

AN GHNÍOMHAIREACHT CHÚLTACA OLA NÁISIÚNTA THE NATIONAL OIL RESERVES AGENCY



THE BIOFUELS OBLIGATION SCHEME ANNUAL REPORT 2020

A report on how the scheme has been implemented to date and an assessment of the level of compliance by obligated parties with the BOS Act and designated fuel suppliers' compliance with SI 160 of 2017 during the 2020 obligation period.

Prepared by Byrne Ó Cléirigh and Smith & Williamson on behalf of
The National Oil Reserves Agency



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Second Floor, Building No. 3, Number One, Ballsbridge, 126 Pembroke Road, Dublin 4.

Email: bos@nora.ie Web: www.nora.ie

TABLE OF CONTENTS

EXECUTIVE SUMMARY

1	BACKGROUND	1
2	AN OVERVIEW OF THE BIOFUELS OBLIGATION SCHEME	4
2.1	BOS ESSENTIALS	4
2.2	IMPORTANT DATES	5
2.3	BOS PARTICIPANTS	6
2.3.1	<i>Obligated Parties</i>	6
2.3.2	<i>Biofuel Producers and Suppliers</i>	7
2.3.3	<i>Fuel Suppliers</i>	7
2.4	ENGAGEMENT WITH BOS PARTICIPANTS.....	8
3	BIOFUEL OBLIGATION ACCOUNTS	9
3.1	ACCOUNT SET UP & CLOSURE	9
3.2	MANAGING BIOFUEL OBLIGATION ACCOUNTS	9
3.3	ISSUING BIOFUEL OBLIGATION CERTIFICATES AND CARBON SAVINGS.....	10
3.4	CANCELLING BIOFUEL OBLIGATION CERTIFICATES	10
3.5	REVOKING BIOFUEL OBLIGATION CERTIFICATES	10
3.6	OUT OF DATE CERTIFICATES	10
4	COMPLIANCE WITH BOS OBLIGATION	12
4.1	RELEVANT DISPOSALS.....	12
4.2	BIOFUEL OBLIGATION CERTIFICATES	16
4.3	BOS ACCOUNT HOLDER POSITION	17
4.4	OVERALL PERFORMANCE AGAINST OBLIGATION.....	20
4.5	BIOFUEL FEEDSTOCK	21
4.6	VOLUNTARY SCHEMES.....	24
4.7	GHG SAVINGS.....	24
4.7.1	<i>Overview</i>	24
4.7.2	<i>Analysis of Sustainability Statements</i>	26
4.8	AUDITING COMPLIANCE WITH THE BOS ACT	28
4.9	CROP CAP	29
4.10	ADVANCED BIOFUEL TARGET	30
5	COMPLIANCE WITH SI 160	31
5.1	OVERVIEW	31
5.2	COMPLIANCE WITH TARGET	31
6	OBSERVATIONS ON OPERATING BOS.....	33
6.1	CHANGES IN 2021 AND THEREAFTER	33
6.1.1	<i>Biofuel Obligate Rate Change</i>	33
6.1.2	<i>RED II</i>	33
6.1.3	<i>FQD</i>	34
6.1.4	<i>RED III</i>	34
6.1.5	<i>Ireland's Biofuel Policy</i>	35
	BIBLIOGRAPHY	36

The Biofuels Obligation Scheme 2020

GLOSSARY OF TERMS

BÓC	Byrne Ó Cléirigh
BOS	Biofuel Obligation Scheme
BOS Act	Energy (Biofuels Obligations and Miscellaneous Provisions) Act 2010
BOS Team	Personnel from NORA, BÓC and S&W
BOSOS	BOS Online System
CNG	Compressed Natural Gas
DECC	Department of Environment, Climate and Communications
DoT	Department of Transport
EV	Electric vehicle
FBS	Fuel Baseline Standard (94.1 gCO _{2eq} /MJ)
FQD	Fuel Quality Directive (2009/30/EC)
gCO _{2eq}	Grams of CO ₂ equivalent
GHG	Greenhouse gas
ILUC	Indirect Land Use Change
ISCC	International Sustainability and Carbon Certification (a voluntary scheme)
LNG	Liquified Natural Gas
LPG	Liquified Petroleum Gas
MJ	Mega Joule
NORA	National Oil Reserves Agency
NORA Act	National Oil Reserves Agency Act (2007)
OLA	Online Levy Assessment (a reporting system for obligated parties)
PJ	Peta Joule
POME	Palm Oil Mill Effluent
RED	Renewable Energy Directive (2009/28/EC)
RED II	Recast Renewable Energy Directive (2018/2001)
S&W	Smith & Williamson
SBE	Spent Bleached Earth
SI	Statutory Instrument
UCO	Used Cooking Oil
UEs	Upstream Emission Reductions

EXECUTIVE SUMMARY

Overview

The Biofuel Obligation Scheme (BOS) is one of the measures introduced by the Irish Government to assist compliance with the requirement imposed on all EU Member States by the Renewable Energy Directive (RED) (1) 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 (2) to administer the Scheme and the Agency appointed a consortium of Byrne Ó Cléirigh and Smith & Williamson to assist with its 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, the 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 fuel is in the form of biofuel. For 2020, this amount was 11%, including double counting, by volume. They must also pay a levy of €0.001 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 Certs to match their obligation. Failure to surrender sufficient Certs incurs a liability to pay a buy-out charge which is set at €0.45 per litre.

In 2017, SI 160 (3) transposed Article 7a of the Fuel Quality Directive (FQD) (4). It designates NORA as the administrator of fuel suppliers' compliance with a carbon intensity reduction target of at least 6% by 2020. It requires fuel suppliers to achieve at least a 6% reduction in the greenhouse gas (GHG) intensity of fuels used in road vehicles, non-road mobile machinery, agricultural and forestry tractors, and recreational craft relative to a fuel baseline standard (94.1 gCO_{2eq}/MJ). The BOS has been modified to cater for administering the requirements of SI 160 by allowing applications for BOS Certs to be combined applications for Certs and carbon savings.

Companies that produce or supply biofuels and electricity suppliers may also open a BOS account and apply to NORA for BOS Certs and carbon savings. Account holders may also obtain BOS Certs and carbon savings by arranging with other account holders to have Certs/carbon savings transferred to their accounts. At the start of 2020 there were a total of eighteen BOS account holders (ten BOS obligated parties, five companies that produce or supply biofuels registered as BOS account holders, and three additional companies designated as fuel suppliers under SI 160). At the end of 2020, there were nineteen.

BOS Compliance

In total, for the 2020 obligation period, approximately 239m litres of biofuel were placed on the Irish market; approximately 457m Certs and 596 kt of carbon savings were awarded in

The Biofuels Obligation Scheme 2020

respect of those disposals. At the end of the period, including the Certs that were carried forward from previous periods (c. 50m), account holders were in possession of 507m BOS Certs; the 2020 biofuel obligation was 458m Certs.

Except for one obligated party, all parties were in possession of sufficient BOS Certs to satisfy their respective biofuel obligations and approximately 55m BOS Certs have been carried forward into the 2021 obligation period.

All the biodiesel placed on the market was eligible for two BOS Certs per litre on account of it being produced from a waste or residue (this has been the case since 2016).

Approximately 51% of the bioethanol and 23% of the bioLPG placed on the market was double counted. There were three different biofuel types and thirteen different biofuel feedstocks reported in the BOS Sustainability Statements.

Biofuel Type		
Bioethanol	Biodiesel	BioLPG
Biofuel Feedstock		
EC corn	Category 1 tallow	Palm oil
Barley	Used cooking oil	Palm fatty acid distillate
Non-EC corn	Palm oil mill effluent	Used cooking oil
Sugar beet		
Sugar cane		
Wheat		
Whey permeate		
Starch slurry		

The feedstocks were reported to have originated from 58 different countries. The single largest source of biofuel feedstock was China (33%); approximately 14% of the feedstock originated from Ireland.

Approximately 67% of all the biofuel placed on the market in Ireland was produced from used cooking oil (UCO) which was sourced from 50 different countries. The majority was sourced from China (49%). All the biofuel placed on the Irish market was reported as being certified by a voluntary scheme.

A central requirement of the RED and the Sustainability Regulations (5) is that biofuels achieve a 50% reduction in carbon intensity (GHG emissions per unit of energy) in comparison to fossil fuels (increases to 60% for biofuel production plants coming into operation after October 2015). The average litre of biofuel placed on the market in Ireland in 2020 had a carbon intensity of 13.5 gCO_{2eq}/MJ, which represents an 84% reduction in carbon intensity in comparison to road transport fossil fuel.

SI 160 Compliance

In total, fuel suppliers achieved a carbon intensity reduction of 3.1% in 2020. This was achieved by placing biofuel, and fossil fuels with lower carbon intensities, on the market; a small contribution was also made by electricity consumed in EVs. There were no carbon savings from upstream emission reductions (UERs) claimed during 2020. Compliance with SI 160 is, however, a fuel supplier requirement. Half the of the sixteen designated fuel suppliers achieved the 6% carbon intensity reduction target. NORA did not apply to the High Court for compliance orders for fuel suppliers that did not achieve the 2020 target.

Auditing

The annual audit of BOS account holders was carried out during 2020. The programme included a plenary audit of all the Levy Returns' data, four on-site audits and several desk-based audits. In most 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. However, two material discrepancies were found. The most significant was that denaturant, which is a fossil fuel, was incorrectly reported as bioethanol. Upon correcting the mistake, the company was in a BOS Cert deficit position for the 2019 period and became liable for buy-out charge of approximately €6,000. This incorrect reporting of denaturant as biofuel also affected the company's 2020 Levy Returns and gave rise to a requirement for NORA to revoke 11,300 BOS Certs and 14 tCO_{2eq} savings awarded during 2020.

The second discrepancy gave rise to a requirement for an account holder to resubmit its Levy Returns for January to June 2019. On foot of this, the company was refunded approximately €4,500 for a marine gasoil reporting error, and an *ad hoc* award of 769,221 BOS Certs was made to correct for overstating the quantity of fossil fuel placed on the market in 2019, which gave rise to too many BOS Certs being discharged against the company's 2019 biofuel obligation.

BOS Post-2020

The BOS has evolved since its inception in 2010. It now includes for administering the obligations of the BOS Act and SI 160 of 2017. It will continue to change in the coming years. The obligation to reduce the carbon intensity of transport fuels will remain and the new requirements of the recast Renewable Energy Directive (RED II) (6) will be integrated into the scheme, once RED II is transposed into Irish law. The BOS Team has already made some provision for RED II by categorising BOS Certs in accordance with their feedstocks.

The EU Commission is developing a Union database to track and trace biofuels through the supply chain. It is likely that there will be a requirement on BOS account holders to enter and/or extract information from this database. The BOS Team is preparing NORA's BOS systems and procedures for accommodating the Union database, and other additional RED II requirements, in a timely and efficient manner.

The Biofuels Obligation Scheme 2020

While RED II has not yet been transposed into Irish law, the European Commission is reviewing how much RED II can contribute to the EU's recently published 2030 Climate Target Plan (7). The Commission aims to have proposed revisions to RED II prepared by June 2021. While it is likely that the proposed revisions will require amendments to Ireland's transposition of RED II, the revisions will take time to finalise at a European level and further time to be incorporated into Irish law.

The DoT has committed to publishing a revised biofuels policy statement. The intention was to publish it during 2020, but with the uncertainty over Ireland's national climate action policy – which has been clarified to some extent by the Climate Action Bill (12) – and the revisions to RED II and Article 7a of the FQD being carried out at an EU level of, it was delayed. When published, the revised policy statement should provide an outline of how the BOS will evolve in the coming years.

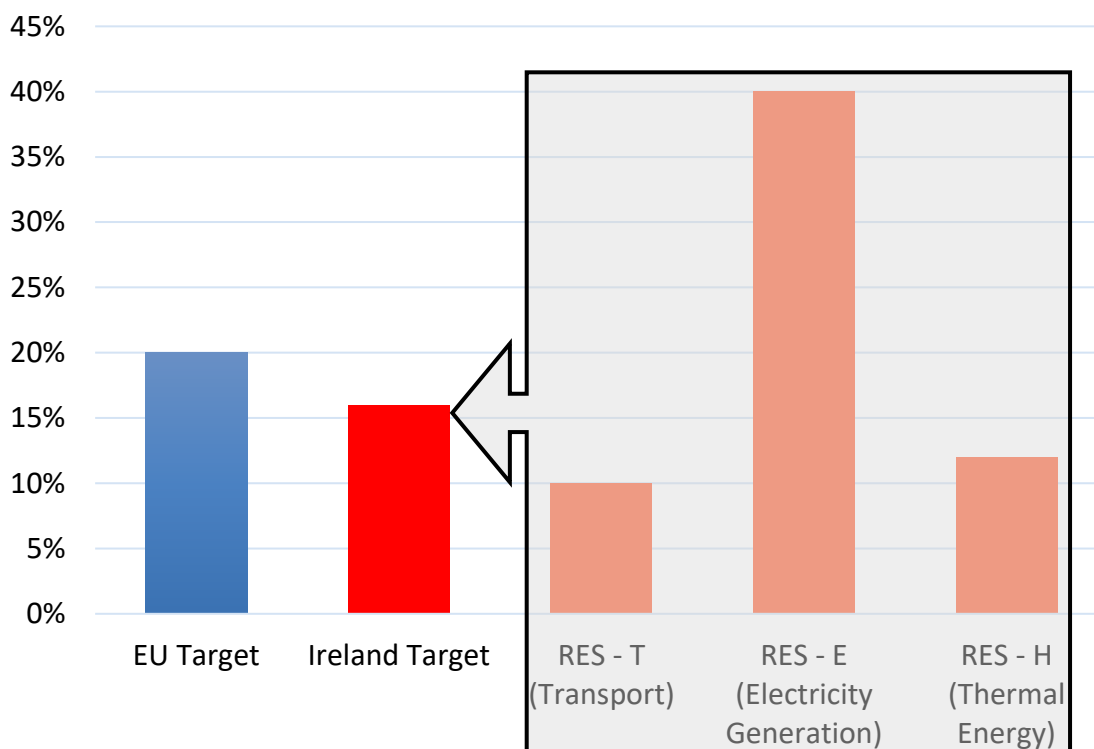
For the 2021 obligation period, the biofuel obligation remains at 11% (by volume).

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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 could set individual targets for heat (RES-H) and electricity (RES-E), item 4 of Article 3 placed 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 implemented the Biofuels 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 (EVs). In 2008, an ambitious national target of having EVs account for 10% of the vehicle fleet by 2020 (about 230,000 vehicles) was set. This was subsequently reduced to 50,000 in the 2015 Energy White Paper. Based on CSO data for 2020, there were approximately 13,700 battery electric vehicles and 12,500 plug-in hybrids in use in Ireland.

The Biofuels Obligation Scheme 2020

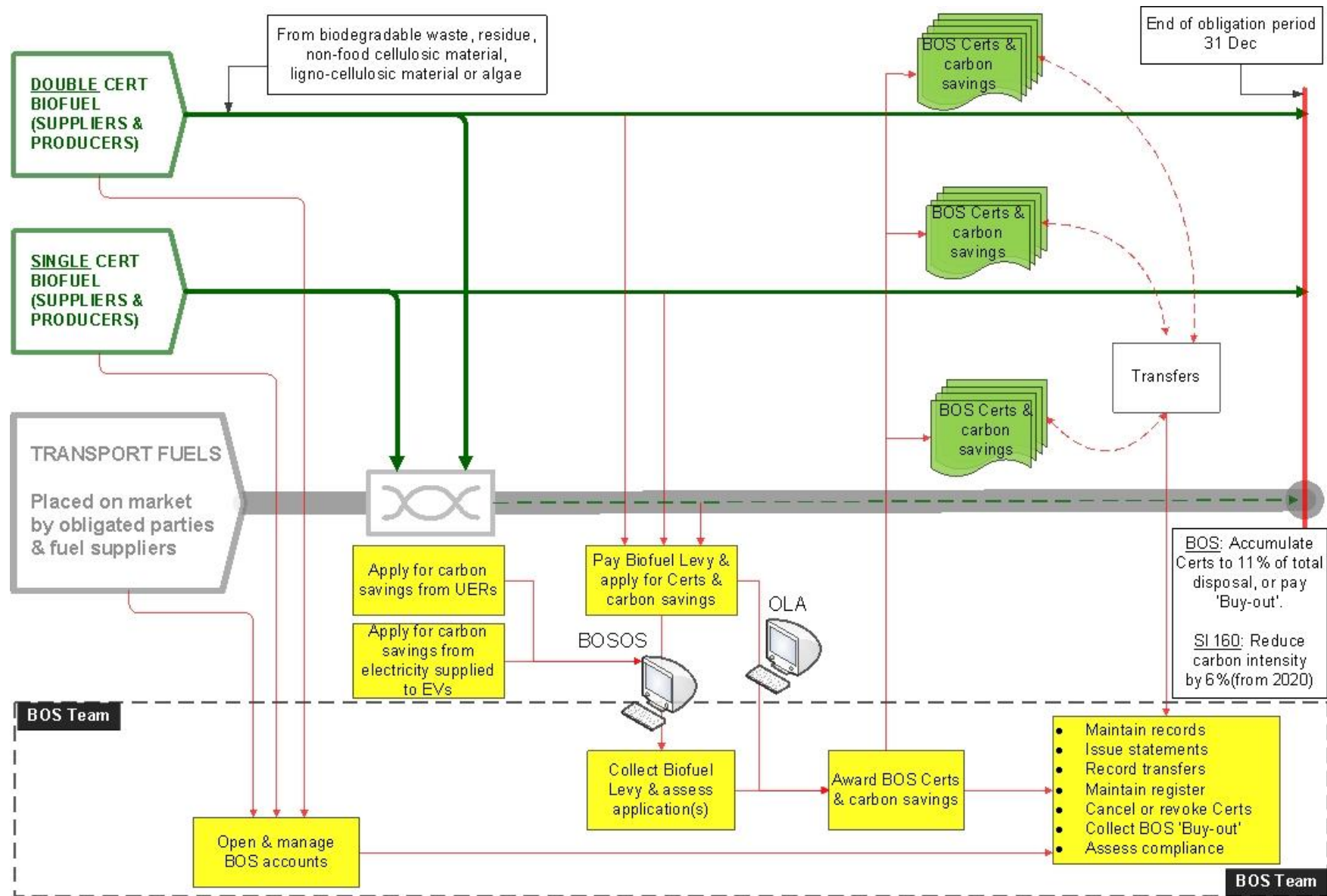
Under the BOS Act, the National Oil Reserves Agency (NORA) is the body charged with administering the BOS. In June 2010, following an open tendering process, a consortium of Byrne Ó Cléirigh and LHM Casey McGrath (now Smith & Williamson) (BÓC-SW) was appointed to assist NORA with implementing and administering the BOS. The consortium was re-appointed in 2015 and again in 2021, until 2026, following further open tendering processes. Throughout this report, the individuals from BÓC-SW and NORA who collaborate with implementing and administering 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 2020 obligation period. It also illustrates the extent to which the overall biofuel obligation was met and how each individual obligated party performed.

In 2017, SI 160 (3) transposed Article 7a of the Fuel Quality Directive (FQD) (4). It designates NORA as the administrator of fuel suppliers' compliance with a carbon intensity reduction target of 6% by 2020. It requires fuel suppliers to achieve a 6% reduction in the carbon intensity of fuels used in road vehicles, non-road mobile machinery, agricultural and forestry tractors, and recreational craft relative to a Fuel Baseline Standard (FBS) of 94.1 gCO_{2eq}/MJ. The regulations require biofuels to satisfy the same sustainability criteria as the BOS, if they are to be counted towards the 6% target. Thus, there is a significant overlap in what the BOS and SI 160 require, i.e. both require significant volumes of sustainable biofuel to be placed on the market. The BOS was modified to cater for administering the requirements of SI 160 prior to 2020.

The Biofuels Obligation Scheme 2020

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 each obligation period, is biofuel.
- The first obligation period was from July to December 2010, inclusive. The 2020 obligation period ran from January to December 2020, inclusive.
- The 2020 obligation was 11% by volume, which corresponds to 12.36% of the petroleum-based disposal; it is planned to maintain this level in 2021. Obligated parties meet their obligations by disposing of biofuel (which can be a liquid or a gas). 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 produced 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 – NORA has no role in negotiating transfers.
- A Biofuel Levy (currently €0.001 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 (8).
- 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 15% of a party's obligation in each obligation period may be met from BOS Certs that have been brought forward in this manner.

Administering the requirements of SI 160 of 2017 have been integrated into the BOS. The following describes the essential features of SI 160 and how NORA has incorporated them into the BOS.

- Fuel suppliers are required to reduce the life-cycle greenhouse gas emissions per unit of energy (i.e. the carbon intensity) from fuel and energy supplied by at least 6%

The Biofuels Obligation Scheme 2020

relative to a Fuel Baseline Standard (FBS) of 94.1 gCO_{2eq}/MJ by 2020. There were no obligations on fuel suppliers in 2018 or 2019.

- The carbon intensity reduction requirement applies to fuels used to propel road vehicles, non-road mobile machinery (including inland waterway vessels when not at sea), agricultural and forestry tractors, recreational craft when not at sea and electricity for road vehicles.
- An application for BOS Certs is also an application for carbon savings. The carbon savings are calculated using data supplied in the Sustainability Statement submitted with an application.
- The same sustainability criteria and verification requirements apply for claiming carbon savings as for claiming BOS Certs.
- Monthly fossil fuel data is reported via OLA to DECC in monthly Levy Returns. The relevant data is then supplied to the BOSOS by OLA. Carbon emissions and savings from fossil fuels are calculated in the BOSOS. Fossil fuels with a carbon intensity lower than 94.1 gCO_{2eq}/MJ will generate carbon savings, e.g. gasoline has a carbon intensity of 93.3 gCO_{2eq}/MJ and thus generates a carbon intensity saving of 0.85%.
- Carbon savings can be transferred between BOS account holders.
- Unlike the BOS, there is no provision for suppliers to buy-out of the requirements of SI 160 and there is no carry-over of carbon savings from previous years.
- In addition to placing biofuels and lower carbon intensity fossil fuels on the market, carbon savings can also be generated by applying for carbon savings from electricity consumed in EVs and from upstream emission reductions (UERs).

2.2 IMPORTANT DATES

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

- The BOS obligation period for 2020 commenced on the 1st of January and ended on the 31st of December.
- It is a legal requirement to submit quarterly applications for BOS Certs & carbon savings from biofuels on 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 Biofuels Obligation Scheme 2020

- The date by which NORA is obliged to inform BOS account holders of the extent of their biofuel obligations for the previous obligation period and the number of BOS Certs held on their account in respect of that period is the 16th of March.
- The deadline date for transferring BOS Certs and carbon savings is 22nd March.
- The final date by which obligated parties must inform NORA of which BOS Certs are to be set off against their obligation is the 20th of April.
- The 4th 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.
- The buy-out charge must be paid within 28 days from the date of the invoice.

The following dates are specific for administering compliance with SI 160.

- The deadline for submitting applications for carbon savings from electricity consumed in road vehicles is the 14th February.
- The deadline for submitting applications for carbon savings from Upstream Emission Reductions (UERs) is the 14th February.

Compliance with SI 160 is assessed in tandem with BOS compliance.

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. Participants may also be companies designated by NORA as fuel suppliers under SI 160 of 2017. In most cases, fuel suppliers are obligated parties or biofuel producers.

2.3.1 Obligated Parties

An obligated party is any oil company or oil consumer liable to pay the NORA Levy; the biofuel obligation applies to its relevant disposals of road transport fuel (i.e. diesel and gasoline) in the obligation period. It applies whether the NORA Levy was paid or not 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.

The Biofuels Obligation Scheme 2020

At the start of the 2020 obligation period, the following companies were identified as obligated parties under the BOS:

1. Valero Energy (Ireland) Ltd
2. Irving Oil Whitegate Refinery Ltd
3. Inver Energy Ltd
4. Irish Rail
5. John Kelly Fuels (Ireland)
6. Lissan Coal Company Ltd (LCC)
7. Maxol Ltd
8. Nicholl (Fuel Oils)
9. Tedcastle Oil Products (TOP)
10. Circle K

2.3.2 Biofuel Producers and Suppliers

In addition to the ten obligated parties, there were five biofuel producers/suppliers at the start of 2020:

1. Green Biofuels Ireland (GBI)
2. Agri Energy
3. Calor Teoranta
4. Carbery Food Ingredients
5. College Biofuels

These companies previously applied for and were granted BOS accounts. Each company reports its disposals of biofuel to DECC via the OLA system¹, pays the Biofuel Levy and claims BOS Certs and carbon savings on those disposals². None of these account holders incur a biofuel obligation as they do not place diesel or gasoline on the market.

One company, Green Gas Generation, applied for a BOS account at the end of 2020 – the application has since been approved.

2.3.3 Fuel Suppliers

NORA wrote to all fuel suppliers at the end of 2019 to inform them of their responsibilities under SI 160 and their designation as fuel suppliers. In addition to the obligated parties listed in section 2.3.1 and the biofuel producers listed in section 2.3.2, the following companies are designated as fuel suppliers and are also BOS account holders:

1. Flogas
2. Naturgy

¹ The Online Levy Application (OLA) reporting system is used by Obligated Parties to report monthly disposals of oil products to the DECC.

² Biofuel producers and suppliers have some discretion in how they participate in the BOS. A biofuel producer operating in Ireland can choose between paying the Biofuel Levy and claiming the BOS Certs and carbon savings or providing the sustainability information to the company to which it sold the biofuel and allowing it to pay the Biofuel Levy and claiming the BOS Certs and carbon savings. While there is some flexibility in the supply chain with respect to the entity that pays the Biofuel Levy, it is a requirement that a Biofuel Levy is paid and the company that pays it is the only company that can apply for the BOS Certs and carbon savings.

3. Bord Gáis

A BOS account was also opened for Brookfield Renewables (an electricity supplier), for whom participation in the scheme is optional, as it wished to claim carbon savings for the electricity it supplied to electric vehicles during 2020.

2.4 ENGAGEMENT WITH BOS PARTICIPANTS

Throughout the 2020 obligation period, and during the weeks following the end-of-period reconciliation, the BOS Team maintained regular contact with all BOS participants.

NORA's website is used to host all BOS documents (procedures, guidance notes, application forms, etc.) that are likely to be required by the BOS participants.

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 2020, 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 three briefing sessions during the year. The first was held March, the second in September, and the third in December. The sessions were attended by nearly all account holders and followed a similar agenda:

1. Provide an update on BOS performance.
2. Highlight any recurring problems with BOS Cert and carbon savings applications or the data contained therein (the problems and data are anonymised).
3. Set out 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 DECC).
6. Provide an update on industry's perspective (typically by BOS account holders).

The sessions are relatively informal and provide a forum for open discussion, which is welcomed and encouraged (two of the sessions were held online, due to covid restrictions).

3 BIOFUEL OBLIGATION ACCOUNTS

This section explains how NORA met the principal obligations and responsibilities that were placed on the Agency to implement and administer the BOS, and the requirements of SI 160, over the 2020 obligation period.

3.1 ACCOUNT SET UP & CLOSURE

A BOS account was set up for one company during 2020, Brookfield Renewable Ireland. Brookfield is an electricity supply company and the account was set up to allow it to submit an application for carbon savings. Companies that supply electricity to electric vehicles are not required to participate in the scheme.

3.2 MANAGING BIOFUEL OBLIGATION ACCOUNTS

All the account files maintained for BOS account holders employ a standard work-breakdown-structure (WBS) 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. Encrypted back-up copies are made daily to a secure off-site data centre.

The Control and Reconciliation (C&R) spreadsheet (9) and the BOS Online System (BOSOS) record all BOS transactions. Data on disposals of petroleum-based transport fuels and biofuels are transferred to the C&R and BOSOS from the monthly returns made by BOS account holders³. The BOSOS is a web-based platform through which account holders submit applications for BOS Certs & carbon savings, and transfer Certs & carbon savings 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 format⁴ and are stored in a database. The system also provides account holders with data on their BOS and SI 160 obligations, the number of BOS Certs held in their respective account and progress towards the 6% carbon intensity reduction target. It also enables them to view interim and final statements of account, as required under the BOS Act.

Unlike other transport fuels, there is no clear existing means of determining the proportion of gasoil supplied to the market that is intended for use as a transport fuel. SI 160 only applies to gasoil supplied for transport purposes and not that supplied for generators or boilers, i.e. stationary machinery. NORA requires 10 ppm gasoil suppliers to report 80% of the total volume of gasoil as gasoil for transport.

³ Returns made to DECC via the OLA system.

⁴ CSV: Comma-separated Value. It is a common file type which can be opened by many different programmes.

3.3 ISSUING BIOFUEL OBLIGATION CERTIFICATES AND CARBON SAVINGS

There is a standard procedure in place for issuing BOS Certs and carbon savings (8). There is also a comprehensive guidance document to accompany the procedure (10). A standard template is used by the BOS Team when checking all applications for BOS Certs and carbon savings, and for recording NORA's authorisation or refusal.

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.

Details of the number of applications for BOS Certs and carbon savings received by NORA and of the number of Certs issued and transferred are provided in Section 4. Section 5 reports on compliance with SI 160.

In 2020, applications for two BOS Certs per litre were received in respect of eight feedstocks: used cooking oil (UCO), category 1 tallow, palm oil mill effluent (POME), whey permeate, waste starch slurry, sewage sludge, food waste, and brewer's spent yeast. Determinations were made in previous years for six of the feedstocks (UCO, cat 1 tallow, POME, whey permeate, waste starch slurry and sewage sludge). A determination was completed and approved during 2020 for brewer's spent yeast and the application for two BOS Certs per litre for biofuel produced from food waste was rejected.

3.4 CANCELLING BIOFUEL OBLIGATION CERTIFICATES

Section 44L of the BOS Act 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 to cancel such Certs, if the biofuel is subsequently exported from the State. This obligation remains even if the biofuel has been sold 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 2020 obligation period.

3.5 REVOKING BIOFUEL OBLIGATION CERTIFICATES

Section 44M allows for NORA to revoke a BOS Cert in certain circumstances. As part of the annual audit programme, which is described in more detail in Section 4.8, NORA revoked 12,689 BOS Certs awarded during the 2019 period, and 11,300 BOS Certs awarded during 2020.

3.6 OUT OF DATE CERTIFICATES

All BOS Certs carried forward from 2018 into 2020 were discharged against the 2020 obligation. In total, 5,557,494 BOS Certs from 2018 were carried forward into the 2019

The Biofuels Obligation Scheme 2020

period. An additional 769,220 Certs from the 2018 period were awarded following an audit, which is described in more detail in Section 4.8. Thus, in total, 6,326,714 Certs from 2018 were discharged.

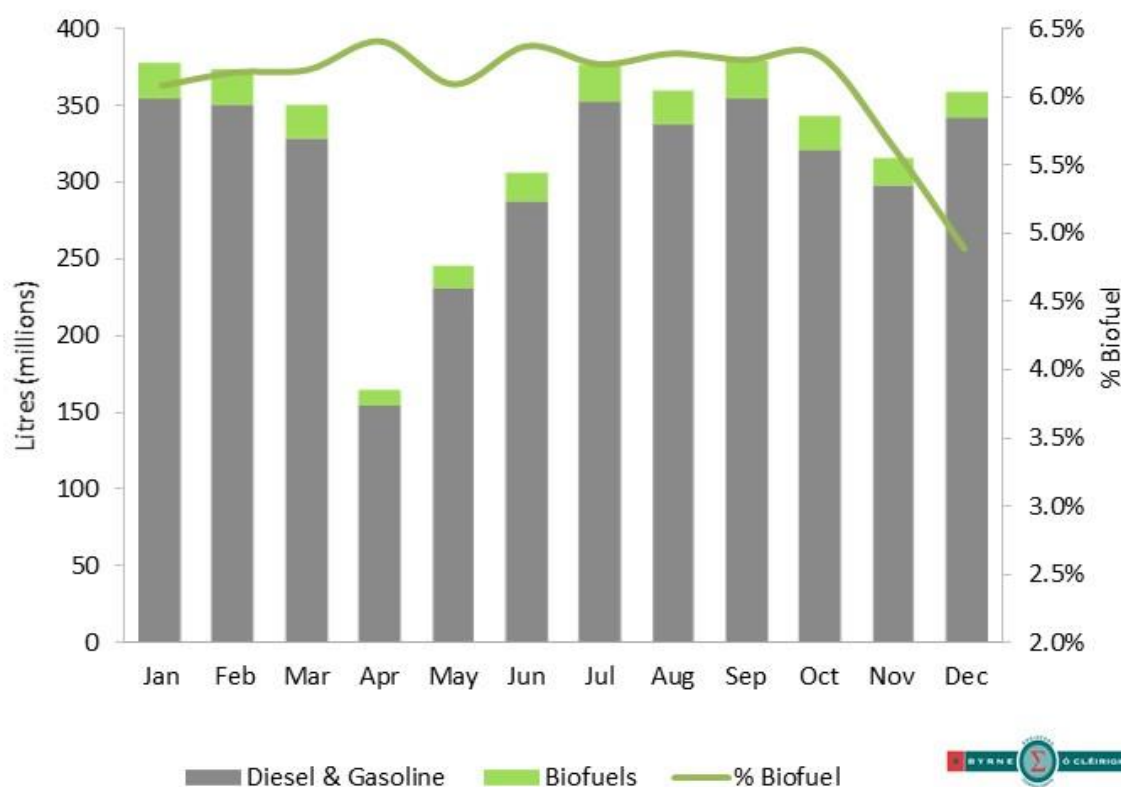
4 COMPLIANCE WITH BOS OBLIGATION

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 2020 obligation period.

4.1 RELEVANT DISPOSALS

According to the returns made by obligated parties throughout the obligation period – January to December 2020 – approximately 3.9 billion litres of road transport fuel was disposed of (the distribution of these disposals over the period is illustrated in Figure 3). Accordingly, the biofuel obligation amounted to 458m litres.

Figure 3: Monthly Disposals of Road Transport Fuel

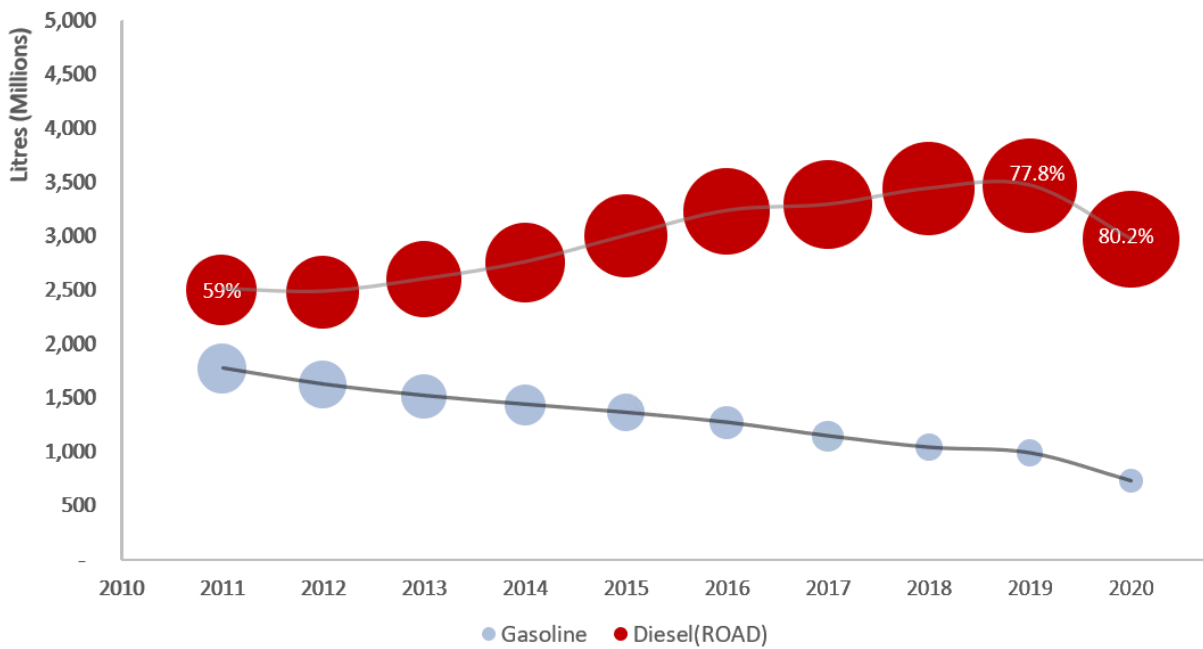


Average monthly sales of road transport fuels for the 2020 period were approximately 328m litres. This was a decrease of approximately 16.5% in comparison to average monthly sales during 2019. It can be seen from Figure 3 that monthly sales in April to June were significantly below the rest of the year and can be attributed to travel restrictions imposed by Government in response to the Covid-19 pandemic.

Figure 4 illustrates the trend in the fossil fuel sales since 2011 and the increasing share of diesel in the transport market (illustrated by the size of the circle).

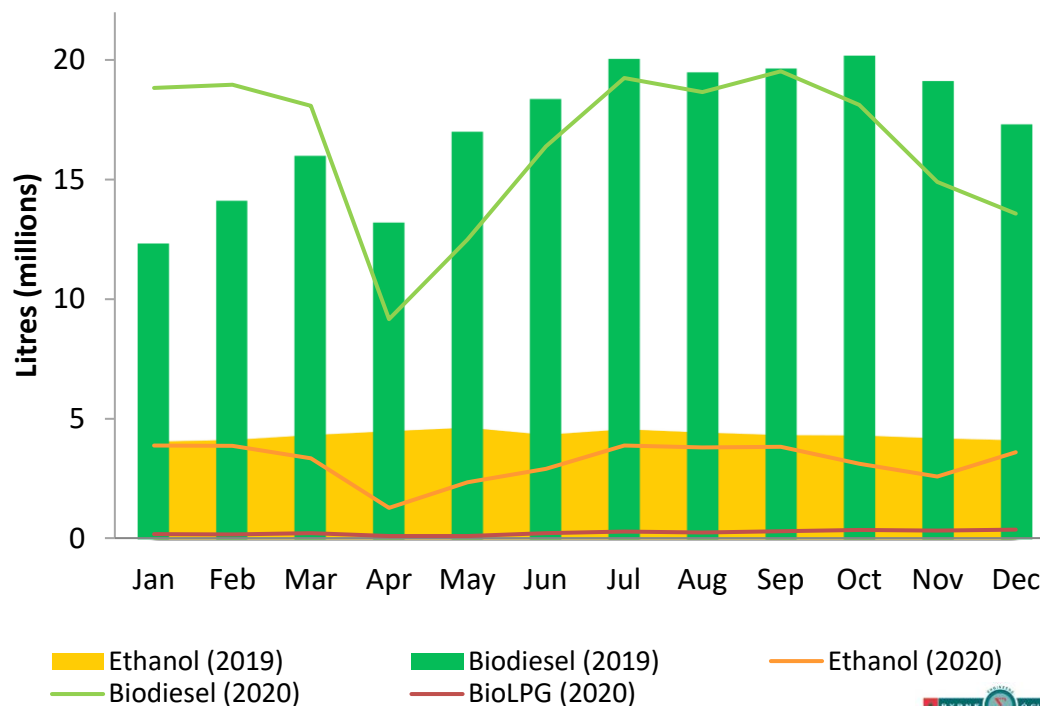
The Biofuels Obligation Scheme 2020

Figure 4: Fossil fuel Sales (2011 – 2020)



The following plot illustrates the breakdown between the monthly disposals of biodiesel, bioethanol and bioLPG for the 2019 and 2020 periods. In total, 239m litres of biofuel were placed on the market in 2020, which was a decrease of 8% in comparison to 2019.

Figure 5: Monthly Disposals of Biofuel



On average over the 2020 period, biodiesel sales represented 83% of the total biofuel sales while bioethanol accounted for 16% (it was 79% biodiesel and 20% bioethanol in 2019) – bioLPG accounted for 1% of biofuel disposals in 2020.

The Biofuels Obligation Scheme 2020

There were some fluctuations in the percentage of biodiesel placed in the market, ranging from a monthly maximum of 6.6% in April to a minimum of 4.8% in December; over the year, the average was 6.3%⁵. The equivalent figure for the 2019 period was 5.6%.

The trend over time for bioethanol and biodiesel disposals, and their relative share of the biofuel market (illustrated by the size of the circles), is shown in Figure 6.

Figure 6: Bioethanol and biodiesel disposals

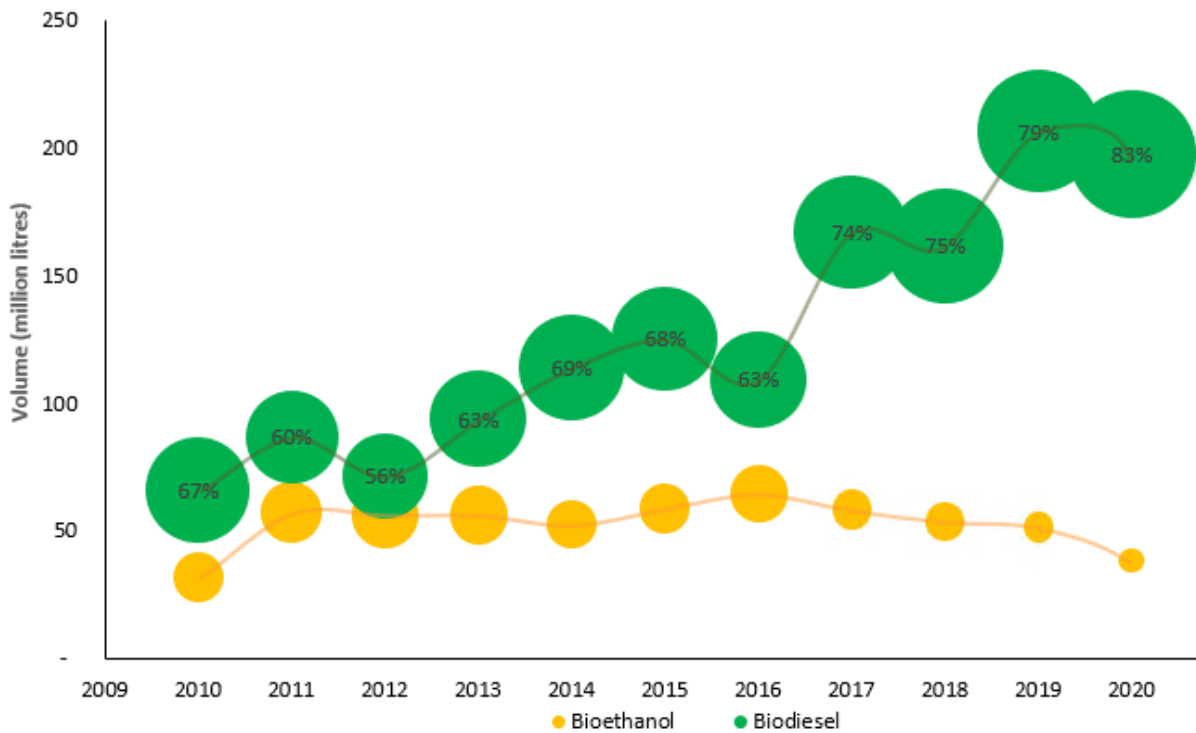


Table 1 provides the data on which Figure 4, Figure 5 and Figure 6 are based.

⁵ As a percentage of the total volume of diesel and biodiesel placed on the market.

The Biofuels Obligation Scheme 2020

Table 1: Breakdown of disposals, by volume

Year	% Fossil		% Biofuel			% of disposals		
	Diesel	Gasoline	Biodiesel	Bioethanol	BioLPG	Diesel & biodiesel	Gasoline & bioethanol	BioLPG
2011	59	41	60	40		59	40	
2012	60	40	56	44		60	40	
2013	63	37	63	37		63	37	
2014	66	34	69	31		66	34	
2015	69	31	68	32		69	31	
2016	72	28	63	37		71	29	
2017	74	26	74	26		74	26	
2018	76.8	23.2	74.9	24.9	0.2	76.7	23.3	0.01
2019	77.8	22.2	79.4	19.9	0.8	77.9	22.1	0.04
2020	80.2	19.8	82.8	16.1	1.2	80.4	19.6	0.07

Since 2011, the first full year of the BOS, the volume of biodiesel placed on the market has increased by 127% and diesel by 19%. Given that 2020 was not a typical year with travel restrictions in place for most of the year, the magnitude of the increase in demand for biodiesel and diesel is very likely to be understated (between 2011 and 2019, the increase was 137% for biodiesel and 39% for diesel).

The volume of bioethanol placed on the market has decreased by 33% and gasoline by 59%. Again, given that 2020 was not a typical year with travel restrictions in place for most of the year, the magnitude of the decrease in demand for bioethanol and gasoline is very likely to be overstated (between 2011 and 2019, the decrease was 10% for bioethanol and 44% for gasoline)

Because gasoline and bioethanol have a lower calorific value (i.e. contain less energy per litre) than diesel and biodiesel, when the breakdown between diesel and gasoline is examined on an energy basis, the reliance on diesel is more pronounced. The annual breakdown is shown in Table 2 for the overall blend.

Table 2: Breakdown of disposals, by energy

Year	% Diesel & biodiesel	% Gasoline & bioethanol
2012	63	37
2013	66	34
2014	69	31
2015	71	29
2016	74	26
2017	77	23
2018	79	21
2019	80	20
2020	82	18

4.2 BIOFUEL OBLIGATION CERTIFICATES

During the 2020 obligation period, approximately 457m Certs were awarded in respect of disposals of 239m litres of biofuels. Approximately 198m litres of biodiesel were placed on the market and practically all of it was awarded two Certs per litre because the feedstock was categorised as a waste or residue.

Of the biodiesel that was double counted, c. 161m litres was produced from UCO (81%), 36m litres from Category 1 Tallow (18%) and the remainder from Palm Oil Mill Effluent (POME).

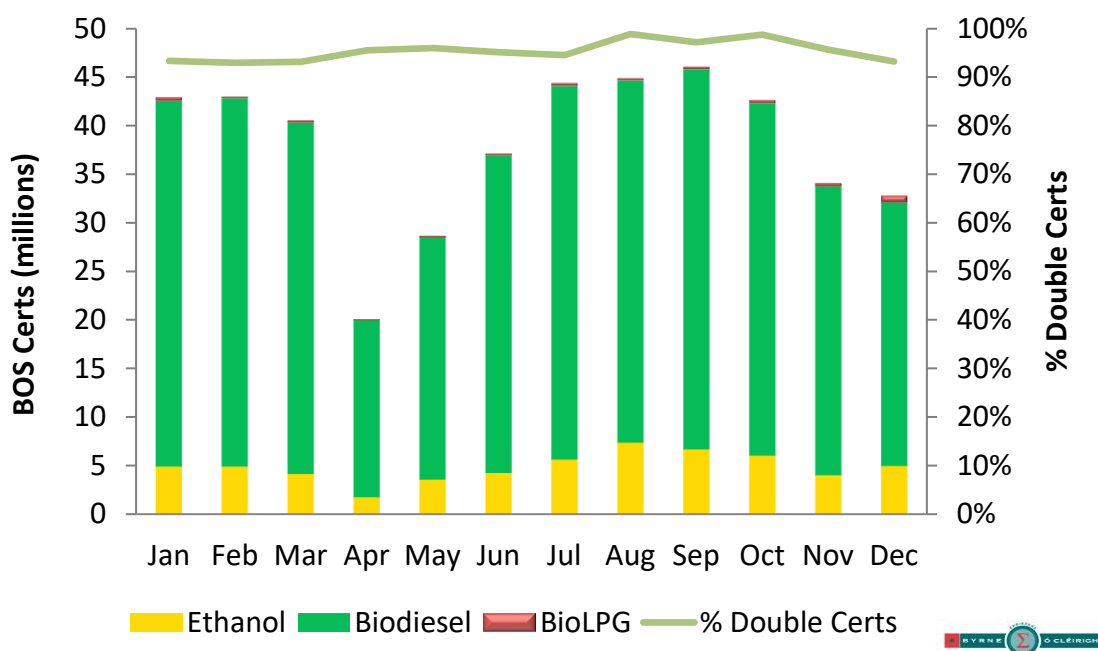
Biodiesel accounted for 83% of the biofuel supplied to the market with bioethanol accounting for 16% and bioLPG 1% – in 2019, the market split was 79% biodiesel, 21% bioethanol and <1% bioLPG. As a consequence of all the biodiesel being awarded two BOS Certs per litre, 87% of BOS Certs awarded in 2020 were in respect of biodiesel disposals.

There was approximately 38m litres of bioethanol placed on the market and 20m litres of it was awarded two BOS Certs per litre. All double-counted bioethanol was produced from either whey permeate or starch slurry.

There was approximately 3m litres of bioLPG placed on the market; approximately 23% was awarded two BOS Cert per litre as it was produced from UCO. The remainder was single counted and the majority was produced from palm oil.

The number of BOS Certs awarded each month is illustrated in Figure 7.

Figure 7: No. of BOS Certs Awarded



4.3 BOS ACCOUNT HOLDER POSITION

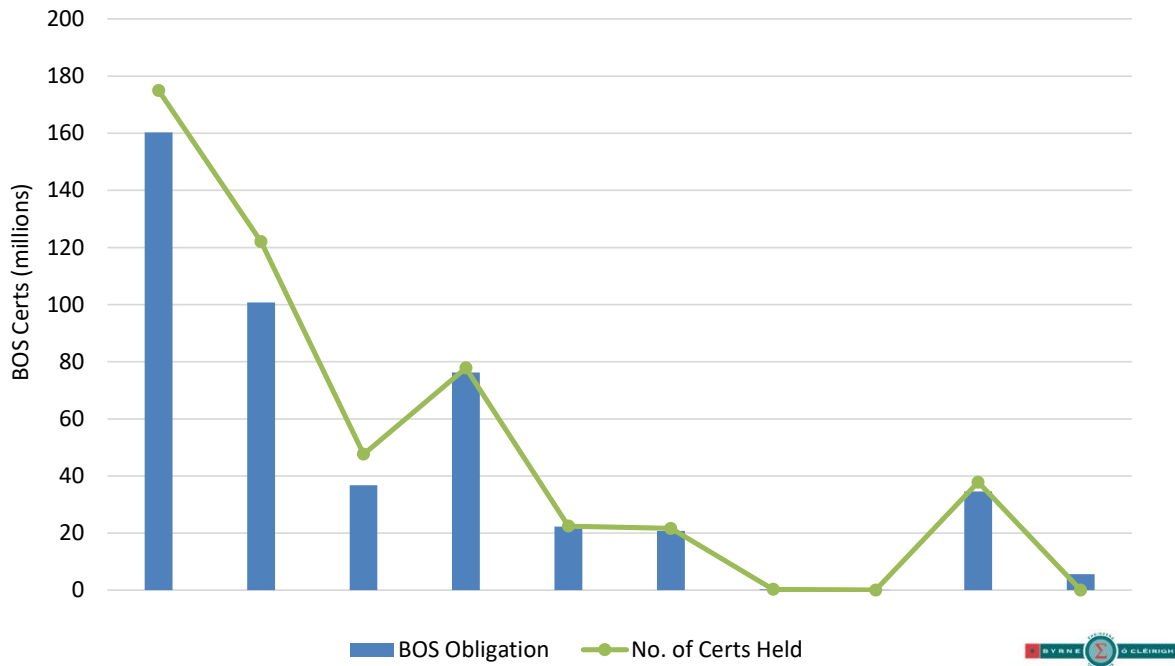
There were fifteen open BOS accounts at the start of 2020: ten were held by obligated parties and five by biofuel producers/suppliers. (There were three additional BOS account holders that had no biofuel obligation and did not place any biofuel on the market but were required to participate in the BOS as they were deemed to be designated fuel suppliers under SI 160 of 2017.)

The number of BOS Certs held by each account holder at the time of discharge and their respective obligations are illustrated in Figure 8.

Companies that chose to participate in the BOS because they are producers or suppliers of biofuels do not have a biofuel obligation as they are not liable for the NORA Levy on fossil fuel disposals. If they wish to claim the BOS Certs in their own name, they must pay the Biofuel Levy. Between them, the five biofuel producers / suppliers paid the Levy on approximately 13m litres of biofuel and were awarded 26m Certs; this represents 6% of BOS Certs awarded in 2020.

The Biofuels Obligation Scheme 2020

Figure 8: 2020 Biofuel Obligation

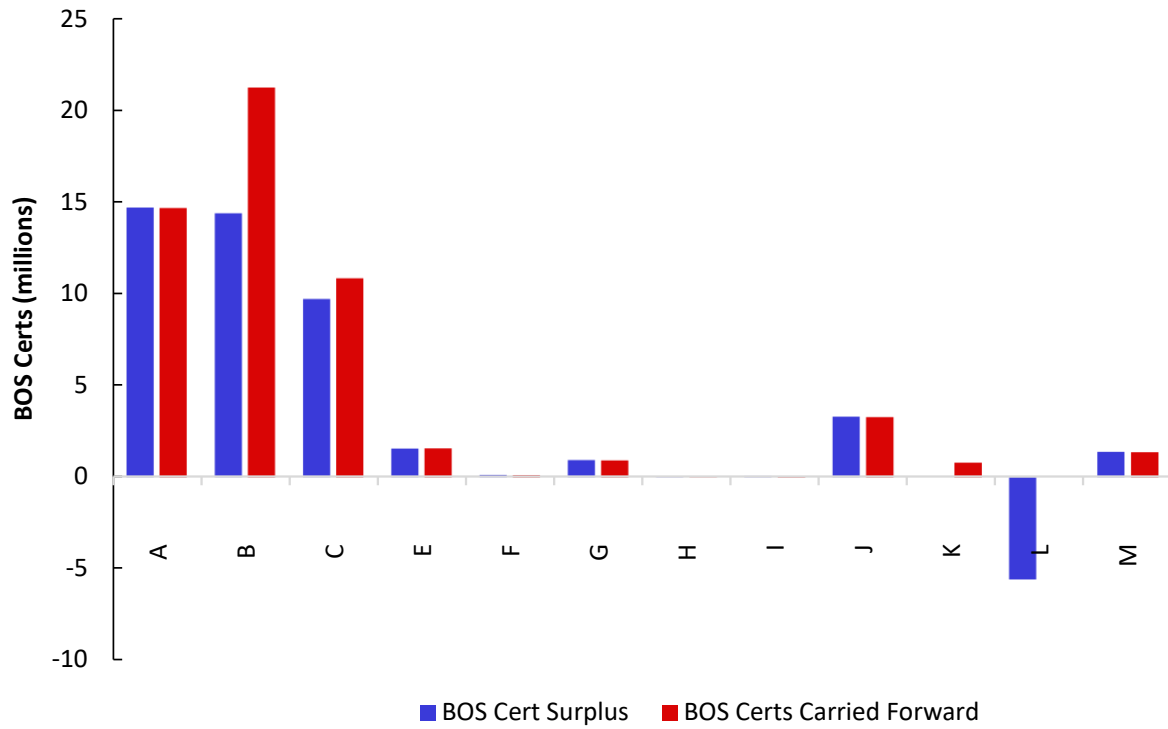


There were approximately 49m Certs carried forward to the 2020 obligation period, of which 6m were from the 2018 period and 43m from the 2019 period. Approximately 1m additional 2019 Certs were awarded during 2020 following an audit of the 2019 Levy Returns. Therefore, at the end of the 2020 period, there were approximately 50m Certs from previous periods available for discharge. This represented 11% of all Certs held at the end of the 2020 period.

Figure 9 shows the surplus/deficit positions for each account holder and the number of BOS Certs that have been carried forward to the 2021 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 15% limit – the Certs carried forward includes those Certs held in excess of the 15% limit.

The Biofuels Obligation Scheme 2020

Figure 9: BOS Cert Surplus & Carried Forward



One account holder was in a deficit position and became liable for the buy-out charge.

4.4 OVERALL PERFORMANCE AGAINST OBLIGATION

Table 3 provides a breakdown of the key BOS metrics.

Table 3: BOS Metrics

Description	Unit	Value
Total disposal of petroleum-based, road transport fuel*	litres	3,702,537,270
<i>Gasoline</i>	litres	733,316,847
<i>Diesel</i>	litres	2,969,220,423
Total disposal of biofuel**	litres	239,148,798
<i>biofuel as bioethanol</i>	litres	38,389,588
<i>biofuel as biodiesel</i>	litres	197,963,124
<i>bioLPG</i>	litres	2,796,086
Volume of biofuel for which one BOS Cert per litre was issued	litres	20,959,901
Volume of biofuel for which two BOS Certs per litre were issued	litres	218,113,629
Volume of biofuel for which BOS Certs were rejected	litres	0
No. of BOS Certs Revoked	Certs	11,588
Volume of biofuel (levy-paid) for which BOS Certs went unclaimed	litres	75,268
Number of BOS Certs required to meet obligation	Certs	457,596,581
Total number of BOS Certs issued during 2020	Certs	457,187,159
Number of BOS Certs carried forward from previous period held	Certs	49,747,927
Surplus of BOS Certs***	Certs	46,052,396
Liability for Buy-out Charge	€	2,510,442
Number of BOS Certs no longer valid	Certs	0
Number of valid BOS Certs carried forward to 2021 period	Certs	54,905,965
* This is the quantity on which the NORA Levy was paid. ** This is the quantity on which the Biofuel Levy was paid. *** This omits those Certs that could not be discharged because an account holder exceeded the 15% limit.		

The volume of biofuel produced from biodegradable waste, residue, non-food cellulosic material, ligno-cellulosic material or algae, i.e. wastes and residues, represented 96% of the biofuel supplied to the market during the 2020 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 12.35%. When the BOS Certs carried forward from the 2018 and 2019 periods are included, this value increases to 13.67%. Against this, the obligation was 12.36%, so, overall, the biofuel obligation for 2020 was met. Notwithstanding the overall market position, a buy-out was charged in respect of a BOS account deficit of c.5.6m litres on one BOS account.

The Biofuels Obligation Scheme 2020

In total, approximately 55m BOS Certs have been carried forward to the 2021 period.

4.5 BIOFUEL FEEDSTOCK

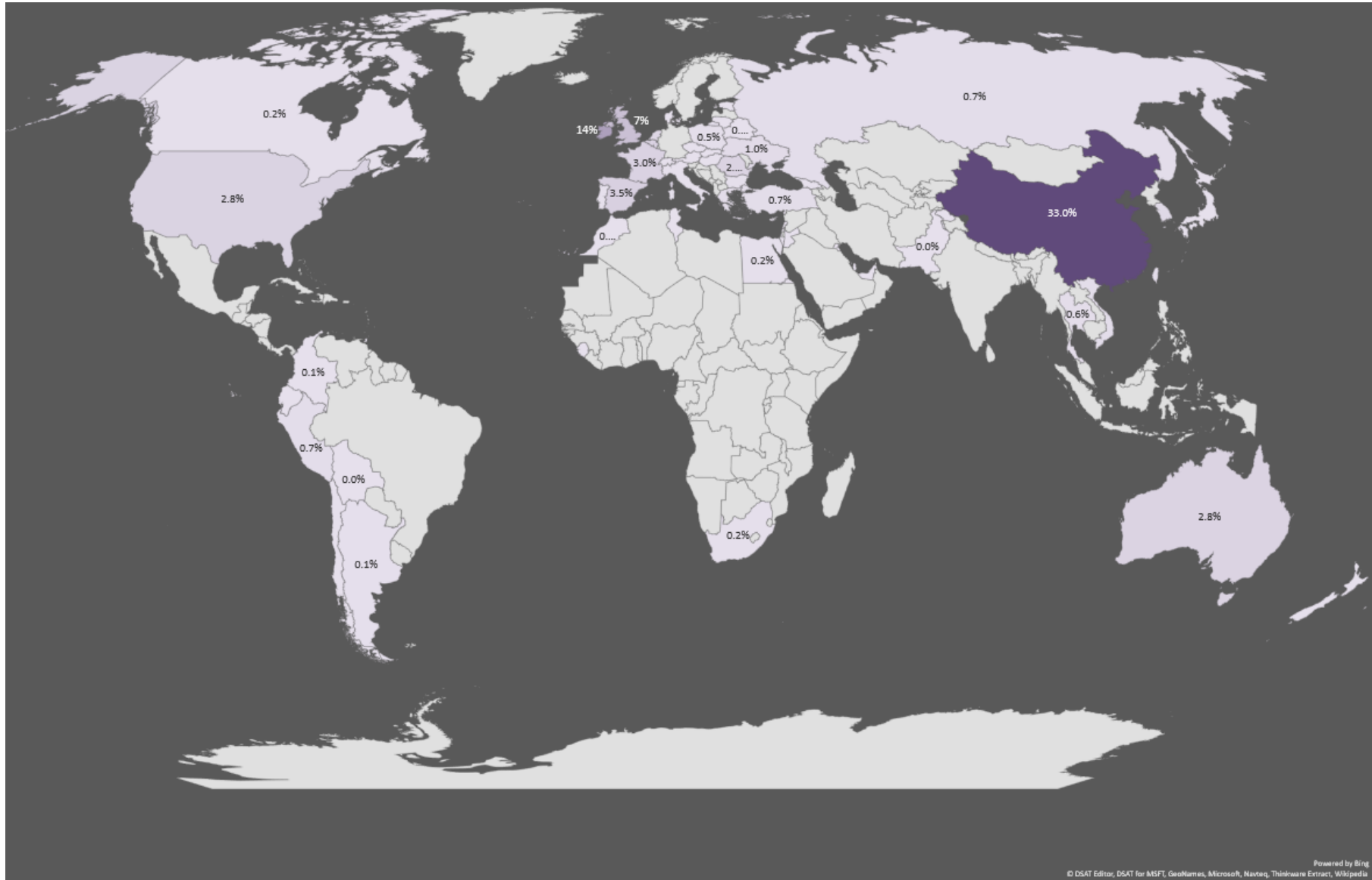
Table 4 overleaf provides a breakdown of all the biofuel feedstocks reported in the sustainability statements and their country of origin. Most of the feedstocks were sourced from Asia (52%). The country to supply the greatest quantity of feedstocks for biofuels placed on the Irish market was China (33%); 14% was sourced from Ireland.

It is also worth noting that 67% of all the biofuel placed on the market in Ireland is produced from UCO.

Figure 10 on page 23 illustrates the locations from which the biofuel feedstocks are sourced and the proportion that comes from those locations.

The Biofuels Obligation Scheme 2020

Figure 10: Sources of Biofuel Feedstocks



4.6 VOLUNTARY SCHEMES

While there are currently 14 EU approved Voluntary Schemes in operation, biofuel from just two Voluntary Scheme was reported in BOS Sustainability Statements: ISCC (International Sustainability and Carbon Certification) and REDcert. ISCC accounted for the majority (>99%).

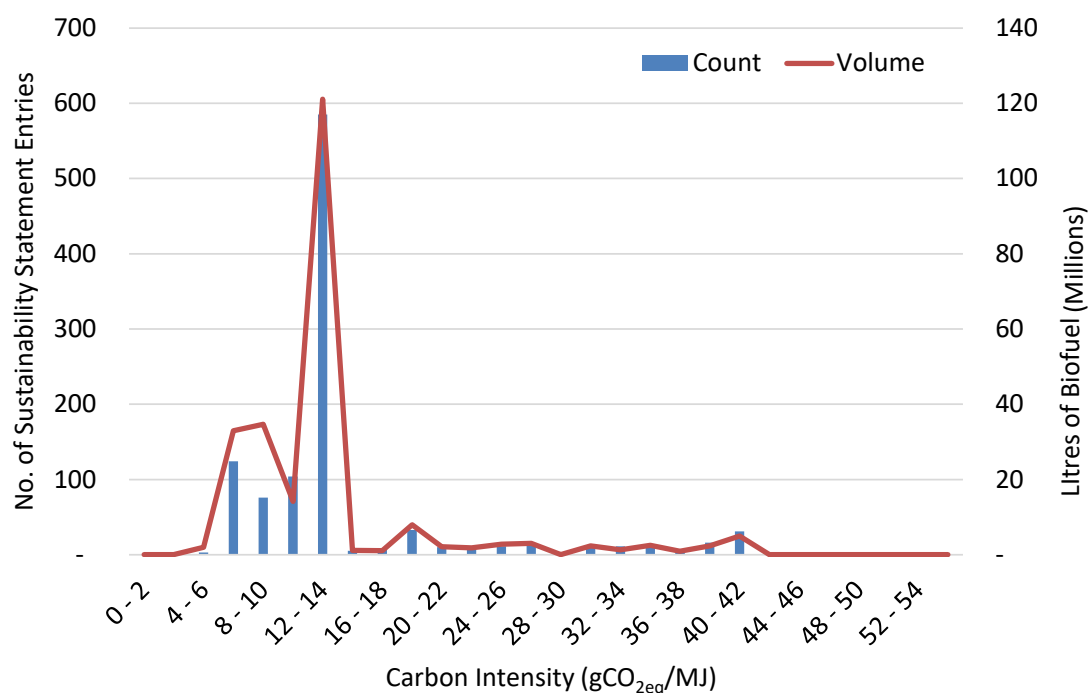
4.7 GHG SAVINGS

4.7.1 Overview

A central requirement of the RED and the Sustainability Regulations is that biofuels achieve at least a 50% reduction in carbon intensity (GHG emissions) in comparison to fossil fuels⁶ (increases to 60% for biofuel production plants coming into operation after October 2015). The average litre of biofuel placed on the market in Ireland in 2020 had a lifecycle carbon intensity of c. 13.5 gCO_{2eq}/MJ, which represents an 84% reduction in comparison to road transport fossil fuel.

There were approximately 1,000 individual consignments (entries) reported in the sustainability statements. The volume reported in each entry ranged from of a single litre of biofuel to over 4 million litres. The following plot illustrates the range of carbon intensity values reported and how those in the 12 to 14 gCO_{2eq}/MJ range dominate. (The bar chart represents the number of entries; the line represents the volume of biofuel.)

Figure 11: Profile of Carbon Intensities



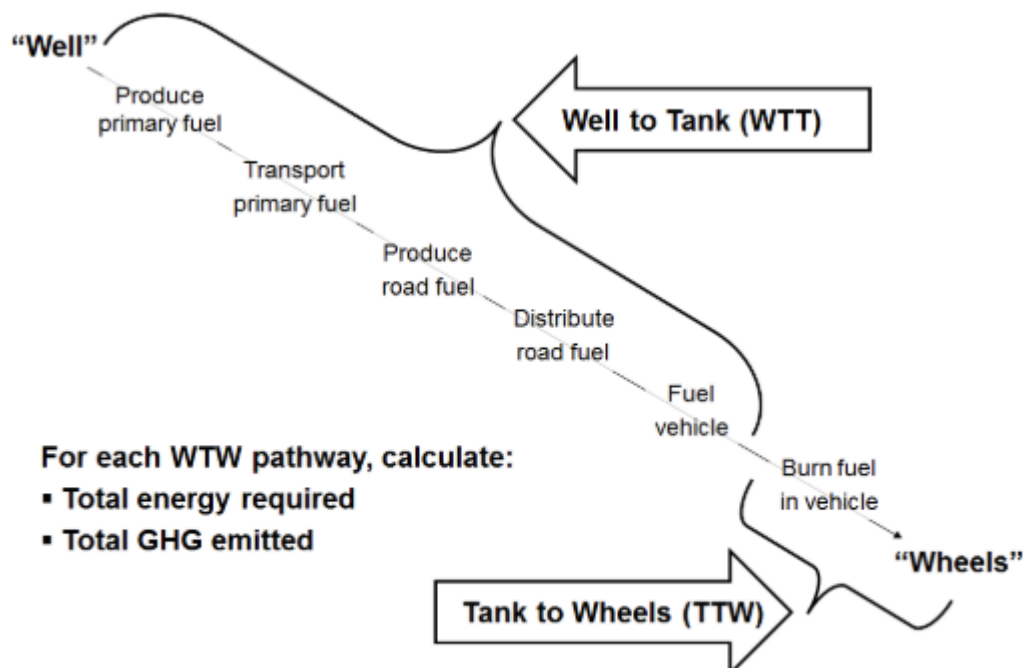
⁶ A baseline carbon intensity of 83.8 gCO_{2eq}/MJ for petrol and diesel is specified in Annex V of the RED. The GHG savings requirement was increased to 50% in 2018.

The Biofuels Obligation Scheme 2020

There is no methodology provided in the RED for calculating the national GHG savings. In previous Annual Reports, the BOS Team's approach has been to calculate the GHG emissions from the biofuels placed on the market and to compare that to the total GHG emissions that would have been emitted from the road transport sector⁷ had there been no biofuels consumed. Taking into account the lower calorific content of biofuel in comparison to fossil fuel⁸, approximately 209m litres of fossil fuel were displaced by biofuel as a consequence of placing 239m litres of biofuel on the market. Based on an average biofuel carbon intensity of 13.5 gCO_{2eq}/MJ and using the fossil fuel comparator provided in Annex V of the RED (83.8 gCO_{2eq}/MJ), substituting fossil fuel with biofuel resulted in a reduction of approximately 520kt of CO_{2eq} emissions.

This equates to an overall saving of approximately 4.5% in lifecycle GHG emissions from the road transport sector as a consequence of achieving a biofuel penetration rate of 6.1%, by volume (5.4% by energy). It is worth noting that these emission savings are over the lifecycle 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, i.e. tank-to-wheel emissions, are assumed to be zero. The concept is illustrated in Figure 12 and is different from tailpipe, or tank-to-wheel, emissions.

Figure 12: Well-to-wheel (WTW) illustration



Graphic representation of Well-to-Wheels Analysis

©EU, 2016

⁷ While the RED requires energy consumed in road and rail to be taken into account, the BOS only applies to road transport.

⁸ 32 & 36 MJ/litre for gasoline and diesel versus 21 & 33 MJ/litre for bioethanol and biodiesel, respectively. The calorific value of bioLPG is 24 MJ/litre.

The Biofuels Obligation Scheme 2020

Article 7a of the Fuel Quality Directive (FQD) (4), which was transposed into Irish law by SI 160 of 2017 and also applies to road transport fuel, requires a 6% reduction in carbon intensity by 2020. Compliance with SI 160 is described further in Section 5.

4.7.2 Analysis of Sustainability Statements

Article 17 of the RED specifies that a biofuel must achieve a 50% reduction in carbon intensity, which equates to a maximum carbon intensity value of 41.9 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 in 2020.

Table 5: Range of carbon intensity reported in sustainability statements, by fuel type

Fuel Type	Description	Carbon Intensity (gCO _{2eq} /MJ)			Default Values ⁹
		Min	Avg	Max	
ME	Methyl Ester ¹⁰ (Biodiesel)	6.0	11.9	14.0	14.2 ¹¹
EtOH	Bioethanol	10.9	26.1	42 ¹²	-
BioLPG	LPG produced from biomass	5	19.6	24.0	-

⁹ The Default Values from Annex V of the RED are reported where available.

¹⁰ Also known as Fatty Acid Methyl Ester, or FAME

¹¹ The default value from Annex V of the RED is 14.2 gCO_{2eq} / MJ (17% of fossil fuel comparator (83.8 gCO_{2eq} / MJ)). The UK & Ireland carbon calculator default value for waste animal or vegetable oil (i.e. UCO or Tallow) is 14 gCO_{2eq} / MJ.

¹² The UK & Ireland carbon calculator rounds to the nearest whole number. While values of 42 gCO_{2eq}/MJ were recorded in the BOS, the proofs of sustainability provided to support the applications showed a carbon intensity value of 41.8 gCO_{2eq}/MJ, which is below the GHG savings threshold of 41.9 gCO_{2eq}/MJ. This was amended during 2020 to facilitate reporting to one decimal place.

The Biofuels Obligation Scheme 2020

Table 6: Range of carbon intensity reported in sustainability statements, by feedstock

Fuel Type	Feedstock	Description	Carbon Intensity (gCO _{2eq} /MJ)			Default Values
			Min	Avg	Max	
Bioethanol	ECCORN	Corn – EC	25.0	26.5	34.0	42.7
	BARL	Barley	20.0	29.3	33.0	
	NECCOR	Corn – Non EC	32.0	38.2	42.0 ¹²	-
	WHEAT	Wheat	27.0	36.0	40.0	-
	WHEY	Whey permeate	10.9	15.0	20.1	-
	SBEET	Sugar beet	40.0	40.0	40.0	40.2
	SCANE	Sugar cane	16.0	16.3	24.0	24.3
	STSL	Starch slurry	16.4	24.1	35.9	-
Biodiesel	UCO	Used cooking oil	6.0	11.5	14.0	14.2
	TALL1	Tallow – category 1	14.0	14.0	14.0	14.2
	POME	Palm oil mill effluent	11.0	11.0	11.0	-
BioLPG	PALM	Palm oil	17.6	22.6	24.0	-
	UCO	Used cooking oil	5.6	9.2	14.0	
	PFAD	Palm fatty acid distillate	5.0	5.0	5.0	

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 of the RED.

The Biofuels Obligation Scheme 2020

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	5,752,439	5,752,439	100
	BARL	Barley	157,172	157,172	100
	NECCOR	Corn – Non EC	7,850,979	7,850,979	100
	WHEAT	Wheat	1,903,378	1,638,022	86.1
	WHEY	Whey permeate	10,388,181	10,388,181	100
	SBEET	Sugar beet	2,078,073	0	0
	SCANE	Sugar cane	1,053,440	1,010,898	96
	STSL	Starch slurry	9,217,226	9,217,226	100
Biodiesel	UCO	Used cooking oil	160,812,428	77,698,355	48.3
	TALL1	Tallow – category 1	35,806,200	0	0
	POME	Palm oil mill effluent	1,257,927	1,257,927	100
BioLPG	PALM	Palm oil	2,163,420	2,163,420	100
	UCO	Used cooking oil	631,666	631,666	100
	PFAD	Palm fatty acid distillate	1,000	1,000	100
*Actual values were used for the entire fuel chain or for the cultivation step.					

In 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 further investigate the sustainability of the biofuel¹³.

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 was carried out during 2020.

The Summary Audit Report (11) describes the findings from the plenary, desk-based audit and the on-site audits, and contains recommendations on what actions could be undertaken to rectify any errors 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 and carbon savings.

¹³ The RED 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.

The Biofuels Obligation Scheme 2020

In most 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. However, discrepancies were found. The most significant was that denaturant, which is a fossil fuel, was reported as bioethanol in the OLA Return and in the applications for BOS Certs and carbon savings. Upon correcting the mistake, by revoking 12,689 BOS Certs, the BOS Account Holder was in a BOS Cert deficit position for the 2019 period and became liable for buy-out charge of €6,214.

This incorrect reporting of denaturant as biofuel also affected the company's 2020 Levy Returns and gave rise to a requirement for NORA to revoke 11,300 BOS Certs and 14 tCO_{2eq} savings awarded during 2020.

Several discrepancies were also found that required a BOS account holder to resubmit the Levy Returns for January to June 2019. Following the resubmission, the company was refunded approximately €4,500 for a marine gasoil reporting error in January, and an *ad hoc* award of 769,221 BOS Certs was made to correct for overstating the quantity of fossil fuel it placed on the market in 2019, which gave rise to too many BOS Certs being discharged against its 2019 biofuel obligation.

In addition to these notable findings, there were several examples of companies not retaining Revenue's 1132 forms to substantiate all marine gasoil refunds, as required by DECC's '*NORA Levy Returns Guidelines and Online Levy Application (OLA) User Manual*'. While companies retained 1132 forms in some instances, other forms of documentation were also claimed as supporting evidence. One of the recommendations arising from this finding was to provide online access to the most recent version of the User Manual, and any additional guidance DECC may decide to provide.

Auditing BOS account holders is an annual task carried out by the BOS Team. The 2020 data will be audited during 2021.

4.9 CROP CAP

The RED limits the contribution from biofuels produced from '*cereal and other starch-rich crops, sugars and oil crops and from crops grown as main crops primarily for energy purposes on agricultural land*' to 7% of final energy consumption in transport in 2020. This limit was transposed into Irish law by SI 169 of 2018. The limit is not, however, imposed on fuel suppliers, i.e. fuel suppliers may take into account all sustainable crop-based biofuels placed on the market to meet their BOS obligations.

Total energy consumption in road transport in 2020 was approximately 137.8 PJ. There were 21m litres of crop-based biofuels placed on the market in 2019 (shown in Table 7), which equates to approximately 0.5 PJ. Thus, crop-based biofuels contributed <1% towards final energy consumption in road transport – if the energy consumed in rail was also included, the contribution of crop-based biofuels would reduce marginally.

4.10 ADVANCED BIOFUEL TARGET

The ILUC Directive set a target of 0.5% for Member States for biofuels produced from Annex IX Part A feedstocks – the so-called ‘advanced biofuel target’. SI 169 of 2018 transposed this requirement, but set a lower national target of 0.25%, which is facilitated by the Directive under certain circumstances. As is the case with the crop cap, the advanced biofuel target is not imposed on fuel suppliers, i.e. fuel suppliers are not required to place biofuels produced from Annex IX Part A feedstocks on the market in order to meet a 0.25% target.

Total energy consumption in road transport in 2020 was 137.8 PJ. There were approximately 1.2m litres of advanced biofuels placed on the market in 2020 (namely biodiesel produced from POME, as shown in Table 7), which equates to approximately 0.08 PJ after double counting. Thus, advanced biofuels contributed approximately 0.06% towards final energy consumption in road transport – if the energy consumed in rail was also included, the contribution of advanced biofuels would reduce marginally.

5 COMPLIANCE WITH SI 160

5.1 OVERVIEW

Article 7a of the FQD was transposed into Irish law in April 2017 by SI 160. It requires fuel suppliers to achieve at least a 6% reduction in the carbon intensity of fuels used in road vehicles, non-road mobile machinery, agricultural and forestry tractors, and recreational craft, by 2020. Compliance with SI 160 is administered via the BOS.

The fuel suppliers responsible for complying with SI 160 of 2017 are, in general, the same companies responsible for complying with the BOS and applications for BOS Certs are combined BOS Cert and carbon savings applications. The BOSOS also accepts applications for carbon savings from electricity used in electric vehicles (EVs) and upstream emission reductions (UERs¹⁴).

The carbon intensity reduction target for each fuel supplier is 6% by 2020. As is the case with the BOS where Certs can be transferred between account holders, fuel suppliers can trade carbon savings to assist with meeting the 6% target. However, unlike the BOS, there are no double counting provisions contained in SI 160 for complying with the 6% target and there is no mechanism for buying-out an obligation.

The scope of SI 160 is broader than the BOS, which only includes for diesel and gasoline used for road transport purposes. In addition to these fuels, SI 160 includes the following fossil fuels used for transport purposes: rail diesel, gasoil, CNG, LPG and LNG.

5.2 COMPLIANCE WITH TARGET

While the 6% target is an individual fuel supplier target, the following table sets out the important compliance metrics, when considering the fuel suppliers in aggregate.

¹⁴ Upstream emissions are all GHG emissions occurring at any facility or infrastructure in the supply chain prior to the facility at which the finished transport fuel is produced. NORA understands that a typical UER project is one that reduces flaring or venting of associated petroleum gases produced during oil extraction

The Biofuels Obligation Scheme 2020

Table 8: SI 160 Metrics

Description	Energy (PJ)	Carbon Savings (tonnes CO _{2eq})
Total disposal of petroleum-based transport fuel	157.20	-113,287
<i>Gasoline</i>	23.47	18,773
<i>Diesel</i>	106.89	-106,892
<i>Gasoil</i>	25.46	-25,463
<i>Rail Diesel</i>	1.30	-1,305
<i>LPG</i>	0.03	561
<i>CNG</i>	0.04	1,039
Total disposal of biofuel	7.40	596,491
<i>Bioethanol</i>	0.81	54,814
<i>Biodiesel</i>	6.53	536,676
<i>BioLPG</i>	0.07	5,001
Applications in respect of electricity consumed in EVs	0.03	1,404
Applications in respect of UERs		0
Carbon savings revoked		14
Total	164.60	484,594
% savings achieved	3.1%	

If all the fuel suppliers are considered as one, a carbon intensity reduction of approximately 3.1% was achieved in 2020. In total, there was 1,404 tCO_{2eq} claimed for electricity supplied to EVs by four electricity suppliers that chose to participate in the scheme.

No carbon savings from UERs were claimed in 2020.

Half the of fuel suppliers achieved the 6% carbon intensity reduction target. NORA did not apply to the High Court for compliance orders for fuel suppliers that did not achieve the 2020 target.

6 OBSERVATIONS ON OPERATING BOS

Overall, the BOS functioned as designed during 2020: applications for BOS Certs and carbon savings were submitted on time on a quarterly basis; the majority of account holders achieved their obligations; and changes to the systems were implemented in accordance with the legislation.

6.1 CHANGES IN 2021 AND THEREAFTER

6.1.1 Biofuel Obligate Rate Change

The biofuel obligation was 11% for 2020 (the legislative requirement was 12.359%, i.e. for every 89 litres of fossil fuel that was placed on the road transport market, an obligated party must have 11 certificates). The obligation will remain the same for 2021.

6.1.2 RED II

The recast Renewable Energy Directive (RED II) was published in December 2018. RED II builds upon the approach and the concepts contained in the RED; ultimately its objective is to put in place measures to assist the EU with reducing greenhouse gas emissions, in compliance with the Union's commitment under the 2015 Paris Agreement on Climate Change and the Union 2030 energy and climate framework.

RED II sets a 14% target for renewable energy in transport by 2030. There are various sub-targets and constraints that are designed to transition the biofuel market away from crop-based biofuels to advanced biofuels (i.e. those predominately produced from wastes and residues) and to limit UCO and tallow derived biofuels. From an administrative perspective, RED II will impact the operation of the BOS and it will require changes to its systems and procedures.

The BOS Team has already made some provision for RED II by categorising BOS Certs in accordance with their feedstocks. For example, biofuels produced from Annex IX, Part A feedstocks are currently awarded Green Certs – once the advanced biofuel target is introduced, Green Certs will be used to measure compliance with this target.

RED II also requires the Commission to develop a Union database to track and trace biofuels through the supply chain. The database is currently being developed, so it is not clear the level of interaction obligated parties and biofuel producers in Ireland will have with the Union database. It is likely, however, that there will be a requirement to enter and/or extract data from it. The BOS Team is engaging with the Commission to ensure the development of the database takes into account any specific needs of Irish obligated parties and biofuel producers, and is preparing NORA's BOS systems and procedures for accommodating the Union database in a timely and efficient manner.

RED II is due to be transposed into Irish law by June 2021. The BOS Team will continue to keep the BOS account holders informed about progress on implementing RED II and its impact on the operation of the BOS throughout 2021.

6.1.3 FQD

In addition to RED II, Article 7a of the FQD, which was transposed into Irish law by SI 160 of 2017, has been undergoing a formal review. In July 2020, the European Commission's Directorate-General for Climate Action launched the review which aims to assess Member States' implementation of Article 7a, and to examine three options to support the progressive reduction of GHG emissions from transport fuels:

1. Continue with the obligation to reduce the GHG intensity of fuels based on the current approach used in FQD and the sustainability architecture for renewable fuels introduced under RED II;
2. Strengthen the obligation to reduce the GHG intensity of fuels;
3. Discontinue the obligation to reduce the GHG intensity of fuels.

Under these options for GHG intensity reduction, the study is also considering the following sub-options:

1. Extending the scope of the fuels covered;
2. Implementing instruments for fuel suppliers, including market-based options.

The review is being carried out in support of the Commission putting in place policy to deliver on the targets set out in the 2030 Climate Target Plan (7), which includes a reduction of overall GHG emissions by at least 55% by 2030 compared to 1990 levels and achieving climate neutrality by 2050.

6.1.4 RED III

In addition to reviewing Article 7a of the FQD, the European Commission is also assessing how much RED II can contribute to the EU's higher climate ambition. Again, this is being carried out in the context of the 2030 Climate Target Plan and the Commission aims to have the proposed revisions prepared by June 2021.

An inception impact assessment was published in August 2020. The objective of this was to inform the public and stakeholders about the Commission's plans for reviewing RED II, to allow them to provide feedback on the intended initiative, and how to participate in future consultation activities. There was a public consultation carried out between November 2020 and February 2021 and there have been two stakeholder events, the most recent of which was held on the 22nd of March 2021.

While it is too soon to determine what impact any proposed revisions to RED II will have on the BOS, it is clear that, even though RED II has yet to be transposed in Ireland, there are likely to be changes made to it over the coming years to reflect greater climate action ambition.

6.1.5 Ireland's Biofuel Policy

The DoT has committed to publishing a revised biofuels policy statement – the previous one was published in April 2018. The intention was to publish the revised statement during 2020, but with the uncertainty over Ireland's national climate action policy, which has been clarified to some extent by the Climate Action and Low Carbon Development (Amendment) Bill 2021 (12), and the revisions being carried out at an EU level of RED II and Article 7a of the FQD, it was delayed. When published, the policy statement should provide an outline of how the BOS will evolve in the coming years.

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