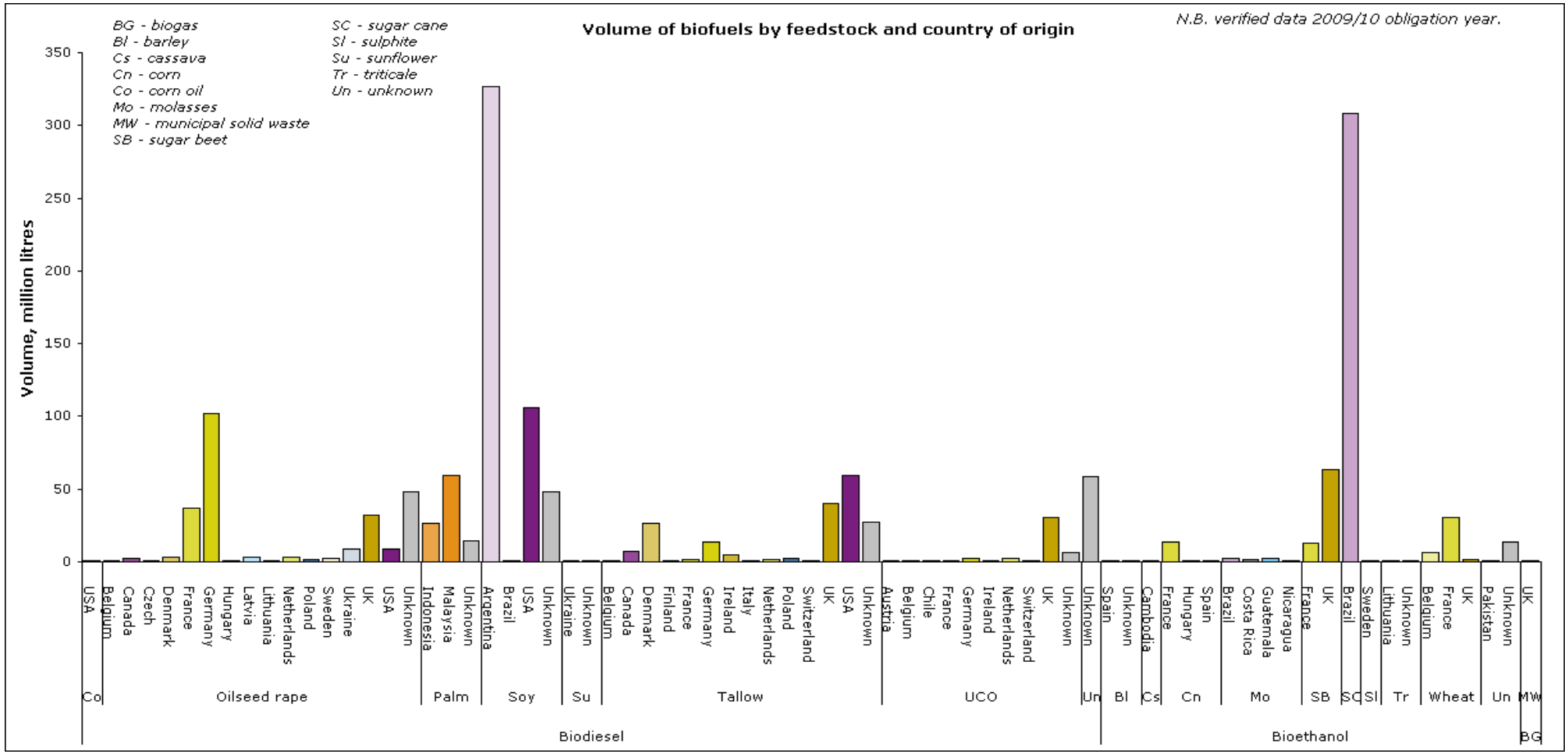

Proportion of data at each Accuracy Level (0-5), by volume of biofuel
Level 0 - RFA default - unknown feedstock and country 4%
Level 1 - RFA default - known feedstock or country 9%
Level 2 - feedstock and country default 55%
Level 3 - selected default - RFA defined 2%
Level 4 - selected default - industry defined 24%
Level 5 - actual data 6%
N.B. verified data 2009/10 obligation year.

# Greenhouse gas savings

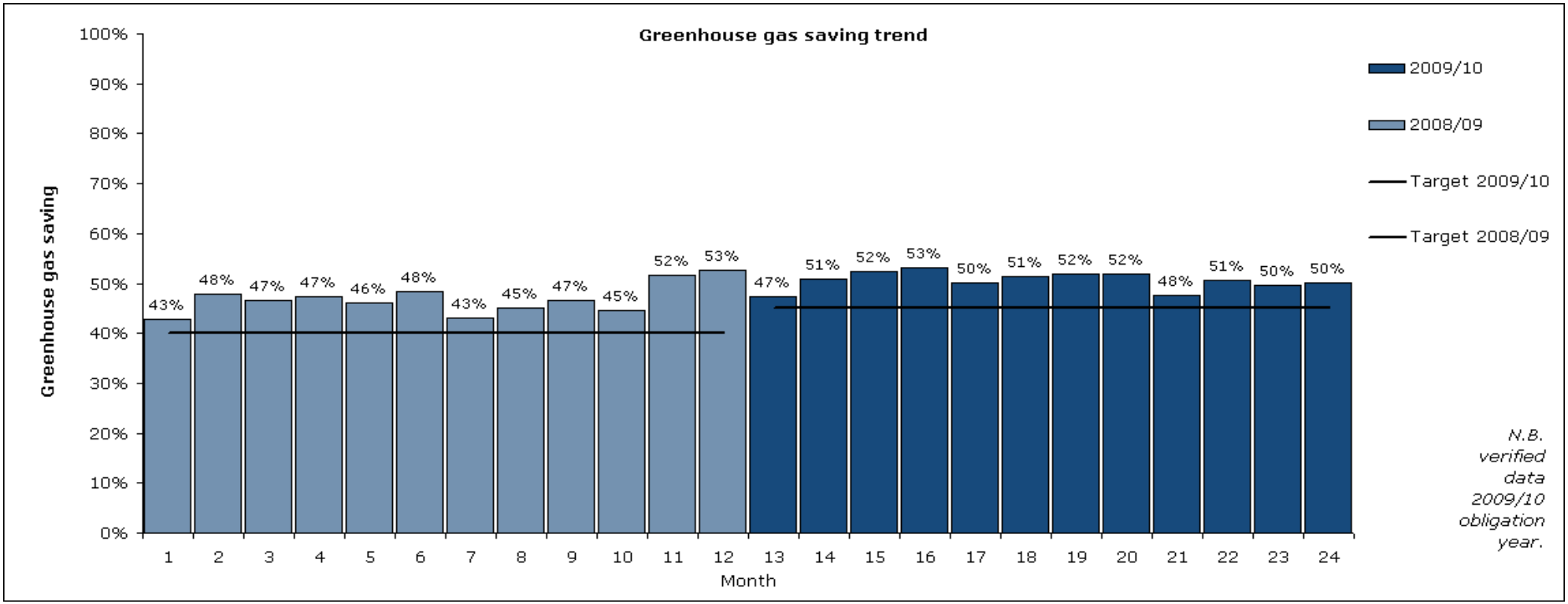



As there was no RFA carbon default for oilseed rape from Czech Republic, Hungary, Latvia and Lithuania, the conservative default for unknown country of origin has been reported, which is based on the default for US oilseed rape. Similarly, there was no RFA carbon default for triticale from Lithuania, corn from Spain and Hungary, and cassava from Cambodia. Consequently, negative GHG savings have been reported for these countries which may not represent the actual GHG savings. The volumes for the remaining country/feedstock combinations are low, so default values have not been determined.

# Volume by feedstock and country

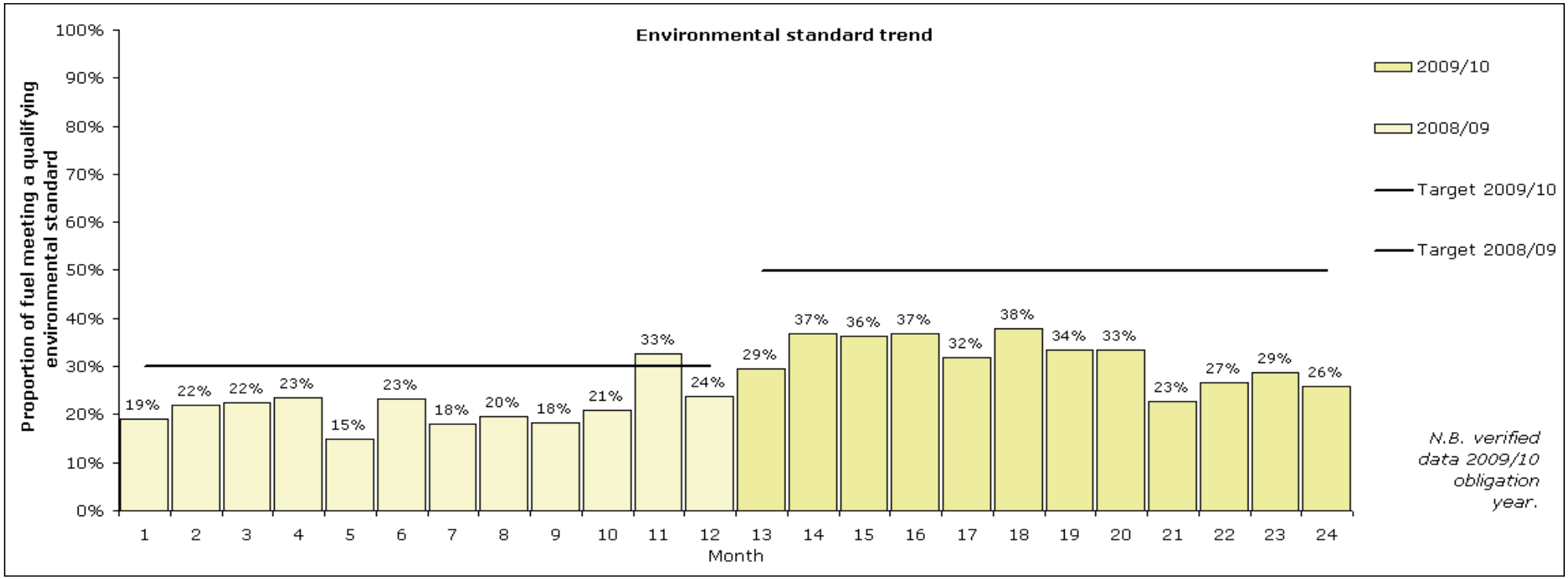


# Performance trends against the RTFO's targets

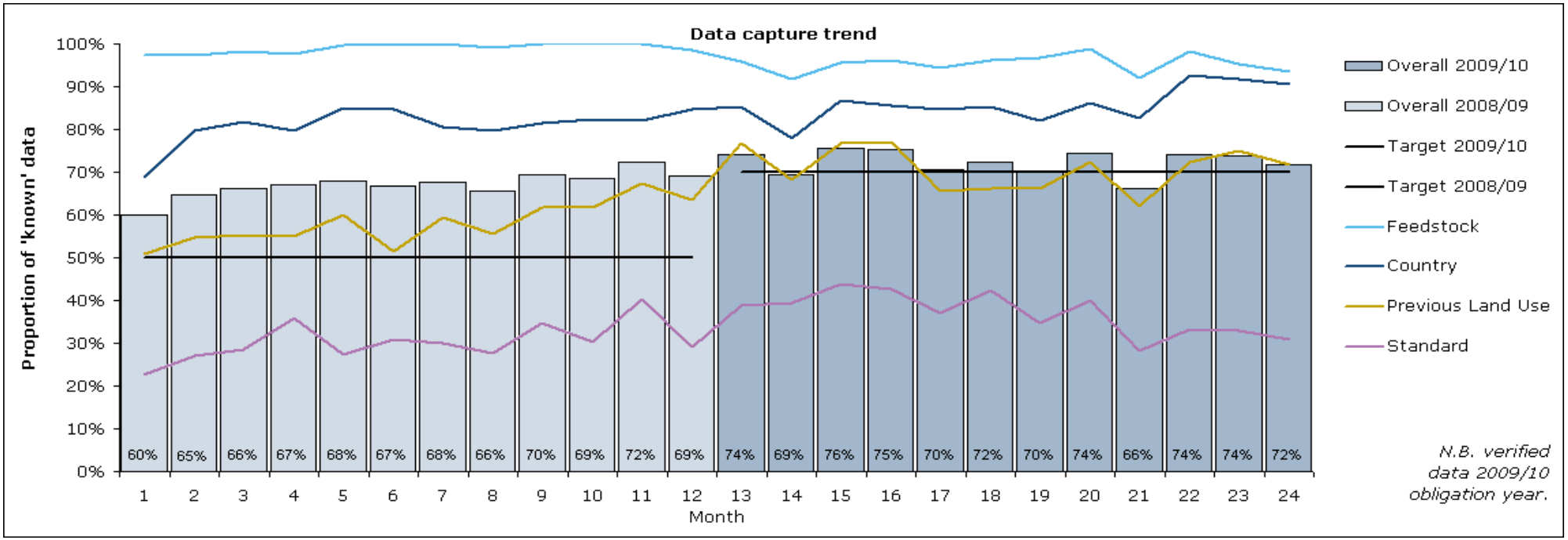



The carbon intensity defaults for biofuels from an unknown country and/or feedstock were set more conservatively from the second reporting year of the RTFO (Month 13). This is to encourage suppliers to obtain data on the origin of their biofuels.

# Performance trends against the RTFO's targets



# Performance trends against the RTFO's targets




The data for the first 24 months comes from verified data.

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 from suppliers supplying over 450,000 litres is subject to final verification at the end of the year.

Renewable Fuels Agency

**RFA Quarterly Report 8: 15 April 2009 - 14 April 2010**

Verified data for the 2009/10 obligation year to date

*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 carbon and sustainability targets set by the Government in 2007.**

| *Annual Supplier Target* | *2009/10 Obligation period* | | *2008/09 Obligation period* | |
|---|---|---|---|---|
| | *Target* | *Actual* | *Target* | *Actual* |
| *Percentage of feedstock meeting a Qualifying Environmental Standard* | 50% | 31% | 30% | 20% |
| *Annual GHG saving of fuel supplied* | 45% | 51% | 40% | 46% |
| *Data reporting of renewable fuel characteristics* | 70% | 72% | 50% | 64% |

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

| | | *Volume, million l, or million kg** | *Fuel type* | *Volume, million l* | *Biofuels as a proportion of total road transport fuels supplied* |
|---|---|---|---|---|---|
| *Fuel type* | *Biodiesel* | 1,113.2 | *Diesel* | 24,371 | 4.37% |
| | *Bioethanol* | 455.1 | *Petrol* | 21,216 | 2.10% |
| | *Biogas* | 0.2 | | | |
| | ***Total*** | **1,568.5** | | **45,587** | **3.33%** |
| | ***Annual target*** | | | | **3.25%** |

* Biodiesel and bioethanol volumes are reported in litres and biogas volumes are reported in kilograms.

**Table 3: 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, $g(CO_2e)/MJ$* | *Greenhouse gas saving, %* | *Accuracy level, (0-5)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | *RTFO* | *Qualifying Standards* | *Other standards* | *None/ unknown* | *RTFO* | *Qualifying Standards* | *Other standards* | *None/ unknown* | | | |
| *Fuel type* | *Biodiesel* | 1,113,211,400 | 1,113.2 | 71% | 2% | 23% | 7% | 68% | 0% | 23% | 9% | 68% | 47 | 45% | 2.2 |
| | *Bioethanol* | 455,081,453 | 455.1 | 29% | 43% | 1% | 0% | 55% | 27% | 6% | 14% | 53% | 31 | 63% | 3.3 |
| | *Biogas* | 195,797 | 0.2 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 27 | 69% | 5.0 |
| | ***Total*** | **1,568,488,650** | **1,568.5** | **100%** | | | | | | | | | | | |
| | ***Mean*** | | | | **14%** | **17%** | **5%** | **64%** | **8%** | **18%** | **10%** | **63%** | **43** | **51%** | **2.5** |

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

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

| | | | | | Proportion meeting an environmental standard | | | | Proportion meeting a social standard | | | | Carbon intensity, $g(CO_2e)/MJ$ | Greenhouse gas saving, % | Accuracy level, (0-5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volume, l | Volume, million l | Volume, % | RTFO | Qualifying Standards | Other standards | None/ unknown | RTFO | Qualifying Standards | Other standards | None/ unknown | | | |
| Feedstock | Corn oil | 93,418 | 0.1 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 18 | 79% | 2.0 |
| | Oilseed rape | 250,035,194 | 250.0 | 22% | 10% | 0% | 29% | 61% | 1% | 0% | 38% | 61% | 60 | 31% | 2.1 |
| | Palm | 99,106,066 | 99.1 | 9% | 0% | 28% | 0% | 72% | 0% | 28% | 0% | 72% | 46 | 46% | 2.2 |
| | Soy | 480,050,459 | 480.1 | 43% | 0% | 2% | 0% | 98% | 0% | 2% | 0% | 98% | 50 | 42% | 2.3 |
| | Sunflower | 202,455 | 0.2 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 67 | 22% | 1.2 |
| | Tallow | 182,308,271 | 182.3 | 16% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 16 | 82% | 2.6 |
| | Used cooking oil | 42,852,097 | 42.9 | 4% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.6 |
| | Unknown | 58,563,440 | 58.6 | 5% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 93 | -7% | 0.0 |
| | **Total** | **1,113,211,400** | **1,113.2** | **100%** | | | | | | | | | | | |
| | **Mean** | | | | **2%** | **23%** | **7%** | **68%** | **0%** | **23%** | **9%** | **68%** | **47** | **45%** | **2.2** |
| Country of origin | Argentina | 326,298,682 | 326.3 | 29% | 0% | 3% | 0% | 97% | 0% | 3% | 0% | 97% | 48 | 44% | 2.1 |
| | Austria | 305,108 | 0.3 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 |
| | Belgium | 866,513 | 0.9 | 0% | 0% | 82% | 0% | 18% | 0% | 82% | 0% | 18% | 18 | 79% | 2.0 |
| | Brazil | 707,339 | 0.7 | 0% | 0% | 0% | 77% | 23% | 0% | 0% | 77% | 23% | 78 | 10% | 2.0 |
| | Canada | 8,253,743 | 8.3 | 1% | 0% | 79% | 0% | 21% | 0% | 79% | 0% | 21% | 25 | 71% | 2.0 |
| | Chile | 273,638 | 0.3 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 |
| | Czech Republic | 365,584 | 0.4 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 93 | -8% | 2.0 |
| | Denmark | 29,027,245 | 29.0 | 3% | 0% | 90% | 0% | 10% | 0% | 90% | 0% | 10% | 15 | 82% | 2.2 |
| | Finland | 234,170 | 0.2 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 17 | 80% | 2.0 |
| | France | 39,144,381 | 39.1 | 4% | 0% | 6% | 20% | 74% | 0% | 6% | 20% | 74% | 44 | 49% | 2.1 |
| | Germany | 117,823,238 | 117.8 | 11% | 3% | 14% | 50% | 34% | 3% | 14% | 50% | 34% | 43 | 50% | 2.0 |
| | Hungary | 83,375 | 0.1 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 93 | -8% | 1.7 |
| | Indonesia | 26,057,182 | 26.1 | 2% | 0% | 11% | 0% | 89% | 0% | 11% | 0% | 89% | 47 | 46% | 2.1 |
| | Ireland, Republic of | 5,052,661 | 5.1 | 0% | 0% | 99% | 0% | 1% | 0% | 99% | 0% | 1% | 14 | 84% | 2.1 |
| | Italy | 457,655 | 0.5 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 17 | 80% | 2.0 |
| | Latvia | 2,992,714 | 3.0 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 93 | -8% | 1.9 |
| | Lithuania | 572,119 | 0.6 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 93 | -8% | 2.0 |
| | Malaysia | 59,066,926 | 59.1 | 5% | 0% | 42% | 0% | 58% | 0% | 42% | 0% | 58% | 46 | 47% | 2.6 |
| | Netherlands | 6,059,645 | 6.1 | 1% | 0% | 53% | 0% | 47% | 0% | 53% | 0% | 47% | 29 | 67% | 2.0 |
| | Poland | 2,976,769 | 3.0 | 0% | 0% | 61% | 0% | 39% | 0% | 61% | 0% | 39% | 28 | 68% | 2.0 |
| | Sweden | 2,139,620 | 2.1 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 66 | 24% | 2.0 |
| | Switzerland | 1,027,087 | 1.0 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 16 | 82% | 2.0 |
| | Ukraine | 8,107,567 | 8.1 | 1% | 0% | 0% | 83% | 17% | 0% | 0% | 83% | 17% | 60 | 31% | 2.0 |
| | United Kingdom | 101,454,829 | 101.5 | 9% | 21% | 69% | 0% | 10% | 0% | 69% | 21% | 10% | 26 | 70% | 3.4 |
| | United States | 173,117,501 | 173.1 | 16% | 0% | 34% | 0% | 66% | 0% | 34% | 0% | 66% | 38 | 57% | 3.5 |
| | Unknown | 200,746,109 | 200.7 | 18% | 0% | 16% | 0% | 84% | 0% | 16% | 0% | 84% | 74 | 15% | 0.7 |
| | **Total** | **1,113,211,400** | **1,113.2** | **100%** | | | | | | | | | | | |
| | **Mean** | | | | **2%** | **23%** | **7%** | **68%** | **0%** | **23%** | **9%** | **68%** | **47** | **45%** | **2.2** |
| Previous land-use | By-product | 225,268,787 | 225.3 | 20% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 15 | 83% | 2.6 |
| | Cropland | 478,977,102 | 479.0 | 43% | 5% | 7% | 12% | 76% | 1% | 7% | 17% | 76% | 48 | 45% | 2.6 |
| | Unknown | 408,965,511 | 409.0 | 37% | 0% | 1% | 4% | 95% | 0% | 1% | 4% | 95% | 64 | 26% | 1.5 |
| | **Total** | **1,113,211,400** | **1,113.2** | **100%** | | | | | | | | | | | |
| | **Mean** | | | | **2%** | **23%** | **7%** | **68%** | **0%** | **23%** | **9%** | **68%** | **47** | **45%** | **2.2** |

Renewable Fuels Agency

**RFA Quarterly Report 8: 15 April 2009 - 14 April 2010**

Verified data for the 2009/10 obligation year to date

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

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

| | | | | | Proportion meeting an environmental standard | | | | Proportion meeting a social standard | | | | Carbon intensity, $g(CO_2e)/MJ$ | Greenhouse gas saving, % | Accuracy level, (0-5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volume, l | Volume, million l | Volume, % | RTFO | Qualifying Standards | Other standards | None/ unknown | RTFO | Qualifying Standards | Other standards | None/ unknown | | | |
| Feedstock | Barley | 297,631 | 0.3 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 106 | -25% | 1.3 |
| | Cassava | 125,831 | 0.1 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 115 | -36% | 0.0 |
| | Corn | 13,794,408 | 13.8 | 3% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 49 | 42% | 4.1 |
| | Molasses | 6,028,591 | 6.0 | 1% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 56 | 33% | 2.1 |
| | Sugar beet | 75,603,989 | 75.6 | 17% | 83% | 0% | 0% | 17% | 0% | 0% | 83% | 17% | 22 | 75% | 4.0 |
| | Sugar cane | 308,089,709 | 308.1 | 68% | 44% | 0% | 0% | 56% | 40% | 7% | 0% | 53% | 24 | 71% | 3.4 |
| | Sulphite | 642,342 | 0.6 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 6 | 93% | 2.0 |
| | Triticale | 788,749 | 0.8 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 115 | -36% | 1.6 |
| | Wheat | 36,396,604 | 36.4 | 8% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 64 | 24% | 2.3 |
| | Unknown | 13,313,599 | 13.3 | 3% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 115 | -36% | 0.8 |
| | **Total** | **455,081,453** | **455.1** | **100%** | | | | | | | | | | | |
| | **Mean** | | | | **43%** | **1%** | **0%** | **55%** | **27%** | **6%** | **14%** | **53%** | **31** | **63%** | **3.3** |
| Country of origin | Belgium | 5,674,373 | 5.7 | 1% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 61 | 28% | 2.0 |
| | Brazil | 310,406,044 | 310.4 | 68% | 43% | 1% | 0% | 56% | 40% | 7% | 0% | 53% | 25 | 71% | 3.4 |
| | Cambodia | 125,831 | 0.1 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 115 | -36% | 0.0 |
| | Costa Rica | 1,380,294 | 1.4 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 40 | 53% | 1.0 |
| | France | 55,568,672 | 55.6 | 12% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 57 | 33% | 2.7 |
| | Guatemala | 2,064,635 | 2.1 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 88 | -4% | 3.0 |
| | Hungary | 275,556 | 0.3 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 108 | -27% | 2.0 |
| | Lithuania | 491,512 | 0.5 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 115 | -36% | 2.0 |
| | Nicaragua | 267,327 | 0.3 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 40 | 53% | 1.0 |
| | Pakistan | 434,409 | 0.4 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 115 | -36% | 1.0 |
| | Spain | 458,059 | 0.5 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 97 | -14% | 2.0 |
| | Sweden | 642,342 | 0.6 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 6 | 93% | 2.0 |
| | United Kingdom | 63,918,255 | 63.9 | 14% | 99% | 0% | 0% | 1% | 0% | 0% | 99% | 1% | 17 | 80% | 4.4 |
| | Unknown | 13,374,144 | 13.4 | 3% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 115 | -35% | 0.8 |
| | **Total** | **455,081,453** | **455.1** | **100%** | | | | | | | | | | | |
| | **Mean** | | | | **43%** | **1%** | **0%** | **55%** | **27%** | **6%** | **14%** | **53%** | **31** | **63%** | **3.3** |
| Previous land-use | By-product | 6,670,933 | 6.7 | 1% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 52 | 39% | 2.1 |
| | Cropland | 399,480,780 | 399.5 | 88% | 50% | 0% | 0% | 50% | 31% | 5% | 16% | 48% | 28 | 67% | 3.5 |
| | Unknown | 48,929,740 | 48.9 | 11% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 56 | 34% | 1.8 |
| | **Total** | **455,081,453** | **455.1** | **100%** | | | | | | | | | | | |
| | **Mean** | | | | **43%** | **1%** | **0%** | **55%** | **27%** | **6%** | **14%** | **53%** | **31** | **63%** | **3.3** |

**Table 6: Carbon and sustainability data of biogas from different feedstocks, countries, and according to the previous land-use.**

| | | | | | Proportion meeting an environmental standard | | | | Proportion meeting a social standard | | | | Carbon intensity, $g(CO_2e)/MJ$ | Greenhouse gas saving, % | Accuracy level, (0-5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volume, kg | Volume, million kg | Volume, % | RTFO | Qualifying Standards | Other standards | None/ unknown | RTFO | Qualifying Standards | Other standards | None/ unknown | | | |
| Feedstock | MSW | 195,797 | 0.2 | 100% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 27 | 69% | 5.0 |
| Country of origin | United Kingdom | 195,797 | 0.2 | 100% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 27 | 69% | 5.0 |
| Previous land-use | By-product | 195,797 | 0.2 | 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 of biofuel from UK feedstocks and according to the previous land-use.**

| | | | | | Proportion meeting an environmental standard | | | | Proportion meeting a social standard | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Volume, l or kg | Volume, million l or kg | Volume, % | RTFO | Qualifying Standards | Other standards | None/ unknown | RTFO | Qualifying Standards | Other standards | None/ unknown | Carbon intensity, $g(CO_2e)/MJ$ | Greenhouse gas saving, % | Accuracy level, (0-5) |
| Fuel type | Biodiesel | 101,454,829 | 101.5 | 61% | 21% | 69% | 0% | 10% | 0% | 69% | 21% | 10% | 26 | 70% | 3.4 |
| | Bioethanol | 63,918,255 | 63.9 | 39% | 99% | 0% | 0% | 1% | 0% | 0% | 99% | 1% | 17 | 80% | 4.4 |
| | Biogas | 195,797 | 0.2 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 27 | 69% | 5.0 |
| Feedstock | MSW | 195,797 | 0.2 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 27 | 69% | 5.0 |
| | Oilseed rape | 31,613,242 | 31.6 | 19% | 67% | 0% | 0% | 33% | 0% | 0% | 67% | 33% | 53 | 38% | 3.9 |
| | Sugar beet | 62,975,356 | 63.0 | 38% | 100% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 16 | 81% | 4.4 |
| | Tallow | 40,032,147 | 40.0 | 24% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 3.2 |
| | Used cooking oil | 29,809,440 | 29.8 | 18% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 3.0 |
| | Wheat | 942,899 | 0.9 | 1% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 61 | 28% | 2.0 |
| | **Total** | **165,568,881** | **165.6** | **100%** | | | | | | | | | | | |
| | **Mean** | | | | **51%** | **42%** | **0%** | **7%** | **0%** | **42%** | **51%** | **7%** | **22** | **74%** | **3.7** |
| Previous land-use | By-product | 69,980,439 | 70.0 | 42% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 3.1 |
| | Cropland | 85,663,271 | 85.7 | 52% | 98% | 0% | 0% | 2% | 0% | 0% | 98% | 2% | 26 | 70% | 4.4 |
| | Unknown | 9,925,171 | 9.9 | 6% | 0% | 1% | 0% | 99% | 0% | 1% | 0% | 99% | 55 | 37% | 2.3 |
| | **Total** | **165,568,881** | **165.6** | **100%** | | | | | | | | | | | |
| | **Mean** | | | | **51%** | **42%** | **0%** | **7%** | **0%** | **42%** | **51%** | **7%** | **22** | **74%** | **3.7** |

**Table 8: Data capture data**

| | Biofuel type | Data capture: feedstock | Data capture: country | Data capture: land use known | Data capture: standard | Data capture: average |
|---|---|---|---|---|---|---|
| Fuel type | Biodiesel | 95% | 82% | 63% | 32% | 68% |
| | Bioethanol | 97% | 97% | 89% | 47% | 83% |
| | Biogas | 100% | 100% | 100% | 100% | 100% |
| | **Total biofuel** | **95%** | **86%** | **71%** | **37%** | **72%** |
| | | | | | **Annual target** | **70%** |

**Table 9: Accuracy level**

| | Biofuel type | Level 0 - RFA default - unknown feedstock and country | Level 1 - RFA default - known feedstock or country | Level 2 - RFA default - known feedstock and country | Level 3 - edited RFA defaults within the fuel chain | Level 4 - used industry data | Level 5 - used actual data | Accuracy level: average |
|---|---|---|---|---|---|---|---|---|
| Fuel type | Biodiesel | 5% | 13% | 63% | 1% | 13% | 5% | 2.2 |
| | Bioethanol | 2% | 1% | 32% | 5% | 52% | 9% | 3.3 |
| | Biogas | 0% | 0% | 0% | 0% | 0% | 100% | 5.0 |
| | **Total biofuel** | **4%** | **9%** | **54%** | **2%** | **24%** | **6%** | **2.5** |

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

**Table 10: Performance against the RTFO targets over time**

| | | | | *Proportion meeting an environmental standard* | | | | *Greenhouse gas saving* | | | *Data capture* | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Month | *Volume, litres or kg* | *Volume, million l or million kg* | *RTFO* | *QS* | *Env. std. target* | *± Target* | *Saving* | *Target* | *± Target* | *Feedstock* | *Country of origin* | *Previous land use* | *Standard* | *Average data capture* | *Target* | *± Target* |
| *Year 1* | 1 | 86,983,639 | 87.0 | 5% | 14% | *30%* | -11% | 43% | *40%* | 3% | 97% | 69% | 51% | 23% | 60% | *50%* | 10% |
| | 2 | 122,708,284 | 122.7 | 3% | 19% | *30%* | -8% | 48% | *40%* | 8% | 97% | 80% | 55% | 27% | 65% | *50%* | 15% |
| | 3 | 110,562,859 | 110.6 | 4% | 19% | *30%* | -8% | 47% | *40%* | 7% | 98% | 82% | 55% | 29% | 66% | *50%* | 16% |
| | 4 | 112,609,421 | 112.6 | 4% | 20% | *30%* | -7% | 47% | *40%* | 7% | 98% | 80% | 55% | 36% | 67% | *50%* | 17% |
| | 5 | 117,492,397 | 117.5 | 4% | 11% | *30%* | -15% | 46% | *40%* | 6% | 100% | 85% | 60% | 27% | 68% | *50%* | 18% |
| | 6 | 116,848,541 | 116.8 | 6% | 18% | *30%* | -7% | 48% | *40%* | 8% | 100% | 85% | 51% | 31% | 67% | *50%* | 17% |
| | 7 | 117,891,585 | 117.9 | 13% | 5% | *30%* | -12% | 43% | *40%* | 3% | 100% | 81% | 60% | 30% | 68% | *50%* | 18% |
| | 8 | 112,111,217 | 112.1 | 11% | 9% | *30%* | -10% | 45% | *40%* | 5% | 99% | 80% | 56% | 28% | 66% | *50%* | 16% |
| | 9 | 94,166,410 | 94.2 | 8% | 10% | *30%* | -12% | 47% | *40%* | 7% | 100% | 82% | 62% | 35% | 70% | *50%* | 20% |
| | 10 | 96,400,546 | 96.4 | 13% | 8% | *30%* | -9% | 45% | *40%* | 5% | 100% | 82% | 62% | 30% | 69% | *50%* | 19% |
| | 11 | 88,545,305 | 88.5 | 17% | 15% | *30%* | 3% | 52% | *40%* | 12% | 100% | 82% | 67% | 40% | 72% | *50%* | 22% |
| | 12 | 107,232,464 | 107.2 | 9% | 14% | *30%* | -6% | 53% | *40%* | 13% | 99% | 85% | 63% | 29% | 69% | *50%* | 19% |
| *Year 2* | 13 | 103,367,499 | 103.4 | 10% | 20% | *50%* | -21% | 47% | *45%* | 2% | 96% | 85% | 77% | 39% | 74% | *70%* | 4% |
| | 14 | 104,848,340 | 104.8 | 14% | 23% | *50%* | -13% | 51% | *45%* | 6% | 92% | 78% | 68% | 39% | 69% | *70%* | -1% |
| | 15 | 122,102,634 | 122.1 | 16% | 21% | *50%* | -14% | 52% | *45%* | 7% | 96% | 87% | 77% | 44% | 76% | *70%* | 6% |
| | 16 | 119,988,509 | 120.0 | 15% | 21% | *50%* | -13% | 53% | *45%* | 8% | 96% | 86% | 77% | 43% | 75% | *70%* | 5% |
| | 17 | 128,484,399 | 128.5 | 14% | 18% | *50%* | -18% | 50% | *45%* | 5% | 94% | 85% | 66% | 37% | 70% | *70%* | 0% |
| | 18 | 131,647,133 | 131.6 | 17% | 21% | *50%* | -12% | 51% | *45%* | 6% | 96% | 85% | 66% | 42% | 72% | *70%* | 2% |
| | 19 | 127,393,716 | 127.4 | 17% | 16% | *50%* | -16% | 52% | *45%* | 7% | 97% | 82% | 66% | 35% | 70% | *70%* | 0% |
| | 20 | 137,456,413 | 137.5 | 18% | 15% | *50%* | -17% | 52% | *45%* | 7% | 99% | 86% | 72% | 40% | 74% | *70%* | 4% |
| | 21 | 127,794,601 | 127.8 | 13% | 10% | *50%* | -27% | 48% | *45%* | 3% | 92% | 83% | 62% | 28% | 66% | *70%* | -4% |
| | 22 | 145,582,184 | 145.6 | 12% | 15% | *50%* | -23% | 51% | *45%* | 6% | 98% | 93% | 72% | 33% | 74% | *70%* | 4% |
| | 23 | 142,822,810 | 142.8 | 16% | 13% | *50%* | -21% | 50% | *45%* | 5% | 95% | 92% | 75% | 33% | 74% | *70%* | 4% |
| | 24 | 177,000,412 | 177.0 | 10% | 16% | *50%* | -24% | 50% | *45%* | 5% | 94% | 91% | 72% | 31% | 72% | *70%* | 2% |

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

**Table 11: Carbon and sustainability data for biofuels by fuel type, feedstock, country of origin and previous land-use.**

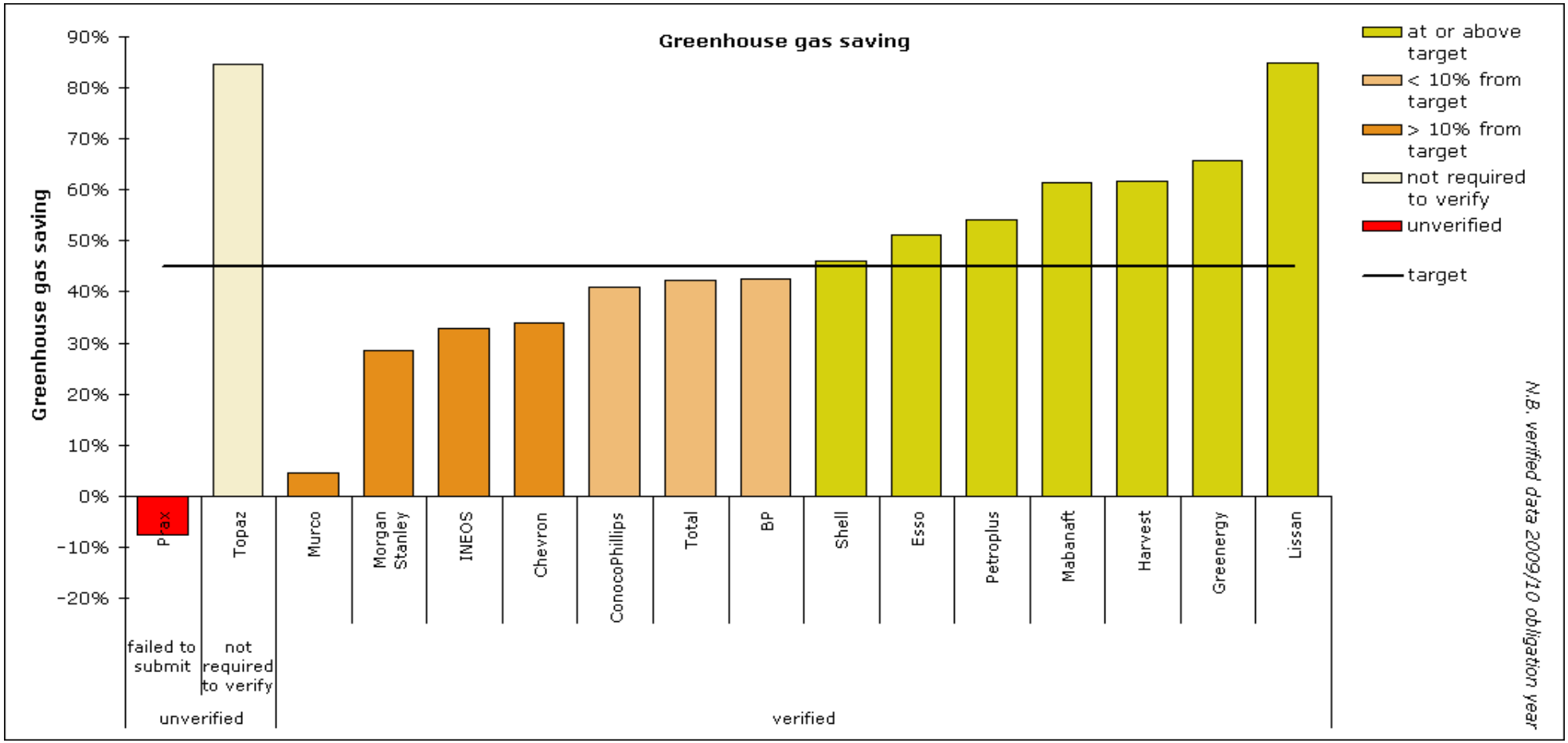
| | | | | | | | | Proportion meeting an environmental standard | | | | Proportion meeting a social standard | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Feedstock | Country of origin | Previous land-use | Volume, l or kg | Volume, million l or million kg | Volume, % | RTFO | Qualifying Standards | Other standards | None/ unknown | RTFO | Qualifying Standards | Other standards | None/ unknown | Carbon intensity, $g(CO_2e)/MJ$ | Greenhouse gas saving, % | Accuracy level, (0-5) |
| Fuel type | Biodiesel | Corn oil | United States | By-product | 93,418 | 0.1 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 18 | 79% | 2.0 |
| | | Oilseed rape | Belgium | Cropland | 97,335 | 0.1 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 39 | 55% | 2.0 |
| | | | | Unknown | 58,108 | 0.1 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 39 | 55% | 2.0 |
| | | | Canada | Cropland | 1,752,776 | 1.8 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 56 | 35% | 2.0 |
| | | | Czech Republic | Cropland | 171,198 | 0.2 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 93 | -8% | 2.0 |
| | | | | Unknown | 194,386 | 0.2 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 93 | -8% | 2.0 |
| | | | Denmark | Cropland | 2,341,403 | 2.3 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 27 | 69% | 4.2 |
| | | | | Unknown | 508,917 | 0.5 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 27 | 69% | 4.0 |
| | | | France | Cropland | 23,699,865 | 23.7 | 2% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 46 | 47% | 2.1 |
| | | | | Unknown | 13,090,255 | 13.1 | 1% | 0% | 0% | 59% | 41% | 0% | 0% | 59% | 41% | 46 | 47% | 2.0 |
| | | | Germany | Cropland | 86,581,684 | 86.6 | 6% | 4% | 0% | 68% | 28% | 4% | 0% | 68% | 28% | 48 | 44% | 2.0 |
| | | | | Unknown | 15,334,189 | 15.3 | 1% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 48 | 44% | 2.0 |
| | | | Hungary | Cropland | 45,962 | 0.0 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 93 | -8% | 1.5 |
| | | | | Unknown | 37,413 | 0.0 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 93 | -8% | 2.0 |
| | | | Latvia | Cropland | 312,622 | 0.3 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 93 | -8% | 1.2 |
| | | | | Unknown | 2,680,092 | 2.7 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 93 | -8% | 1.9 |
| | | | Lithuania | Cropland | 572,119 | 0.6 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 93 | -8% | 2.0 |
| | | | Netherlands | Cropland | 2,350,994 | 2.4 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 45 | 48% | 2.0 |
| | | | | Unknown | 505,760 | 0.5 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 45 | 48% | 2.0 |
| | | | Poland | Cropland | 453,402 | 0.5 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 45 | 48% | 2.0 |
| | | | | Unknown | 719,504 | 0.7 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 45 | 48% | 2.0 |
| | | | Sweden | Cropland | 2,139,620 | 2.1 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 66 | 24% | 2.0 |
| | | | Ukraine | Unknown | 8,057,651 | 8.1 | 1% | 0% | 0% | 83% | 17% | 0% | 0% | 83% | 17% | 60 | 31% | 2.0 |
| | | | United Kingdom | Cropland | 21,745,016 | 21.7 | 1% | 98% | 0% | 0% | 2% | 0% | 0% | 98% | 2% | 53 | 39% | 4.6 |
| | | | | Unknown | 9,868,226 | 9.9 | 1% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 55 | 36% | 2.3 |
| | | | United States | Cropland | 6,452,599 | 6.5 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 93 | -8% | 2.0 |
| | | | | Unknown | 2,190,616 | 2.2 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 93 | -8% | 2.0 |
| | | | Unknown | Cropland | 512 | 0.0 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 48 | 44% | 2.0 |
| | | | | Unknown | 48,072,970 | 48.1 | 3% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 93 | -8% | 1.0 |
| | | Palm | Indonesia | Cropland | 18,131,832 | 18.1 | 1% | 0% | 14% | 0% | 86% | 0% | 14% | 0% | 86% | 47 | 46% | 2.1 |
| | | | | Unknown | 7,925,350 | 7.9 | 1% | 0% | 4% | 0% | 96% | 0% | 4% | 0% | 96% | 47 | 46% | 2.0 |
| | | | Malaysia | By-product | 71,946 | 0.1 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 48 | 44% | 4.0 |
| | | | | Cropland | 46,609,439 | 46.6 | 3% | 0% | 50% | 0% | 50% | 0% | 50% | 0% | 50% | 45 | 47% | 2.8 |
| | | | | Unknown | 12,385,541 | 12.4 | 1% | 0% | 12% | 0% | 88% | 0% | 12% | 0% | 88% | 47 | 46% | 2.0 |
| | | | Unknown | Unknown | 13,981,958 | 14.0 | 1% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 47 | 46% | 1.0 |
| | | Soy | Argentina | Cropland | 171,033,455 | 171.0 | 11% | 0% | 4% | 0% | 96% | 0% | 4% | 0% | 96% | 48 | 44% | 2.1 |
| | | | | Unknown | 155,265,227 | 155.3 | 10% | 0% | 1% | 0% | 99% | 0% | 1% | 0% | 99% | 48 | 44% | 2.0 |
| | | | Brazil | Cropland | 99,832 | 0.1 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 78 | 10% | 2.0 |
| | | | | Unknown | 607,507 | 0.6 | 0% | 0% | 0% | 89% | 11% | 0% | 0% | 89% | 11% | 78 | 10% | 2.0 |
| | | | United States | Cropland | 94,335,521 | 94.3 | 6% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 44 | 49% | 3.7 |
| | | | | Unknown | 11,198,778 | 11.2 | 1% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 48 | 45% | 3.2 |
| | | | Unknown | Unknown | 47,510,139 | 47.5 | 3% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 78 | 10% | 1.0 |
| | | Sunflower | Ukraine | Cropland | 49,916 | 0.0 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 62 | 28% | 2.0 |
| | | | Unknown | Unknown | 152,539 | 0.2 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 69 | 20% | 1.0 |
| | | Tallow | Belgium | By-product | 31,522 | 0.0 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 17 | 80% | 2.0 |
| | | | Canada | By-product | 6,500,967 | 6.5 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 17 | 80% | 2.0 |
| | | | Denmark | By-product | 26,176,925 | 26.2 | 2% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 14 | 84% | 2.0 |
| | | | Finland | By-product | 234,170 | 0.2 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 17 | 80% | 2.0 |
| | | | France | By-product | 1,560,066 | 1.6 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 15 | 83% | 2.0 |
| | | | Germany | By-product | 13,555,405 | 13.6 | 1% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 14 | 83% | 2.1 |
| | | | Ireland, Republic of | By-product | 4,712,203 | 4.7 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 14 | 83% | 2.0 |
| | | | Italy | By-product | 457,655 | 0.5 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 17 | 80% | 2.0 |
| | | | Netherlands | By-product | 1,122,764 | 1.1 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 17 | 80% | 2.0 |
| | | | Poland | By-product | 1,803,863 | 1.8 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 17 | 80% | 2.0 |
| | | | Switzerland | By-product | 721,980 | 0.7 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 17 | 80% | 2.0 |
| | | | United Kingdom | By-product | 40,032,147 | 40.0 | 3% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 3.2 |
| | | | United States | By-product | 58,846,569 | 58.8 | 4% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 18 | 80% | 3.6 |
| | | | Unknown | By-product | 26,552,035 | 26.6 | 2% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 17 | 80% | 1.0 |
| | | Used cooking oil | Austria | By-product | 305,108 | 0.3 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 |
| | | | Belgium | By-product | 679,548 | 0.7 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 |
| | | | Chile | By-product | 273,638 | 0.3 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 |
| | | | France | By-product | 794,195 | 0.8 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 |
| | | | Germany | By-product | 2,351,960 | 2.4 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 14 | 84% | 2.0 |
| | | | Ireland, Republic of | By-product | 340,458 | 0.3 | 0% | 0% | 84% | 0% | 16% | 0% | 84% | 0% | 16% | 13 | 85% | 4.0 |
| | | | Netherlands | By-product | 2,080,127 | 2.1 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 |
| | | | Switzerland | By-product | 305,107 | 0.3 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 |
| | | | United Kingdom | By-product | 29,752,495 | 29.8 | 2% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 3.0 |
| | | | | Unknown | 56,945 | 0.1 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 |
| | | | Unknown | By-product | 5,912,516 | 5.9 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 1.0 |
| | | Unknown | Unknown | Unknown | 58,563,440 | 58.6 | 4% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 93 | -7% | 0.0 |

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

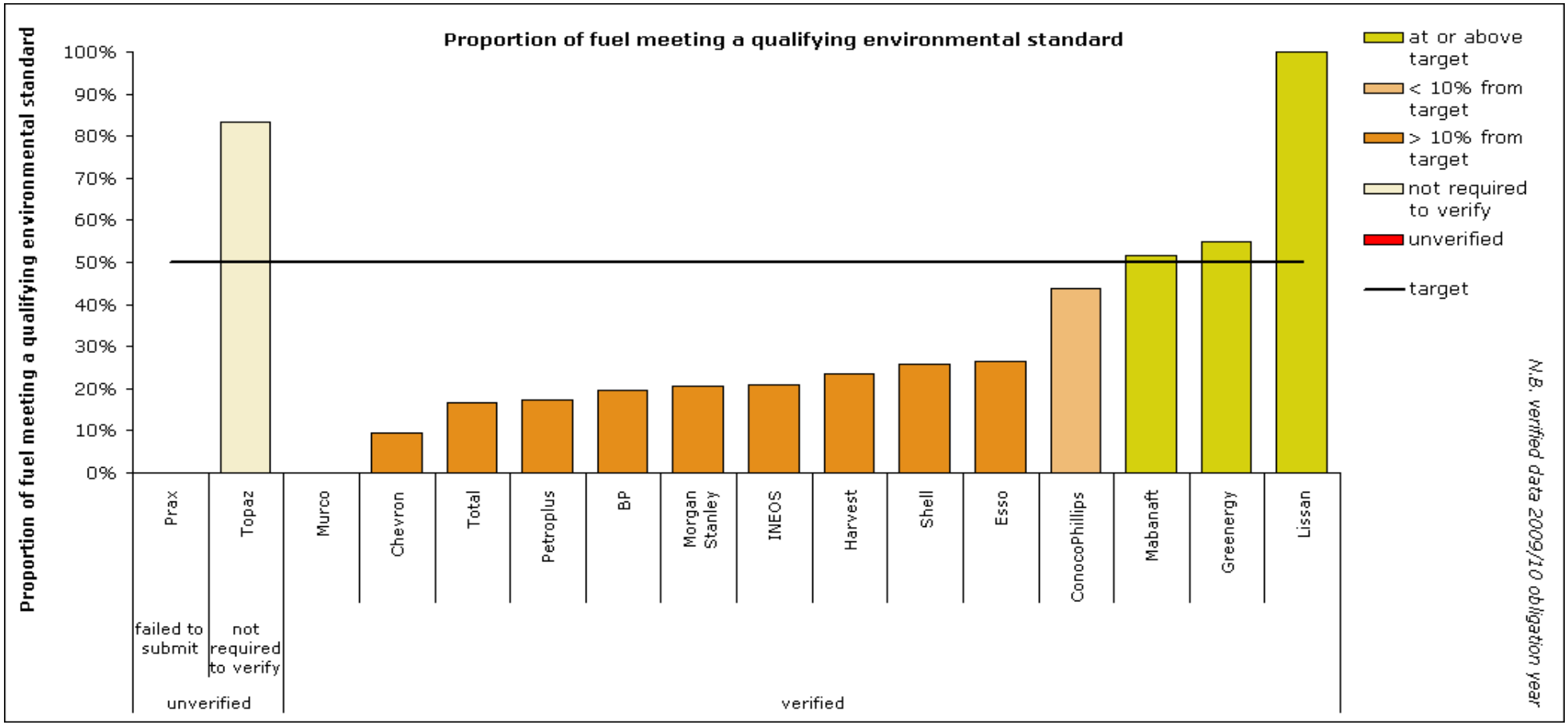
**Table 11: Carbon and sustainability data for biofuels by fuel type, feedstock, country of origin and previous land-use.**

| | | | | | | | | Proportion meeting an environmental standard | | | | Proportion meeting a social standard | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Feedstock | Country of origin | Previous land-use | Volume, l or kg | Volume, million l or million kg | Volume, % | RTFO | Qualifying Standards | Other standards | None/ unknown | RTFO | Qualifying Standards | Other standards | None/ unknown | Carbon intensity, $g(CO_2e)/MJ$ | Greenhouse gas saving, % | Accuracy level, (0-5) |
| Fuel type | Bioethanol | Barley | Spain | Cropland | 99,914 | 0.1 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 106 | -25% | 2.0 |
| | | | Unknown | Unknown | 197,717 | 0.2 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 106 | -25% | 1.0 |
| | | Cassava | Cambodia | Unknown | 125,831 | 0.1 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 115 | -36% | 0.0 |
| | | Corn | France | Cropland | 11,471,157 | 11.5 | 1% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 46 | 46% | 4.5 |
| | | | | Unknown | 1,689,550 | 1.7 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 49 | 42% | 2.0 |
| | | | Hungary | Cropland | 275,556 | 0.3 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 108 | -27% | 2.0 |
| | | | Spain | Cropland | 275,556 | 0.3 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 108 | -27% | 2.0 |
| | | | | Unknown | 82,589 | 0.1 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 49 | 42% | 2.0 |
| | | Molasses | Brazil | By-product | 2,316,335 | 2.3 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 40 | 53% | 2.0 |
| | | | Costa Rica | By-product | 1,380,294 | 1.4 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 40 | 53% | 1.0 |
| | | | Guatemala | By-product | 2,064,635 | 2.1 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 88 | -4% | 3.0 |
| | | | Nicaragua | By-product | 267,327 | 0.3 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 40 | 53% | 1.0 |
| | | Sugar beet | France | Cropland | 12,628,633 | 12.6 | 1% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 50 | 41% | 2.0 |
| | | | United Kingdom | Cropland | 62,975,356 | 63.0 | 4% | 100% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 16 | 81% | 4.4 |
| | | Sugar cane | Brazil | Cropland | 280,190,181 | 280.2 | 18% | 48% | 0% | 0% | 52% | 44% | 7% | 0% | 48% | 24 | 71% | 3.5 |
| | | | | Unknown | 27,899,528 | 27.9 | 2% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 25 | 71% | 2.3 |
| | | Sulphite | Sweden | By-product | 642,342 | 0.6 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 6 | 93% | 2.0 |
| | | Triticale | Lithuania | Unknown | 491,512 | 0.5 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 115 | -36% | 2.0 |
| | | | Unknown | Unknown | 297,237 | 0.3 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 115 | -36% | 1.0 |
| | | Wheat | Belgium | Cropland | 1,095,990 | 1.1 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 61 | 28% | 2.0 |
| | | | | Unknown | 4,578,383 | 4.6 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 61 | 28% | 2.0 |
| | | | France | Cropland | 29,525,538 | 29.5 | 2% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 65 | 23% | 2.4 |
| | | | | Unknown | 253,794 | 0.3 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 65 | 23% | 2.0 |
| | | | United Kingdom | Cropland | 942,899 | 0.9 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 61 | 28% | 2.0 |
| | | Unknown | Unknown | Unknown | 12,879,190 | 12.9 | 1% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 115 | -36% | 0.8 |
| | | | Pakistan | Unknown | 434,409 | 0.4 | 0% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 115 | -36% | 1.0 |
| | Biogas | Municipal solid waste | United Kingdom | By-product | 195,797 | 0.2 | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 27 | 69% | 5.0 |
| | **Grand Total Mean** | | | | **1,568,488,650** | **1568.5** | **100%** | **14%** | **17%** | **5%** | **64%** | **8%** | **18%** | **10%** | **63%** | **43** | **51%** | **2.5** |

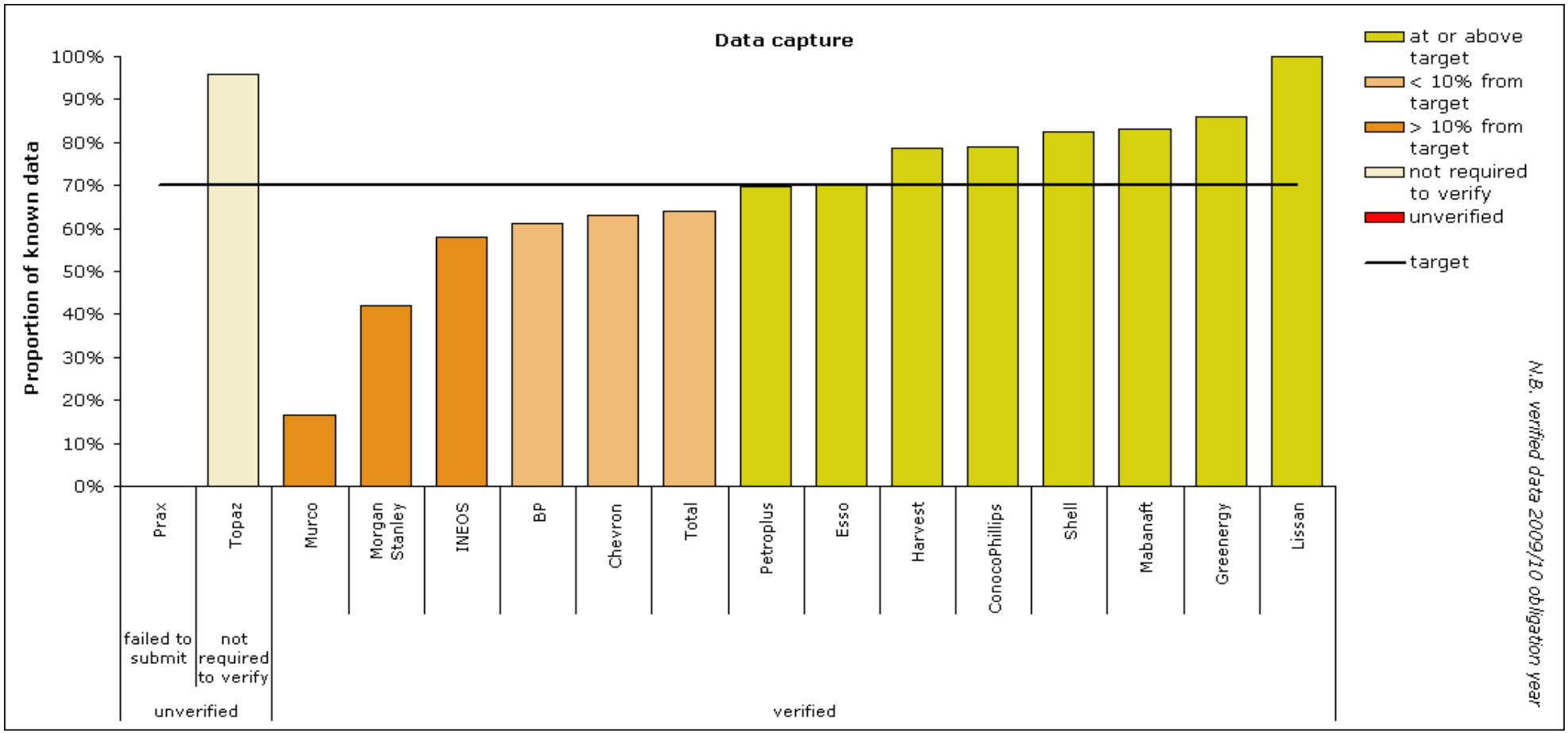
# Obligated company performance against the RTFO's targets



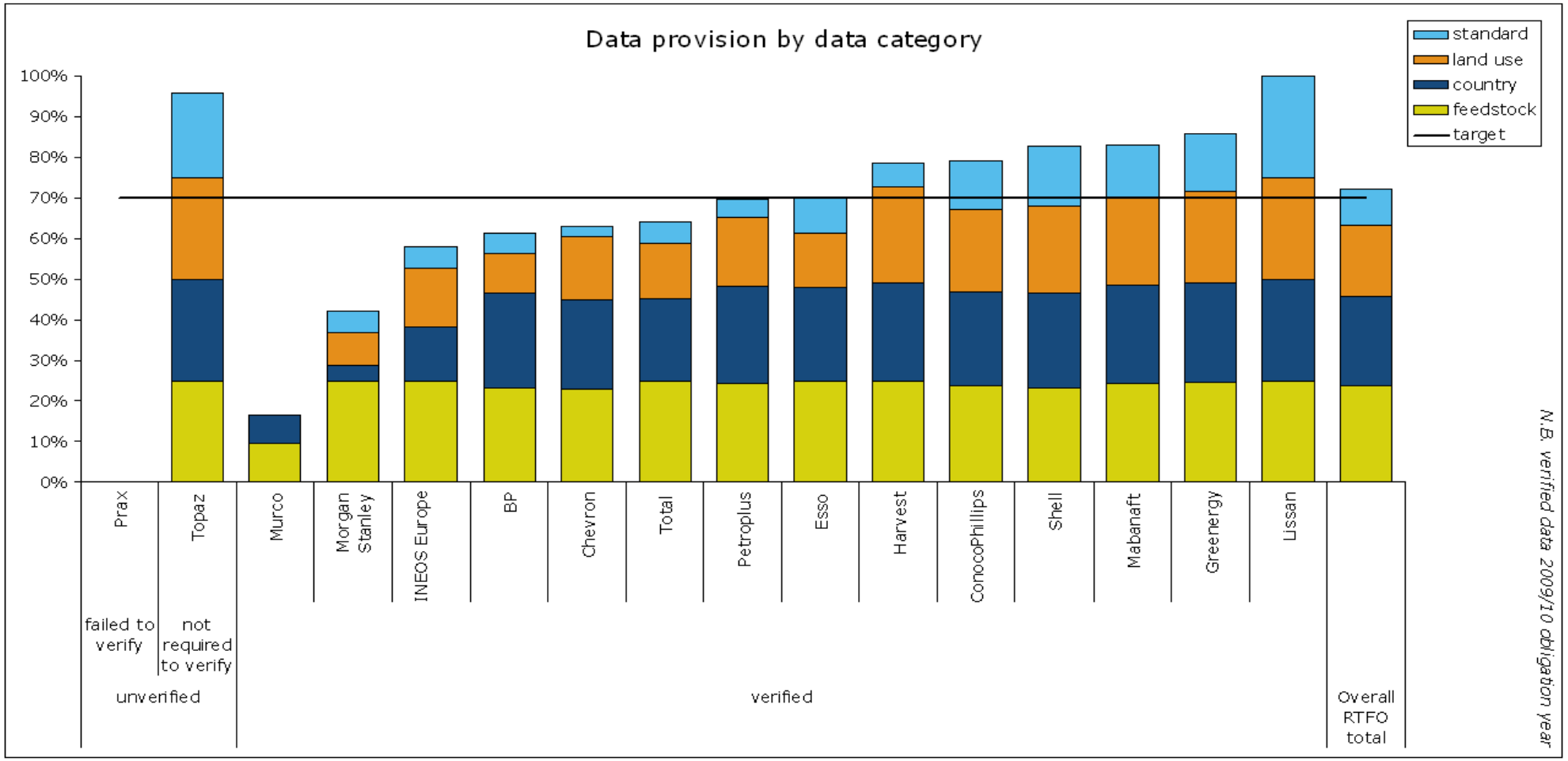
# Obligated company performance against the RTFO's targets



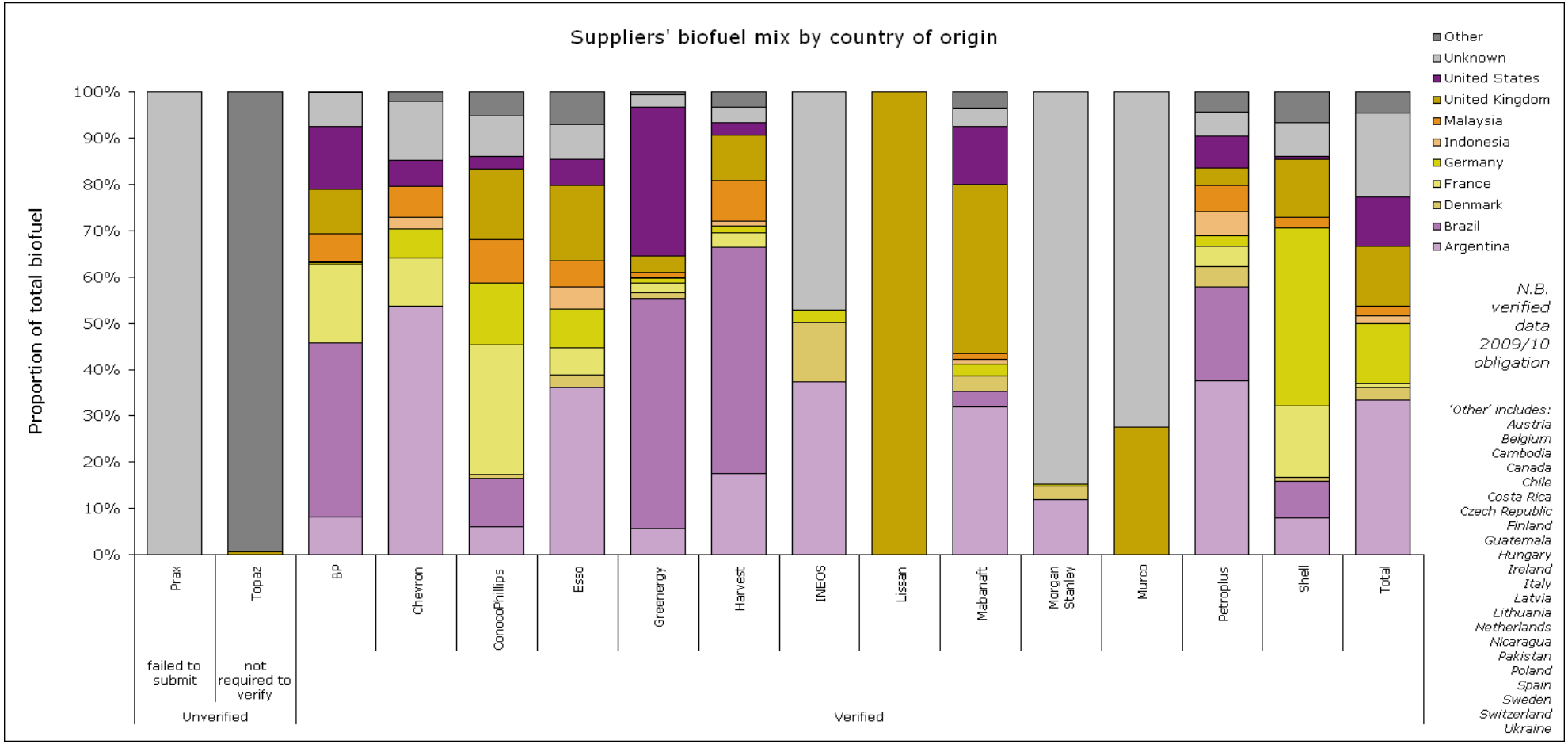
# Obligated company performance against the RTFO's targets



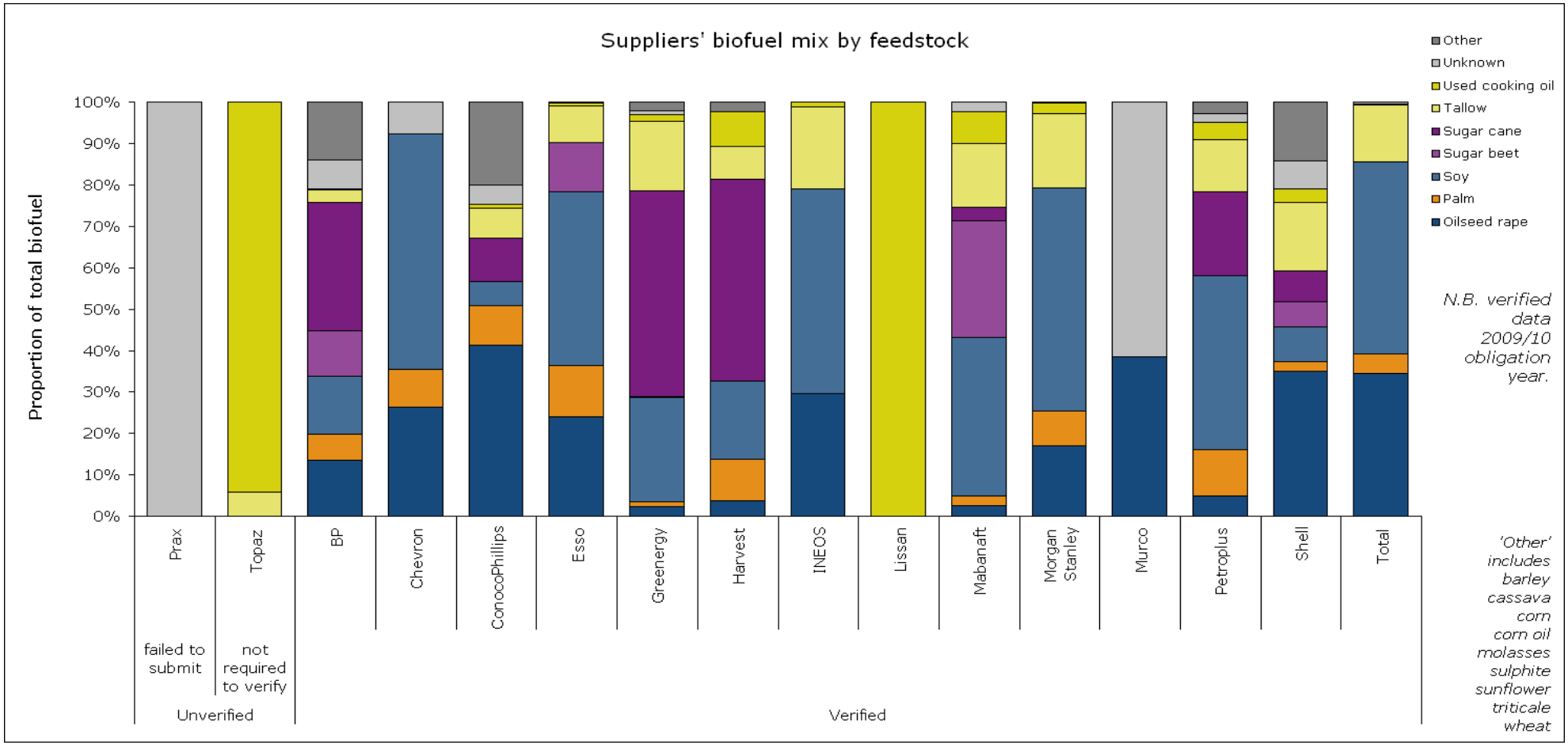
# Obligated company performance against the RTFO's targets



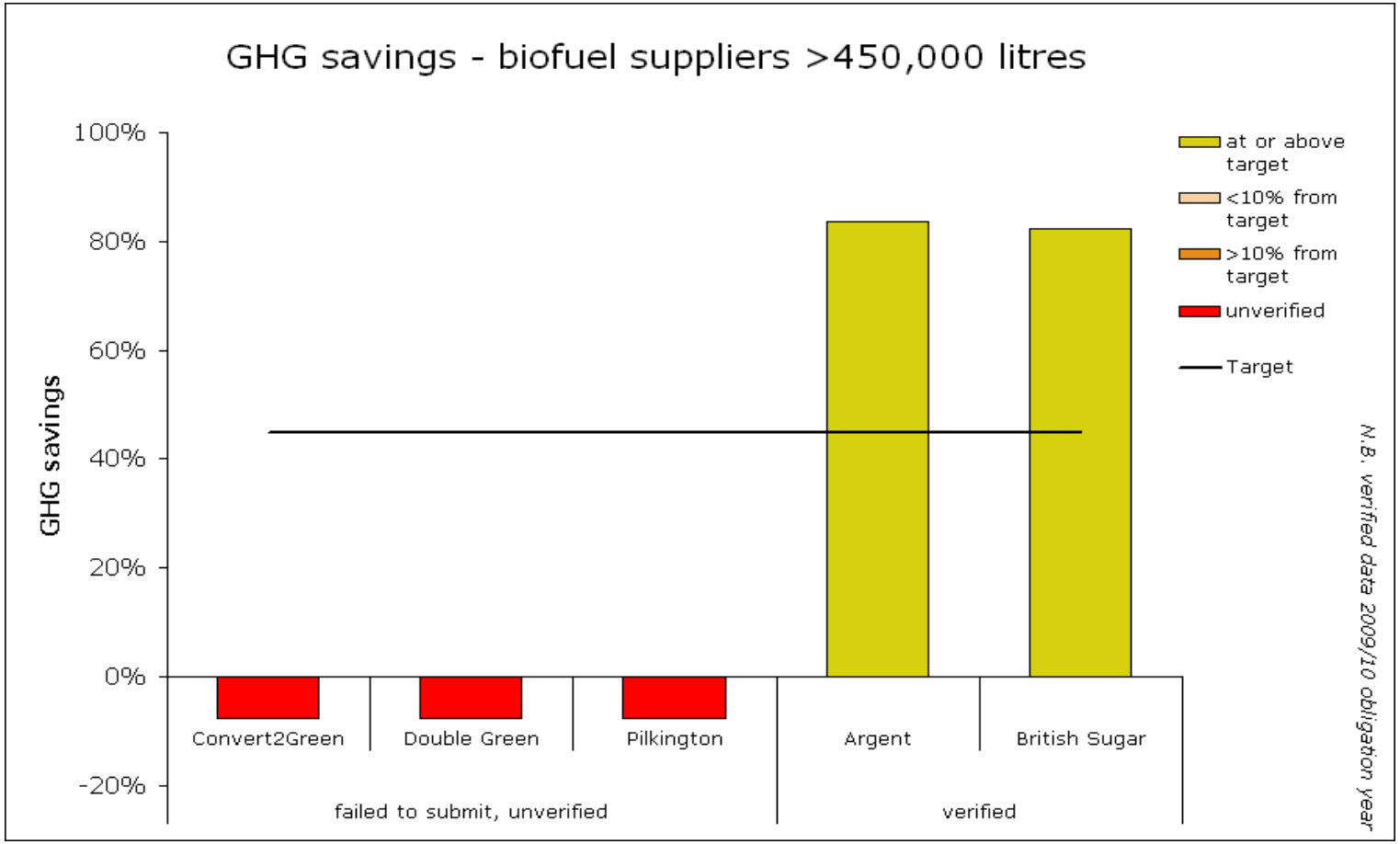
# Obligated company performance against the RTFO's targets



# Obligated company performance against the RTFO's targets

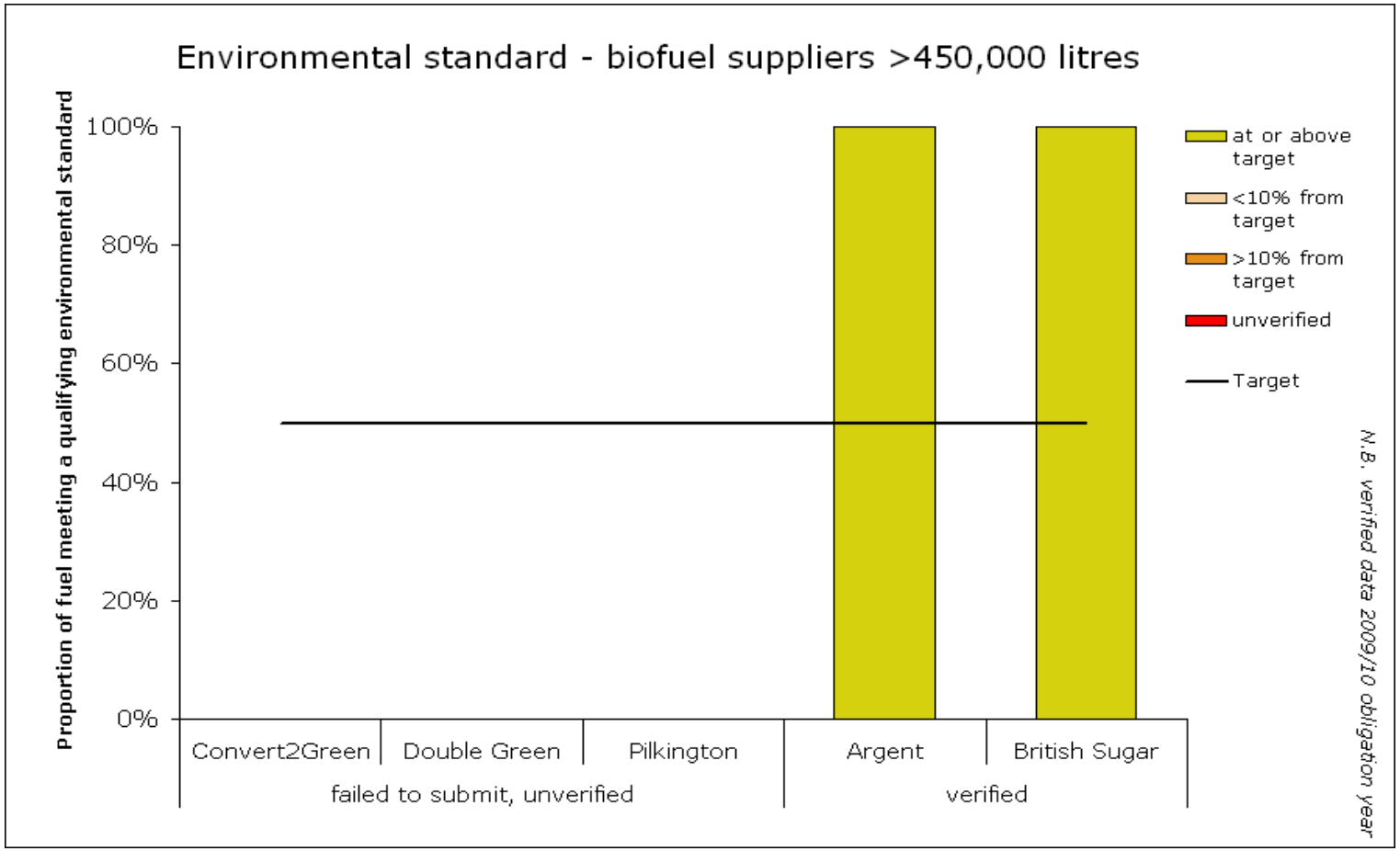


# Non-obligated company performance against the RTFO's targets



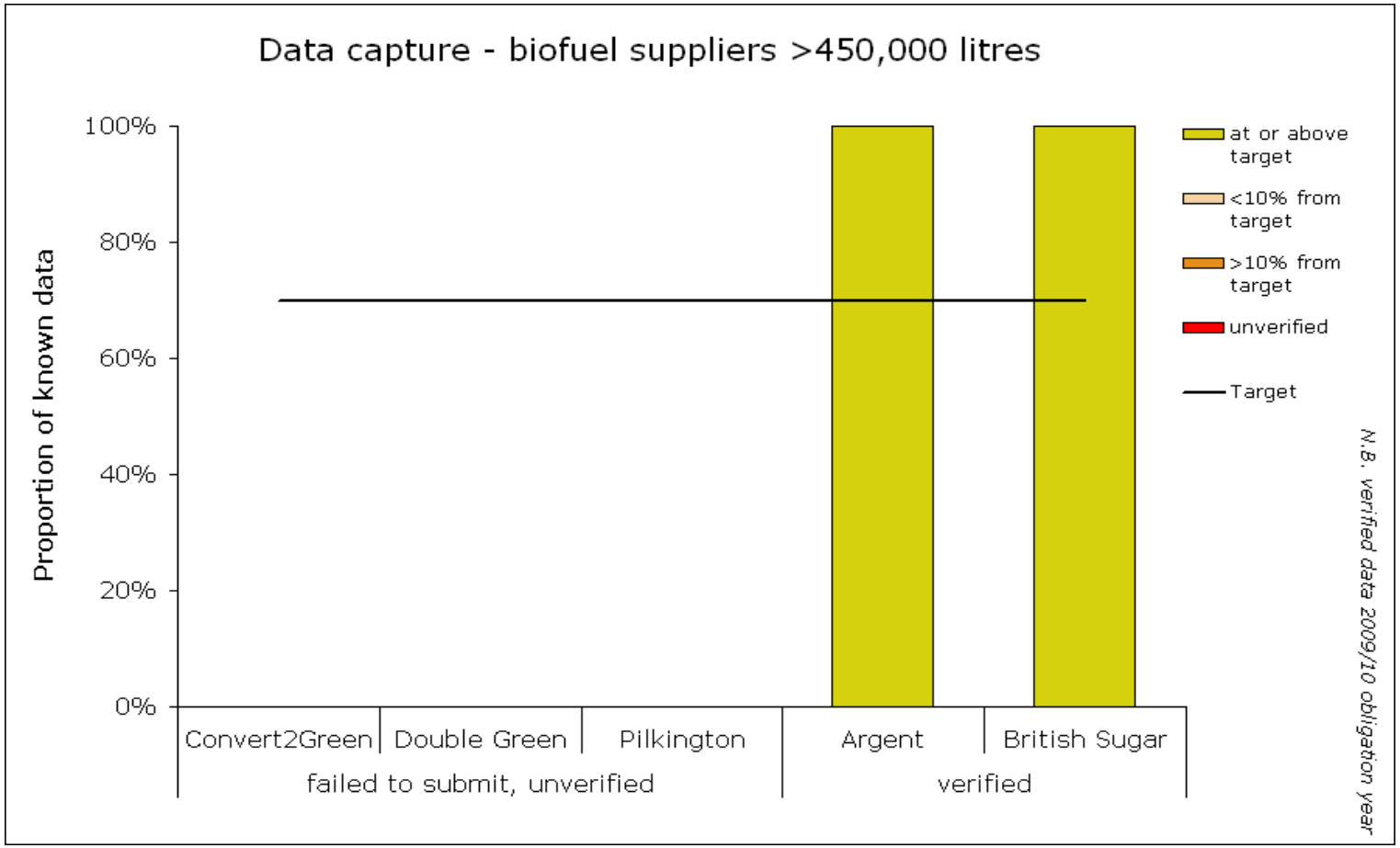

Convert2Green did submit a report but it was received after the deadline.

# Non-obligated company performance against the RTFO's targets




Convert2Green did submit a report but it was received after the deadline.

# Non-obligated company performance against the RTFO's targets




Convert2Green did submit a report but it was received after the deadline.

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

**Table 12: Company performance against the RTFO targets and carbon and sustainability criteria.**

| | | 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, % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Company | Cropland | By-product | Unknown | RTFO | QS | Other standards | None/ unknown | RTFO | QS | Other standards | None/ unknown | | | | |
| Obligated companies | BP Oil UK Ltd | 29% | 10% | 61% | 8% | 12% | 0% | 81% | 0% | 12% | 8% | 81% | 49 | 42% | 2.0 | 61% |
| | Chevron Ltd | 63% | 0% | 37% | 0% | 9% | 0% | 91% | 0% | 9% | 0% | 91% | 57 | 34% | 1.8 | 63% |
| | ConocoPhillips Ltd | 69% | 13% | 18% | 23% | 21% | 4% | 53% | 10% | 21% | 16% | 53% | 51 | 41% | 2.9 | 79% |
| | Esso Petroleum Company Ltd | 43% | 10% | 47% | 15% | 11% | 9% | 65% | 0% | 11% | 24% | 65% | 42 | 51% | 2.5 | 70% |
| | Greenergy Fuels Ltd | 71% | 18% | 10% | 35% | 20% | 0% | 45% | 32% | 25% | 1% | 42% | 29 | 66% | 3.7 | 86% |
| | Harvest Energy Ltd | 78% | 16% | 6% | 0% | 23% | 0% | 77% | 0% | 23% | 0% | 77% | 33 | 62% | 2.1 | 79% |
| | INEOS Europe Ltd | 37% | 21% | 42% | 0% | 21% | 0% | 79% | 0% | 21% | 0% | 79% | 58 | 33% | 1.5 | 58% |
| | Lissan Coal Company Ltd | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 | 100% |
| | Mabanaft UK Ltd | 64% | 23% | 13% | 28% | 23% | 0% | 48% | 0% | 23% | 28% | 48% | 33 | 61% | 2.6 | 83% |
| | Morgan Stanley Capital Group Inc. | 12% | 21% | 68% | 0% | 21% | 0% | 79% | 0% | 21% | 0% | 79% | 62 | 29% | 1.1 | 42% |
| | Murco Petroleum Ltd | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 83 | 4% | 0.7 | 16% |
| | Petroplus Refining Teesside Ltd | 52% | 17% | 31% | 0% | 17% | 0% | 83% | 0% | 17% | 0% | 83% | 40 | 54% | 2.4 | 70% |
| | Prax Petroleum Ltd | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 93 | -8% | 0.0 | 0% |
| | Shell UK Ltd | 66% | 20% | 15% | 4% | 22% | 33% | 41% | 4% | 22% | 33% | 41% | 46 | 46% | 1.9 | 83% |
| | Topaz Energy Ltd | 0% | 100% | 0% | 0% | 83% | 0% | 17% | 0% | 83% | 0% | 17% | 13 | 85% | 3.9 | 96% |
| | Total UK Ltd | 41% | 14% | 46% | 2% | 14% | 4% | 79% | 0% | 14% | 7% | 79% | 50 | 42% | 2.4 | 64% |
| Non-obligated companies | Argent Energy (UK) Ltd | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 14 | 84% | 5.0 | 100% |
| | Associated British Bio-Fuels Ltd | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 26 | 69% | 2.4 | 100% |
| | Bio UK Fuels (Sheffield) Ltd | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 | 100% |
| | Biofuel Refineries Ltd | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 12 | 86% | 3.9 | 100% |
| | Biomotive Fuels Ltd | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 10 | 89% | 2.9 | 100% |
| | British Sugar plc. | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 15 | 82% | 4.6 | 100% |
| | Business Bio Fuels Ltd | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 | 100% |
| | Convert2Green Ltd | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 93 | -8% | 0.0 | 0% |
| | Doncaster Bio Fuels | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 | 100% |
| | Double Green Ltd | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 93 | -8% | 0.0 | 0% |
| | Ebony Solutions Ltd | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 | 100% |
| | Edible Oil Direct Ltd. | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.3 | 100% |
| | Four Rivers Biofuels Ltd | 0% | 90% | 10% | 0% | 90% | 0% | 10% | 0% | 90% | 0% | 10% | 20 | 77% | 2.0 | 95% |
| | Gasrec Ltd | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 27 | 69% | 5.0 | 100% |
| | Goldenfuels | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 | 100% |
| | Green Fuels Ltd | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 | 100% |
| | GreenerDiesel.com (UK) Ltd | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 | 100% |
| | GreenFuel Supply Solutions Ltd | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 32 | 63% | 3.0 | 100% |
| | Greenolysis Ltd | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 1.9 | 100% |
| | Kassero Edible Oils Ltd | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 | 100% |
| | MFS Fuel Supplies Ltd | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 | 100% |
| | Neal Environmental Ltd | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 3.0 | 100% |
| | Ozone Friendly Fuels Ltd | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 | 100% |
| | Phoenix Fuels Ltd | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 100% | 0% | 21 | 76% | 5.0 | 100% |
| | Pilkington Oils Ltd | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 93 | -8% | 0.0 | 0% |
| | PRS Environmental | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 12 | 86% | 2.0 | 100% |
| | Pure Fuels Ltd | 0% | 66% | 34% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 | 83% |
| | Rix Biodiesel | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 | 100% |
| | Rural Development Trust | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 | 100% |
| | Shepherds Bakery | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 | 100% |
| | UK Renewable Fuels Ltd | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 | 100% |
| | Uptown Oil Ltd | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.2 | 100% |
| | Veg Oil Motoring | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 1 | 99% | 2.0 | 100% |
| | Verdant Fuel Ltd | 80% | 20% | 0% | 80% | 20% | 0% | 0% | 0% | 20% | 80% | 0% | 29 | 66% | 4.4 | 96% |
| | Wight Made Diesel | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 | 100% |
| | William John Brown T/as Greenearth Biodiesel | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 100% | 0% | 0% | 13 | 85% | 2.0 | 100% |

**Table 13: Number of RTFO targets met or exceeded by obligated companies.[1]**

| *Number of targets met (year to date)[2]* | *Obligated company* | *Number of targets met (provisional quarterly report)[2]* | *Change from previous quarterly report* | *Number of targets met (previous RTFO year - based on verified data)[4]* | *Change from RTFO Year 1[4]* |
|---|---|---|---|---|---|
| *3* | *Greenergy Fuels Ltd* | 3 | ▪ | 3 | ▪ |
| | *Lissan Coal Company Ltd* | 3 | ▪ | 3 | ▪ |
| | *Mabanaft UK Ltd* | 3 | ▪ | 3 | ▪ |
| | *Topaz Energy Ltd* | 3 | ▪ | 0 | ↑ |
| *2* | *Esso Petroleum Company Ltd* | 1 | ↑ | 2 | ▪ |
| | *Harvest Energy Ltd* | 2 | ▪ | 2 | ▪ |
| | *Petroplus Refining Teesside Ltd* | 1 | ↑ | 2 | ▪ |
| | *Shell UK Ltd* | 2 | ▪ | 2 | ▪ |
| *1* | *ConocoPhillips Ltd* | 1 | ▪ | 3 | ↓ |
| *0* | *BP Oil UK Ltd* | 1 | ↓ | 2 | ↓ |
| | *Chevron Ltd* | 0 | ▪ | 1 | ↓ |
| | *Ineos Europe Ltd* | 2 | ↓ | n/a | n/a |
| | *Morgan Stanley Capital Group Inc[3]* | 2 | ↓ | 0 | ▪ |
| | *Murco Petroleum Ltd* | 0 | ▪ | 1 | ↓ |
| | *Prax Petroleum Ltd* | 1 | ↓ | 3 | ↓ |
| | *Total UK Ltd* | 0 | ▪ | 1 | ↓ |

[1] Obligated companies supply >95% of the biofuels in the UK market.

[2] The RTFO targets in Year 2 (2009/10) were to have:
50% of biofuels meeting qualifying environmental standards;
GHG savings of 45%; and
70% data capture in four key sustainability fields (feedstocks, country of origin, previous land-use, standard)

One company did not provide limited assurance on their C&S data for Year 2 (as required by the RFA) - the target claimed is highlighted in red.

[3] In the previous reporting year, the fuel we reported in the name 'Ineos' (operator of the Grangemouth refinery) was owned by Morgan Stanley Capital Group at the duty point - making Morgan Stanley the legally obligated supplier, rather than Ineos itself. We reported on this fuel under the name 'Ineos' after consultation with the two companies. This year, to prevent any confusion arising from Ineos becoming an account holder in its own right, we are reporting on the fuel supplied under the Morgan Stanley Capital Group account in the name 'Morgan Stanley'. The fuel reported as 'Morgan Stanley' is thus directly associated for purposes of year-on-year comparison to the fuel reported as 'Ineos' in Year 1.

[4] The RTFO targets in Year 1 (2008/09) were to have:
30% of biofuels meeting qualifying environmental standards;
GHG savings of 40%; and
50% data capture in four key sustainability fields (feedstocks, country of origin, previous land-use, standard)

Four companies did not provide limited assurance on their C&S data for Year 1 (as required by the RFA) - the targets claimed are highlighted in red.

# Trading of RTFCs

## RTFCs traded per quarter by type of account holder

**Table 14.1 RTFCs traded from Obligation Year 2008/09**

| *Quarter* | *Quarter (date)* | *From* | *To* | *RTFCs* | *%* |
|---|---|---|---|---|---|
| *2* | *Jul 2008 - Oct 2008* | Biofuel Suppliers | Fossil Fuel Suppliers | 2,791,602 | 2% |
| | | Fossil Fuel Suppliers | Fossil Fuel Suppliers | 11,347,500 | 7% |
| *3* | *Oct 2008 - Jan 2009* | Biofuel Suppliers | Fossil Fuel Suppliers | 809,000 | 0% |
| | | Fossil Fuel Suppliers | Fossil Fuel Suppliers | 17,538,750 | 10% |
| *4* | *Jan 2009 - Apr 2009* | Biofuel Suppliers | Biofuel Suppliers | 3,063,335 | 2% |
| | | | Fossil Fuel Suppliers | 1,883,310 | 1% |
| | | | Other | 10,000 | 0% |
| | | Fossil Fuel Suppliers | Biofuel Suppliers | 1,175,000 | 1% |
| | | | Fossil Fuel Suppliers | 16,601,408 | 10% |
| | | | Other | 10,000 | 0% |
| | | Other | Biofuel Suppliers | 10,000 | 0% |
| | | | Fossil Fuel Suppliers | 10,000 | 0% |
| *5* | *Apr 2009 - Jul 2009* | Biofuel Suppliers | Biofuel Suppliers | 83,812 | 0% |
| | | | Fossil Fuel Suppliers | 830,000 | 0% |
| | | Fossil Fuel Suppliers | Fossil Fuel Suppliers | 75,625,694 | 45% |
| *6* | *Jul 2009 - Oct 2009* | Fossil Fuel Suppliers | Fossil Fuel Suppliers | 32,395,869 | 19% |
| *7* | *Oct 2009 - Jan 2010* | Fossil Fuel Suppliers | Fossil Fuel Suppliers | 1,779,869 | 1% |
| *8* | *Jan 2010 - Apr 2010* | Fossil Fuel Suppliers | Fossil Fuel Suppliers | 482,516 | 0% |
| *9* | *Apr 2010 - Jul 2010* | Fossil Fuel Suppliers | Fossil Fuel Suppliers | 381,292 | 0% |
| *10* | *Jul 2010 - Oct 2010* | Fossil Fuel Suppliers | Fossil Fuel Suppliers | 2,182,910 | 1% |
| ***Grand Total*** | | | | **169,011,867** | **100%** |

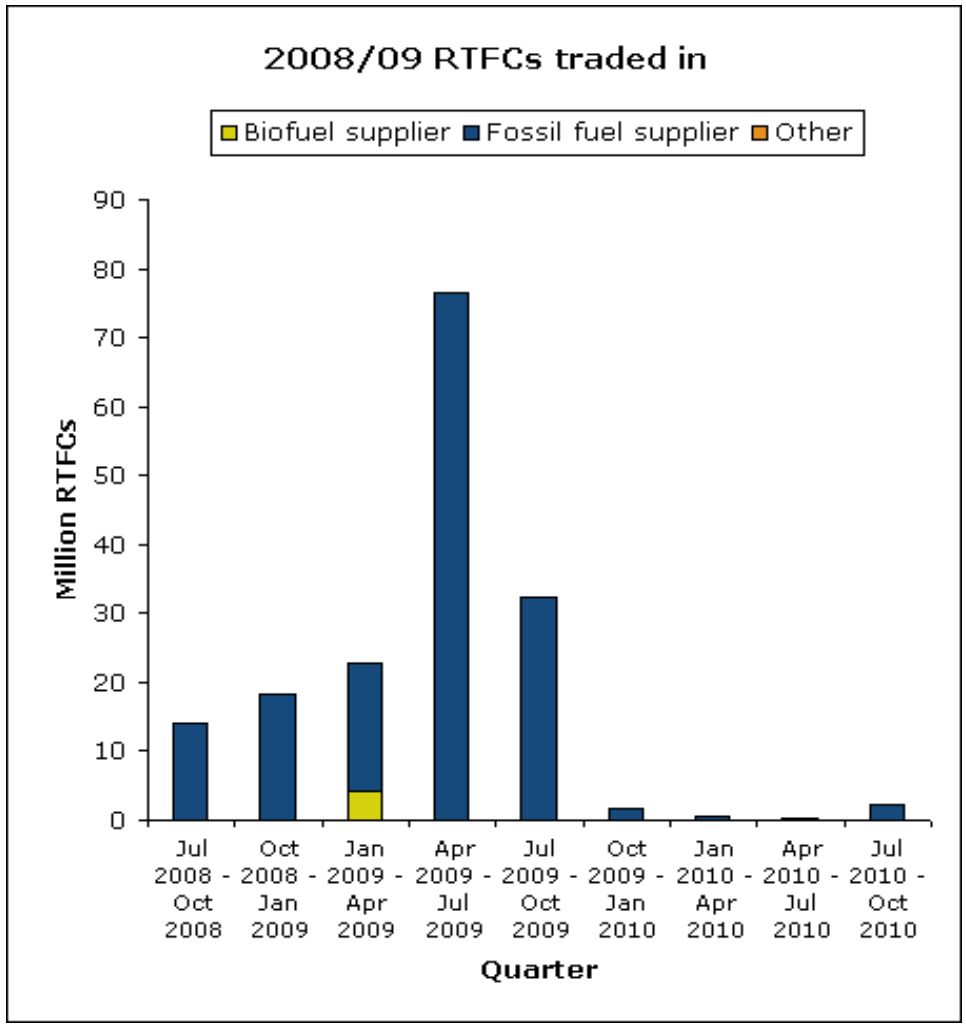
# Trading of RTFCs

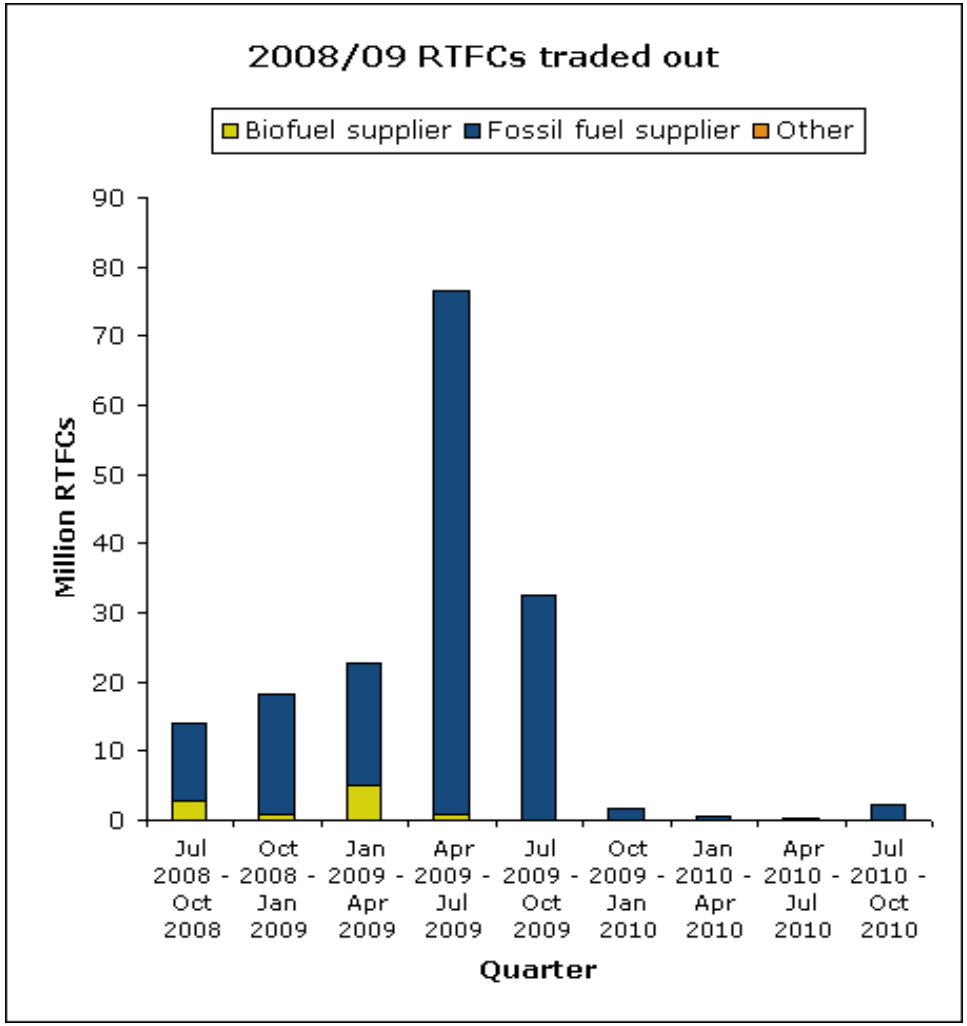
## RTFCs traded per quarter by type of account holder

**Table 14.2 RTFCs traded from Obligation Year 2009/10**

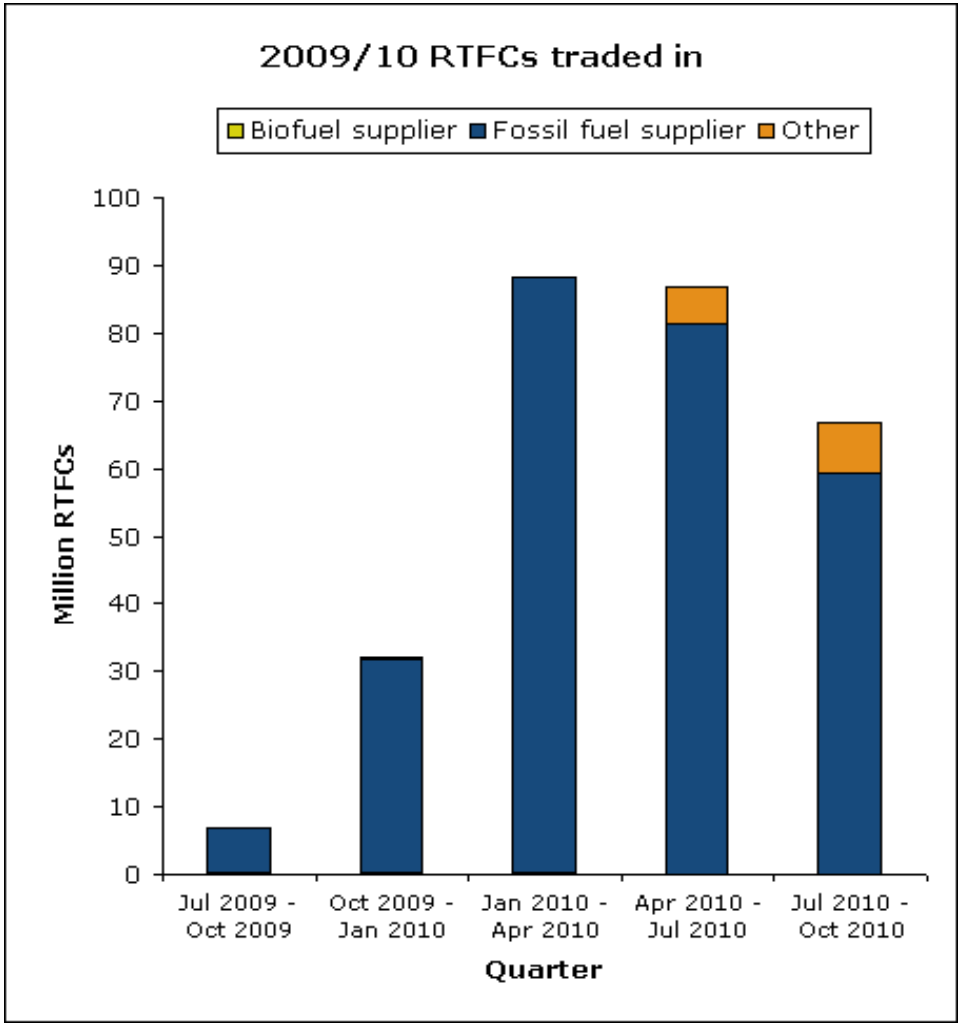
| *Quarter* | *Quarter (date)* | *From* | *To* | *RTFCs* | *%* |
|---|---|---|---|---|---|
| *6* | *Jul 2009 - Oct 2009* | Biofuel Suppliers | Biofuel Suppliers | 309,980 | 0% |
| | | | Fossil Fuel Suppliers | 97,950 | 0% |
| | | Fossil Fuel Suppliers | Fossil Fuel Suppliers | 6,580,808 | 2% |
| *7* | *Oct 2009 - Jan 2010* | Biofuel Suppliers | Biofuel Suppliers | 295,010 | 0% |
| | | | Fossil Fuel Suppliers | 1,743,960 | 1% |
| | | | Other | 388,179 | 0% |
| | | Fossil Fuel Suppliers | Fossil Fuel Suppliers | 29,383,440 | 10% |
| | | Other | Fossil Fuel Suppliers | 388,179 | 0% |
| *8* | *Jan 2010 - Apr 2010* | Biofuel Suppliers | Biofuel Suppliers | 297,016 | 0% |
| | | | Fossil Fuel Suppliers | 2,143,955 | 1% |
| | | | Other | 167,949 | 0% |
| | | Fossil Fuel Suppliers | Fossil Fuel Suppliers | 85,516,261 | 30% |
| | | Other | Fossil Fuel Suppliers | 167,949 | 0% |
| *9* | *Apr 2010 - Jul 2010* | Biofuel Suppliers | Fossil Fuel Suppliers | 18,157,547 | 6% |
| | | | Other | 442,404 | 0% |
| | | Fossil Fuel Suppliers | Fossil Fuel Suppliers | 57,678,763 | 21% |
| | | | Other | 5,000,000 | 2% |
| | | Other | Fossil Fuel Suppliers | 5,442,374 | 2% |
| *10* | *Jul 2010 - Oct 2010* | Biofuel Suppliers | Fossil Fuel Suppliers | 11,199,636 | 4% |
| | | | Other | 950,224 | 0% |
| | | Fossil Fuel Suppliers | Fossil Fuel Suppliers | 40,912,731 | 15% |
| | | | Other | 6,300,000 | 2% |
| | | Other | Fossil Fuel Suppliers | 7,340,210 | 3% |
| | | | Other | 89,986 | 0% |
| ***Grand Total*** | | | | **280,994,511** | **100%** |

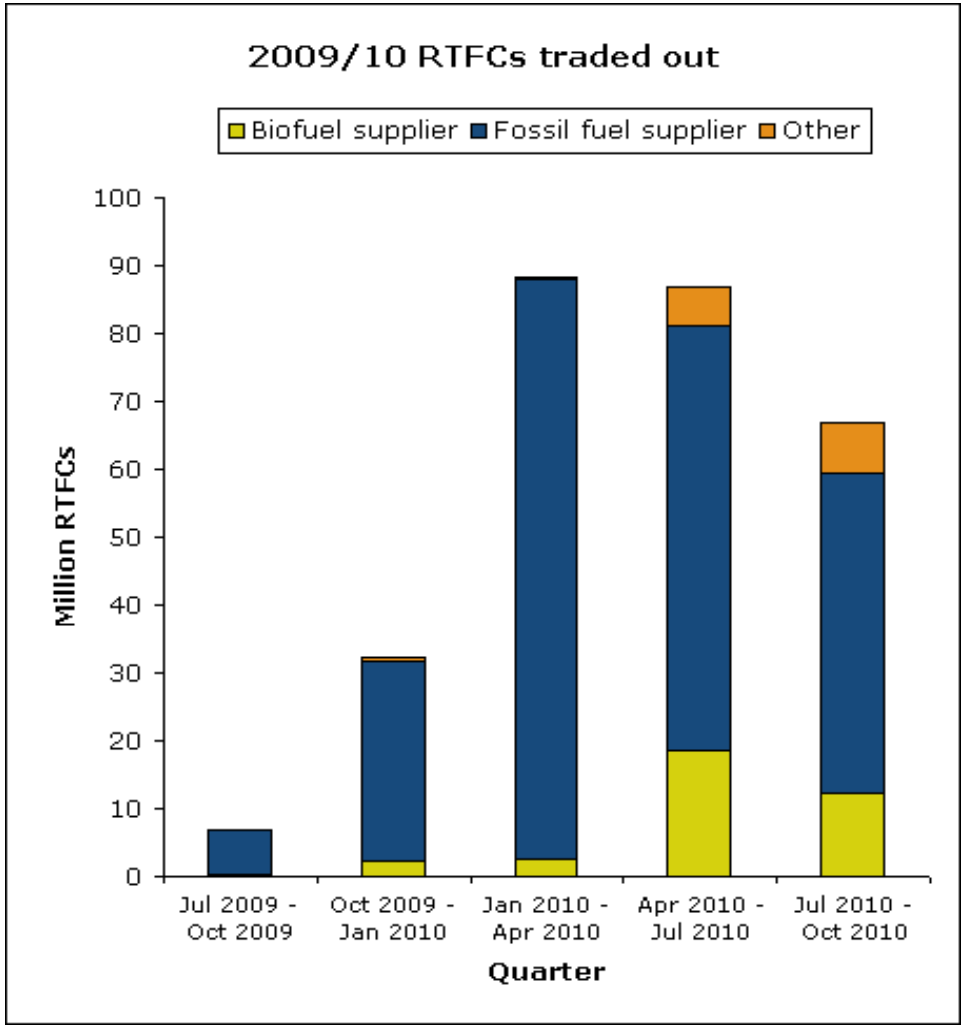
# Trading of RTFCs



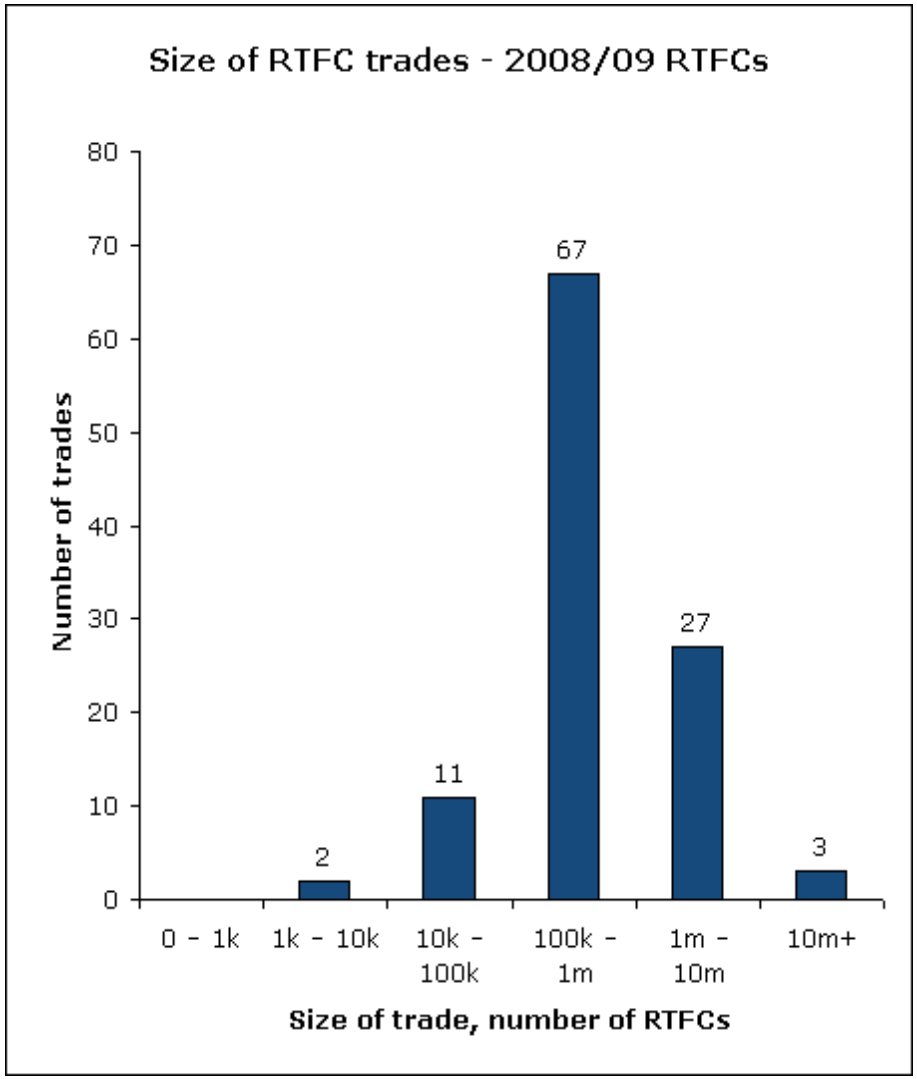



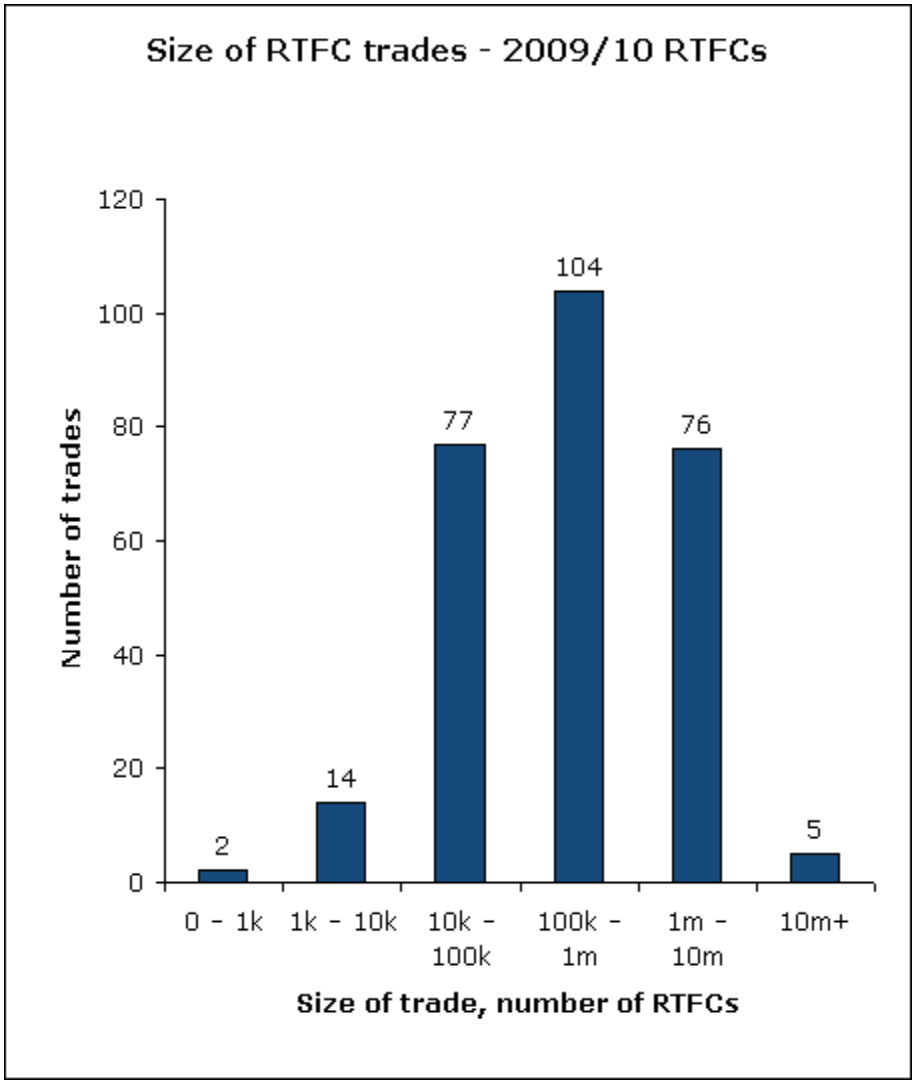
# Trading of RTFCs



# Trading of RTFCs



## Introduction

To encourage the sourcing of 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. The EU's Renewable Energy Directive includes mandatory sustainability requirements. The Department for Transport expects to transpose the directive into UK law by March 2011.

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[1] fuel suppliers are required to provide an independent verifier's opinion[2] on their information, and this verified information is included in this report.

The carbon and sustainability data covers the *direct* impacts arising from biofuel cultivation. The RFA separately monitors 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).

## 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 existing schemes, such as the UK's Assured Combinable Crops Scheme, to be assessed against the RTFO principles.

No schemes currently meet all of the environmental and social principles; although two schemes meet both of the social principles. Suppliers are also permitted to set up their own auditing procedures to demonstrate that feedstocks meet the RTFO Meta-Standard: two suppliers have developed interpretations of the RTFO Meta-Standard which cover Brazilian sugar cane and cereal crops.

Any scheme that meets an adequate number of the RTFO Meta-Standard 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[3]) are automatically considered to meet the qualifying level.

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[4]. The market is developing, and suppliers have been putting in place procedures 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 able to source their feedstocks increasingly sustainably.

## Content of RTFO reports

RTFO monthly reports include information on:
- 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.

The verified year two monthly information is provided in four 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 summary data

Table 1 compares overall performance against the three C&S reporting targets set by the Government in 2007.
Tables 2 to 7 provide summaries of all the road transport biofuel supplied to the UK for each fuel type, feedstock, country of origin, and previous land-use.
Table 8 and 9 look into the data capture and accuracy of data collected.

RTFO trends

Table 10 presents data on RTFO performance over time against the three target set by the Government in 2007.

RTFO detailed data

Table 11 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.

RTFO quarterly reports include additional information on:
- company performance against the Government's carbon and sustainability (C&S) reporting targets;
- trades of renewable transport fuel certificates (RTFCs) between companies.

The quarterly information is provided in four sets of Excel sheets:

Obligated company graphs
Presents data ranking obligated company performance against the C&S reporting targets.

Non obligated company graphs
Presents data ranking those biofuel companies with biofuel volumes greater than 450,000 litres who are required to verify, and compares their company performance against the C&S reporting targets.

Company data
Table 12 provides data on company C&S performance. Table 13 specifies how many of the C&S reporting targets each of the obligated companies are meeting.

RTFCs
Contains data on trades of certificates between companies over time.

**C&S reporting targets**

The Government set C&S targets for three key aspects of the reporting scheme. The targets are not mandatory (and there is no penalty for failing to meet them). The RTFO targets recognise the need for, continuous improvement so that by obligation period 3 (2010-11) comprehensive sustainability data is provided for almost all biofuels supplied to the UK.

| 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% |

## Provisional data

This data is based on information submitted monthly to the RFA by fuel suppliers. If we have reason to believe that a piece of data may have been misreported we will challenge companies to check and if necessary revise their data. Where this process is ongoing, our reports are based on the data exactly as reported to us. The final verification[2] of this data occurs annually (by 28 September each year in respect of the previous obligation year's data).

Each Monthly Report released by the RFA will contain data from the reporting year[1] to date on biofuels entering the UK market from those companies that are registered with 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 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.

**Note that the data in this report is provisional and unverified and may change following publication. It is your responsibility to check you have the latest version - please check our website for updates**

## Footnotes

1. The second reporting or obligation year runs from 15 April 2009 to 14 April 2010. This report contains data from 15 April 2009 to 14 April 2010.

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

3. Recent research indicates there are indirect effects of tallow and other waste feedstocks with alternative uses: http://www.renewablefuelsagency.gov.uk/reportsandpublications/indirecteffectsofwastes

4. There is more than enough RSPO certified palm oil to meet the entire UK demand for palm oil biodiesel feedstock.

# Glossary

**Obligated company**

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

**Non-obligated company**

- Non-obligated companies are those that either 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 earn 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 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.

- None/unknown should be reported where the feedstock was not certified against a standard, or the data is unavailable.
- Suppliers can report a Benchmarked or Qualifying Standard and conduct supplementary audits to meet a QS or the RTFO Meta-Standard, respectively.
- Suppliers producing biofuels from by-products have little or no control over how the source feedstocks were produced. Biofuels from by-products are automatically credited to the Qualifying Standard.

**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.
- 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.

**Abbreviations for feedstocks & fuel type**

Bl - barley
BG - biogas
Cs - cassava
Cn - corn
Co - corn oil
Mo - molasses
MSW or MW - municipal solid waste
SB - sugar beet
SC - sugar cane
Sl - sulphite
Su - sunflower
Tr - triticale
UCO - used cooking oil
Wh - wheat
Un - unknown

# Glossary

## 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 make 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 ($CO_2e$).

## Greenhouse gas emissions

- Greenhouse gas (GHG) emissions of different biofuels can vary significantly depending on the system of cultivation, processing, and transportation of feedstock.
- The data collected takes into account GHG emissions of the fuel chain from 'field to wheel' incorporating data on feedstock, country of origin and land-use change.
- GHG saving refers to the reduction in GHG emissions due to replacing fossil fuels with biofuels. 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 and 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 - 'actual' data input to the fuel chain e.g. information on fertiliser inputs and crop yield of the source feedstock.

## C&S reporting targets

The Government set C&S targets for three key aspects of the reporting scheme. The targets are not mandatory (and there is no penalty for failing to meet them).

| 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 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 is counted as a completed report.

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