

AN GHNÍOMHAIREACHT CHÚLTACA OLA NÁISIÚNTA THE NATIONAL OIL RESERVES AGENCY



THE BIOFUELS OBLIGATION SCHEME ANNUAL REPORT 2016

A report on how the scheme has been implemented to date and an assessment of the level of compliance by obligated parties during the 2016 obligation period.

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Document No: 457-X0174, May 2017

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EXECUTIVE SUMMARY

The Biofuel Obligation Scheme (BOS) is one of the measures introduced by the Irish Government to comply with the requirement that is imposed on all EU Member States by the Renewable Energy Directive (RED) to ensure that, by 2020, at least 10 % of the final consumption of energy in transport is from renewable sources. NORA was appointed under the Energy (Biofuel Obligation and Miscellaneous Provisions) Act 2010 to administer the Scheme and the Agency appointed a consortium of Byrne Ó Cléirigh and LHM Casey McGrath to assist with the administration. A project team (the BOS Team) was subsequently established with personnel from NORA and members of the consortium. This Team has drafted and implemented a comprehensive set of systems and procedures for implementing and administering the scheme.

Under the scheme, oil companies and large oil consumers that are currently obliged to pay the NORA Levy (the obligated parties) are required to ensure that a specified amount of their total relevant disposal of road transport fuels is in the form of biofuels. For 2016, this amount was 6%.

They must also pay a levy of €0.02 per litre on their biofuel disposals and may then apply to NORA for one biofuel obligation certificate (BOS Cert) in respect of each litre. In the case of biofuel produced from wastes and residues, two BOS Certs per litre may be awarded. At the end of each obligation period (the calendar year) obligated parties are required to surrender to NORA sufficient certificates to match their obligation. Failure to surrender sufficient certificates incurs a liability to pay a buy-out charge which is set at €0.45 per litre.

Companies that produce or supply biofuels may also open a BOS account and apply to NORA for BOS certificates on their relevant disposals. Account holders may also obtain BOS Certs by arranging with other account holders to have Certs transferred to their accounts. Following the 2016 reconciliation period, there were ten BOS obligated parties and two companies that produce or supply biofuels registered as BOS account holders.

In total, for the 2016 obligation period, c. 174 million litres of biofuel was placed on the Irish market and 284 million Certs were awarded in respect of those disposals. At the end of the period, including those Certs that were carried forward from previous periods (72 million), account holders were in possession of c. 356 million BOS Certs; the 2016 biofuel obligation was c. 288 million Certs. All the obligated parties were in possession of sufficient BOS Certs to satisfy their respective biofuel obligations.

Approximately 68 million BOS Certs have been carried forward into the 2017 obligation period.

All of the biodiesel placed on the market was eligible for two BOS Certs per litre on account of it being produced from wastes or residues. This is similar to the position in 2015 (99%).

There were nine different biofuel feedstocks reported in the BOS Sustainability Statements and six of these were reported for bioethanol:

- EC corn
- Non-EC corn
- Sugar cane
- Sugar beet

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- Wheat
- Triticale (a hybrid of wheat and rye)

There were three feedstocks reported for biodiesel:

- Category 1 tallow
- Used cooking oil
- Spent bleached earth

The feedstocks were reported to have originated from sixty-one different countries, including Ireland. The single largest source of biofuel feedstock was the UK (29%) followed by Ireland (17.5%).

Almost 47% of all the biofuel placed on the market in Ireland is produced from used cooking oil (UCO) which is sourced from 56 different countries. The majority is sourced from the UK (22%), followed by the US (15%).

Nearly all of the biofuel placed on the Irish market was reported as being covered by a Voluntary Scheme. ISCC was by far the most common scheme accounting for 97% of the biofuel.

A central requirement of the RED and the Sustainability Regulations is that biofuels achieve a 35% reduction in carbon intensity (GHG emissions) in comparison to fossil fuels. The average litre of biofuel placed on the market in Ireland in 2016 had a carbon intensity of c. 18.5 gCO_{2eq} / MJ, which represents a 78% reduction in carbon intensity in comparison to road transport fossil fuel. Based on the average biofuel carbon intensity, the substitution of fossil fuel with biofuel resulted in an estimated reduction of c. 326 thousand tonnes of CO_{2eq} emissions. This equates to an overall saving of 2.4% in the GHG emissions¹ from the road transport sector as a consequence of achieving a biofuel penetration rate of 3.9%, *by volume*².

The annual audit of BOS account holders was carried out during 2016. The programme included a plenary audit of all the levy returns' data, four on-site audits and several desk-based audits. While there were no material errors found in the Sustainability Statements, during the desk-based audits and in the majority of on-site audits, there was a major discrepancy found in one account holder's Levy Returns. A NORA Levy over-payment was found in respect of disposals of diesel and gasoline between 2010 and 2016. The DCCAIE was alerted to the discrepancy and a detailed report describing the discrepancy and the impact on the NORA Levy and the biofuel obligation was prepared. The DCCAIE and NORA addressed the NORA Levy discrepancy and an additional 1,222,067 BOS Certs from the 2015 period were awarded.

In general during 2016, there was a reasonable level of compliance with the schedule for submission of documentation and the standard of the information contained therein was acceptable. There were some delayed submissions of quarterly applications and we have experienced a rise in incidents of negative biofuel levy liabilities, which caused some administrative

¹ This saving is calculated using the Fossil Fuel Comparator (83.8 cCO_{2e}/MJ) provided in the RED. This is **not** the same as the method laid down in Council Directive 2015/652 for measuring compliance with the Fuel Quality Directive. The carbon intensities are based on life cycle GHG emissions and are calculated in accordance with Annex V of the RED.

² The biofuel penetration rate is 3.9% when expressed as a percentage of the total volume of fossil fuels and 3.7% when expressed as a percentage of all road transport fuels (bio and fossil).

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difficulties for account holders and the BOS Team; nevertheless, the BOS is now a relatively mature compliance scheme and participation in the Scheme is considered to be the norm for oil companies operating in Ireland.

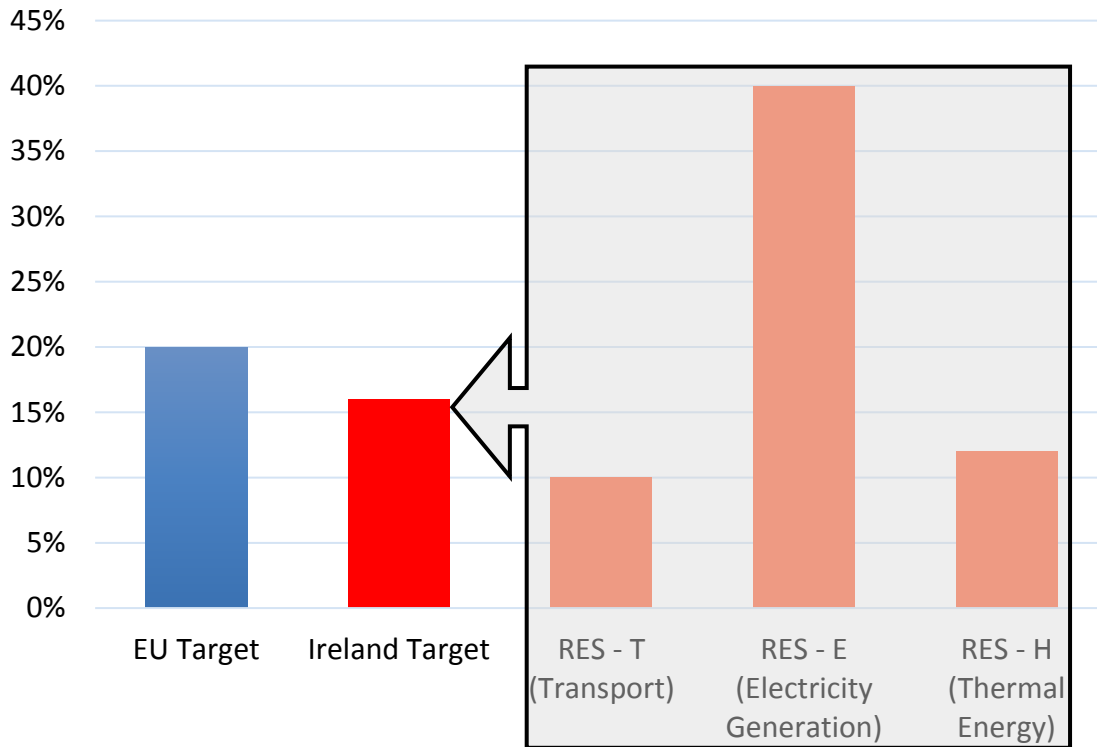
For the 2017 obligation period, the biofuel obligation has increased to 8% and applications for BOS Certs are required to be submitted on a quarterly basis, in accordance with the determination published on NORA's website. The BOS Team will continue to progress with preparing the BOS systems for the provisions of the ILUC Directive, which is scheduled to be transposed into Irish law in September 2017, and with implementing the requirements of Article 7a of the FQD, as transposed by SI 160 of 2017. This will require fuel suppliers to reduce life cycle GHG emissions per unit of energy from fuel and energy supplied to transport by 6% by 2020. SI 160 designates NORA as the agency to which the fuel suppliers shall report.

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1 BACKGROUND

Article 3 of the Renewable Energy Directive (1) sets out mandatory national overall targets and measures for the use of energy from renewable sources for all EU Member States. Ireland’s target for the share of its gross final consumption of energy to come from renewable sources, by 2020, is 16%.

Figure 1: Renewable Energy Targets



Although Member States may set individual targets for heat (RES – H) and electricity (RES – E), item 4 of Article 3 places the following obligation on all Member States:

Each Member State shall ensure that the share of energy from renewable sources in all forms of transport in 2020 is at least 10 % of the final consumption of energy in transport in that Member State.

It is in the context of this obligation that Ireland has implemented the Biofuel Obligation Scheme (BOS) which was given effect in law by the Energy (Biofuel Obligation and Miscellaneous Provisions) Act 2010 (2). The scheme is one aspect of a twin approach in meeting the EU target for the use of renewable energy in transport; the second is to encourage the accelerated development and usage of electric vehicles, for which the target was 10% of vehicles by 2020 (approximately 230,000 cars). In the 2014 National Energy Efficiency Action Plan, it is acknowledged that this target was ‘overly optimistic’ and a revised estimate of 2% (c. 50,000 electric vehicles) was provided.

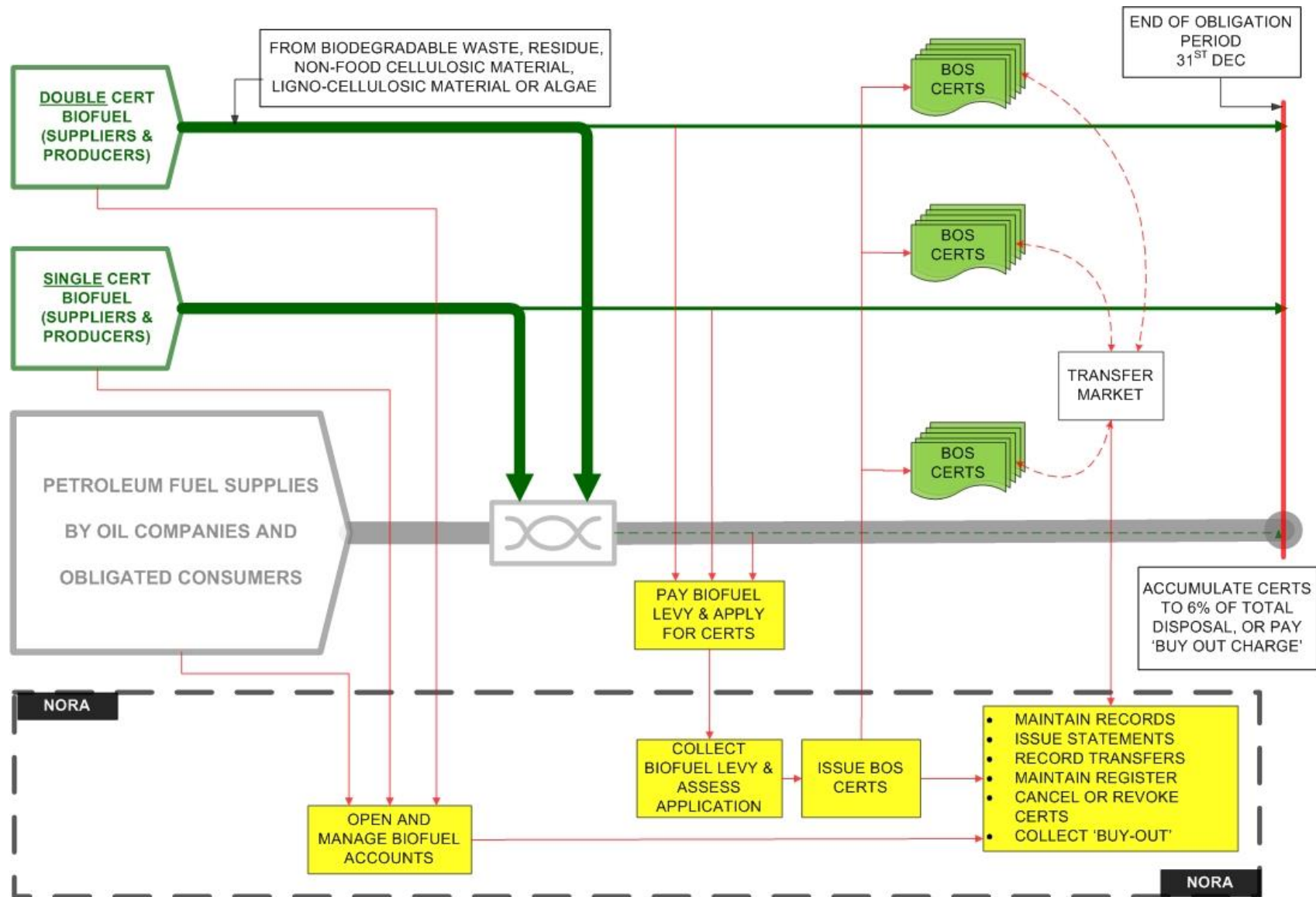
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Under this legislation, The National Oil Reserves Agency (NORA) is the body charged with administering the BOS. In June 2010, following an open tendering process, a consortium of Byrne Ó Cléirigh and LHM Casey McGrath (BÓC-CMG) was appointed to assist NORA to implement and administer the BOS. The consortium was re-appointed in 2015. Throughout this report, the individuals from BÓC-CMG and NORA who collaborate in the implementation and administration of the scheme are referred to as the BOS Team.

This document provides an overview of the BOS and describes how it was implemented throughout the 2016 obligation period. It also illustrates the extent to which the overall biofuel obligation was met and how each individual obligated party performed.

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Figure 2: Overview of Biofuel Obligation Scheme



2 AN OVERVIEW OF THE BIOFUELS OBLIGATION SCHEME

Figure 2 provides an overview of the BOS. The principal features are described below.

2.1 BOS ESSENTIALS

- The BOS obliges all oil companies and oil consumers (obligated parties) that make relevant disposals of road transport fuels to ensure that a specific percentage of their total disposals, in a given obligation period, is biofuel.
- The first obligation period was from July to December 2010 inclusive. The 2016 obligation period ran from January to December 2016 inclusive.
- The 2016 obligation was 6% by volume and this corresponds to 6.383% of the petroleum based disposal. The obligation has increased to 8% for 2017 and will increase further over time in order to meet Ireland's target of 10% renewable energy in the transport sector by 2020. Obligated parties can meet their obligation by disposing of biodiesel or bioethanol, or a combination of both, so long as they meet the volume specified. They may also meet the obligation by purchasing BOS Certs from other BOS account holders or by paying the buy-out charge.
- Obligated parties are awarded biofuel obligation certificates (BOS Certs) at the rate of one for each litre of biofuel they place on the market. For certain biofuels – those manufactured from biodegradable waste, residue, non-food cellulosic material, ligno-cellulosic material or algae – two BOS Certs per litre may be claimed.
- Obligated parties discharge their obligation by surrendering the appropriate number of BOS Certs to NORA at the end of the obligation period. BOS Certs may be transferred between parties but NORA has no role in negotiating such transfers.
- A Biofuel Levy (currently €0.02 per litre) is payable on all disposals of biofuels. This levy is payable to NORA.
- An obligated party that has not collected sufficient BOS Certs to meet its obligation in a given obligation period is liable to pay a buy-out charge which is currently set at €0.45 per litre. This charge is collected by NORA but is payable to the Exchequer.
- NORA is responsible for assessing applications for BOS Certs, for issuing Certs, for recording all transactions and for facilitating transfers of BOS Certs between account holders.
- All biofuel placed on the market must be sustainable. Sustainability is determined in accordance with the BOS Application and Sustainability Procedure (3).
- Under certain circumstances, BOS Certs may be cancelled or revoked.
- BOS Certs may be carried forward for a period of two years from the end of the obligation period in which they were initially issued. However, no more than 25% of a party's obligation, in a given obligation period, may be met from BOS Certs that have been brought forward in this manner.

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2.2 IMPORTANT DATES

The following important dates are specified in legislation and by NORA:

- The obligation period for 2016 commenced on the 1st of January and ended on the 31st of December.
- In 2016, it was an administrative requirement to submit quarterly applications for BOS Certs, but there was no legal requirement to do so. The BOS Act only required account holders to submit a single application for Certs no later than the 21st January in respect of the previous obligation period; NORA had no discretion in this matter. The Energy Act 2016 (No. 12, published in July 2016) gave NORA the power to make a determination about the deadline dates for submission of quarterly applications. The determination was published on the BOS section of NORA's website and was sent to all BOS account holders by email in December 2016. It is now a legal requirement to submit applications for BOS Certs by the following dates.

Reporting Period	Closing Date
1 January to 31 March	15 May
1 April to 30 June	14 August
1 July to 30 September	14 November
1 October to 31 December	14 February

- The date by which NORA is obliged to inform BOS account holders of the extent of their biofuel obligation for the previous obligation period and the number of BOS Certs held to their account in respect of that period is the 14th of March.
- The deadline date for the transferring BOS Certs is 22nd March. The Energy (Miscellaneous Provisions) Act 2012, which was enacted on the 25th February 2012, made provision for this transfer deadline: *'In order to count biofuel obligation Certificates against the discharge of a biofuel obligation for any obligation period, the notice of transfer for those Certificates must be submitted to the Agency within 81 days after the end of the obligation period concerned.'*
- The final date by which obligated parties must inform NORA of which BOS Certs are to be set off against their obligation is the 18th of April.
- The 2nd of May is the date by which NORA is obliged to raise invoices for any buy-out charges that may be payable by an obligated party. They may be raised sooner, if desired.
- All such buy-out charges must be paid within 28 days from the date of the invoice.

2.3 BOS PARTICIPANTS

Entities participating in the BOS can be obligated parties or producers/suppliers of biofuels that have applied to NORA for a biofuel obligation account and are now holders of such an account.

2.3.1 Obligated Parties

Obligated parties are any oil company or oil consumer that are liable to pay the NORA Levy and the biofuel obligation applies to their relevant disposals of road transport fuel in the obligation period. It applies whether or not the NORA Levy was paid and, in the case of an oil consumer, whether or not the oil consumer is exempt from or has claimed an exemption from the NORA Levy. At the commencement of the 2016 obligation period, the following were identified as obligated parties under the BOS:

1. Valero Energy (Ireland) Limited
2. Phillips 66 Whitegate Refinery Ltd (now Irving Oil)
3. Inver Energy Ltd
4. Irish Rail
5. Esso Ireland Ltd³
6. John Kelly Fuels (Ireland)
7. Lissan Coal Company Ltd
8. Maxol Ltd
9. Tedcastle Oil Products
10. Topaz Energy Ltd

Some of the operators on the above list have made arrangements to purchase all of their disposals of road transport fuels from other operators on a NORA Levy-paid basis. This arrangement eliminates their biofuel obligation as this is now carried by the entity that supplied the levy-paid material.

2.3.2 Biofuel Producers and Suppliers

In addition to the ten obligated parties, there were three biofuel producers/suppliers at the start of 2016:

1. Green Biofuels Ireland
2. Dan Morrissey
3. Agri Energy

Each of these companies previously applied for and was granted a BOS account. Each company reports its disposals of biofuel to the DCCAE via the OLA system⁴, pays the Biofuel Levy and claims BOS Certs on those disposals. None of these account holders incur a biofuel obligation as they do not place diesel or gasoline on the market.

³ Even though Esso ceased trading in Ireland in December 2015, its account remained open to allow it to be discharged.

⁴ The Online Levy Application (OLA) reporting system is used by Obligated Parties to report monthly disposals of oil products to the DCCAE.

2.4 ENGAGEMENT WITH BOS PARTICIPANTS

Throughout the 2016 obligation period, and during the weeks following the end-of-period reconciliation, the BOS Team maintained regular contact with all BOS participants by email and phone.

The BOS Team maintains a 'Frequently Asked Questions' file which is circulated to all participants and is posted on NORA's website. This FAQ file is now in its fourteenth issue. The website is used to host all BOS documents: procedures, guidance notes, application forms etc. that are likely to be required by any BOS participant.

From the outset of the BOS, the Team has used dedicated email accounts for receiving and issuing all email communications with the BOS participants (bos@nora.ie & bosaccounts@nora.ie).

During 2016, audits were carried out on account holders by members of the BOS Team to determine the level of compliance with the requirements of the BOS Act. The audit process and the findings are discussed in more detail in Section 4.8 of this report.

The BOS Team held two briefing sessions during the year. The first was held in May and the second in November. Both sessions were attended by nearly all account holders and followed a similar agenda:

1. Provide an update on BOS performance.
2. Bring any recurring problems with BOS Certs applications or data contained therein to everybody's attention (the problems and data are anonymised).
3. Highlight any planned changes to the BOS systems.
4. Identify and summarise new legislation that will impact on the BOS.
5. Provide an update on legislative changes (by the DCCAE).
6. Provide an update on industry's perspective (by IPIA or another BOS account holder).

The sessions are relatively informal and provide a forum for open discussion, which is welcomed and encouraged.

3 BIOFUEL OBLIGATION ACCOUNTS

This section explains how NORA met the principal obligations and responsibilities that were placed on the Agency to both implement the BOS and to administer it over the 2016 obligation period.

3.1 ACCOUNT SET UP & CLOSURE

Esso Ireland Ltd. ceased trading in December 2015 following the completion of its sale to Topaz. Esso's BOS account remained open to facilitate discharging its biofuel obligation for the 2015 period. The BOS Team closed this account following the reconciliation of the 2015 period. Dan Morrissey's BOS account was also closed during 2016.

By virtue of placing diesel on the market during 2016, Nicholl Oils became an obligated party.

3.2 MANAGING BIOFUEL OBLIGATION ACCOUNTS

All the account files maintained for BOS account holders employ a standard file-breakdown-structure (FBS) so that any of the matters referred to in Section 44E(2) of the legislation can be properly recorded. Account files are held electronically on Byrne Ó Cléirigh's server. Back-up copies are made to tape every working day and an archive copy is stored in an offsite location every month.

The Control and Reconciliation spreadsheet (4) acts as the overall control document for recording every BOS transaction. Data on disposals of petroleum-based road transport fuels and biofuels are transferred to this spreadsheet from the monthly returns made by BOS account holders⁵. Data on disposals are also transferred to the BOS Online System (BOSOS). The BOSOS is a web-based platform through which account holders submit applications for BOS Certs and transfer Certs between accounts. As part of the application process, the BOSOS accepts and stores the sustainability statements and independent verification reports. Sustainability statements are submitted in CSV format⁶ and stored in a SharePoint database. The system also provides account holders with data on their BOS obligation and on the number of BOS Certs held in their respective account. It also enables them to view interim and final statements of account, as required under the BOS Act.

3.3 ISSUING BIOFUEL OBLIGATION CERTIFICATES

There is a standard procedure in place for issuing BOS Certs (3). There is also a comprehensive guidance document to accompany the procedure (5). A standard template is used by the BOS Team when checking all applications for BOS Certs and for recording NORA's authorisation or refusal of such Certs.

⁵ Returns made to DCCAIE via the OLA system

⁶ CSV: Comma-separated Value. It is a common file type which can be opened by many different programmes.

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Under Section 44G of the legislation, NORA is required to issue “... 2 Certificates in the case of such biofuels as the Agency may from time to time determine, in accordance with this section, are so eligible having satisfied itself that the material used to produce the biofuels concerned can be considered to be a biodegradable waste, residue, non-food cellulosic material, ligno-cellulosic material or algae ... and one Certificate in the case of all other biofuels”. The BOS Team maintain a further set of procedures and guidance documents in order to meet this requirement of the legislation.

Details of the number of applications for BOS Certs received by NORA and of the number of Certs issued and transferred are provided in Section 4.

In 2016, applications for two BOS Certs per litre were received in respect of three materials: Used Cooking Oil (UCO), Category 1 Tallow, and Spent Bleached Earth (SBE).

3.4 CANCELLING BIOFUEL OBLIGATION CERTIFICATES

Section 44L of the BOS legislation places an obligation on any BOS account holder to whom a BOS Cert was issued in respect of a specific litre of biofuel, to make an application to NORA for the cancellation of such Certs, if the biofuel is subsequently exported from the State. This obligation remains even if the biofuel has been sold on to another party and/or the BOS Cert has been transferred to another obligated party. No such request was received by NORA in respect of the 2016 obligation period.

3.5 REVOKING BIOFUEL OBLIGATION CERTIFICATES

Section 44M allows for NORA to revoke a BOS Cert in certain circumstances. There were 1,701,852 BOS Certs revoked during 2016 because one account holder incurred negative biofuel levy liabilities in January and February. This occurred because the Biofuel Levy was refunded in respect of 850,926 litres of biodiesel for which two BOS Certs per litre were awarded. Avoiding negative levy liabilities is a matter that has been addressed with account holders at the two BOS briefing sessions and via email notices.

3.6 OUT OF DATE CERTIFICATES

Following the reconciliation of the 2015 obligation period, a total of 62,509 BOS Certs were rendered invalid on one BOS account. The Certs were issued in 2013 and were not discharged against the 2015 obligation; consequently, they could not be carried forward to 2016.

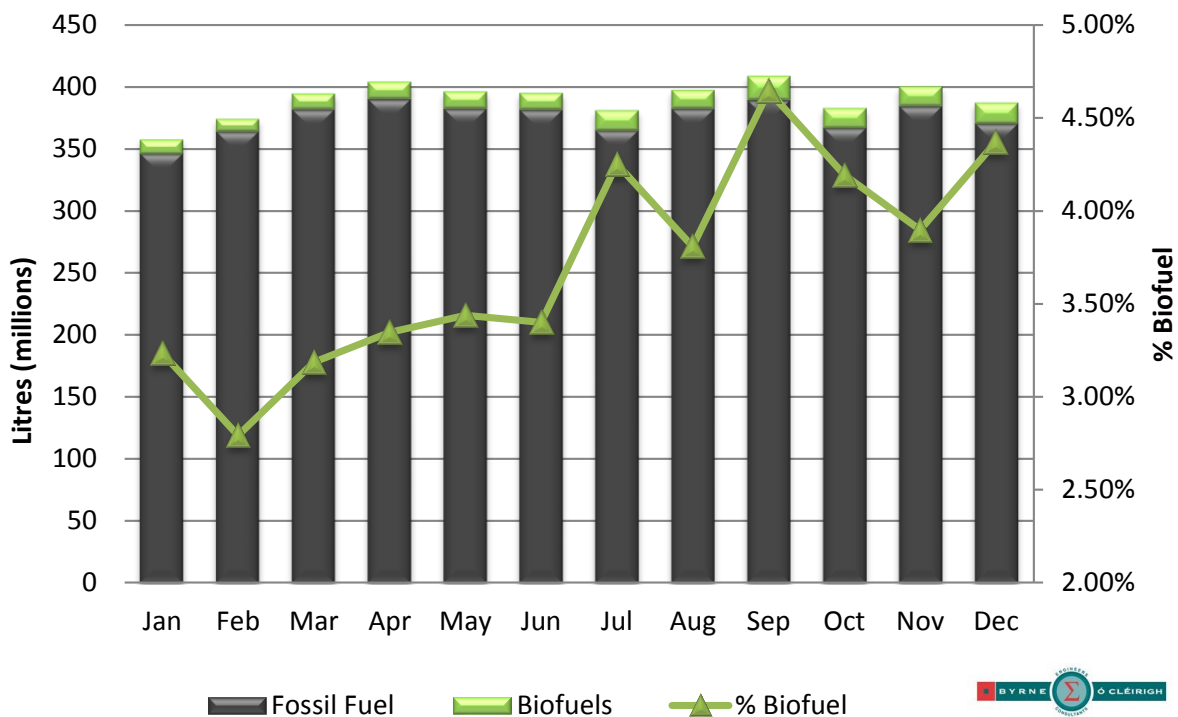
4 COMPLIANCE WITH OBLIGATION

This section of the report analyses the magnitude of the obligation and the level of compliance that was achieved by the obligated parties in respect of the 2016 obligation period. Only the total figures for all BOS participants are shown as otherwise it would be necessary to divulge data that may be commercially sensitive to individual companies. Where the performances of individual participants are illustrated, no identification is provided.

4.1 RELEVANT DISPOSALS

According to the returns made by obligated parties throughout the obligation period – January to December 2016 – the total quantity of petroleum based road transport fuel disposed of was 4.5 billion litres. Accordingly, the biofuel obligation amounted to almost 290 million litres. The distribution of these disposals over the period is illustrated in Figure 3.

Figure 3: Monthly Disposals of Road Transport Fuel – 2016

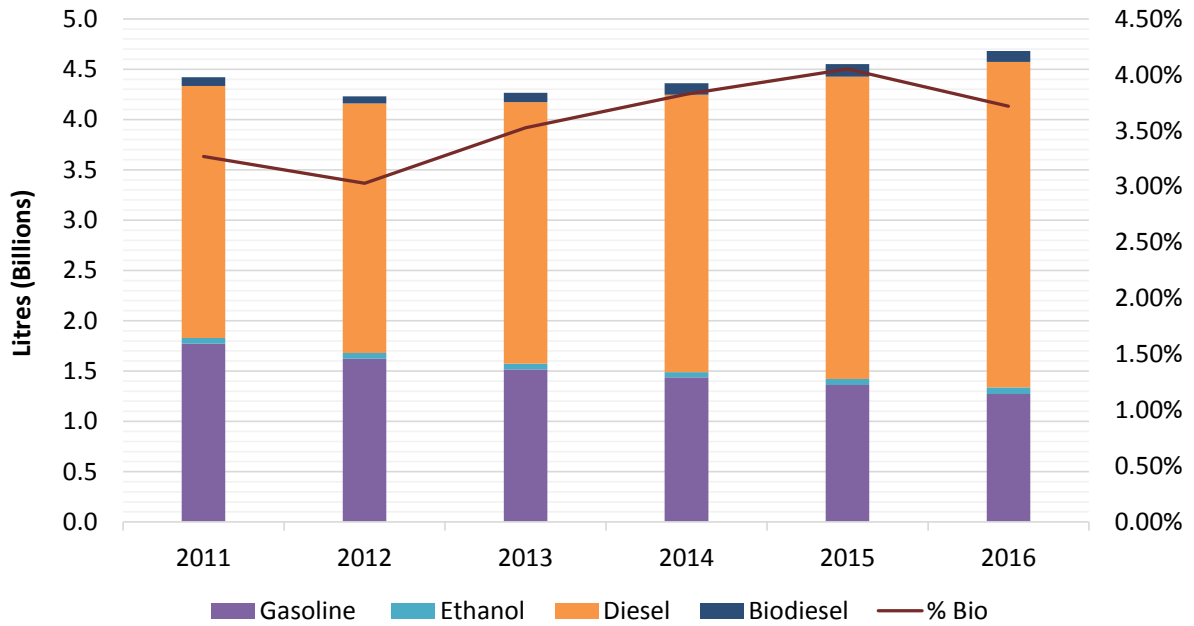


Average monthly sales of road transport fuels for the 2016 period were approximately 390 million litres. This was an increase of almost 3% in comparison to the average monthly sales in 2015 and are approaching levels last recorded in 2009.

Figure 4 illustrates the trend in road transport fuel sales since 2011 and the increasing share of diesel in the market.

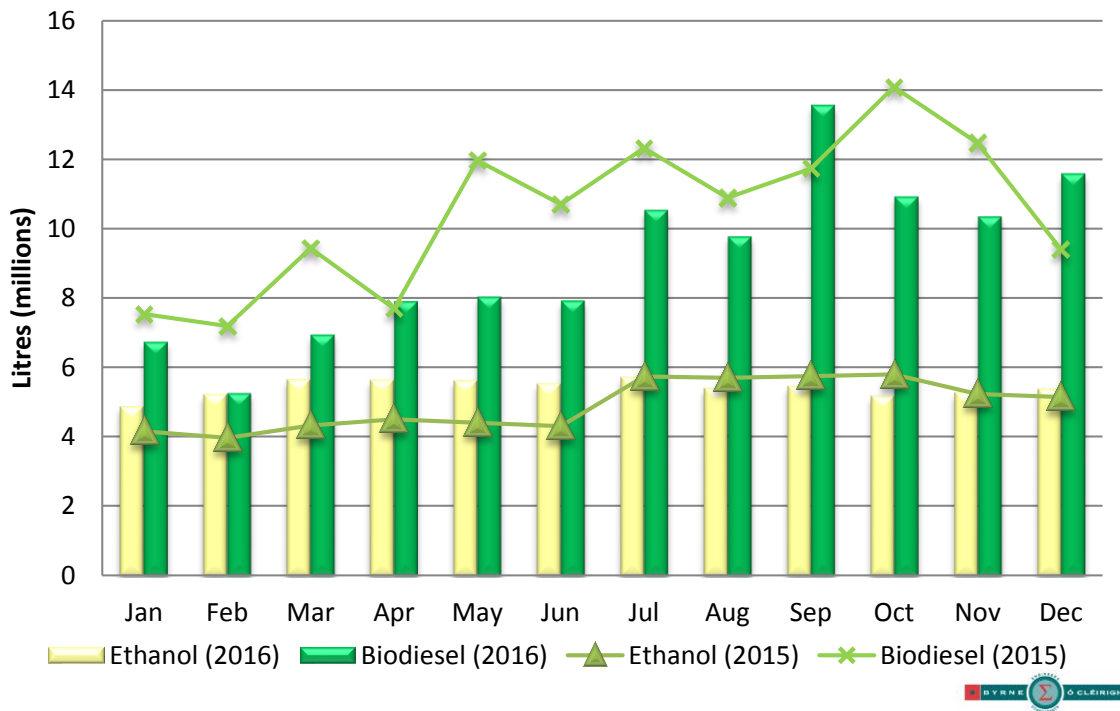
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Figure 4: Road Transport Sales (2011 – 2016)



The following plot illustrates the breakdown between the monthly disposals of biodiesel and ethanol for the 2016 and 2015 periods. In total, 174 million litres of biofuel were placed on the market in 2016, which was a decrease of 5.6% in comparison to 2015.

Figure 5: Monthly Disposals of Biofuel



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On average over the 2016 period, biodiesel sales represented 63% of the total biofuel sales while ethanol accounted for 37%.

There were some fluctuations in the percentage of biofuel placed in the market, ranging from a monthly maximum of 4.7% in September to a minimum of 2.8% in February; over the year, the average was 3.7%⁷. The equivalent figure for the 2015 period was 4%.

The data provided in Table 1 and illustrated in Figure 4 shows the increasing dieselisation of the road transport fleet with diesel now accounting for 72% of the road transport fossil fuel market. Consequently, as would be expected, biodiesel is also more prevalent in the biofuel road transport market. However, the annual 3% increase in the market share of diesel is not as consistent for biodiesel. The increased proportion of bioethanol can be explained by the installation of additional bioethanol blending facilities in mid-2015.

Table 1: Breakdown of Diesel & Gasoline Sales

Year	% Diesel	% Gasoline	% Biodiesel	% Bioethanol
2012	60	40	56	44
2013	63	37	63	37
2014	66	34	69	31
2015	69	31	68	32
2016	72	28	63	37

4.2 BIOFUEL OBLIGATION CERTIFICATES

During the 2016 obligation period, almost 284 million Certs were awarded in respect of disposals of 174 million litres of biofuels. Approximately 109.5 million litres of biodiesel was placed on the market and all of it was awarded double Certs.

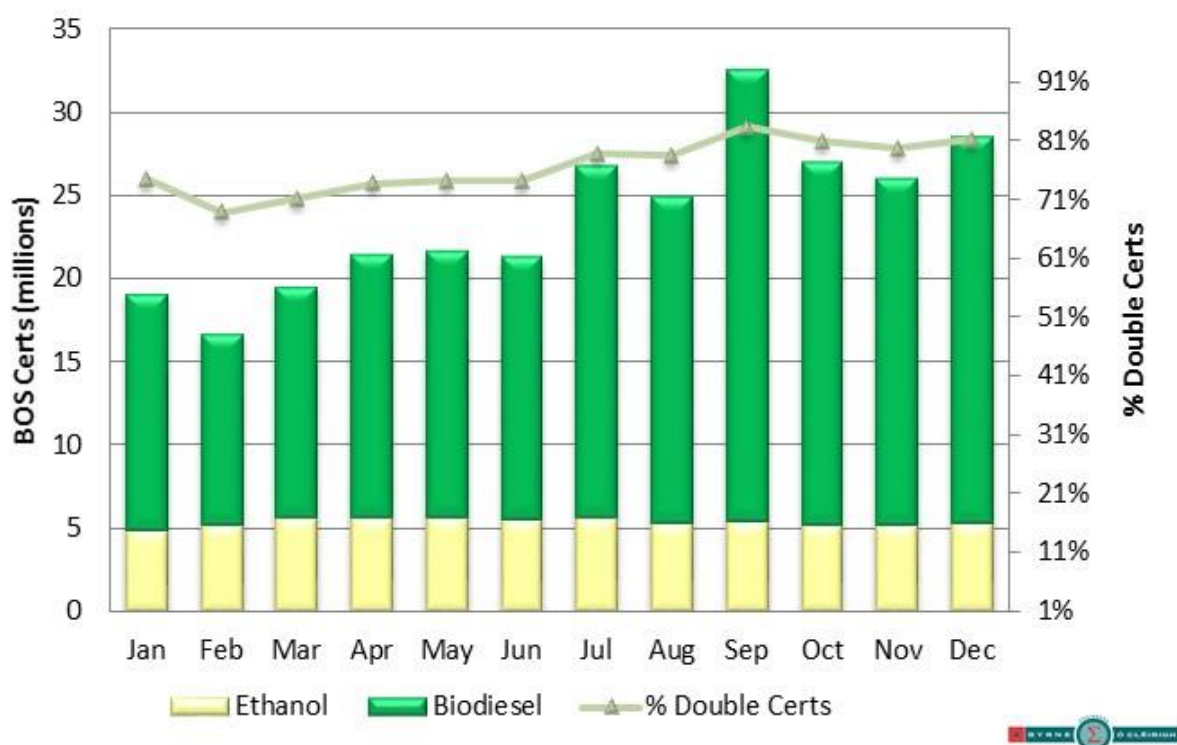
Of the biodiesel that was double counted, c. 82 million litres was produced from UCO (74%), 24 million litres from Category 1 Tallow (22%) and the remainder from Spent Bleached Earth (SBE).

Biodiesel accounted for 63% of the biofuel supplied to the market with bioethanol accounting for 37%; in 2015, the market split was 68% biodiesel 32% bioethanol. Given that all the biodiesel was awarded two BOS Certs per litre, 77% of the BOS Certs awarded in 2016 were in respect of biodiesel disposals.

The number of BOS Certs awarded each month is illustrated in Figure 6.

⁷ As a percentage of the total volume of road transport fuel placed on the market.

Figure 6: No. of BOS Certs Awarded, 2016



4.3 BOS ACCOUNT HOLDER POSITION

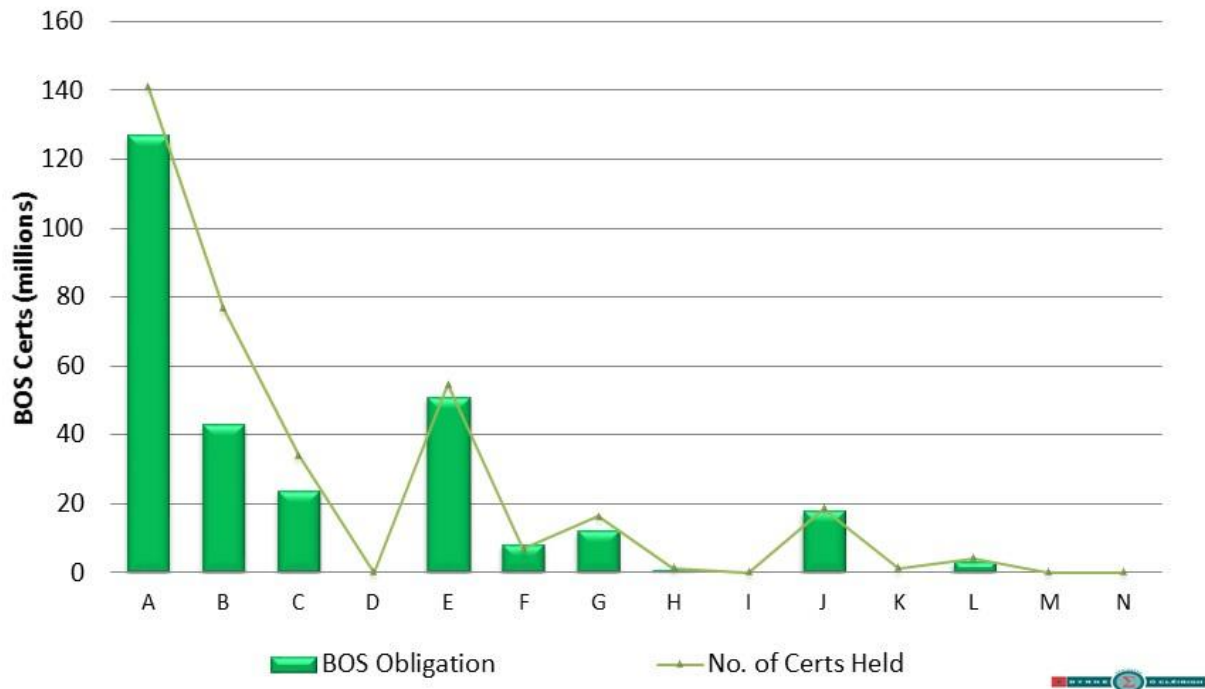
There were thirteen open BOS accounts at the start of 2016: ten were held by obligated parties and three by biofuel producers. At the end of 2016, there were also ten accounts held by obligated parties. Esso’s account was closed, but an account was opened for Nicholl Oils. At the end of 2016, there were two accounts open for biofuel producers – Dan Morrissey’s account was closed during the year.

The number of BOS Certs held by each account holder and their respective obligations, as recorded on the 18th April 2017⁸, are illustrated in Figure 7. The party with the largest biofuel obligation was required to surrender approximately 127 million Certificates.

⁸ This is the date by which each obligated party was required to notify NORA as to which BOS Certs were to be set off against its biofuel obligation.

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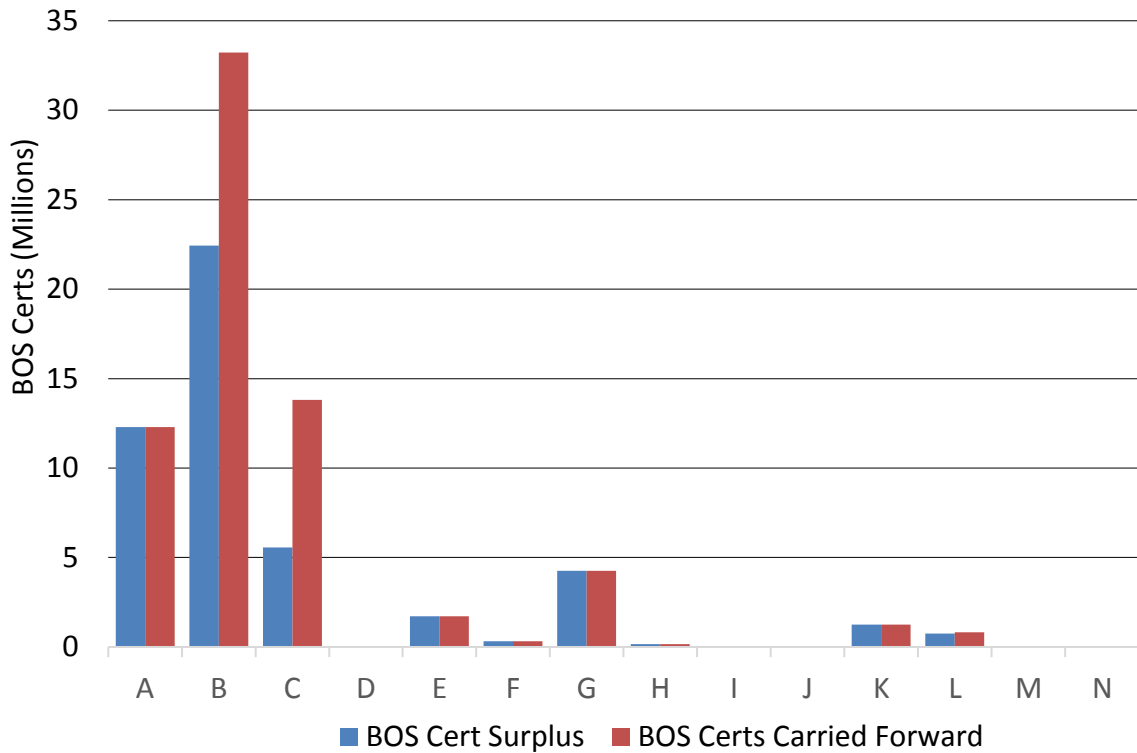
Figure 7: 2015 Biofuel Obligation



There were 70.7 million Certs carried forward to the 2016 obligation period, of which 9.8 million were from the 2014 period and 60.9 million from the 2015 period. Following an audit of BOS account holders during 2016, an additional 1,222,067 Certs from 2015 were awarded in March 2017, before the transfer deadline for the 2016 period. Certs from previous periods represented 20% of all Certs held at the end of the 2016 period. All of the 2014 Certs have been discharged against the 2016 obligation.

Figure 8 shows the surplus positions for each account holder and the number of BOS Certs carried forward to the 2017 obligation period. The surplus represents the Certs held in excess of the biofuel obligation less those Certs that could not be discharged because of the 25% limit – the Certs carried forward includes those Certs held in excess of the 25% limit.

Figure 8: BOS Cert Surplus & Carried Forward



As can be seen, no account holder was in a deficit position. There were three companies in particular that carried over significant quantities of BOS Certs, accounting for almost 90% of all the Certs carried forward.

4.4 OVERALL PERFORMANCE AGAINST OBLIGATION

The table overleaf provides a breakdown of the key BOS metrics.

The Biofuels Obligation Scheme 2016

Table 2: BOS Metrics

Description	Unit	Value
Total disposal of petroleum-based, road transport fuel ⁹	litres	4,506,764,478
<i>Gasoline</i>	litres	1,271,098,836
<i>Diesel</i>	litres	3,235,665,642
Total disposal of biofuel disposals ¹⁰ , of which:	litres	174,148,866
<i>biofuel as bioethanol</i>	litres	64,701,687
<i>biofuel as biodiesel</i>	litres	109,447,179
Volume of biofuel for which one BOS Cert per litre was issued	litres	64,701,687
Volume of biofuel for which two BOS Certs per litre were issued	litres	110,298,114
Volume of biofuel for which BOS Certs were rejected	litres	12
No. of BOS Certs revoked	Certs	1,701,852
Volume of biofuel for which Certs were revoked	litres	850,926
Volume of biofuel (levy paid) for which BOS Certs went unclaimed	litres	0
Number of BOS Certs required to meet obligation	Certs	287,666,777
Total number of BOS Certs issued during 2016	Certs	283,596,056
Number of BOS Certs carried forward from previous period*	Certs	71,939,288
Surplus of BOS Certs**	Certs	48,747,595
Liability for Buy-out Charge	€	0
Number of BOS Certs no longer valid	Certs	0
Number of valid BOS Certs carried forward to 2016 period	Certs	67,868,567
<p>* Following an audit, an additional 1,222,067 Certs from 2015 were awarded in March 2017, before the transfer deadline for the 2016 period. Thus, the value recorded here differs from that carried forward into 2016.</p> <p>** This does not include those Certs that could not be discharged because an account holder exceeded the 25% limit.</p>		

The volume of biofuel produced from biodegradable waste, residue, non-food cellulosic material, ligno-cellulosic material or algae represented 63% of the biofuel supplied to the market during the 2016 period. When the biofuel produced from wastes and residues is counted twice, the amount of biofuel placed on the market as a percentage of petroleum-based, road transport fuels was 6.29%. When the BOS Certs carried forward from the 2014 and 2015 periods are included, this value increases to 7.89%. Against this, the obligation was 6.383%. Consequently, c. 67.9 million BOS Certs have been carried forward to the 2017 period.

4.5 BIOFUEL FEEDSTOCK

Table 3 overleaf provides a breakdown of all the biofuel feedstocks reported in the sustainability statements and their country of origin. The majority of the feedstocks which are used to produce the biofuel for the Irish market are sourced from the UK (29%); 17.5% is sourced from Ireland.

⁹ This is the quantity on which the NORA Levy was paid.

¹⁰ This is the quantity on which the biofuel levy was paid.

The Biofuels Obligation Scheme 2016

It is also worth noting that almost 47% of all the biofuel placed on the market in Ireland is produced from UCO.

Figure 9 on page 19 illustrates on a world map the locations from which the biofuel feedstock are sourced and the proportion that comes from those countries.

There is a minor discrepancy between the data contained in Table 3 and that depicted in Figure 9. There is 'ECCOR' and 'EtOH' displayed in Figure 9 – neither of these are valid feedstock codes and were entered by account holders in error. While these errors have been rectified in Table 3 they remain in the map view because it is generated by the BOSOS system and the data in the database cannot be manually altered. The only way to change the data in the BOSOS would be to revoke the Certs and require the account holders to re-apply with the correct feedstock codes. Given that these errors had no material impact on the decision to award BOS Certs, the Certs were not revoked.

The Biofuels Obligation Scheme 2016

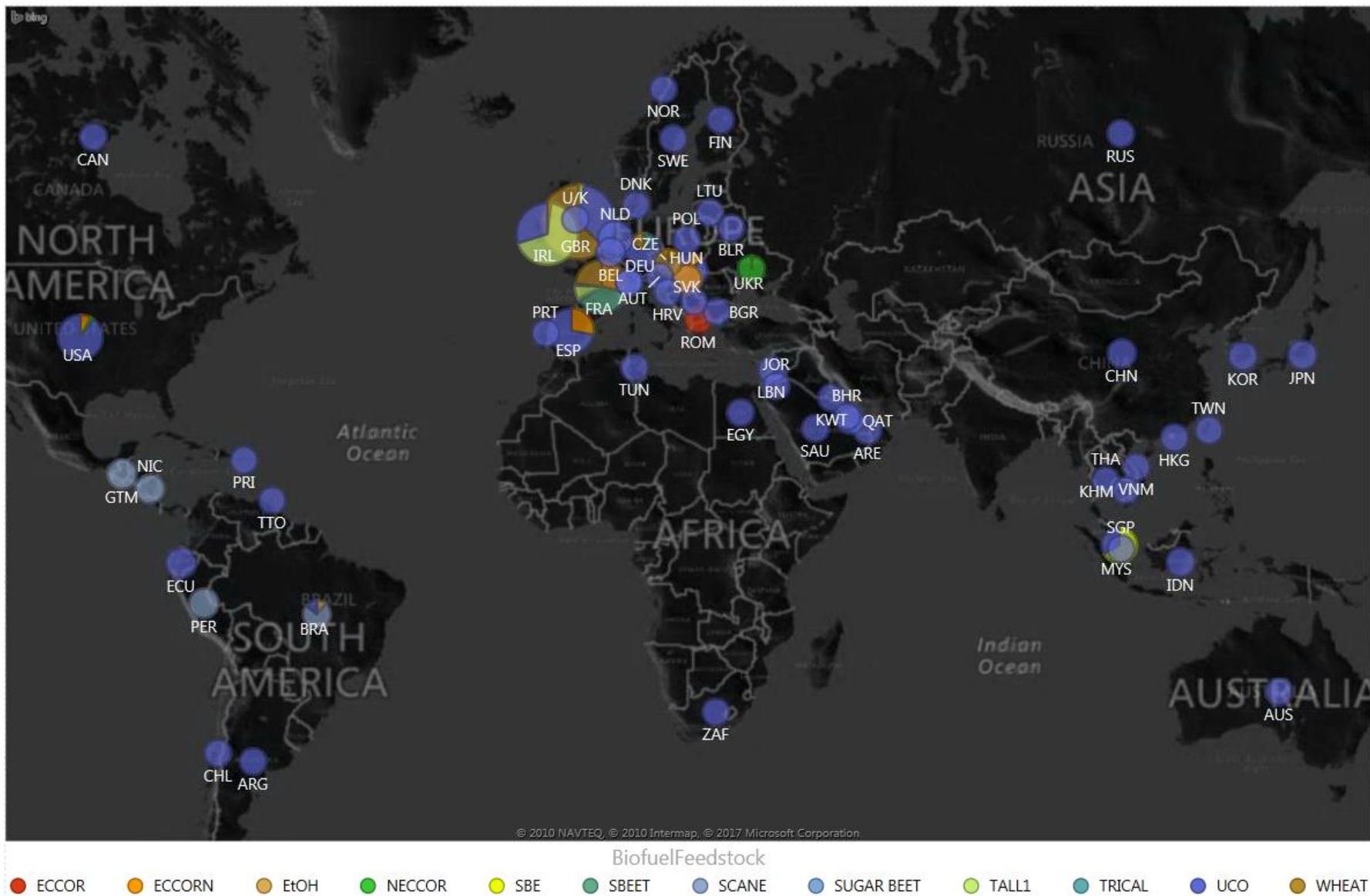
Table 3: Breakdown of Source of Biofuel Feedstocks

Country of Origin	Bioethanol												Biodiesel						Total	
	EC Corn		Non-EC Corn		Sugar Cane		Sugar Beet		Wheat		Trical		UCO ¹		Cat 1 Tallow ¹		SBE ¹		(t)	%
	(t)	%	(t)	%	(t)	%	(t)	%	(t)	%	(t)	%	(t)	%	(t)	%	(t)	%		
Netherlands Antilles		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	26,022	0.0%		0.0%		0.0%	26,022	0.0%
United Arab Emirates		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	717,512	0.9%		0.0%		0.0%	717,512	0.4%
Argentina		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	155,476	0.2%		0.0%		0.0%	155,476	0.1%
Australia		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	48,088	0.1%		0.0%		0.0%	48,088	0.0%
Austria		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	131,540	0.2%		0.0%		0.0%	131,540	0.1%
Belgium		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	1,437,024	1.8%		0.0%		0.0%	1,437,024	0.8%
Bulgaria		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	303,437	0.4%		0.0%		0.0%	303,437	0.2%
Bahrain		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	25,192	0.0%		0.0%		0.0%	25,192	0.0%
Belarus		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	93,512	0.1%		0.0%		0.0%	93,512	0.1%
Brazil		0.0%		0.0%	662,404	11.9%		0.0%		0.0%		0.0%	124,566	0.2%		0.0%		0.0%	786,970	0.4%
Canada		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	374,664	0.5%		0.0%		0.0%	374,664	0.2%
Switzerland		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	3,399	0.0%		0.0%		0.0%	3,399	0.0%
Switzerland		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	68,661	0.1%		0.0%		0.0%	68,661	0.0%
Chile		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	81,099	0.1%		0.0%		0.0%	81,099	0.0%
China		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	1,167,045	1.4%		0.0%		0.0%	1,167,045	0.7%
Czech Republic	2,503	0.0%		0.0%		0.0%		0.0%	116,016	0.3%		0.0%	265	0.0%		0.0%		0.0%	118,784	0.1%
Germany	15,041	0.1%		0.0%		0.0%	27,890	0.4%	698,059	1.8%	577,951	1.5%	4,033,476	4.9%		0.0%		0.0%	5,352,417	3.1%
Denmark		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	184,347	0.2%		0.0%		0.0%	184,347	0.1%
Ecuador		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	2,163,293	2.6%		0.0%		0.0%	2,163,293	1.2%
Egypt		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	193,590	0.2%		0.0%		0.0%	193,590	0.1%
Spain	3,963,950	35.6%		0.0%		0.0%		0.0%		0.0%		0.0%	10,211,265	12.5%		0.0%		0.0%	14,175,215	8.1%
Finland		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	137,753	0.2%		0.0%		0.0%	137,753	0.1%
France	4,623,032	41.5%		0.0%		0.0%	7,724,748	99.6%	5,261,683	13.7%		0.0%	272,503	0.3%	1,902,069	7.8%		0.0%	19,784,035	11.3%
United Kingdom	22,532	0.2%		0.0%		0.0%		0.0%	32,398,734	84.2%		0.0%	17,850,915	21.8%	1,090,686	4.5%		0.0%	51,362,867	29.4%
Guatemala		0.0%		0.0%	1,704,685	30.6%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	1,704,685	1.0%
Hong Kong		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	501,880	0.6%		0.0%		0.0%	501,880	0.3%
Croatia		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	18,917	0.0%		0.0%		0.0%	18,917	0.0%
Hungary	1,665,060	14.9%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	1,665,060	1.0%
Indonesia		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	1,031,672	1.3%		0.0%		0.0%	1,031,672	0.6%
Ireland		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	9,287,455	11.3%	21,362,825	87.7%		0.0%	30,650,280	17.5%
Israel		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	0	0.0%
Jordan		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	29,400	0.0%		0.0%		0.0%	29,400	0.0%
Japan		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	1,318,941	1.6%		0.0%		0.0%	1,318,941	0.8%
Cambodia		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	27,702	0.0%		0.0%		0.0%	27,702	0.0%
Korea, Republic of		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	895,817	1.1%		0.0%		0.0%	895,817	0.5%
Kuwait		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	364,870	0.4%		0.0%		0.0%	364,870	0.2%
Lebanon		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	268,760	0.3%		0.0%		0.0%	268,760	0.2%
Lithuania		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	18,926	0.0%		0.0%		0.0%	18,926	0.0%
Malaysia		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	2,017,322	2.5%		0.0%	4,037,507	100.0%	6,054,829	3.5%
Nicaragua		0.0%		0.0%	1,367,666	24.6%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	1,367,666	0.8%
Netherlands		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	5,469,629	6.7%		0.0%		0.0%	5,469,629	3.1%
Norway		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	67,895	0.1%		0.0%		0.0%	67,895	0.0%
Oman		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	0	0.0%
Peru		0.0%		0.0%	1,828,805	32.9%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	1,828,805	1.0%
Poland		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	483,152	0.6%		0.0%		0.0%	483,152	0.3%
Puerto Rico		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	146,316	0.2%		0.0%		0.0%	146,316	0.1%
Portugal		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	243,822	0.3%		0.0%		0.0%	243,822	0.1%
Qatar		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	286,649	0.3%		0.0%		0.0%	286,649	0.2%
Romania	309,382	2.8%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	309,382	0.2%
Russia		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	91,867	0.1%		0.0%		0.0%	91,867	0.1%
Saudi Arabia		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	270,861	0.3%		0.0%		0.0%	270,861	0.2%
Singapore		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	51,222	0.1%		0.0%		0.0%	51,222	0.0%
Serbia		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	18,584	0.0%		0.0%		0.0%	18,584	0.0%
Slovakia	538,648	4.8%		0.0%		0.0%		0.0%		0.0%		0.0%	4,981,309	6.1%		0.0%		0.0%	5,519,957	3.2%
Sweden		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	207,854	0.3%		0.0%		0.0%	207,854	0.1%
Thailand		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	37,401	0.0%		0.0%		0.0%	37,401	0.0%
Trinidad & Tobago		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	19,932	0.0%		0.0%		0.0%	19,932	0.0%
Tunisia		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	549,976	0.7%		0.0%		0.0%	549,976	0.3%
Turkey		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	0	0.0%
Taiwan		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	492,392	0.6%		0.0%		0.0%	492,392	0.3%
Unknown		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	78,911	0.1%		0.0%		0.0%	78,911	0.0%
Viet Nam		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	42,467	0.1%		0.0%		0.0%	42,467	0.0%
Ukraine	227	0.0%	191,013	16.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	191,240	0.1%
United States		0.0%	1,001,659	84.0%		0.0%		0.0%		0.0%		0.0%	12,581,600	15.4%		0.0%		0.0%	13,583,259	7.8%
South Africa		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	196,873	0.2%		0.0%		0.0%	196,873	0.1%
TOTAL	11,140,375	6.4%	1,192,672	0.7%	5,563,560	3.2%	7,752,638	4.4%	38,474,492	22.0%	577,951	0.3%	81,905,018	46.8%	24,355,580	13.9%	4,037,507	2.3%	174,999,793	100%

1. Eligible for double counting

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Figure 9: Sources of Biofuel Feedstocks



4.6 VOLUNTARY SCHEMES

While there are currently nineteen EU approved Voluntary Schemes in operation, biofuel from only two Voluntary Schemes were reported in BOS Sustainability Statements:

- ISCC
(International Sustainability and Carbon Certification)
- RBSA
(Abengoa RED Bioenergy Sustainability Assurance)

The following table provides a breakdown of the volume of biofuel reported as part of a Voluntary Scheme or as a waste/residue (W/NAR).

Table 4: Breakdown of Voluntary Schemes

Voluntary Scheme	Biodiesel (% biodiesel)	Bioethanol (% bioethanol)	Total (litres) (% Total)
ISCC	52,561,028 54%	60,025,255 93%	112,586,283 64%
RBSA		4,676,433 7%	4,676,433 3%
W/NAR & ISCC	57,589,829 46%		57,589,829 33%
Sub-Total	110,150,857	64,701,688	174,852,545
W/NAR	147,248		147,248
Total	110,298,105	64,701,688	174,999,793

With the exception of a very small quantity of biodiesel produced from UCO, all of the biofuel placed on the Irish market was covered by a Voluntary Scheme; the vast majority (97%) was covered by the ISCC scheme.

4.7 GHG SAVINGS

4.7.1 Overview

A central requirement of the RED and the Sustainability Regulations is that biofuels achieve a 35% reduction in carbon intensity (GHG emissions) in comparison to fossil fuels¹¹. The average litre of biofuel placed on the market in Ireland in 2016 had a life cycle carbon intensity of c. 18.5 gCO_{2eq} / MJ, which represents a 78% reduction in carbon intensity in comparison to road transport fossil fuel.

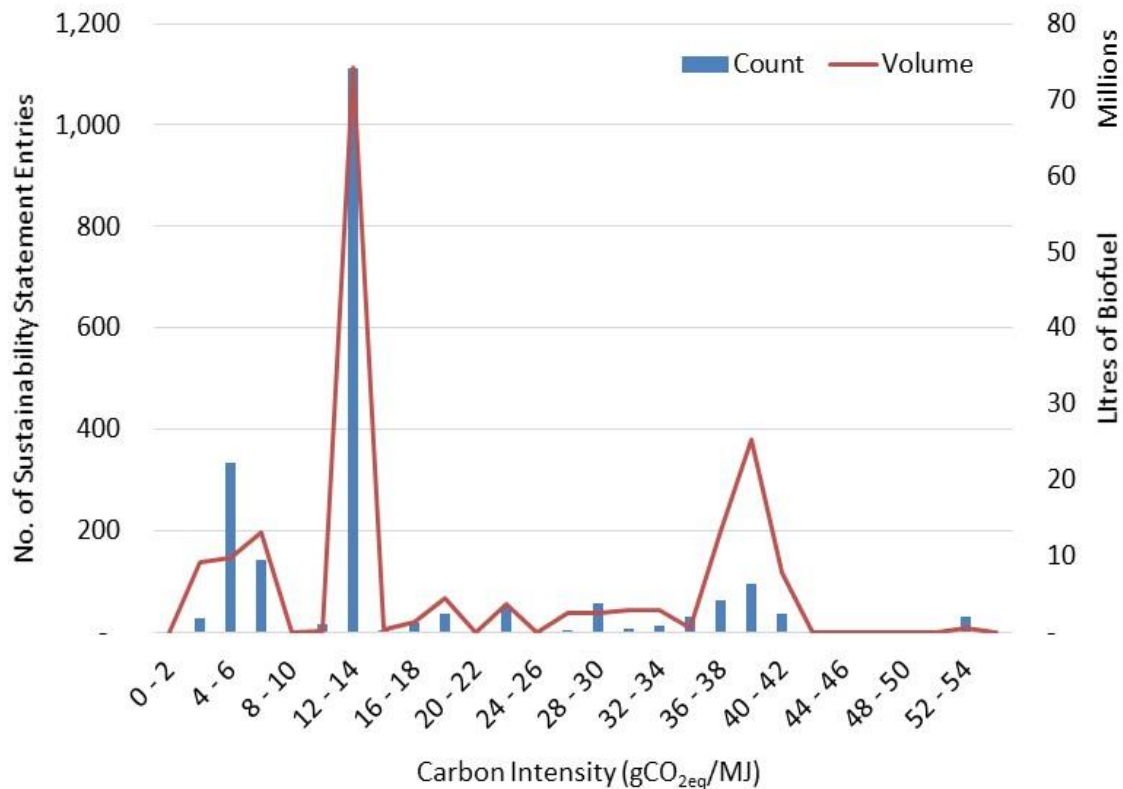
There were c. 2,000 individual consignments (entries) reported in the sustainability statements. The volume reported in each entry ranged from of a single litre of biofuel to over 2.5 million litres. The following plot illustrates the range of carbon intensity values

¹¹ A baseline carbon intensity of 83.8 gCO_{2e} / MJ for petrol and diesel is specified in Annex V of the RED.

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reported and how those in the 12 – 14 gCO_{2eq} / MJ range dominate. (The bar chart represents the number of entries; the line represents the volume of biofuel).

Figure 10: Profile of Carbon Intensities



There is no methodology provided in the RED for calculating the national GHG savings. Up to now, the BOS Team’s approach has been to calculate the GHG emissions from the biofuels placed on the market and compare that to the total GHG emissions that would have been emitted from the road transport sector¹² had there been no biofuels consumed. Taking into account the lower calorific content of biofuel in comparison to fossil fuel¹³, c. 143 million litres of fossil fuel was displaced by biofuel as a consequence of placing 174 million litres of biofuel on the market. Based on an average biofuel carbon intensity of 18.5 gCO_{2eq} / MJ and using the fossil fuel comparator provided in Annex V of the RED (83.8 gCO_{2eq}/MJ), the substitution of fossil fuel with biofuel resulted in a reduction of c. 324 thousand tonnes of CO_{2eq} emissions.

This equates to an overall saving of 2.4 % in GHG emissions from the road transport sector as a consequence of achieving a biofuel penetration rate of 3.9 %, by volume. It is worth noting that these emission savings are over the life cycle of the fuel, which includes, *inter alia*, feedstock extraction and cultivation, fuel production, transportation and consumption – the calculation methodology is set out in Annex V of the RED. For biofuels, the emissions from using the fuel are zero.

¹² While the RED requires energy consumed in road and rail to be taken into account, the BOS only applies to road transport.

¹³ 32 & 36 MJ/litre for gasoline and diesel versus 21 & 33 MJ/litre for bioethanol and biodiesel, respectively.

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The Fuel Quality Directive (FQD) (6), which also applies to road transport fuel, requires a 6% reduction in carbon intensity by 2020, and does not permit double counting. The FQD specifies a method for calculating the reduction in carbon intensity in order to demonstrate compliance with the FQD¹⁴. For 2016, a 1.9 % reduction in carbon intensity was calculated using the FQD methodology, which is a reduction on that achieved last year and is because there was less biofuel placed on the market in 2016.

4.7.2 Analysis of Sustainability Statements

Article 17 of the RED specifies that a biofuel must achieve a 35% reduction in carbon intensity, which equates to a maximum carbon intensity value of 54.5 gCO_{2eq} / MJ. There were no instances found in the sustainability statements of biofuels with carbon intensities above 54.0 gCO_{2eq} / MJ. The following tables illustrate the range of carbon intensities of the fuel types (Table 5) and the feedstocks (Table 6) that were reported in the sustainability statements throughout 2016.

Table 5: Range of Carbon Intensity Reported in Sustainability Statements, by Fuel Type

Fuel Type	Description	Carbon Intensity (g CO _{2eq} /MJ)			Default Values ¹⁵
		Min	Avg	Max	
HVO ¹⁶	Hydrotreated Vegetable Oil (Biodiesel)	27	29.3	31	-
ME	Methyl Ester ¹⁷ (Biodiesel)	4	11.5	14	-
UCO	Used Cooking Oil (Biodiesel)	14	14	14	14.2 ¹⁸
EtOH	Bioethanol	14	33.7	54	-

¹⁴ Directive 2015/652, published in April 2015, specifies the calculation method.

¹⁵ The Default Values, from Annex V of the RED, are reported where appropriate.

¹⁶ HVO from SBE.

¹⁷ Aka Fatty Acid Methyl Ester, or FAME

¹⁸ The default value from Annex V of the RED is 14.2 gCO_{2e} / MJ (17% of fossil fuel comparator (83.8 gCO_{2e} / MJ)). The UK & Ireland carbon calculator default value for waste animal or vegetable oil (i.e. UCO or Tallow) is 14 gCO_{2e} / MJ

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Table 6: Range of Carbon Intensity Reported in Sustainability Statements, by Feedstock

Fuel Type	Feedstock	Description	Carbon Intensity (g CO ₂ eq/MJ)			Default Values
			Min	Avg	Max	
Bioethanol	ECCORN	Corn – EC	14	26	43	42.7
	NECCOR	Corn – Non EC	19	30.6	42	-
	SCANE	Sugar Cane	24	24	24	24.3
	WHEAT	Wheat	28	39	48	-
	TRICAL	Triticale ¹⁹	42	51.6	54	-
	SBEET	Sugar Beet	40	40	40	40.2
Biodiesel (ME, UCO)	UCO ²⁰	Used Cooking Oil	4	11.3	14	14.2
	TALL1	Tallow – Category 1	14	14	14	14.2
	SBE	Spent Bleached Earth	27	29.3	31	

The following table lists those biofuel feedstocks for which *actual* carbon intensity values were reported for the entire fuel supply chain or the cultivation step, as opposed to reporting the default values from Annex V to the RED.

Table 7: Breakdown of Actual Carbon Intensity Values Reported, by Feedstock

Fuel Type	Feedstock	Description	Total Volume (l)	Volume Reported as Actual Values* (l)	Volume Reported as Actual Values (%)
Bioethanol	ECCORN	Corn – EC	11,140,375	11,140,375	100
	NECCOR	Corn – Non EC	1,192,672	1,192,672	100
	SCANE	Sugar Cane	5,563,560	1,828,805	33
	WHEAT	Wheat	38,474,492	38,089,696	99
	SBEET	Sugar Beet	7,752,638	0	0
	TRICAL	Triticale	577,951	577,951	100
Biodiesel	UCO	Used Cooking Oil	81,905,018	33,782,061	41
	TALL1	Tallow – Category 1	26,508,323	0	0
	SBE	Spent Bleached Earth	4,037,507	4,037,507	100

*Actual values were used for the entire fuel chain or for the cultivation step.

In almost all cases where actual carbon intensity values were reported, a Voluntary Scheme was also reported. This is significant because under Article 18 (7) of the RED, once an account holder provides proof that the data submitted in a Sustainability Statement is covered under a Voluntary Scheme, the Member State is not entitled to investigate further the provenance of the biofuel²¹.

¹⁹ A hybrid of wheat and rye.

²⁰ UCO is classified at both the Fuel Type level and at the Feedstock level. For example, an account holder may choose 'Biodiesel ME' as the fuel type and 'UCO' as the Feedstock.

²¹ In fact the wording of the RED is more restrictive as it expressly **prohibits** Member States from requiring economic operators (account holders) to provide further evidence of compliance with the Sustainability Criteria, if the economic operator can provide proof that the biofuel is covered by a Voluntary Scheme that was approved by the Commission.

4.8 AUDITING COMPLIANCE WITH THE BOS ACT

Auditing of compliance by oil companies, oil consumers and biofuel producers with the biofuel obligations under the BOS Act 2010 were carried out in Q2 and Q3 2016.

The Summary Audit Report (7) describes the findings from both the plenary, desk-based audit and the on-site audits and contains recommendations on what actions could be undertaken to rectify any errors that were found. It also makes recommendations on what improvements could be made to the systems and procedures for submitting and processing the levy returns and applications for BOS Certs.

The audit reconciliation showed that, even though the magnitude of the discrepancies were relatively small, there were still inconsistencies between the purchases and sales values reported. These inconsistencies were examined further during the on-site audits which were carried out on four account holders.

The audit team also carried out desk-based investigations on several discrepancies that were identified in the plenary audit. In all cases, the BOS account holders were well prepared for the audits and were able to substantiate the data contained in the Levy Return and in the applications for BOS Certs.

While there were no material errors found in the Sustainability Statements, during the desk-based audits and in the majority of on-site audits, there was a major discrepancy found in one company's Levy Returns. A NORA Levy over-payment was found in respect of disposals of diesel and gasoline between 2010 and 2016. The DCCAE was alerted to the discrepancy and a detailed report describing the discrepancy and the impact on the NORA Levy and the biofuel obligation was prepared. The DCCAE and NORA addressed the NORA Levy discrepancy and an additional 1,222,067 BOS Certs from the 2015 period were awarded.

Notwithstanding this error, the general level of compliance with the requirements of the BOS Acts has improved since the commencement of the audit programme. This is reflected in the reduced number of findings provided in the audit reports, the improved quality of the information being received by the BOS Team during the year and the significant reduction in the magnitude of the discrepancies between reported purchases and sales. This is a positive outcome and it has resulted in fewer significant findings from the audits.

5 OBSERVATIONS ON THE OPERATION OF BOS

The following sub-sections record the BOS Team's observations on the operation of the BOS during the 2016 obligation period and on the key considerations for the BOS in the coming years.

5.1 NEGATIVE BIOFUEL LEVY LIABILITIES

In 2016, one company recorded negative biofuel levy liabilities. The details of how the negative liabilities arose have been documented by the BOS Team. In summary, negative levy liabilities can occur when an obligated party purchases more levy-paid fuel than it sells in a month.

In the OLA system, a key requirement is that the closing stock at the end of the month – and consequently the opening stock in the following month – is always levy-unpaid. A stock holding of levy-paid product cannot be brought forward to the subsequent month; the OLA system is not designed to facilitate this. Thus, instead of carrying levy-paid stock forward, a negative levy liability is generated, i.e. a levy refund is granted in order to repay the levy that was paid on the closing stock and 'convert' it into levy-unpaid stock. This is why negative levy liabilities arise.

While negative liability positions can be accommodated in the BOS by extending the mass balance over multiple months and thus avoiding the revocation of BOS Certs, this approach is not possible when a negative liability occurs at the end of the obligation period, i.e. in November and December. In such cases, the BOS Team is required to reconcile BOS accounts and cannot extend the mass balance over a longer period of time. Consequently, BOS Certs may have to be revoked.

A negative biofuel levy liability can also occur if an obligated party sells levy-paid biofuel to its customers as levy-unpaid. Unlike the previous case, this cannot be resolved by extending the mass balance over a longer period of time. This can only be resolved by removing this unorthodox reporting arrangement, resubmitting the OLA return and revoking the Certs. For this reason, over 1.7 million BOS Certs were revoked in June 2016 in respect of 850,952 litres of biofuel for which two BOS Certs per litre were awarded in January and February.

5.2 UPCOMING CHANGES

5.2.1 Biofuel Obligate Rate Change

The biofuel obligation increased from 6% to 8% on the 1st January, 2017.

5.2.2 ILUC Directive

In September 2015, Directive (EU) 2015/1513 (the ILUC Directive) was published to amend the Renewable Energy Directive and the Fuel Quality Directive. The stated purpose of the

The Biofuels Obligation Scheme 2016

ILUC Directive is to reduce the risk of indirect land use change and to prepare the transition towards advanced biofuels. In order to achieve this, the Directive provides for the following.

- i. Limits the share of biofuels from crops grown on agricultural land that can be counted towards the 2020 renewable energy targets to 7%.
- ii. Sets an indicative 0.5% target for advanced biofuels as a reference for national targets which will be set by EU countries in 2017.
- iii. Harmonises the list of feedstocks for biofuels across the EU whose contribution would count double towards the 2020 target.
- iv. Specifies that biofuels produced in new installations achieve GHG emission savings of at least 60%.
- v. Introduces stronger incentives for the use of renewable electricity in transport.
- vi. Includes a number of additional reporting obligations for the fuel providers, EU countries and the European Commission.

It also requires that, from 1st January 2018, the GHG emission savings from the use of biofuels increase to 50%. At present under the BOS, emission savings of 35% are required.

The ILUC Directive is due to be fully transposed by September 2017. In advance of this deadline, there was an interim condition which required Member States to notify the Commission by the 17th April 2017 of the advanced biofuel target. The DCCAE notified the Commission that it has set a 0.25% advanced biofuel target for 2020.

The BOS Team has begun to prepare the BOS system for the requirements of ILUC. The Team's plan for modifying the BOS was presented to the BOS account holders at the briefing sessions held during 2016. Further engagements will be held during 2017 to assist both the BOS Team and account holders with transitioning to the new requirements.

5.2.3 Fuel Quality Directive (FQD)

In April 2017, SI 160 of 2017 was published. It transposes Article 7a of the FQD and requires 'fuel suppliers' to reduce life cycle GHG emissions per unit of energy from fuel and energy supplied to transport (road vehicles, non-road mobile machinery, agricultural and forestry tractors, and recreational craft) by 6% by 2020. It designates NORA as the agency to which the fuel suppliers shall report.

The BOS Team has begun to prepare the BOS system for the requirements of the FQD, in tandem with modifying the system for ILUC. There are a lot of synergies between the existing reporting requirements of the BOS, and ILUC, and those to demonstrate compliance with FQD; thus, even though the 6% reduction target specified in SI 160 does not have to be met until 2020, it is more efficient to put in place the mechanisms for measuring compliance with the 6% target now, while the ILUC modifications are being implemented. It will also give the fuel suppliers, which are the same companies designated as the BOS account holders, time to prepare for complying with this new obligation.

The Biofuels Obligation Scheme 2016

The BOS Team was in communication with the DCCAE during 2016 in order to prepare for incorporating FQD compliance into the BOS. The BOS account holders were informed of the potential for FQD compliance to become part of the BOS system at the BOS briefing sessions. The anticipated changes arising from transposing Article 7a were investigated during 2016 and were also communicated to the account holders. It is anticipated that the BOS will be modified during 2017 and will be ready for FQD, and ILUC, reporting at the start of 2018.

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