

AN GHNÍOMHAIREACHT CHÚLTACA OLA NÁISIÚNTA THE NATIONAL OIL RESERVES AGENCY



THE BIOFUELS OBLIGATION SCHEME ANNUAL REPORT 2019

A report on how the scheme has been implemented to date and an assessment of the level of compliance by obligated parties during the 2019 obligation period.

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GLOSSARY OF TERMS

AFID	Alternative Fuels Infrastructure Directive (2014/94)
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
DCCAE	Department of Communications, Climate Action and Environment
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
IPIA	Irish Petroleum Industry Association
ISCC	International Sustainability and Carbon Certification (a voluntary scheme)
LNG	Liquefied Natural Gas
LPG	Liquefied 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
UERs	Upstream Emission Reductions
WTW	Well-to-wheel

EXECUTIVE SUMMARY

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 (1) 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 2019, this amount was 10%, including double counting, by volume.

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 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 (2) transposed Article 7a of the Fuel Quality Directive (FQD) (3). 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 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 allowing applications for BOS Certs to be combined applications for Certs and carbon savings.

Companies that produce or supply biofuels may also open a BOS account and apply to NORA for BOS Certs and carbon savings on their relevant disposals. 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. Following the 2019 reconciliation period, 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 and registered as BOS account holders).

In total, for the 2019 obligation period, c. 260m litres of biofuel were placed on the Irish market; approximately 476m Certs and 635kt of carbon savings were awarded in respect of those disposals. At the end of the period, including those Certs that were carried forward from previous periods (69m), account holders were in possession of c. 545m BOS Certs; the

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2019 biofuel obligation was c. 496m Certs. All the obligated parties were in possession of sufficient BOS Certs to satisfy their respective biofuel obligations and approximately 49m BOS Certs have been carried forward into the 2020 obligation period. For the 2020 obligation period, the biofuel obligation has increased to 11% (by volume).

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 was the same in 2016, 2017 and 2018). Approximately 16% of the bioethanol placed on the market was double counted. There were four different biofuel types and eleven different biofuel feedstocks reported in the BOS Sustainability Statements.

Biofuel Type			
Bioethanol	Biodiesel	BioLPG	Biomethanol
Biofuel Feedstock			
EC corn	Category 1 tallow	Palm oil	Sewage sludge
Non-EC corn	Used cooking oil		
Sugar beet	Palm oil mill effluent		
Wheat			
Whey permeate			
Starch slurry			

The feedstocks were reported to have originated from 62 different countries. The single largest source of biofuel feedstock was China (33%); approximately 16% of the feedstock originated from Ireland.

Almost 68% of all the biofuel placed on the market in Ireland was produced from used cooking oil (UCO) which was sourced from 53 different countries. The majority was sourced from China (48%), followed by Ireland (8%). All the biofuel placed on the Irish market was reported as being ISCC certified.

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. The average litre of biofuel placed on the market in Ireland in 2019 had a carbon intensity of c. 14 gCO_{2eq}/MJ, which represents an 83% reduction in carbon intensity in comparison to road transport fossil fuel.

Even though the 6% carbon intensity reduction target of SI 160 is not a requirement until 2020, the BOS maintains data on progress towards this target. On average, fuel suppliers achieved a carbon intensity reduction of 2.8% in 2019 by placing biofuel on the market. There were no carbon savings from electricity consumed in electric vehicles or upstream emission reductions (UERS) claimed during 2019. Based on the 2019 data, achieving the 6% carbon intensity reduction in 2020 would require over 1,000kt of carbon savings which could

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be generated by placing approximately 500m litres of biofuel on the market (in 2019, 260m litres were supplied). To achieve the 11% biofuel obligation in 2020, approximately 250m to 280m litres of biofuel will be required¹. This is substantially short of the 500m litres required to achieve the 6% reduction target and would result in a carbon intensity reduction of between 3% and 3.5%. While the government's restrictions on travel and work imposed because of Covid-19 will impact the demand for transport fuels in 2020 and, in turn, the quantity of biofuel and carbon savings required to meet the obligation, it does not affect our estimate that it is likely an overall carbon intensity reduction of between 3% and 3.5% will be achieved in 2020 by substituting biofuel for fossil fuel. While there has been no carbon saving claimed for electricity consumed in EVs and UERs in Ireland, it is anticipated by several other Member States that UERs will make a notable contribution towards their carbon intensity reduction targets.

The annual audit of BOS account holders was carried out during 2019. The programme included a plenary audit of all the levy returns' data, four on-site audits and several desk-based audits. There were no material errors found in the Sustainability Statements during the desk-based audits or the on-site audits, and account holders were generally 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, the audit of one company was not closed out because the company could not provide adequate substantiation for a large amount of the data examined. The company has committed to revising and improving its procedures and systems for managing its data. The audit team will be carrying out an extensive follow-up audit of the 2018 data during 2020.

The BOS has been moving towards compliance in 2020 since its inception in 2010. Its objective has been to be the primary contributor towards meeting the RED's 10% renewable energy target in transport. Over ten years, Ireland's biofuel obligation has increased from 4% to 11% (by volume). The obligation has been satisfied each year and it is envisaged that it will be achieved in 2020.

The BOS have evolved since its inception in 2010. It is now responsible for administering the obligations of the BOS Act and SI 160. 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. 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 sub-target for advanced biofuel is introduced, Green Certs will be used to measure compliance with this target.

The EU Commission is also 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 engaging with the Commission to ensure the development of the database considers any specific needs of Irish obligated parties and biofuel producers. The Team is also preparing NORA's BOS systems

¹ This is an estimate based on 2019 data and does not take account of the impact of Covid-19 on transport energy consumption. The estimate depends on, *inter alia*, the quantity of fossil fuel placed on the market, the rate of double counting, and the quantity of Certs carried forward and set-off against the 2020 obligation.

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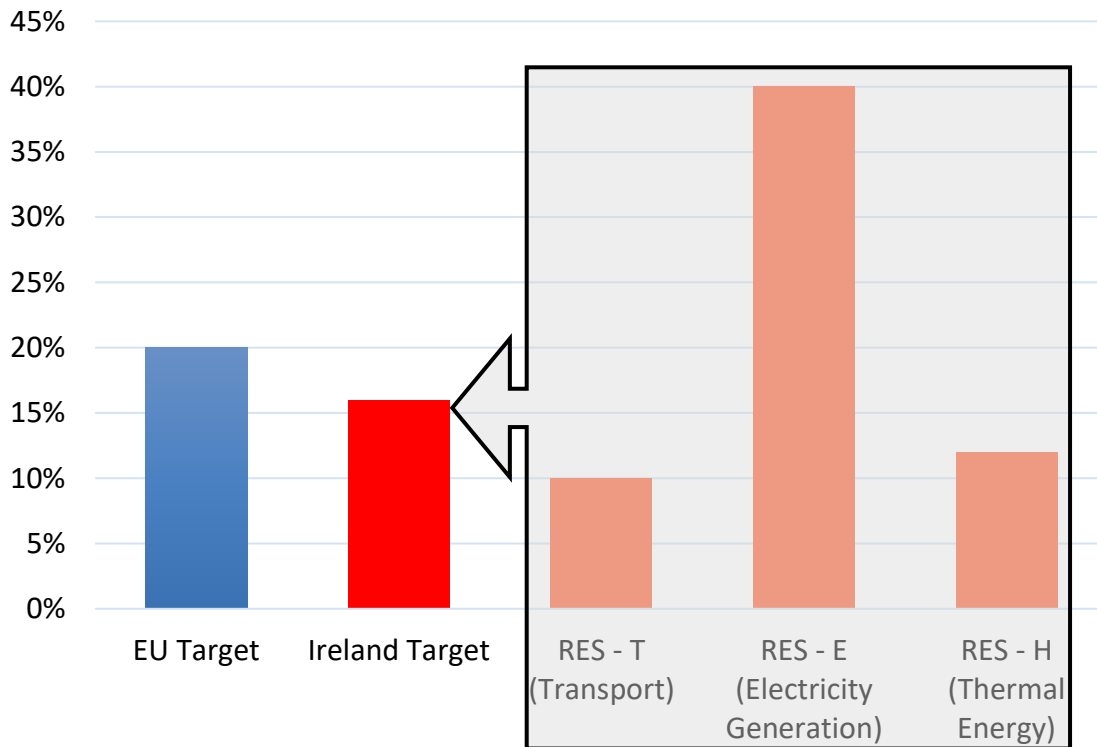
and procedures for accommodating the Union database, and other additional RED II requirements, in a timely and efficient manner.

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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 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 2019, there were approximately 8,500 battery electric vehicles and 6,500 plug-in hybrids in use in Ireland.

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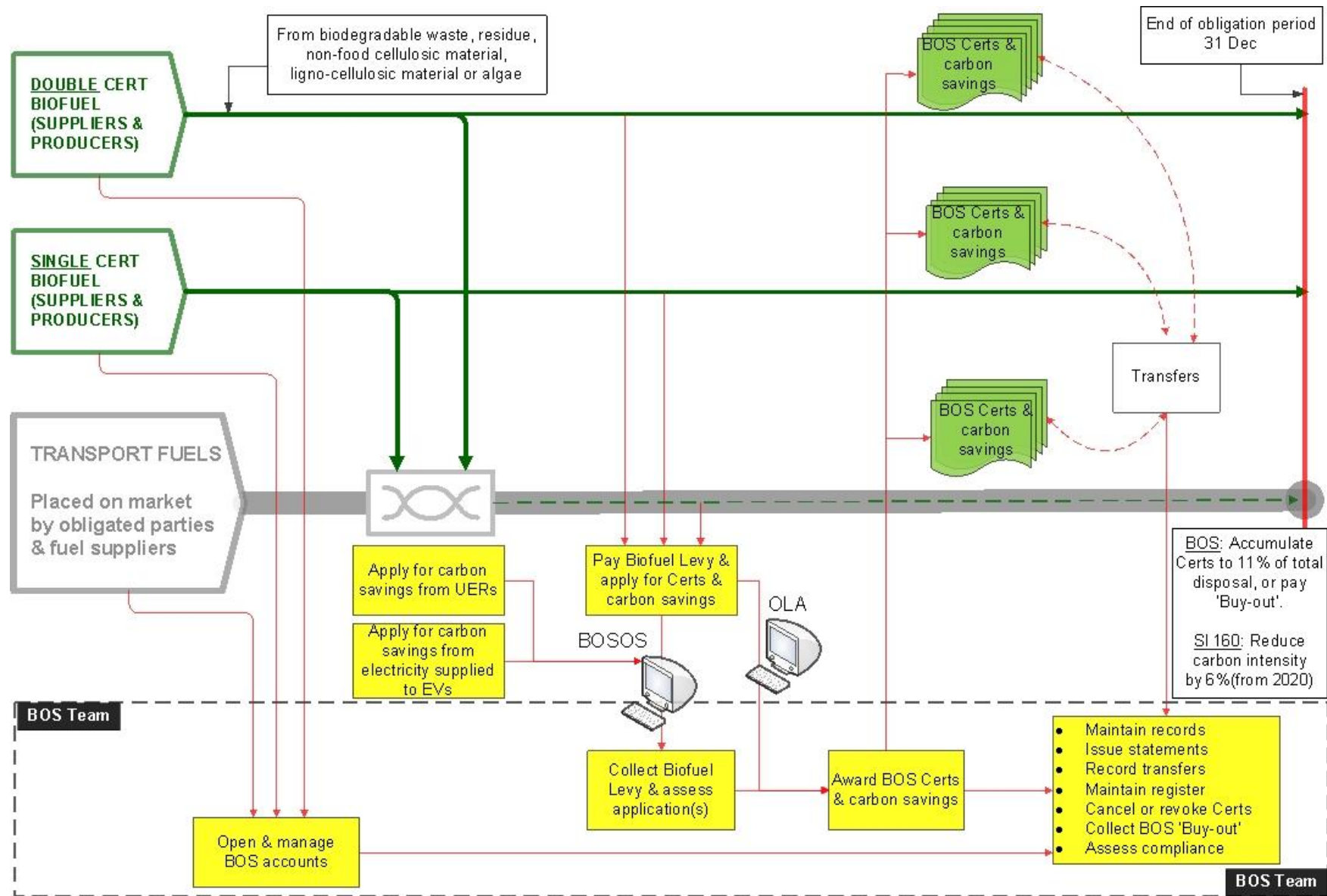
Under the BOS Act, the National Oil Reserves Agency (NORA) is the body charged with administering the BOS. In June 2010, following an open tendering process, a consortium of Byrne Ó Cléirigh and LHM Casey McGrath (now Smith & Williamson) (BÓC-SW) was appointed to assist NORA with implementing and administering the BOS. The consortium was re-appointed in 2015. 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 2019 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 (2) 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. It is anticipated that most of this target will be reached by substituting biofuel for fossil fuel. 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 how the BOS and SI 160 will achieve their respective targets, i.e. both require significant volumes of sustainable biofuel to be placed on the market. The BOS has been modified to cater for administering the requirements of SI 160.

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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 each obligation period, is biofuel.
- The first obligation period was from July to December 2010, inclusive. The 2019 obligation period ran from January to December 2019, inclusive.
- The 2019 obligation was 10% by volume, which corresponds to 11.111% of the petroleum-based disposal. The obligation is 11% for 2020 (corresponding 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 €0.02 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 each obligation period may be met from BOS Certs that have been brought forward in this manner. In a Biofuels Obligation Scheme Policy Statement (4) issued by the DCCAE, it is stated that this allowance will reduce to 15% for the 2020 obligation period.

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Administering the requirements of SI 160 of 2017 has 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 6% 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 data provided in the BOSOS in these years is for illustrative purposes only.
- 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 the DCCAE 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 2019 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.

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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 obligations for the previous obligation period and the number of BOS Certs held on their account in respect of that period is the 14th 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 15th of May.
- The 29th 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.

For the 2020 period, the same dates will apply for BOS compliance, along with the following dates that 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 2021.
- The deadline for submitting applications for carbon savings from Upstream Emission Reductions (UERs) is the 14th February 2021.

Compliance with SI 160 will be 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.

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At the start of the 2019 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 Ireland Ltd

2.3.2 Biofuel Producers and Suppliers

In addition to the ten obligated parties, there were four biofuel producers/suppliers at the start of 2019:

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

These companies previously applied for and were granted BOS accounts. Each company reports its disposals of biofuel to the DCCAE via the OLA system², pays the Biofuel Levy and claims BOS Certs and carbon savings on those disposals. None of these account holders incur a biofuel obligation as they do not place diesel or gasoline on the market.

One company, College Biofuels, applied for and was granted a BOS account during 2019.

2.3.3 Fuel Suppliers

In most cases, fuel suppliers will be either obligated parties or biofuel producers and suppliers. However, there are fuel suppliers placing fuels on the transport market that are not subject to the NORA Levy and are not biofuel producers/suppliers. CNG is an example of a fuel that is not Levy liable and a supplier of CNG to the transport market may not be an obligated party. CNG supplied to road vehicles falls under the scope of SI 160 of 2017. NORA is responsible for designating such 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:

² The Online Levy Application (OLA) reporting system is used by Obligated Parties to report monthly disposals of oil products to the DCCAE.

1. Flogas
2. Naturgy
3. Bord Gais

2.4 ENGAGEMENT WITH BOS PARTICIPANTS

Throughout the 2019 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.

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 2019, 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 October. Both 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 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. At least two briefing sessions will be held during 2020.

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 2019 obligation period.

3.1 ACCOUNT SET UP & CLOSURE

BOS accounts were set up for four companies during 2019 – three were for administering compliance with SI 160 and the other was for a biofuel producer wishing to participate in the BOS.

1. College Biofuels (biofuel producer)
2. Flogas
3. Naturgy
4. Bord Gais

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. 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.

The C&R, BOSOS and OLA were modified in 2019 to capture data on disposals of other fossil fuels and renewable fuels consumed in transport:

- Rail diesel
- CNG and bioCNG;
- Biomethanol;
- Gasoil and biogasoil;

³ Returns made to DCCAIE via the OLA system.

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

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- LPG;
- LNG and bioLNG.

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.

3.3 ISSUING BIOFUEL OBLIGATION CERTIFICATES AND CARBON SAVINGS

There is a standard procedure in place for issuing BOS Certs and carbon savings (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 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 2019, 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 yeast and yeast-like residuals. Determinations were made in previous years for four of the feedstocks (UCO, cat 1 tallow, POME and whey permeate). Determinations were completed during 2019 for waste starch slurry (STSL), sewage sludge (SS) and food waste. STSL and SS were determined to be biodegradable wastes and thus biofuel produced from these feedstocks were awarded two BOS Certs per litre. Inadequate information was provided to the BOS Team to determine the eligibility of bioethanol produced from food waste for two BOS Certs per litre and the determination of yeast and yeast-like residuals is ongoing.

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

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transferred to another obligated party. No such request was received by NORA in respect of the 2019 obligation period.

3.5 REVOKING BIOFUEL OBLIGATION CERTIFICATES

Section 44M allows for NORA to revoke a BOS Cert in certain circumstances. No BOS Certs were revoked during 2019.

3.6 OUT OF DATE CERTIFICATES

Most BOS Certs carried forward from 2017 into 2019 were discharged against the 2019 obligation. In total, 19,588,904 BOS Certs from 2017 were carried forward into the 2019 period; 474 of these 2017 Certs were not discharged against an obligation and have been rendered invalid.

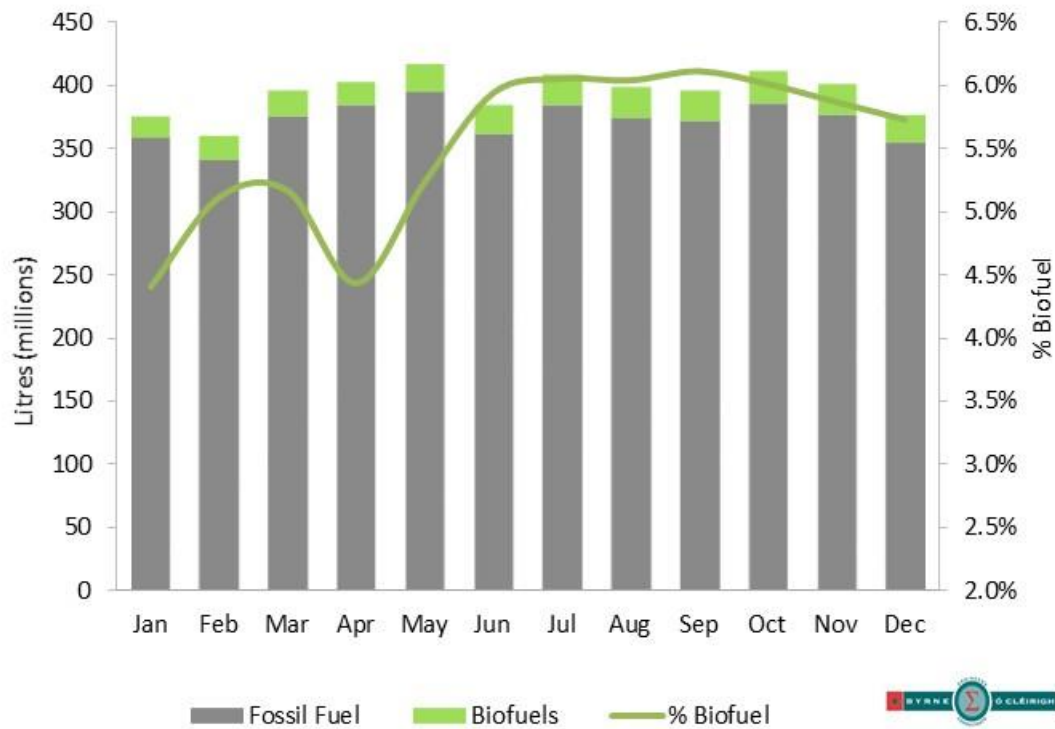
4 COMPLIANCE WITH BOS OBLIGATION

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 2019 obligation period.

4.1 RELEVANT DISPOSALS

According to the returns made by obligated parties throughout the obligation period – January to December 2019 – the total quantity of road transport fuel disposed of was approximately 4.7 billion litres (the distribution of these disposals over the period is illustrated in Figure 3). Accordingly, the biofuel obligation amounted to 496m litres.

Figure 3: Monthly Disposals of Road Transport Fuel

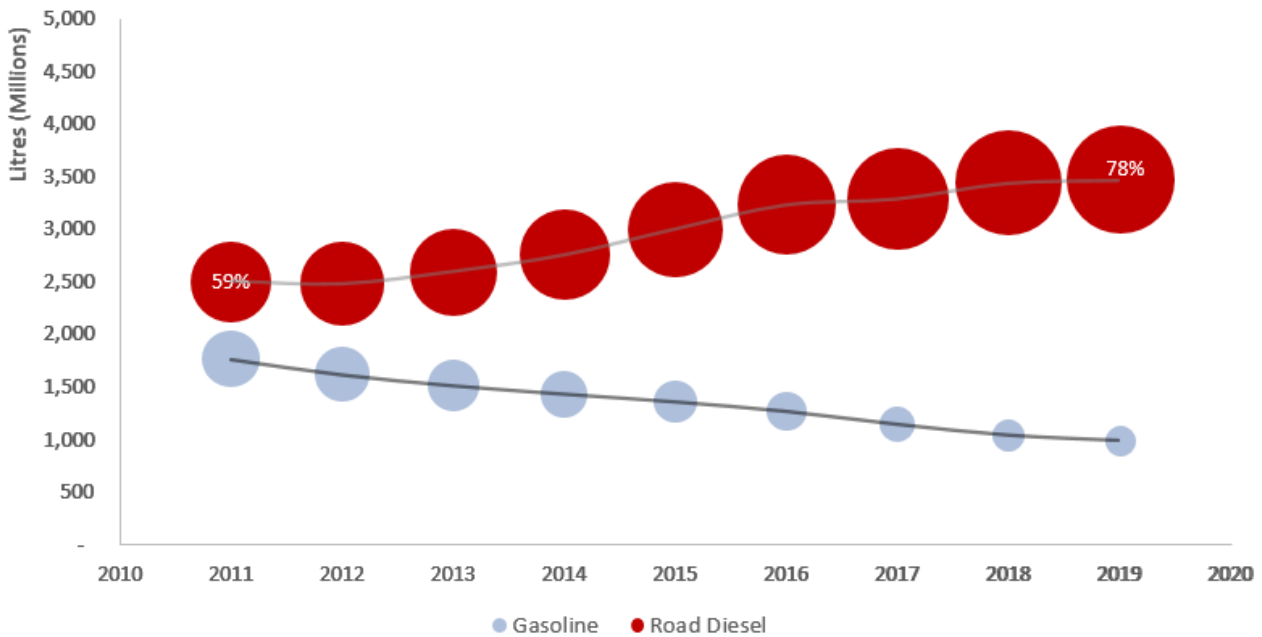


Average monthly sales of road transport fuels for the 2019 period were approximately 393m litres. This was an increase of approximately 0.4% in comparison to average monthly sales in 2018.

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).

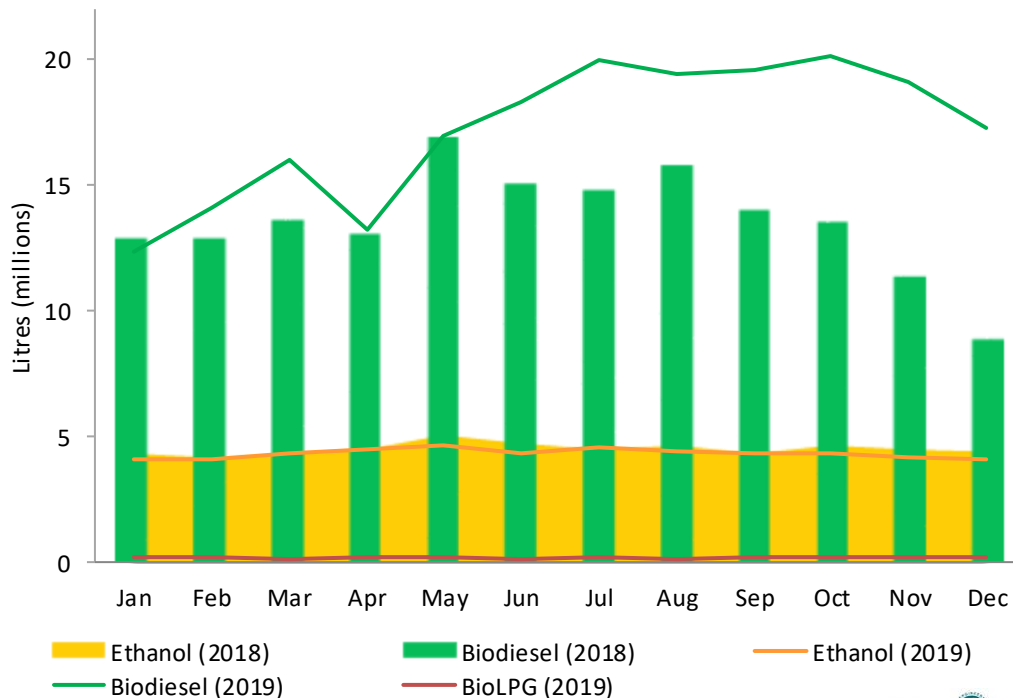
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Figure 4: Fossil fuel Sales (2011 – 2019)



The following plot illustrates the breakdown between the monthly disposals of biodiesel and bioethanol for the 2018 and 2019 periods. In total, 260m litres of biofuel were placed on the market in 2019, which was an increase of 20% in comparison to 2018.

Figure 5: Monthly Disposals of Biofuel



On average over the 2019 period, biodiesel sales represented 79% of the total biofuel sales while bioethanol accounted for 20% (it was 75% biodiesel and 25% bioethanol in 2018) – bioLPG accounted for 1% of biofuel disposals in 2019.

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There were some fluctuations in the percentage of biodiesel placed in the market, ranging from a monthly maximum of 6.4% in September to a minimum of 4.2% in January; over the year, the average was 5.6%⁵. The equivalent figure for the 2018 period was 4.5%.

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

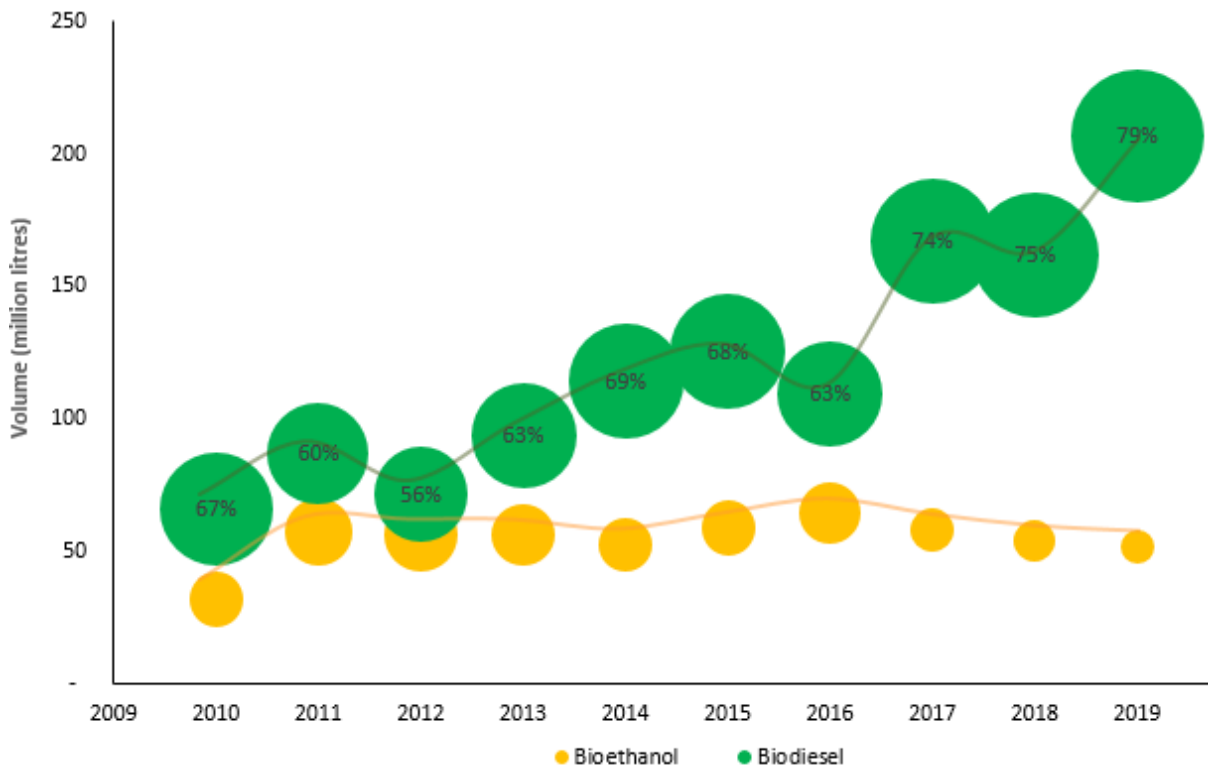


Table 1 provides the data on which Figure 4, Figure 5 and Figure 6 are based.

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

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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

Since 2011, the first full year of the BOS, the volume of biodiesel placed on the market has increased by 137% and diesel by 39%. The volume of bioethanol placed on the market has decreased by 10% and gasoline disposals have reduced by 44%. 2019 was the second year bioLPG was placed on the market.

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

4.2 BIOFUEL OBLIGATION CERTIFICATES

During the 2019 obligation period, almost 476m Certs were awarded in respect of disposals of 260m litres of biofuels. Approximately 207m litres of biodiesel were placed on the market and 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. 177m litres was produced from UCO (86%), 29m litres from Category 1 Tallow (14%) and the remainder from Palm Oil Mill Effluent (POME).

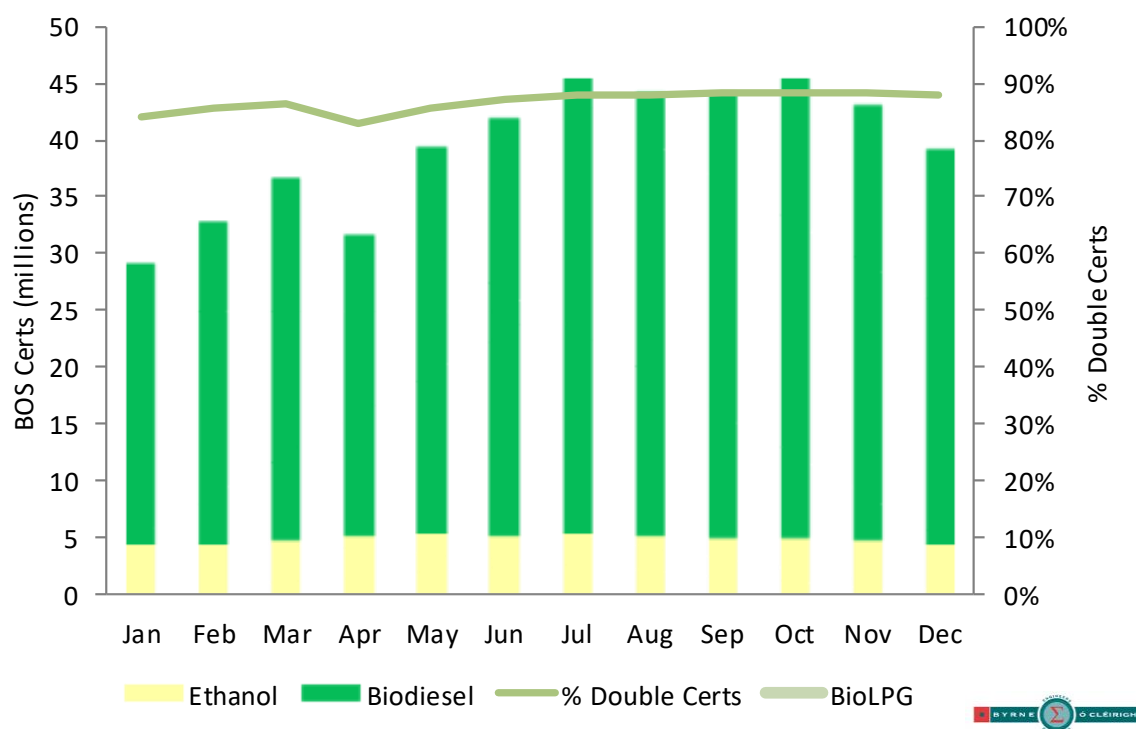
Biodiesel accounted for 79% of the biofuel supplied to the market with bioethanol accounting for 20% – in 2018, the market split was 75% biodiesel and 25% bioethanol. As a consequence of all the biodiesel being awarded two BOS Certs per litre, 87% of BOS Certs awarded in 2019 were in respect of biodiesel disposals.

There was approximately 52m litres of bioethanol placed on the market and 8m litres of it was awarded two BOS Certs per litre. All double-counted bioethanol was produced from whey permeate.

There was approximately 2m litres of bioLPG placed on the market; it was all awarded one BOS Cert per litre as it was all produced from palm oil.

The number of BOS Certs awarded each month is illustrated in Figure 7 (the bioLPG quantities are too small to be displayed on the plot).

Figure 7: No. of BOS Certs Awarded



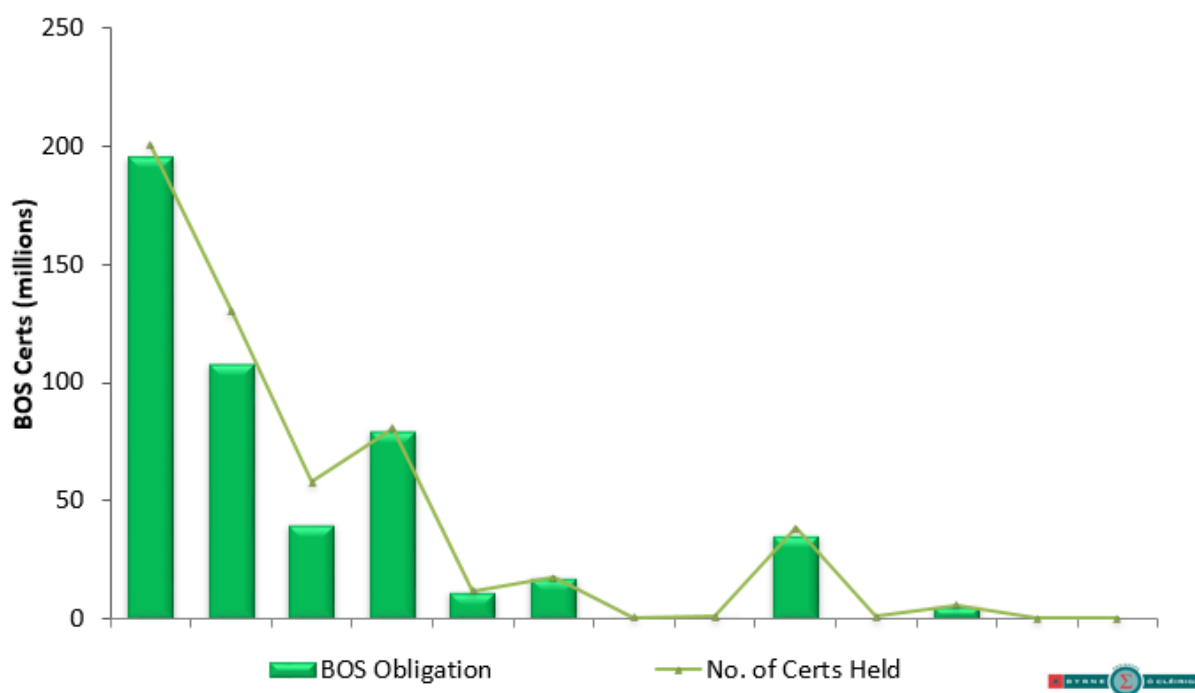
4.3 BOS ACCOUNT HOLDER POSITION

There were 14 open BOS accounts at the start of 2019: ten were held by obligated parties and four by biofuel producers/suppliers.

The number of BOS Certs held by each account holder at the time of discharge and their respective obligations are illustrated in Figure 8. The party with the largest biofuel obligation was required to surrender approximately 196m Certs.

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 four biofuel producers / suppliers paid the Levy on approximately 12m litres of biofuel and were awarded 21m Certs; this represents 4% of BOS Certs awarded in 2019.

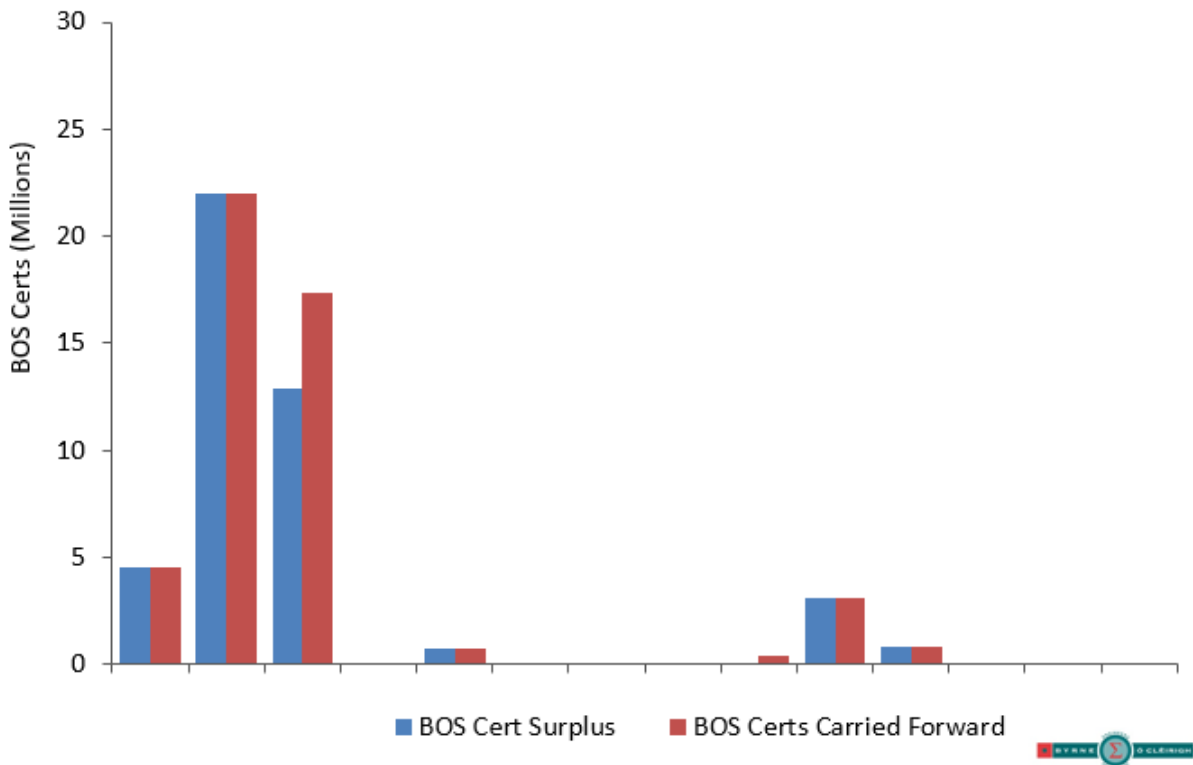
Figure 8: 2019 Biofuel Obligation



There were approximately 69m Certs carried forward to the 2019 obligation period, of which 20m were from the 2017 period and 49m from the 2018 period. Certs from previous periods represented 13% of all Certs held at the end of the 2019 period. Except for 474 Certs, all the 2017 BOS Certs were discharged against the 2019 obligation.

Figure 9 shows the surplus positions for each account holder and the number of BOS Certs carried forward to the 2020 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 9: BOS Cert Surplus & Carried Forward



No account holder was in a deficit position. There were two companies in particular that carried over significant quantities of BOS Certs, accounting for 80% of all the Certs carried forward.

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	4,460,786,069
<i>Gasoline</i>	litres	989,982,198
<i>Diesel</i>	litres	3,470,803,871
Total disposal of biofuel**	litres	260,465,400
<i>biofuel as bioethanol</i>	litres	51,730,645
<i>biofuel as biodiesel</i>	litres	206,694,716
<i>bioLPG</i>	litres	2,040,039
Volume of biofuel for which one BOS Cert per litre was issued	litres	45,368,501
Volume of biofuel for which two BOS Certs per litre were issued	litres	215,096,895
Volume of biofuel for which BOS Certs were rejected	litres	0
No. of BOS Certs Revoked	Certs	0
Volume of biofuel (levy-paid) for which BOS Certs went unclaimed	litres	6
Number of BOS Certs required to meet obligation	Certs	495,637,940
Total number of BOS Certs issued during 2019	Certs	475,562,291
Number of BOS Certs carried forward from previous period	Certs	69,055,118
Surplus of BOS Certs***	Certs	44,116,900
Liability for Buy-out Charge	€	0
Number of BOS Certs no longer valid	Certs	474
Number of valid BOS Certs carried forward to 2020 period	Certs	48,978,995
* This is the quantity on which the NORA Levy was paid. ** This is the quantity on which the Biofuel Levy was paid. *** This does not include those Certs that could not be discharged because an account holder exceeded the 25% 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 83% of the biofuel supplied to the market during the 2019 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 10.66%. When the BOS Certs carried forward from the 2017 and 2018 periods are included, this value increases to 12.2%. Against this, the obligation was 11.11%. Consequently, c.49m BOS Certs have been carried forward to the 2020 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 are sourced from Europe (52%). The country to supply the greatest quantity of feedstocks for biofuels placed on the Irish market was China (33%); 16% was sourced from Ireland.

It is also worth noting that almost 68% of all the biofuel placed on the market in Ireland is produced from UCO.

Figure 10 on page 22 illustrates the locations from which the biofuel feedstocks are sourced and the proportion that comes from those locations.

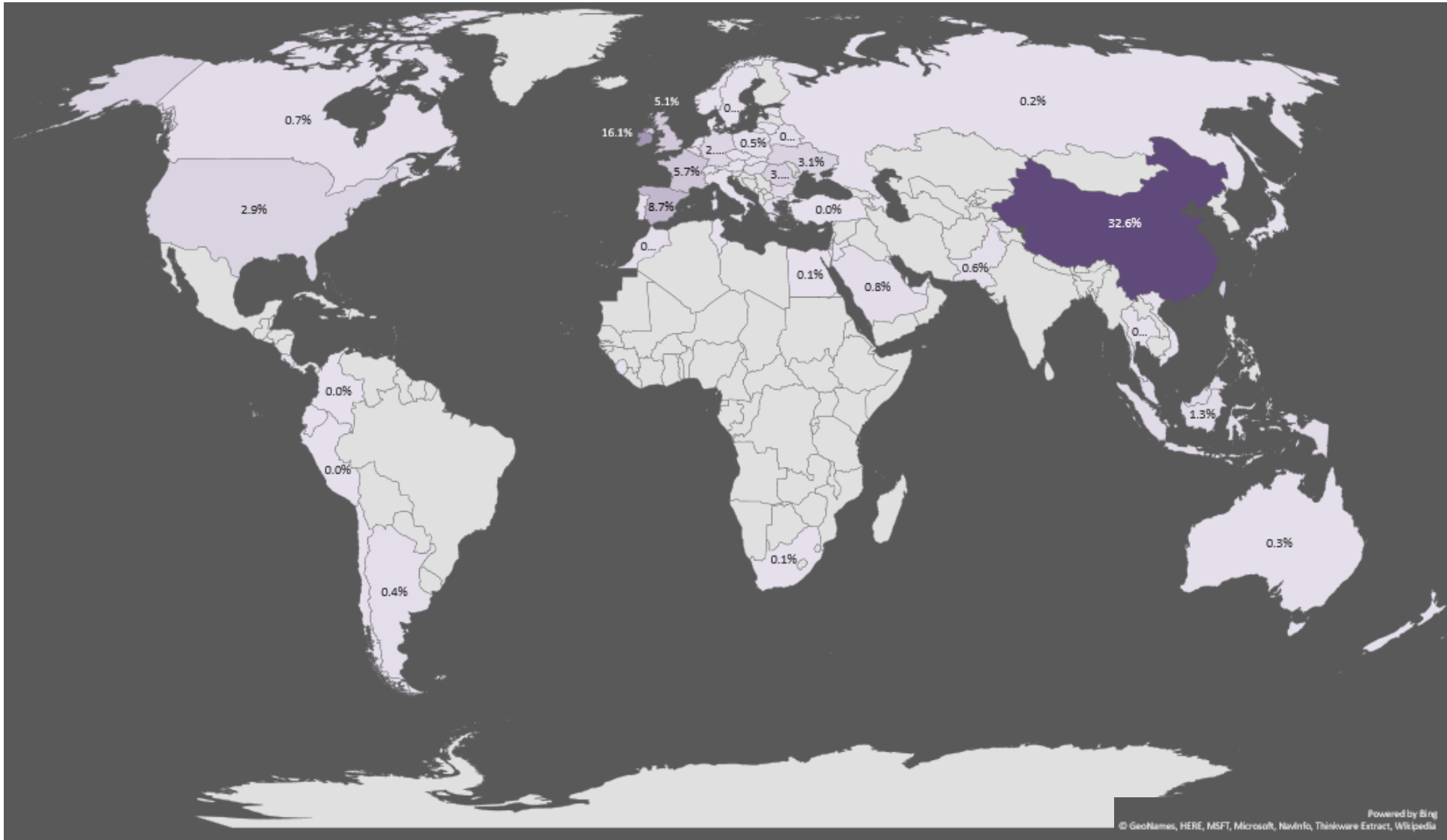
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Table 4: Breakdown of Source of Biofuel Feedstocks

Country of Origin	Bioethanol										Biodiesel						BioLPG		Biomethanol		Total					
	EC Corn		Non-EC Corn		Sugar Cane		Sugar Beet		Wheat		Whey Permeate ¹		Starch Slurry		Used Cooking Oil ¹		Cat 1 Tallow ¹		Palm Oil Mill Effluent ¹		Palm Oil		Sewage Sludge ¹		(i)	%
	ECCORN		NECCOR		SCANE		SBEEET		WHEAT		WHEYP		STSL		UCO		TALL1		POME		PALM		SS			
	(i)	%	(i)	%	(i)	%	(i)	%	(i)	%	(i)	%	(i)	%	(i)	%	(i)	%	(i)	%	(i)	%	(i)	%		
United Arab Emirates	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	308,411	0.2%	-	0.0%	-	0.0%	-	0.0%	-	-	308,411	0.1%
Argentina	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	1,118,889	0.6%	-	0.0%	-	0.0%	-	0.0%	-	-	1,118,889	0.4%
Australia	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	737,126	0.4%	-	0.0%	-	0.0%	-	0.0%	-	-	737,126	0.3%
Austria	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	187,610	0.1%	48,851	0.2%	-	0.0%	-	0.0%	-	-	236,461	0.1%
Azerbaijan	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	105,698	0.1%	-	0.0%	-	0.0%	-	0.0%	-	-	105,698	0.0%
Belgium	-	0.0%	-	0.0%	-	0.0%	-	0.0%	405,573	14.1%	-	0.0%	3	100.0%	1,353,485	0.8%	-	0.0%	-	0.0%	-	0.0%	-	-	1,759,061	0.7%
Bulgaria	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	4,307,449	2.4%	-	0.0%	-	0.0%	-	0.0%	-	-	4,307,449	1.7%
Bahrain	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	12,002	0.0%	-	0.0%	-	0.0%	-	0.0%	-	-	12,002	0.0%
Belarus	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	847,435	0.5%	746,894	2.6%	-	0.0%	-	0.0%	-	-	1,594,329	0.6%
Canada	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	1,856,270	1.1%	-	0.0%	-	0.0%	-	0.0%	-	-	1,856,270	0.7%
Switzerland	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	558,748	0.3%	142,179	0.5%	-	0.0%	-	0.0%	-	-	700,927	0.3%
Chile	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	19,110	0.0%	-	0.0%	-	0.0%	-	0.0%	-	-	19,110	0.0%
China	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	84,762,045	48.0%	171,231	0.6%	-	0.0%	-	0.0%	-	-	84,933,276	32.6%
Colombia	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	7,963	0.0%	-	0.0%	-	0.0%	-	0.0%	-	-	7,963	0.0%
Costa Rica	-	0.0%	-	0.0%	1,101,075	100.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	-	1,101,075	0.4%
Czech Republic	-	0.0%	-	0.0%	-	0.0%	-	0.0%	74,072	2.6%	-	0.0%	-	0.0%	239,766	0.1%	48,246	0.2%	-	0.0%	-	0.0%	-	-	362,084	0.1%
Germany	164,857	0.9%	-	0.0%	-	0.0%	-	0.0%	257,395	9.0%	-	0.0%	-	0.0%	5,192,737	2.9%	726,808	2.5%	-	0.0%	-	0.0%	-	-	6,341,797	2.4%
Denmark	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	116,414	0.1%	-	0.0%	-	0.0%	-	0.0%	-	-	116,414	0.0%
Ecuador	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	679	0.0%	-	0.0%	-	0.0%	-	0.0%	-	-	679	0.0%
Egypt	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	244,978	0.1%	-	0.0%	-	0.0%	-	0.0%	-	-	244,978	0.1%
Spain	9,456,397	49.5%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	13,168,158	7.5%	-	0.0%	-	0.0%	-	0.0%	-	-	22,624,555	8.7%
Estonia	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	432	0.0%	-	0.0%	-	0.0%	-	-	432	0.0%
France	4,846,541	25.4%	-	0.0%	-	0.0%	9,014,885	100.0%	937,667	32.7%	-	0.0%	-	0.0%	62,122	0.0%	232	0.0%	-	0.0%	-	0.0%	-	-	14,861,447	5.7%
United Kingdom	-	0.0%	-	0.0%	-	0.0%	-	0.0%	214,263	7.5%	-	0.0%	-	0.0%	5,992,345	3.4%	7,065,110	24.5%	-	0.0%	-	0.0%	-	-	13,271,718	5.1%
Greece	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	3,161,781	1.8%	-	0.0%	-	0.0%	-	0.0%	-	-	3,161,781	1.2%
Hong Kong	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	2,747,231	1.6%	-	0.0%	-	0.0%	-	0.0%	-	-	2,747,231	1.1%
Hungary	1,534,048	8.0%	813,644	7.2%	-	0.0%	-	0.0%	516,894	18.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	-	2,864,586	1.1%
Indonesia	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	153,634	0.1%	-	0.0%	1,247,805	100.0%	2,040,039	100.0%	-	-	3,441,478	1.3%
Ireland	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	8,402,171	100.0%	-	0.0%	14,687,864	8.3%	18,725,725	65.1%	-	0.0%	-	0.0%	-	-	41,815,760	16.1%
Israel	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	8,537	0.0%	-	0.0%	-	0.0%	-	0.0%	-	-	8,537	0.0%
Italy	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	55,940	0.2%	-	0.0%	-	0.0%	-	-	55,940	0.0%
Jordan	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	22,431	0.0%	-	0.0%	-	0.0%	-	0.0%	-	-	22,431	0.0%
Japan	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	48,559	0.0%	-	0.0%	-	0.0%	-	0.0%	-	-	48,559	0.0%
Kuwait	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	85,847	0.0%	-	0.0%	-	0.0%	-	0.0%	-	-	85,847	0.0%
Lebanon	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	6,656	0.0%	-	0.0%	-	0.0%	-	0.0%	-	-	6,656	0.0%
Lithuania	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	657	0.0%	-	0.0%	-	0.0%	-	-	657	0.0%
Morocco	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	1,117,561	0.6%	-	0.0%	-	0.0%	-	0.0%	-	-	1,117,561	0.4%
Malaysia	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	3,768,155	2.1%	-	0.0%	-	0.0%	-	0.0%	-	-	3,768,155	1.4%
Netherlands	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	1,267,545	0.7%	1,399	0.0%	-	0.0%	-	0.0%	-	-	1,268,944	0.5%
Norway	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	19,639	0.0%	-	0.0%	-	0.0%	-	0.0%	-	-	19,639	0.0%
New Zealand	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	4,873	0.0%	-	0.0%	-	0.0%	-	0.0%	-	-	4,873	0.0%
Pakistan	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	1,575,392	0.9%	-	0.0%	-	0.0%	-	0.0%	-	-	1,575,392	0.6%
Peru	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	1,517	0.0%	-	0.0%	-	0.0%	-	0.0%	-	-	1,517	0.0%
Poland	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	681,760	0.4%	650,513	2.3%	-	0.0%	-	0.0%	-	-	1,332,273	0.5%
Puerto Rico	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	19,378	0.0%	-	0.0%	-	0.0%	-	0.0%	-	-	19,378	0.0%
Portugal	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	417,243	0.2%	-	0.0%	-	0.0%	-	0.0%	-	-	417,243	0.2%
Romania	3,096,895	16.2%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	6,639,848	3.8%	-	0.0%	-	0.0%	-	0.0%	-	-	9,736,743	3.7%
Russia	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	396,560	1.4%	-	0.0%	-	0.0%	-	-	396,560	0.2%
Saudi Arabia	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	2,201,456	1.2%	-	0.0%	-	0.0%	-	0.0%	-	-	2,201,456	0.8%
Singapore	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	14,448	0.0%	-	0.0%	-	0.0%	-	0.0%	-	-	14,448	0.0%
Sierra Leone	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	231	0.0%	-	0.0%	-	0.0%	-	-	231	0.0%
Slovakia	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	466	0.0%	-	0.0%	-	0.0%	-	-	466	0.0%
Sweden	-	0.0%	-	0.0%	-	0.0%	-	0.0%	464,772	16.2%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	-	464,772	0.2%
Thailand	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	52,547	0.0%	-	0.0%	-	0.0%	-	0.0%	-	-	52,547	0.0%
Trinidad & Tobago	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	285,585	0.2%	-	0.0%	-	0.0%	-	0.0%	-	-	285,585	0.1%
Tunisia	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	38,186	0.0%	-	0.0%	-	0.0%	-	0.0%	-	-	38,186	0.0%
Turkey	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	3,172	0.0%	-	0.0%	-	0.0%	-	0.0%	-	-	3,172	0.0%
Taiwan	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	10,713,385	6.1%	-	0.0%	-	0.0%	-	0.0%	-	-	10,713,385	4.1%
Ukraine	-	0.0%	8,190,201	72.8%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	-	8,190,201	3.1%
United States	-	0.0%	2,239,283	19.9%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-													

The Biofuels Obligation Scheme 2019

Figure 10: Sources of Biofuel Feedstocks



4.6 VOLUNTARY SCHEMES

While there are currently 14 EU approved Voluntary Schemes in operation, biofuel from only one Voluntary Scheme was reported in BOS Sustainability Statements: ISCC (International Sustainability and Carbon Certification).

A very small quantity of biodiesel produced from UCO was not reported in the sustainability statements as being certified by a Voluntary Scheme; however, this was an Account Holder reporting error. The error was examined and it was found that it should have been reported as ISCC certified. Therefore, all the biofuel placed on the Irish market was covered by ISCC.

4.7 GHG SAVINGS

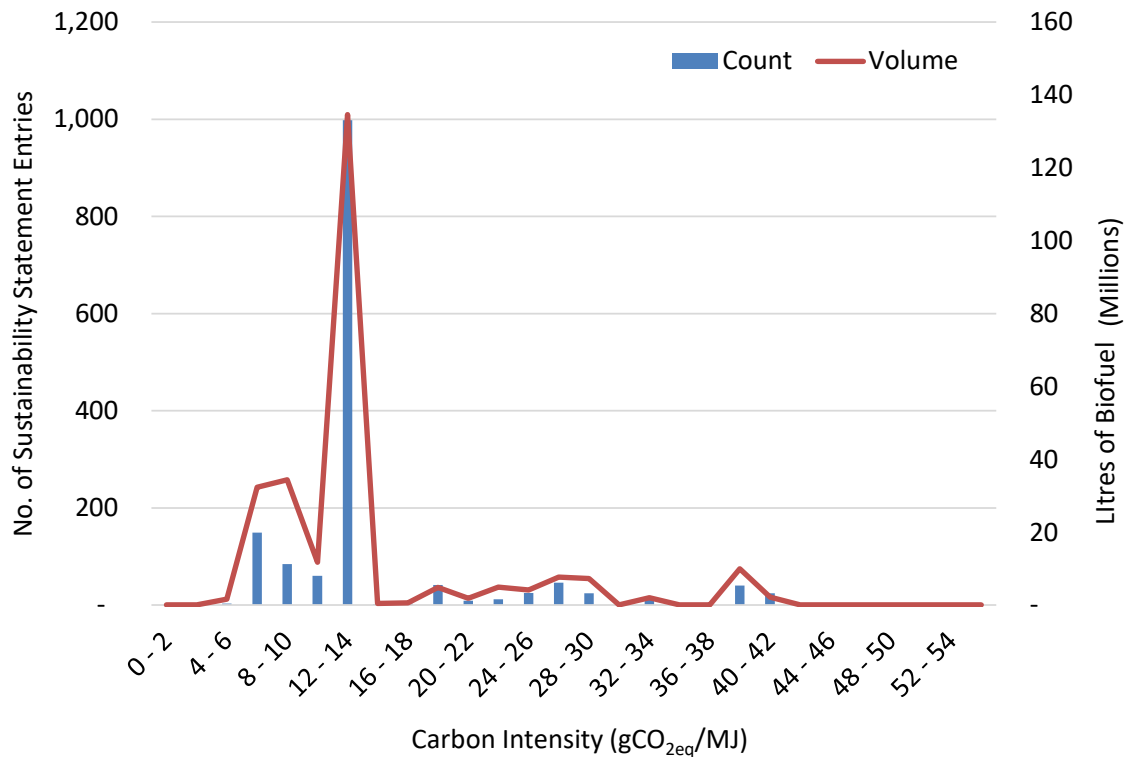
4.7.1 Overview

A central requirement of the RED and the Sustainability Regulations is that biofuels achieve a 50% reduction in carbon intensity (GHG emissions) in comparison to fossil fuels⁶. The average litre of biofuel placed on the market in Ireland in 2019 had a life cycle carbon intensity of c. 14 gCO_{2eq} / MJ, which represents an 83% reduction in comparison to road transport fossil fuel.

There was approximately 1,500 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.)

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.

Figure 11: Profile of Carbon Intensities



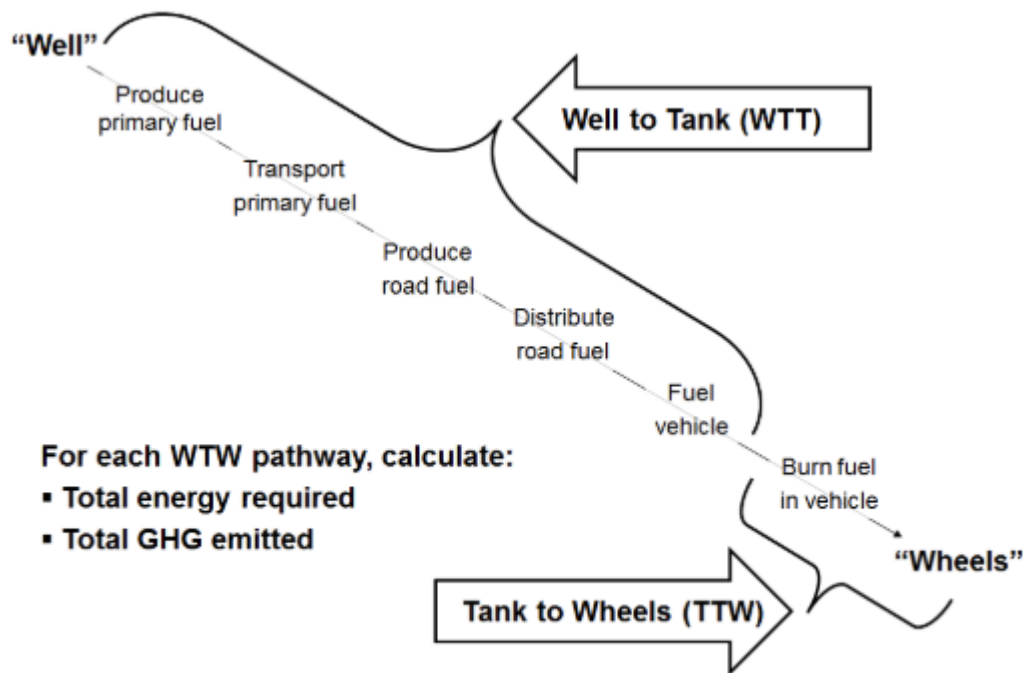
There is no methodology provided in the RED for calculating the national GHG savings. In previous Annual Reports, the BOS Team’s approach has been to calculate the GHG emissions from the biofuels placed on the market and compare that to the total GHG emissions that would have been emitted from the road transport sector⁷ had there been no biofuels consumed. Taking into account the lower calorific content of biofuel in comparison to fossil fuel⁸, approximately 225m litres of fossil fuel were displaced by biofuel as a consequence of placing 260m litres of biofuel on the market. Based on an average biofuel carbon intensity of 14 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 553kt of CO_{2eq} emissions.

This equates to an overall saving of 4% in GHG emissions from the road transport sector as a consequence of achieving a biofuel penetration rate of 5.5%, by volume (4.8%, by energy). 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 assumed to be zero. The concept is illustrated in Figure 12 and is different from tailpipe, or tank-to-wheel, emissions.

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.

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



Graphic representation of Well-to-Wheels Analysis

©EU, 2016

Article 7a of the Fuel Quality Directive (FQD) (6), 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. The FQD specifies a method for calculating the reduction in carbon intensity and does not permit double counting. For 2019, for road transport fuels, a 3.5% reduction in carbon intensity was calculated using the FQD methodology, which is an increase on the 2.7% reduction achieved in 2018. Compliance with the FQD 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 6) and the feedstocks (Table 7) that were reported in the sustainability statements in 2019.

The Biofuels Obligation Scheme 2019

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	12.7	14	14.2 ¹¹
EtOH	Bioethanol	12	25.2	42 ¹²	-
BioLPG	LPG produced from biomass	17.6	22.6	25.5	-
MetOH	Biomethanol	39	39	39	-

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	19	24.8	34	42.7
	NECCOR	Corn – Non EC	23	33.4	42 ¹²	-
	WHEAT	Wheat	22	29.2	40	-
	WHEYP	Whey permeate	12	13.8	15	-
	SBEET	Sugar beet	40	40	40	40.2
	SCANE	Sugar cane	20	20	20	24.3
	STSL	Starch slurry	20	20	20	-
Biodiesel	UCO	Used cooking oil	6	12.5	14	14.2
	TALL1	Tallow – category 1	14	14	14	14.2
	POME	Palm oil mill effluent	11	11	11	-
BioLPG	PALM	Palm oil	17.6	22.6	26	-
MetOH	SS	Sewage sludge	39	39	39	-

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.

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

¹⁰ Aka 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.

The Biofuels Obligation Scheme 2019

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	19,098,738	18,811,901	98.5
	NECCOR	Corn – Non EC	11,243,128	11,243,128	100
	WHEAT	Wheat	2,870,636	2,870,636	100
	SBEET	Whey permeate	9,014,885	989,508	11
	WHEYF	Sugar beet	8,402,171	8,402,171	100
	SCANE	Sugar cane	1,101,075	1,101,075	100
	STSL	Starch slurry	3	3	100
Biodiesel	UCO	Used cooking oil	176,665,437	71,764,337	40.6
	TALL1	Tallow – category 1	28,781,474	0	0
	POME	Palm oil mill effluent	1,247,805	1,247,805	100
BioLPG	PALM	Palm oil	2,040,039	2,040,039	100
MetOH	SS	Sewage sludge	5	5	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 in Q2 and Q3 2019.

The Summary Audit Report (9) 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.

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

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 2019

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, during one on-site audit and in the follow-up communications, the company could not provide adequate substantiation for all the data examined. The company has committed to revising and improving its procedures and systems for managing its OLA data. The audit team will be carrying out an extensive follow-up audit of the 2018 data during 2020, and the company will also undergo a second audit during 2020 on its 2019 data.

The audit team also carried out desk-based investigations on data provided in sustainability statements and in proofs of sustainability. One of the matters investigated was very low carbon intensity values reported for transporting biofuel or biofuel feedstock from abroad. The disaggregated default value for transporting and distributing biofuel derived from 'waste vegetable or animal oil biodiesel' provided in the RED is 1 gCO_{2eq}/MJ and this applies to transporting the fuel from anywhere in the world. Notwithstanding that this default value does not differentiate between transport from the UK or from China and is very low, actual values have been reported. We carried out an actual value calculation on transporting biodiesel from China and found that the lowest transport emission factor we could generate was approximately 3.5 gCO_{2eq}/MJ. While some of the actual values reported in proofs of sustainability were below this value, under Article 18 (7) of the RED, Member States are required to respect the data contained in proofs of sustainability.

Auditing BOS account holders is an annual task carried out by the BOS Team. The 2019 data will be audited during 2020.

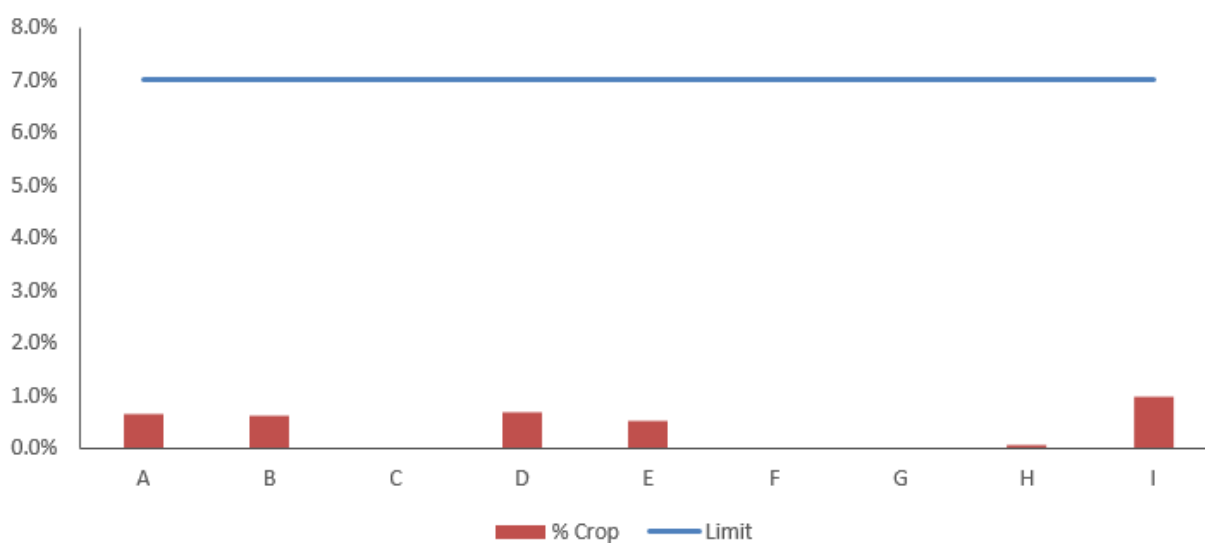
4.9 CROP CAP

The ILUC Directive 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 2019 was approximately 164.6 PJ. There were 45m litres of crop-based biofuels placed on the market in 2019 (shown in Table 7), which equates to approximately 1 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.

For illustrative purposes, crop-based biofuels are awarded Red Certs in the BOSOS. This categorisation of Certs by feedstock allows account holders to readily identify the type of biofuel being placed on the market and prepares them for when a crop cap will likely become a fuel supplier obligation post-2020. Figure 13 shows the performance of the account holders in 2019.

Figure 13: Performance against crop cap



4.10 ADVANCED BIOFUEL TARGET

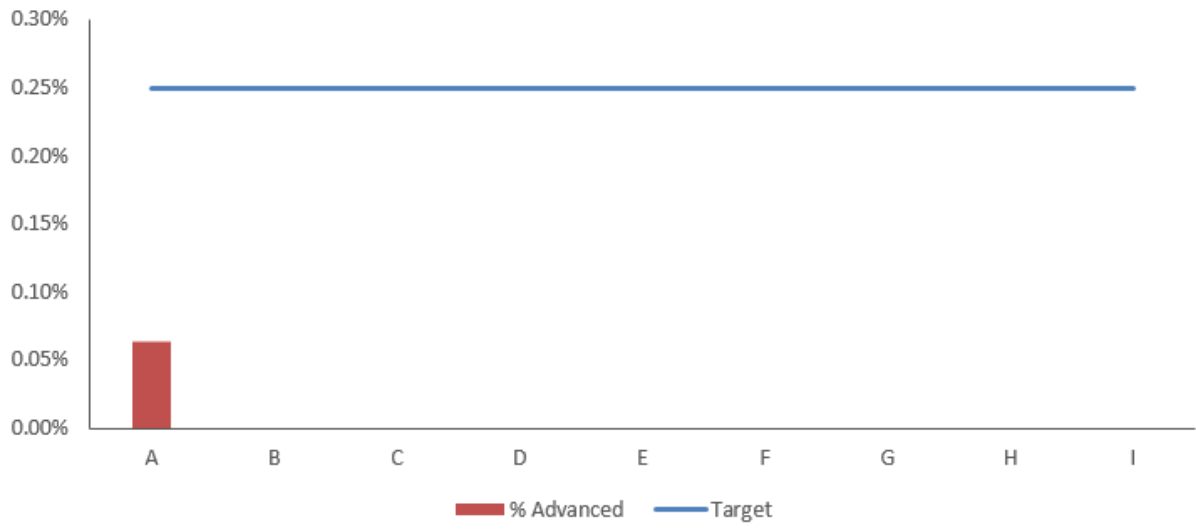
The ILUC Directive set a target of 0.5% for Member States for biofuels produced from Annex IX Part A feedstocks – the so-called ‘advanced biofuel target’. SI 169 of 2018 transposed this requirement, but set a lower national target of 0.25%, which is facilitated by the Directive under certain circumstances. 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 2019 was 164.6 PJ. There were approximately 1m litres of advanced biofuels placed on the market in 2019 (namely POME, as shown in Table 7), which equates to approximately 0.04 PJ after double counting. Thus, advanced biofuels contributed approximately 0.025% towards final energy consumption in road transport – if the energy consumed in rail was also included, the contribution of advanced biofuels would reduce marginally.

For illustrative purposes, advanced biofuels are awarded Green Certs in the BOSOS. Figure 14 shows the performance of the account holders in 2019.

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Figure 14: Performance against advanced biofuel target



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 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. It is anticipated that most of this target will be reached by substituting biofuel for fossil fuel. The FQD requires biofuels to satisfy the same sustainability criteria as the RED, if they are to be counted towards the 6% target. Thus, there is a significant overlap in how the FQD and RED will achieve their respective targets, i.e. both require significant volumes of sustainable biofuel to be placed on the market.

The BOS is the primary means by which Ireland has implemented the 10% RED target for renewable energy in the transport sector; it is now also used to administer fuel suppliers' compliance with the 6% FQD target. The fuel suppliers responsible for complying with SI 160 of 2017 are, in general, the same companies responsible for complying with the BOS. The BOSOS has been modified to cater for reporting and administering compliance with the SI 160. Applications for BOS Certs are now a combined BOS Cert and carbon savings application. The BOSOS also accepts applications for carbon savings from electricity used in electric vehicles (EVs) and upstream emission reductions (UERs).

The carbon intensity reduction target for each fuel supplier is 6% by 2020 – there was no target for 2019. 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 is 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 PROGRESS TOWARDS TARGET

While there was no carbon intensity reduction target in 2019, and the 6% target is an individual fuel supplier target, the following table sets out the key SI 160 metrics.

The Biofuels Obligation Scheme 2019

Table 8: SI 160 Metrics

Description	Volume (litres)	Carbon Savings (tonnes CO _{2eq})
Total disposal of petroleum-based transport fuel	4,460,786,069	-125,244
<i>Gasoline</i>	989,982,198	25,344
<i>Diesel</i>	3,470,803,871	-124,949
<i>Gasoil</i>	683,947,650	-24,622
<i>Rail Diesel*</i>	46,000,000	-1,656
<i>LPG*</i>	1,300,000	640
Total disposal of biofuel	260,465,400	635,402
<i>biofuel as bioethanol</i>	51,730,645	72,453
<i>biofuel as biodiesel</i>	206,694,716	559,436
<i>bioLPG</i>	2,040,039	3,513
% savings achieved		2.8%
* Estimates. Full 12 months data for 2019 not reported to BOS.		

Negative savings arise where companies place predominately diesel or gasoil on the market and little or no biofuel, gasoline, LPG or CNG. The methodology for calculating compliance with the 6% target uses the Fuel Baseline Standard (FBS) of 94.1 gCO_{2eq}/MJ as the comparator against which progress is measured. The carbon intensity of diesel and gasoil is 95.1 gCO_{2eq}/MJ; thus, relative to the FBS, diesel generates a negative saving of 1.1%.

While the 6% target is a fuel supplier obligation, if all the suppliers are considered as one, a carbon intensity reduction of approximately 2.8% was achieved in 2019. There was no carbon savings from electricity consumed in EVs or UERs claimed in 2019.

Based on the 2019 data provided in Table 8, achieving the 6% carbon intensity reduction in 2020 will require between 500 and 600kt of additional carbon savings. To achieve a 6% carbon intensity reduction, approximately 500m litres of biofuel would need to be placed on the market (in 2019, 260m litres were supplied). To achieve the 11% BOS obligation, approximately 275m to 300m litres of biofuel would be required¹⁴. This is substantially short of the 500m litres required to achieve the 6% reduction target and would result in a carbon intensity reduction of between 3% and 3.5%. In addition to biofuels, carbon savings can be generated by UERs and electricity consumed in EVs. While there has been no carbon saving claimed for electricity consumed in EVs and UERs in Ireland, it is anticipated by several other Member States that UERs will make a notable contribution towards their carbon intensity reduction targets.

¹⁴ This is an estimate – it will depend on, *inter alia*, the quantity of biofuel double-counted, and the quantity of Certs carried forward and set-off against the 2020 obligation.

The Biofuels Obligation Scheme 2019

The government's restrictions on travel and work imposed because of Covid-19 will impact the demand for transport fuels in 2020 and, in turn, on the quantity of biofuel and carbon savings required to meet the obligation. In Q1 2020, there was a reduction of approximately 4% in fossil fuel consumption and an overall reduction of approximately 3% in total road transport fuel consumption. Given the restrictions on the movement of people and work practices did not come into force until mid-March 2020, the Q1 data will probably not reflect the full impact on transport fuel consumption for 2020. For March, which at the time of finalising this report is the most up-to-date month for which we have data, there was a reduction of 22% in gasoline consumption compared to March 2019, a 25% reduction in ethanol, and a 10% reduction in diesel. Notably, there was a 13% increase in biodiesel consumption. Overall, there was a reduction of 12% in the consumption of road transport fuel in March 2020 compared to March 2019. While the government's restrictions on travel and work imposed because of Covid-19 will impact the demand for transport fuels in 2020 and, in turn, the quantity of biofuel and carbon savings required to meet the obligation, it does not affect our estimate that, in the absence of UERs, it is likely an overall carbon intensity reduction of between 3% and 3.5% will be achieved in 2020 by substituting biofuel for fossil fuel.

6 OBSERVATIONS ON OPERATING BOS

Overall, the BOS functioned as designed during 2019: applications for BOS Certs and carbon savings were submitted on time on a quarterly basis; account holders achieved their obligations; and changes to the systems were implemented in accordance with the legislation.

6.1 CHANGES DURING 2019

There were several changes made to the BOS during 2019 primarily to facilitate administering SI 160 of 2017. Additional fuels have been incorporated to the BOSOS and OLA systems. Gasoil used in non-road mobile machinery, agricultural and forestry tractors, and recreational craft, along with CNG and LPG used for transport purposes are now reported.

The procedure for applying for BOS Certs and carbon savings, and the accompanying guidance, was updated to reflect these new fuels and to incorporate instructions for submitting applications for carbon savings from electricity supplied to road vehicles and upstream emission reductions (UERs).

6.2 CHANGES IN 2020 AND BEYOND

6.2.1 Biofuel Obligate Rate Change

The biofuel obligation was 10% in 2019 and has increased to 11% for 2020. The legislative requirement is 12.359%, i.e. for every 89 litres of fossil fuel that is placed on the road transport market, an obligated party must have 11 certificates.

6.2.2 RED II

A revised Renewable Energy Directive (RED II) setting new targets for renewable energy sources 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. Other elements of overarching importance are developing renewable heating and cooling, and renewable transport fuels. 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

The Biofuels Obligation Scheme 2019

feedstocks are currently awarded Green Certs – once the advanced biofuel target is introduced, Green Certs will be used to measure compliance with this target.

The Commission is also developing 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.

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 2020.

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BIBLIOGRAPHY

1. **The European Parliament and the Council of the European Union.** The Renewable Energy Directive. *Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion and use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC.* s.l. : Official Journal of the European Union, 2009.
2. **Ireland, Government of.** BOS Act. *ENERGY (BIOFUEL OBLIGATION AND MISCELLANEOUS PROVISIONS) ACT.* s.l. : Iris Oifigiúil, 2010. Number 11 of 2010.
3. —. European Union (Greenhouse Gas Emission Reductions, Calculation Methods and Reporting Requirements) Regulations 2017. 2017. S.I. No. 16 of 2017.
4. **The European Parliament and the Council of the European Union.** The Fuel Quality Directive. *amending Directive 98/70/EC as regards the specification of petrol, diesel and gas-oil and introducing.* s.l. : The Official Journal of the European Union, 2009. 2009/30/EC.
5. **Ireland, Government of.** *European Union (Biofuel Sustainability Criteria) Regulations 2012.* 2012.
6. **The European Parliament and the Council of the European Union.** The Recast Renewable Energy Directive (RED II). *Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the promotion of the use of energy from renewable sources (recast).* s.l. : General Secretariat of the Council, September 2016. 2016/0382 (COD).
7. **BÓC-CMG.** *BOS Application and Sustainability Procedure.* 2012. 457-X0066.
8. **Ireland, Government of.** Biofuels Obligation Scheme Policy Statement April 2018. April 2018.
9. **BÓC-CMG.** BOS Certificate Control and Reconciliation Spreadsheet. 2010. 457-X0041.
10. —. *Guidance on Reporting and Demonstrating Compliance with the Carbon and Sustainability Criteria.* 2012. 457-X0070.
11. —. Summary Audit Report - 2017 Period. 2018. 457-18X0125.
12. —. *Summary Audit Report - 2015 Period.* 2016. 457-X0170.
13. **The European Parliament and the Council of the European Union.** The Alternative Fuels Infrastructure Directive. *DIRECTIVE 2014/94/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 22 October 2014 on the deployment of alternative fuels infrastructure.* s.l. : Official Journal of the European Union, 2014. 2014/94.