

THE BIOFUELS OBLIGATION SCHEME

GUIDANCE ON APPLYING FOR BOS CERTIFICATES AND CARBON SAVINGS, AND REPORTING AND DEMONSTRATING COMPLIANCE WITH THE SUSTAINABILITY CRITERIA

*To accompany the
BOS Application and Sustainability Procedure*

TABLE OF CONTENTS

1	INTRODUCTION	1
	BACKGROUND	1
	PURPOSE AND SCOPE.....	2
	REFERENCE SOURCES	2
2	APPLYING FOR CERTIFICATES AND CARBON SAVINGS	4
	BIOFUELS	4
	CARBON SAVINGS FROM FOSSIL FUELS	5
	CARBON SAVINGS FROM ELECTRICITY.....	6
	CARBON SAVINGS FROM UPSTREAM EMISSION REDUCTIONS (UERS).....	7
3	USING THE UK & IRELAND CARBON CALCULATOR – BIOFUELS	9
	GETTING STARTED.....	9
	USING DEFAULT VALUES FROM RED TO REPORT GHG EMISSIONS SAVINGS	9
	USING ACTUAL INPUT DATA TO REPORT GHG EMISSIONS SAVINGS.....	10
	IMPORTING A FUEL CHAIN FROM A PROJECT FILE	10
	GENERATING THE BOS SUSTAINABILITY STATEMENT	11
	GENERATING OTHER REPORTS.....	11
4	REPORTING COMPLIANCE WITH THE SUSTAINABILITY CRITERIA – BIOFUELS.....	13
	INTRODUCTION.....	13
	CRITERIA RELATING TO GHG EMISSION SAVINGS	13
	CRITERIA RELATING TO LAND USE	14
	THE BOS SUSTAINABILITY STATEMENT	15
	COMPLYING WITH MASS BALANCE RULES.....	19
5	REQUIREMENTS FOR VERIFICATION & AUDITING	20
	INTRODUCTION.....	20
	KEY RESPONSIBILITIES FOR VERIFICATION AND AUDITING	20
	ASSURANCE STANDARDS – ISAE 3000	22
	INDEPENDENCE OF VERIFIERS	23
	PROFESSIONAL COMPETENCIES.....	24
	PREPARING FOR VERIFICATION.....	25
	GUIDANCE ON VERIFICATION.....	26

This document does not purport to be a legal interpretation of the legislation. No party shall be entitled to rely solely on any information or data provided in this document. If you have any queries in relation to its content, please direct them to the NORA BOS Team (bos@nora.ie).

1 Introduction

Background

- 1.1 This guidance document was originally issued in May 2013 to accompany the first issue of the *BOS Application and Sustainability Procedure* (ref. 457-X0066).
- 1.2 In July 2015, the BOS Application and Sustainability Procedure was updated and reissued. That revision was necessitated by the significant developments made to operating the BOS in the intervening period.
 - i. One of these developments was the switch to an online method of applying for and transferring BOS Certificates, via the BOS Online System (BOSOS).
 - ii. Another was introducing a specific BOS interface for the UK & Ireland Carbon Calculator, which NORA arranged to have developed in cooperation with the relevant agency in the UK (the RTFO)¹.
 - iii. A third was refining the method that BOS account holders are required to follow for reporting, verifying and auditing of information relating to the sustainability of biofuels. New guidance on this matter was published in 457-X0117 *Reporting Verification and Auditing of Information to be Maintained by BOS account holders* (February 2014)².
- 1.3 In January 2017, the BOS Application and Sustainability Procedure was updated and reissued to take account of changes in the legislation, including the mandatory submission of applications for BOS Certificates on a quarterly basis and changes to the GHG emission savings criteria.
- 1.4 In March 2018, the BOSOS was again modified to cater for two significant legislative changes.
 - i. The Department of Communications, Climate Action and Environment (DCCA) transposed Directive 2015/1513 (the ILUC Directive) in May 2018, via SI 169 of 2018.
 - ii. The DCCA published SI 160 of 2017³ which transposed Article 7a of the Fuel Quality Directive (FQD)⁴. This introduced a requirement on fuel suppliers to reduce the carbon intensity of the fuel they supply to road vehicles and non-road mobile machinery (NRMM) by 6% by 2020. This legislation places responsibility on NORA to put in place guidelines to enable fuel suppliers to report the quantity of transport fuel supplied to the market and the lifecycle greenhouse gas emissions per unit of energy.

¹ This tool is now known as the UK & Ireland Carbon Calculator and may be downloaded from <http://www.nora.ie/bos-documentation/online-software-resources.274.html>

² This guidance is available at <http://www.nora.ie/fileupload/457-X0117%20DrftFinal%20GdnceNote%20Report%20Verify%20Audit%20BOS%20Info.pdf>

³ <http://www.nora.ie/fileupload/SI%20160%20of%202017.pdf>

⁴ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32009L0030>

Purpose and Scope

- 1.5 The reason for revising this document now is to bring 457-X0070 up-to-date in the context of the changes referred to in paragraph 1.4 and other minor changes in the BOSOS.

Reference Sources

- 1.6 [Figure 1](#) illustrates the sources the BOS Team relied upon in developing this guidance.
- 1.7 The underpinning European legislation is the Renewable Energy Directive (RED)⁵ and Article 7a of the Fuel Quality Directive (FQD). The RED promotes increasing renewable energy in transport by mandating that 10% of the energy consumed in transport in Member States in 2020 shall be from renewable sources. Article 7a of the FQD promotes reducing the carbon intensity of the fuels used in transport by mandating fuel suppliers to reduce the carbon intensity of the fuels they supply by 6% by 2020. Both Directives rely on biofuels to support achieving the targets and both Directives require compliance with the same sustainability criteria. The Energy Act 2010⁶ and SI 33 of 2012⁷ are the primary pieces of national legislation that transpose the requirements of the RED relating to renewable energy in transport. SI 160 of 2017 transposes the requirements of Article 7a of the FQD.
- 1.8 As a consequence of NORA sharing the UK & Ireland Carbon Calculator, it is necessary to rely on two publications by the UK Department for Transport:
- i. RTFO Guidance Part Two: Carbon & Sustainability Guidance⁸; and
 - ii. UK & Ireland Carbon Calculator User Manual⁹.

In certain sections of this document, therefore, the online versions of one or other of UK publications is sometimes referred to directly. The BOS Team has concluded that this method is the most efficient for BOS account holders because regular updating of the Carbon Calculator and its accompanying documentation is essential.

oooOOOooo

⁵ <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009L0028&from=EN>

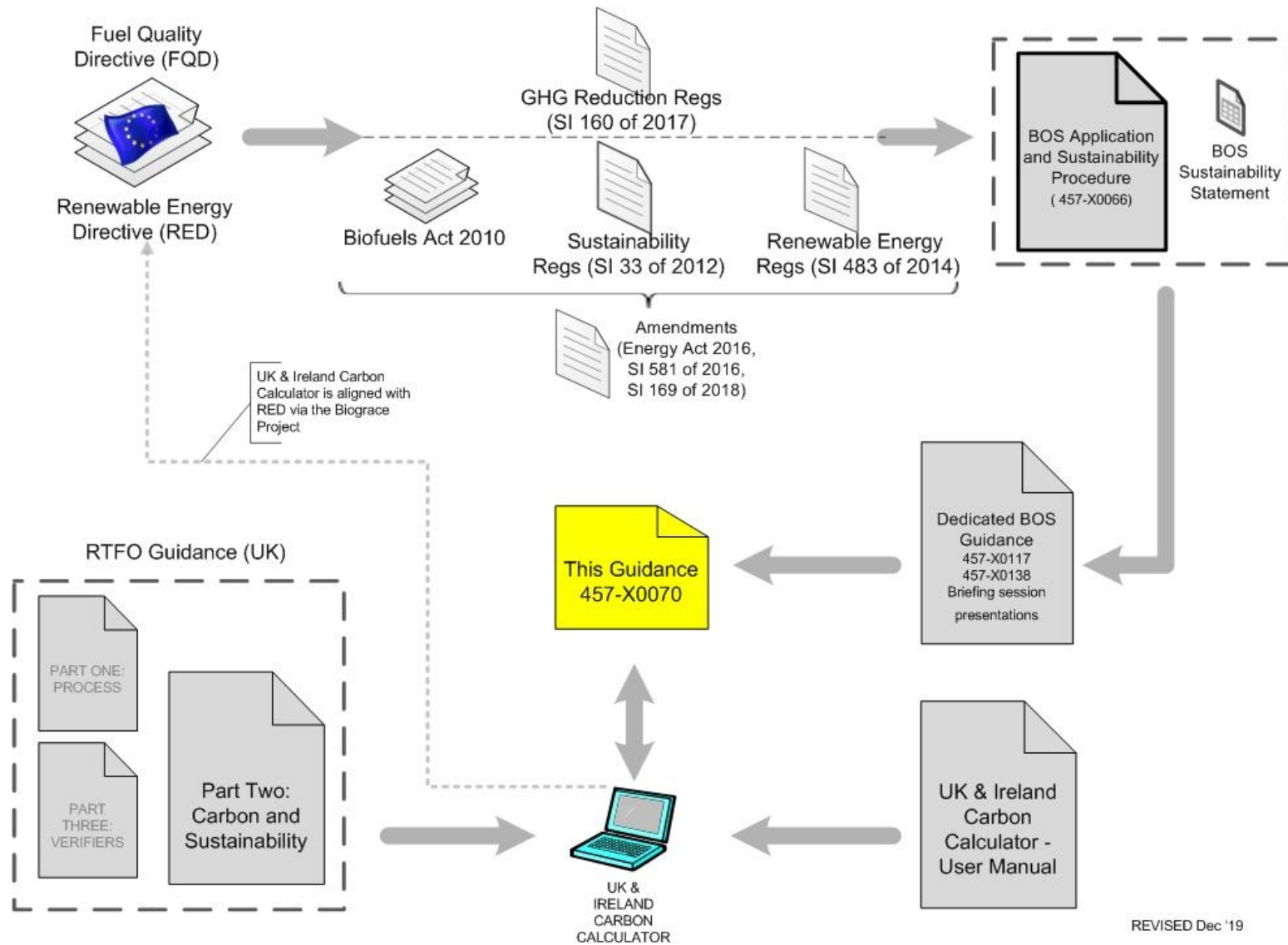
⁶ <http://www.irishstatutebook.ie/eli/2010/act/11/enacted/en/pdf>

⁷ European Union (Biofuel Sustainability Criteria) Regulations 2012 <http://www.irishstatutebook.ie/eli/2012/si/33/made/en/pdf>

⁸ <https://www.gov.uk/government/publications/rtfo-guidance>

⁹ <https://www.gov.uk/government/publications/biofuels-carbon-calculator>

Figure 1: Sources for Guidance



REVISED Dec '19

2 Applying for Certificates and Carbon Savings

Biofuels

- 2.1 Section 44G (3) of the BOS Act, as amended by the 2016 Energy Act, required NORA to make a ‘determination’ in respect of each ‘reporting period’¹⁰ specifying the closing date for submitting applications for BOS Certificates. NORA published this determination on the BOS section of its web site – the closing dates are set out in the following table.

Table 1: Deadline Dates for Submitting Applications for BOS Certificates

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

Applications for BOS Certificates now incorporate applications for carbon savings; the same deadline dates apply.

- 2.2 Failure to adhere to these deadlines may result in an application for BOS Certificates and carbon savings not being processed, even where levy-paid biofuel has been placed on the market. Compliance with the deadlines will also form part of the selection criteria for NORA’s annual auditing programme and will be recorded in audit reports.
- 2.3 If an account holder is supplying sustainability data to an exchange partner, sufficient time should be allowed so they too can be assured of meeting the deadline dates.
- 2.4 By prior arrangement with NORA, BOS account holders may submit applications on a monthly basis. In such cases, NORA will process the applications and issue BOS Certificates and carbon savings in relation to biofuel disposals at monthly intervals, provided the account holder has verifiably demonstrated that the sustainability criteria have been met.
- 2.5 Applications for BOS Certificates and carbon savings shall be submitted using the BOSOS, which can be accessed at <https://bos.nora.ie>.
- 2.6 The activities relied upon to prepare applications for BOS Certificates and carbon savings from disposals of biofuels are set out in Sections 3, 4 and 5.

¹⁰ ‘Reporting period’ is defined as a period of 3 consecutive months beginning on 1 January, 1 April, 1 July and 1 October.

Carbon Savings from Fossil Fuels

- 2.7 Carbon savings are required for demonstrating compliance with SI 160, which requires fuel suppliers to reduce the carbon intensity of the fuel they supply by 6% by 2020. Carbon savings may be generated by placing lower carbon intensity fossil fuels on the market. (Carbon savings may also be generated by placing biofuel on the market, supplying electricity to road vehicles and by applying for carbon savings from Upstream Emission Reductions).
- 2.8 Carbon savings from fossil fuels are calculated by comparing the lifecycle carbon intensity of the fuel with that of the Fuel Baseline Standard (FBS), 94.1 gCO_{2eq}/MJ. The average lifecycle GHG intensity of fossil fuels are set out in Annex I, Part 2 of Directive 2015/652. The following are some examples.

Table 2: Carbon Intensity of Fossil Fuels

Raw material	Fuel placed on the market	Weighted lifecycle GHG intensity (gCO _{2eq} /MJ)
Conventional crude, natural gas-to-liquid, coal-to-liquid, natural bitumen & oil shale	Gasoline	93.3
	Diesel	95.1
Any fossil source	LPG in spark ignition engine	73.6
Natural gas, EU mix	CNG in spark ignition engine	69.3
	LNG in spark ignition engine	74.5
Natural gas using steam reforming	Compressed hydrogen in a fuel cell	104.3
Electrolysis fully powered by non-biological renewable energy		9.1
Coal		234.4

- 2.9 Relevant disposals of fossil fuel are reported to the Department of Communication, Climate Action and Environment's (DCCA) via the OLA system. This data is then supplied to the BOSOS where account holders can view the carbon savings generated. There is no further information to be submitted to NORA in order to generate carbon savings from fossil fuels.

- 2.10 Fuel suppliers that are obligated under SI 567 of 2007 are required to make monthly OLA returns. Those companies that pay the NORA Levy on sales of fossil fuel will be awarded the carbon savings.
- 2.11 Fuel suppliers that are not obligated under SI 567, but are supplying fuels that fall under the scope of SI 160 of 2017, e.g. compressed natural gas (CNG) and LPG for transport, are required to report the quantity of fuel supplied each month using the OLA system.
- 2.12 Fuel suppliers will be advised of the arrangements for using OLA when setting up a BOS account.
- 2.13 Both obligated and non-obligated fuel suppliers are required to report their relevant disposals by the 18th day of the following month (as set out in Regulation 3 of SI 567).
- 2.14 In OLA, suppliers of 10ppm gasoil are required to report 80% of their gasoil sales under the transport heading and 20% under the non-transport heading. The 80:20 split needs to be reflected in the 'Total levy liability in litres' value calculated in OLA. The following table illustrates where the 80:20 split applies.

		Gasoil		Calculation
		10ppm Sulphur (transport) (Litres)	10ppm Sulphur (non-transport) (Litres)	
A	Opening stock in beneficial ownership			
...				
K	Total Sales (observed)	93	22	
L	Statistical difference	-	-	
M	Sales to listed parties	8	2	
N	Levy paid sales to listed parties	-	-	
O	Marine bunkers	5	-	
P	Aviation fuels	-	-	
Q	Refinery production	-	-	
R	Total levy liability in litres	80	20	=K-M-O-P
S	Total levy liability in Euro	€ 1.60	€ 0.40	R * €0.02

Carbon Savings from Electricity

- 2.15 Carbon savings may be claimed by electricity suppliers for electricity supplied to road vehicles or motorcycles.
- 2.16 Upon request, NORA will provide electricity suppliers that wish to claim carbon savings with the information required to apply.
- 2.17 The lifecycle carbon intensity value published by the EU Commission's Joint Research Centre (JRC) for Ireland's low voltage network in 2015 (569 gCO_{2eq}/kWh) will be updated by NORA using an improvement factor (IF) based on SEAI's GHG intensity data for 2015 and 2019. This calculated value will be provided to those electricity suppliers wishing to claiming carbon savings for 2020.

- 2.18 An estimate of Ireland's total consumption of electricity in EVs will be calculated by NORA using the formula provided in Directive 2015/652 (electricity consumption = distance travelled × consumption efficiency). The total quantity of electricity consumed by EVs in Ireland will be apportioned among the electricity suppliers in accordance with their market share. These calculated values will be provided to those electricity suppliers wishing to claiming carbon savings for 2020.
- 2.19 Neither the lifecycle carbon intensity data nor electricity consumption data will need to be verified, because NORA will have provided both items of information to the applicants.
- 2.20 Applications for carbon savings arising from electricity consumed in EVs in Ireland shall be submitted using the BOSOS by the deadline of **14th February 2021**.

Carbon Savings from Upstream Emission Reductions (UERs)

- 2.21 Account holders may use UERs to claim carbon savings.
- 2.22 This guidance on UERs in Ireland is informed by the EU Commission's *Guidance Note on approaches to quantify, verify, validate, monitor and report upstream emission reductions*¹¹.
- 2.23 All GHG reduction projects, in any country, at upstream sites producing and extracting non-biological raw material which is used for producing fuels for transport, and is supplied for uses covered by the FQD, can be considered as potentially eligible, so long as they are consistent with the definitions in Article 2 of the FQD.
- 2.24 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.
- 2.25 NORA understands that a typical UER project is one that reduces flaring or venting of associated petroleum gases produced during oil extraction.
- 2.26 In general, it is the role of the producer of the UER to ensure:
- i. the necessary data is being tracked and verified;
 - ii. the appointed validation and verification teams are qualified;
 - iii. the validation and verification meets expected standards;
 - iv. the tests for additionality are being appropriately applied; and
 - v. an appropriate chain of custody is in place so that the UERs generated cannot be improperly claimed by others.
- 2.27 The role of the fuel supplier is to:
- i. undertake due diligence to ensure that any UERs made available for them through commercial arrangements are eligible, and reflect real emissions savings;
 - ii. ensure UER producers with whom they enter into commercial arrangements with have not made the same UERs available to other fuel suppliers or redeemed them for compliance with other regulations;

¹¹ https://ec.europa.eu/clima/sites/clima/files/guidance_note_on_uer_en.pdf

- iii. ensure all required data is available and prepare the data in the required format;
- iv. appoint an independent verifier to provide assurance that the data supplied to NORA has been subject to verification.

2.28 To be eligible for carbon savings, UERs shall comply with the following criteria.

- 2.28.1 UERs can only be applied to the upstream emission's part of the average default values for petrol, diesel, CNG or LPG and cannot be greater than this upstream emissions portion of the default fossil fuel GHG intensity value.
- 2.28.2 UERs shall only be counted if they are associated with projects that have started after 1st January 2011.
- 2.28.3 UERs can only be claimed as carbon savings for the calendar year in which they were created. They cannot be aggregated over the lifetime of the UER project.
- 2.28.4 The emissions reductions must have occurred. UERs cannot be claimed for emissions savings that are expected to occur in the future.
- 2.28.5 UERs that are used to claim carbon savings in Ireland must not be used in other Member States, or for complying with any other emission reduction requirements, or any other GHG offsetting mechanism (e.g. the Clean Development Mechanism under the Kyoto Protocol).
- 2.28.6 A UER project must offer GHG savings that would not have occurred in the absence of the project. UERs must be additional to any emissions changes that would have been expected in the most likely counterfactual scenario. It is not, however, necessary to prove that the UER project was the direct result of the requirements of the FQD or that the UERs would not have taken place without the reporting requirement set out in Article 7a of the FQD.
- 2.28.7 UERs shall be estimated and validated in accordance with principles and standards identified in International Standards, and in particular ISO 14064¹², ISO 14065¹³ and ISO 14066¹⁴.
- 2.28.8 UERs generated from projects certified under the Clean Development Mechanism (CDM) or Joint Implementation (JI) mechanism are eligible for carbon savings if they satisfy points 2.22.1 to 2.22.7; however, if any reductions have been credited in the form of Certified Emissions Reductions (CERs) under the CDM or Emissions Reduction Units (ERUs) under JI, those reductions can only be claimed as verified and validated UERs if it is verified that any CER or ERU issued for these reductions have been cancelled and have not already been, nor will be, used for compliance with any other emissions reduction requirement or in relation to another offset scheme.

¹² Comprises ISO 14064-1:2006 Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals, ISO 14064-2:2006 Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emissions reductions or removal enhancements, and ISO 14064-3:2006 Specification with guidance for the validation and verification of greenhouse gas assertions.

¹³ ISO 14065:2013 Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition.

¹⁴ ISO 14066:2011 Competence requirements for greenhouse gas validation teams and verification teams

3 Using the UK & Ireland Carbon Calculator – Biofuels

Getting Started

- 3.1 The carbon calculator may be downloaded from NORA’s website¹⁵. Click on Carbon Calculator and follow the installation instructions.
- 3.2 Specific guidance on using this tool in connection with the BOS is provided in 457-X0138¹⁶.
- 3.3 Full details on how the Carbon Calculator functions are provided in the User Manual¹⁷. Specific guidance for users operating under the BOS is **not** provided in the User Manual.
- 3.4 It is important that BOS account holders use the most recent version of the Carbon Calculator. The User Manual describes how the software tool itself can be used to check that the version in use is the most recent one.

Using Default Values from RED to Report GHG Emissions Savings

- 3.5 If you do not intend to use *actual data* relating to the carbon intensity of a particular consignment of biofuel, but, instead, intend to rely on *fuel chain default values* (ref. Schedule 4 of the 2014 Renewable Energy Regulations¹⁸), you need to follow the procedure described in Chapter 2 of the Carbon Calculator User Manual. NORA anticipates that the majority of BOS account holders will report default values or actual values that have been provided in a voluntary scheme proof of sustainability (which do not need to be calculated by the account holder).
- 3.6 Instructions on how to use the Carbon Calculator to create a ‘fuel chain module’ are contained in Chapter 2 of the Carbon Calculator User Manual.
- 3.7 Further guidance on demonstrating compliance with GHG savings criteria using default values is contained in Chapter 5 of the RTFO Guidance Part Two: Carbon & Sustainability Guidance.

¹⁵ <http://www.nora.ie/bos-documentation/online-software-resources.274.html>

¹⁶ <http://www.nora.ie/fileupload/457-X0138%20-%20Carbon%20Calculator%20Upgrade.pdf>

¹⁷ <https://www.gov.uk/government/publications/biofuels-carbon-calculator>

¹⁸ <https://www.nora.ie/fileupload/SI483%20Renewable%20Energy%20Regulations%202014.pdf>

Using Actual Input Data to Report GHG Emissions Savings

Using actual data to calculate carbon intensity is likely to require a wide range of expertise: in agronomy, transport, process engineering, data management and statistics.

Apart from very simple biofuel chains, using actual values for the entire biofuel chain is always going to be a complex task, except where the actual values have already been calculated and are contained in a voluntary scheme proof of sustainability.

- 3.8 Default values for carbon intensity may not meet the targets for GHG emissions savings that are specified in the Renewable Energy Regulations. There are two alternatives:
- i. use actual values supplied in a voluntary scheme proof of sustainability; or
 - ii. calculate actual values using qualitative data measured or collected from along the fuel supply chain.
- 3.9 There are three options available for calculating the actual carbon intensity value of a particular biofuel (i.e. bullet ii above).
- i. Use one of the default fuel chains that are provided in the Carbon Calculator and adjust the input data. If the modules¹⁹ in the various stages of the default fuel chain do not exactly match the process, the fuel chain can be modified.
 - ii. Create an entirely new fuel chain using the Carbon Calculator.
 - iii. Use a spreadsheet model to calculate an actual value²⁰.
- The first method is recommended because it is less prone to error.
- 3.10 For instruction on how to use a default fuel chain to add actual data, refer to paragraphs 2.10 to 2.11 of the Carbon Calculator User Manual.
- 3.11 To modify a default fuel chain, refer to paragraphs 2.12 to 2.13 of the Carbon Calculator User Manual.
- 3.12 To construct a completely new fuel chain, refer to paragraphs 2.17 to 2.22 of the Carbon Calculator User Manual.
- 3.13 Instructions for entering actual data into a fuel chain are provided in Chapter 3 of the Carbon Calculator User Manual. Chapter 6 of the RTFO Guidance Part Two: Carbon & Sustainability Guidance explains how to report actual carbon data and how to assess the impact of land-use change. It also elaborates on the lifecycle analysis methodology, which is prescribed in Annex V of the RED, and Schedules 3 and 4 of the Renewable Energy Regulations.

Importing a Fuel Chain from a Project File

¹⁹ For a more detailed description of modules and how they can be built into stages and then into a fuel chain, see Chapter 6 of Carbon Calculator User Manual.

²⁰ Spreadsheet templates are available from the RTFO (see paragraph 1.21 of the RTFO Guidance Part Two: Carbon and Sustainability Guidance).

3.14 It is also possible to import a fuel chain from another project file – one that was provided by a supplier, for example – as long as it was generated using the Carbon Calculator. Follow the instructions given in paragraphs 2.23 to 2.29 of the Carbon Calculator User Manual.

Generating the BOS Sustainability Statement

3.15 Once all the data for all disposals in a given month, or a quarter, are entered, the Carbon Calculator can be used to produce monthly sustainability reports. These can be submitted to NORA as the BOS Sustainability Statements.

3.16 The Carbon Calculator can be used to generate this report/statement irrespective of the way in which compliance with GHG savings is reported (i.e. used default values, actual values or a combination of both). All this information will be recorded in the project file created when the Carbon Calculator file is set up for the first time.

3.17 Instructions on how to generate the monthly sustainability report (the Sustainability Statement) are provided in paragraphs 4.1 to 4.7 of the Carbon Calculator User Manual.

Generating Other Reports

3.18 The Carbon Calculator can be used to generate other reports (see Chapter 4 of the Carbon Calculator User Manual). BOS account holders will not be able to produce a 'Year Overview' report because it is linked to information stored on the RTFO Operating System (ROS).

3.19 Three other types of project report may be produced: a Summary Report, a Detailed Report and a Data Report. (Refer to paragraph 4.11 of the Carbon Calculator User Manual.)

3.20 A useful feature is that users can specify the time period they want a report to cover. This means you can produce a report for a BOS obligation period by choosing the relevant month/year to define the start and end of the reporting period.

File name	Valid
C:\Program Files\UKCarbonCalculator\NORA BOS Trial.rfa	ok

3.21 BOS account holders may find the facility to generate a project report for a complete calendar year useful, if preparing the Annual Audit Report.

oooOOOooo

4 Reporting compliance with the Sustainability Criteria – Biofuels

Introduction

- 4.1 Compliance involves not only ensuring that biofuels placed on the market meet the Sustainability Criteria. It is also necessary to demonstrate compliance by reporting certain information to NORA, which must be independently verified prior to submitting it.
- 4.2 If an obligated party makes a disposal of biofuel that does not comply with the sustainability criteria or does not receive independent verification, such a disposal will be treated as a disposal of petroleum product and the quantity disposed of will incur a biofuel obligation under Section 44D of the BOS Act.

Criteria Relating to GHG Emission Savings

- 4.3 The following mandatory criteria apply to GHG emission savings from biofuels (Schedule 3 of the amended Renewable Energy Regulations²¹):
 - i. in the case of installations starting operation after 5th October 2015, at least 60%;
 - ii. in the case of installations that were in operation on or before 5th October 2015, at least 50%.
- 4.4 It was previously stipulated that for biofuels produced from crop-based feedstocks cultivated in the EU, the disaggregated default value for cultivation, and therefore the overall fuel chain default value, could only be used if the feedstock was cultivated in a NUTS2²² region with cultivation emissions lower or equal to the disaggregated default value. This criterion no longer applies. Therefore, the default value for cultivation, and the overall fuel chain default value, can now be used regardless of where the feedstock was cultivated.
- 4.5 The methodology to be used for calculating the GHG emission savings from biofuels is described in Schedule 4 of the Renewable Energy Regulations (transposed from Annex V of the RED). The Regulations provide BOS account holders with three options for reporting on these savings.
 - i. Use the default values for GHG savings for a specific fuel chain; these default values are listed in Schedule 4 of the Renewable Energy Regulations and may be reported, provided there has been no net carbon emissions from land use during the cultivation of any feedstocks used.
 - ii. Use the actual values for GHG emissions from each stage in the fuel chain (cultivation, processing, transport and distribution) and follow the calculation method set out in Schedule 4, Part C of the Renewable Energy Regulations.

²¹ <https://www.nora.ie/fileupload/SI483%20Renewable%20Energy%20Regulations%202014.pdf>

²² Nomenclature of territorial units for statistics, level-2: <http://ec.europa.eu/eurostat/web/nuts/overview>

- iii. Use a combination of disaggregated default values from Part D or E of Schedule 4 for some stages of the fuel chain, and actual values for the other stages, using the calculation method set out in Part C of Schedule 4.
- 4.6 If option (i) of the previous paragraph is taken, this will be relatively straight forward, but default values are deliberately conservative and may understate the savings for some fuel chains.
- 4.7 If either option (ii) or (iii) is used, the actual values may be provided in a voluntary scheme proof of sustainability or they can be calculated using the Carbon Calculator. If Carbon Calculator is used, then, depending on the way in which feedstock was cultivated and subsequently processed into biofuel, calculating the GHG savings could be very complex and prone to error. All calculations require independent verification.

Criteria Relating to Land Use

Biodiversity

- 4.8 Biofuels may not be made from raw material obtained from land that had a high biodiversity value in or after January 2008 (Schedule 3 of the Renewable Energy Regulations). This include, for example, primary forests and other wooded land, areas designated as Special Areas of Conservation and Special Protection Areas, and highly biodiverse grasslands.
- 4.9 The European Commission has provided guidance²³ to voluntary schemes on implementing these requirements. It has also adopted a Regulation²⁴ defining the criteria and geographic ranges of highly biodiverse grassland, which applies from 1st October 2015.
- 4.10 Further guidance on demonstrating compliance with the land criteria is provided in Chapter 4 of RTFO Guidance Part Two: Carbon & Sustainability Guidance.

Carbon stock & peatlands

- 4.11 Biofuels may not be made from raw material obtained from land with high carbon stock, such as forests or land that was undrained peatland in January 2008, unless strict criteria are met.
- 4.12 Carbon stock refers to the carbon that is trapped in the biomass above and below the ground and in the soil itself. Examples are wetlands, forest and undrained peatlands.

Cross Compliance

- 4.13 Biofuel feedstocks grown in a Member State must be cultivated according to the European Commission's requirements for Cross Compliance in respect of good agricultural and

²³ <https://ec.europa.eu/energy/sites/ener/files/documents/PAM%20to%20vs%20on%20HBG.pdf>

²⁴ https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:JOL_2014_351_R_0002

environmental condition. These are specified in Part A and point 9 of Annex II to Council Regulation (EC) No 73/2009.

4.14 There is currently no obligation on BOS account holders to report on Cross Compliance.

The BOS Sustainability Statement

4.15 The BOS Sustainability Statement is submitted to NORA as a CSV²⁵ file. The template for a BOS Sustainability Statement is illustrated in [Figure 2](#).

4.16 The BOS Sustainability Statement illustrated in this example was generated by the BOS Team using the UK & Ireland Carbon Calculator. The data inputs are fictitious and are for illustrative purposes only. When a CSV report is generated, the Carbon Calculator automatically fills the columns with data inputted by the user or with results that were automatically calculated by the tool.

Content of the BOS Sustainability Statement

4.17 This paragraph describes the content of each of the columns in the BOS Sustainability Statement and how the data in each column is generated.

- i. Column A will be used by the BOS Team for its own internal reference purposes.
- ii. Column B is optional and may be used by the BOS account holder for its internal reference purposes.
- iii. Columns C, D and E contain compulsory inputs which must be entered. The data in columns C and E are selected from a drop-down list while the data in Column D is inputted directly (volume for liquid biofuels and mass for biogas).
- iv. The information in Column F (Biofuel production process) is not always required. In this example, the fact that the biofuel is manufactured from UCO has already defined the product sufficiently for the Carbon Calculator to determine its carbon intensity.
- v. Column G (country of origin of the feedstock) is a compulsory input and is selected from a drop-down list. It is permitted to choose 'Unknown' only where the information is unavailable and the supplier can still demonstrate compliance with the GHG and land criteria, by using a voluntary scheme, for example.
- vi. Column H: this is no longer in use – see paragraph 4.4.
- vii. Columns I, J and K show the EU Commission recognised voluntary schemes that were used to certify the biofuel as complying with the sustainability and verification criteria. The user has the option of choosing three voluntary schemes from a drop-down list. Note that in this case, the Carbon Calculator tool automatically defaulted to waste/non-agricultural residue.
- viii. Column L: land use on 1 January 2008. Normally this is chosen at the input stage from a drop-down list. In this case, the tool has defaulted to waste/non-agricultural residue because the feedstock in use is UCO. It defaults to 'not applicable' for feedstocks derived from wastes and residues (with the exception of residues from

²⁵ Comma separated value. BOS Sustainability Statements that are generated using the UK & Ireland Carbon Calculator will automatically be saved in CSV format. The default software for opening a CSV file is MS Excel.

agriculture, aquaculture, fisheries and forestry). Otherwise, this is a compulsory input. It may be permissible to select a blank entry (-) where the biofuel is covered by a voluntary scheme which meets the land criteria and the land use information has not been passed down the supply chain. Where the land use on 1 January 2008 is known, it must be reported.

- ix. Column M shows the carbon intensity. For biofuels for which default values are contained in Annex V of the RED, this is automatically calculated by the Carbon Calculator using the data and information provided by the user. Otherwise the carbon intensity data must be entered by the user.
- x. Column N shows the type of GHG data that was used to calculate the value in column M. The blank cell here indicates that default values were used. If actual values were used, it would have been necessary to indicate this at the input stage.
- xi. Column O returns a code used by the calculator to determine the GHG savings requirement. The code is relevant to whether the plant in which the biofuel was produced was in operation before or after the 5th October 2015 (after 5th October 2015, at least 60% GHG savings required; before 5th October 2015, at least 50% GHG savings required);
- xii. Column P. This column reports whether or not there has been any soil carbon accumulation due to improved agricultural practice. This is the e_{sca} factor which can be counted as a credit against emissions of CO_{2eq} when actual values are being calculated for carbon intensity – see Annex V of the RED for the calculation methodology. It is not essential to report this in a BOS Sustainability Statement to obtain BOS Certificates and carbon savings, but if it is not, it must be reported on an annual basis as part of the Additional Sustainability Information. In this example, the report automatically returned waste/non-agricultural residue because of the feedstock that was entered.
- xiii. Column Q shows whether the biofuel consignment met the required GHG emissions savings target or not. This is carried out automatically by the carbon calculator: it compares the figure in column M with the relevant target and, in this case, returned a 'Yes' in column Q because the target was met.
- xiv. To complete Column R, the Carbon Calculator relies the voluntary scheme data input and/or the land use on 1 January 2008 (see columns I, J, K and L); it automatically returns a 'Yes' if the biodiversity criteria are met or a 'No' if not. In this case, this criterion was always going to be satisfied because the feedstock was waste, so the land criteria was not applicable.
- xv. To complete Column S, the Carbon Calculator again relies on the voluntary scheme data and/or the land use on 1 January 2008 (see columns I, J, K and L); it automatically returns a 'Yes' if the carbon stock criteria are met or a 'No' if not. Here again, these criteria are met automatically because of the feedstock.
- xvi. Finally, in Column T, the Carbon Calculator returns a 'Yes', indicating that the biofuel is wholly compliant with the RED on the basis that it has met the GHG emissions savings criteria, the biodiversity criteria and the carbon stock criteria, as shown by the 'Yes' in each of columns Q, R and S.

Submitting the BOS Sustainability Statement to NORA

- 4.18 The CSV file containing the BOS Sustainability Statement must be uploaded when making an application, together with the Independent Verification Report²⁶ (IVR). The BOS Team recommends BOS account holders use the following procedure.
- i. Use the Carbon Calculator to generate a BOS Sustainability Statement for each calendar month for which you are applying for BOS Certificates and carbon savings.
 - ii. The Sustainability Statements should be saved in an appropriate location as CSV files.
 - iii. The Sustainability Statements should be transferred to the independent verifier, together with any evidence from the chain of custody required by the verifier.
 - iv. The verifier should prepare an IVR for each month and append the monthly Sustainability Statement to each report. It should return a PDF copy of the IVR to the BOS account holder.
 - v. The BOS account holder should then upload the Sustainability Statement (in CSV format) and the PDF copy of the IVR with its application for BOS Certificates and carbon savings.

²⁶ See 457-X0117: *Guidance Note on Reporting, Verification and Auditing of information to be maintained by BOS account holders and provided to NORA under Regulations 6 & 7 of the Sustainability Regulations*

Figure 2: Sample BOS Sustainability Statement

	A	B	C	D	E	F	G	H	I	J	K
1	Administrative consignment no.	Internal reference no.	Fuel type	Quantity of fuel (litres)	Biofuel feedstock	Biofuel production process	Country of origin	NUTS 2 compliant region	Voluntary Scheme 1	Voluntary Scheme 2	Voluntary Scheme 3
2		SM 1	ME	10000	UCO	-	IRL	N/A	W/NAR	ISCC	-
3											
	K	L	M	N	O	P	Q	R	S	T	
1	Voluntary Scheme 3	Land-use on 1 Jan 2008	Carbon intensity g CO2e/MJ	Type of GHG data	Plant in operation at relevant plant age threshold?	Soil carbon accumulation	RED GHG	RED Biodiversity	RED C-stock	RED compliant [indicative]	
2	-	W/NAR	14	-	BB00FC1F-0577-491E-5	n/a	Yes	Yes	Yes	Yes	
3											

Complying with Mass Balance Rules

- 4.19 The method by which a connection is made between information or claims concerning raw materials or intermediate products and claims concerning final products is known as the *chain of custody*. The Renewable Energy Regulations specifies that the mass balance method must be used in establishing a chain of custody.
- 4.20 Voluntary schemes **may** include an acceptable chain of custody using mass balance, but the scope would have to be checked to ensure it covered the entire chain from feedstock producer to BOS account holder.
- 4.21 This means that some BOS account holders may have to set up their own chain of custody for some or all the supply chain.
- 4.22 Detailed guidance on how to set up a chain of custody that will meet the requirements of the RED are provided in Chapter 8 of RTFO Guidance Part Two: Carbon and Sustainability Guidance²⁷.

oooOOooo

²⁷ <https://www.gov.uk/government/publications/rtfo-guidance>

5 Requirements for Verification & Auditing

Introduction

- 5.1 This section describes the key responsibilities of the parties involved in the verification process for biofuels and UERs. It also specifies the standard to which verification must be carried out, the competences expected of the verifier and the requirement that verifiers be independent.
- 5.2 Independent verification is currently not required for data submitted in applications for carbon savings from electricity nor for data reported in OLA on fossil fuels that fall outside the scope of SI 567 of 2007.
- 5.3 Detailed guidance on the method and requirements for reporting, verifying and auditing information relating to the sustainability of biofuels is provided in 457-X0117.

Key Responsibilities for Verification and Auditing

Biofuels – BOS account holders

- 5.4 BOS account holders are responsible for the following.
 - i. Preparing data and completing applications for BOS Certificates and carbon savings.
 - ii. Preparing the additional sustainability information and submitting it either with the application for BOS Certificates and carbon savings or in an annual audit report.
 - iii. Ensuring they have evidence (or that it exists in the chain of custody) to support the information in the application for Certificates and carbon savings, and annual audit report.
 - iv. Appointing an independent verifier that is competent to undertake assurance engagements under ISAE 3000 and possesses an appropriate level of understanding of the sustainability criteria. (ISAE 3000 is described in detail in chapter 5.15.)
 - v. Notifying NORA of the verifier appointed.
 - vi. Indicating which consignments or part of a consignment making up a disposal are to be verified in the period in question and submitting the data to the verifier.
 - vii. Providing supporting information and evidence to the verifier and hosting any visits.
 - viii. Assisting the verifier in contacting and gaining access to other organisations in the supply chain.
 - ix. Correcting any data that the verifier finds to be misstated or insufficiently supported by evidence.
 - x. Providing the independently verified BOS Sustainability Statement to NORA.
 - xi. Informing NORA if errors are discovered in the data after an application for BOS Certificates and carbon savings or Annual Audit Report has been submitted. BOS account holders are required to submit applications for BOS Certificates and carbon

savings on a quarterly basis and no later than the deadline dates determined by NORA.

Biofuels – Verifiers

5.5 Verifiers are responsible for the following.

- i. Planning and carrying out evidence gathering and testing activities to form an opinion on the data.
- ii. Informing BOS account holders of any changes to data which must be made and of any consignments which should be withdrawn from verification.
- iii. Providing an assurance opinion or, if necessary, a qualified opinion or disclaimer of opinion, in accordance with ISAE 3000 or an equivalent standard, to the BOS account holder.
- iv. Preparing an Independent Verification Report (IVR) setting out, *inter alia*, the verifier's opinion and the evidence gathered to inform the opinion.

Biofuels – NORA

5.6 NORA is responsible for the following.

- i. Specifying the data to be submitted by BOS account holders.
- ii. Receiving assurance opinions and reviewing them against the requirements of the procedure.
- iii. Informing BOS account holders of acceptance or rejection of applications for BOS Certificates and carbon savings.

UERS – BOS account holders

5.7 BOS account holders are responsible for the following.

- i. Preparing the data and completing the applications for carbon savings from UERS.
- ii. Ensuring the UERS have been estimated and validated in accordance with the principles and standards detailed in ISO 14064, ISO 14065 and ISO 14066.
- iii. Providing evidence that the UERS have not been used in other Member States or claimed for compliance with any other emission reduction requirements or any other GHG offsetting scheme.
- iv. Arranging for independent verification of the evidence that the UERS meet the eligibility requirements for carbon savings.
- v. Appointing an independent verifier that is competent to undertake assurance engagements under ISAE 3000 and possesses an appropriate level of understanding.

UERS – Verifiers

5.8 There are two distinct verification requirements for UERS.

- i. It must be verified that the emission reductions have taken place under the UER project, the project conforms to International Standards for project validation and verification (specifically ISO 14064, 14065 and 14066), and the verification of methods for estimating UERS was carried in accordance with ISO 14064.

- ii. It must be verified that the UERs meet the eligibility requirements for carbon savings, as set out in paragraph 2.28.
- 5.9 For item (i) above, the organisation verifying the UER must be accredited in accordance with ISO 14065. UERs assessed by validation and verification bodies that are not compliant with the ISO requirements will not be eligible for carbon savings. It is likely that item (i) will be carried out by the organisation providing the UER.
- 5.10 For item (ii), NORA requires independent verification of evidence that UERs meet the eligibility requirements for carbon savings. This verification must be carried out in accordance with ISAE 3000. The verifier is responsible for:
- i. Planning and carrying out evidence gathering and testing activities to form an opinion on the data;
 - ii. Informing BOS account holders of any changes to data which must be made;
 - iii. Providing an assurance opinion or, if necessary, a qualified opinion or disclaimer of opinion, in accordance with ISAE 3000 or an equivalent standard, to the BOS account holder.
 - iv. Preparing an Independent Verification Report (IVR) setting out, *inter alia*, the verifier's opinion and the evidence gathered to inform the opinion.
- 5.11 In addition, the verifier needs to provide assurance that the UERs have not been used in other Member States or claimed for compliance with any other emission reduction requirements or any other GHG offsetting scheme.
- 5.12 It may be the case that the same verifier verifies: (a) the emission reductions have taken place in compliance with International Standards; and (b) the requirements for eligibility as carbon savings have been complied with. However, this does not need to be the case.

UERs – NORA

- 5.13 NORA is responsible for the following.
- i. Specifying the data to be submitted.
 - ii. Receiving IVRs and reviewing them against the requirements.
 - iii. Informing BOS account holders of acceptance or rejection of applications for carbon savings from UERs.

Assurance Standards – ISAE 3000

- 5.14 For verification of sustainability data for biofuels, the Sustainability Regulations state that the verification must meet the requirements of ISAE 3000 or an equivalent standard as may be agreed by the Agency. ISAE 3000 has also been specified by NORA for independent verification of UER data.

- 5.15 ISAE 3000 is an international standard developed by the International Auditing and Assurance Standards Board (IAASB). It is a standard for assurance engagements other than audits or reviews of historical financial information.
- 5.16 ISAE 3000 defines two levels of assurance: limited and reasonable. Neither the Sustainability Regulations nor the GHG Reporting Regulations (SI 160 of 2017) specify the level of assurance required for data submitted under these regulations. NORA has determined that the level of assurance required for applications for BOS Certificates and carbon savings for biofuels is 'limited' and 'reasonable' assurance is required for applications for carbon savings for UERs.
- 5.17 The level of assurance relates to the level of engagement risk. This is the risk that the verifier expresses in an appropriate conclusion. As limited assurance involves limited evidence gathering activities, the assurance opinion is expressed in the negative form, for example:
- "Based on our review, nothing has come to our attention to cause us to believe there are errors in the data."*
- Reasonable assurance requires a higher level of evidence gathering and as such the assurance opinion is expressed in a positive form, for example:
- "... based on our assessment, the data is free from material misstatement."*
- 5.18 By expressing the conclusion in this manner, the verifier is being clear that the level of confidence which users of the assurance statement place on the conclusion must be taken in the context of the nature and extent of evidence gathering that the verifier has undertaken and described in the assurance opinion.
- 5.19 At the time of writing, NORA is not aware of any equivalent standards to ISAE 3000. If a BOS account holder or a verifier wishes to use an alternative standard, they should contact the BOS Team to discuss this as soon as possible.
- 5.20 Verification shall be carried out in accordance with the most recent issue of ISAE 3000 or equivalent standard as may be agreed by the Agency.

Independence of Verifiers

- 5.21 ISAE 3000 requires that *'The practitioner should comply with the requirements of Parts A and B of the Code of Ethics for Professional Accountants, issued by the International Ethics Standards Board for Accountants (the IESBA Code)'*. This Code provides a framework of principles that members of assurance teams, firms and network firms use to identify and safeguard against any threats to independence.
- 5.22 Although the IESBA code does not, of itself, preclude a qualified person within the BOS account holder's organisation (such as an internal auditor) from providing assurance, this is not sufficient to satisfy the requirements of Regulation 6 (3) or 7 (2) of the Sustainability Regulations.

- 5.23 The Sustainability Regulations require that the assurance provider is 'independent' and as such for the purposes of the BOS, verification by a person within the BOS account holder's organisation is not considered to be independent assurance.
- 5.24 The assurance provider may not be a 'connected person' of the BOS account holder, as defined in Section 10 of the Taxes Consolidation Act 1997.
- 5.25 Threats to independence may also exist where a verifier is independent of the BOS account holder, but has been engaged by them in another capacity relating to the sustainability information. For example, if a verifier has worked with a BOS account holder to design or implement controls over that information.

Professional Competencies

- 5.26 The verifier's assurance opinion must be produced by a person with appropriate expertise.
- 5.27 ISAE 3000 requires that *'The practitioner should accept (or continue where applicable) an assurance engagement only if the practitioner is satisfied that those persons who are to perform the engagement collectively possess the necessary professional competencies'*. This includes both the work of the practitioner themselves, and any expert that they may engage to assist with the assurance.
- 5.28 Competence to undertake assurance engagements under ISAE 3000 or such equivalent standard as may be agreed by NORA is a requirement of the procedure.
- 5.29 The extent to which expert skills and knowledge relating to sustainability information for biofuels and UER data is required will depend on the complexity of the fuel supply chain and the UER project. For example, in the case of a BOS account holder which only disposes of biofuel made from locally sourced used cooking oil (UCO), and which reports the default value for the carbon emissions, a significantly lower level of expertise would be needed than for verification of data relating to a supply chain sourcing multiple feedstocks from multiple countries and relying on land use and actual carbon emissions information being accurately passed through the chain of custody.
- 5.30 BOS account holders should ask verifiers to demonstrate their competencies as part of the appointment process. In selecting a verifier, BOS account holders may wish to consider the following guidance. For example, the assurance provider could be required to demonstrate that it:
- i. Is independent of organisations involved in the production of biofuels or UERs;
 - ii. Has established and maintains personnel records which demonstrate that the verification personnel are competent;
 - iii. Has effective procedures for the training and recruitment of competent staff (employees and contractors);
 - iv. Ensures that the personnel involved in verification are competent for the functions they perform including experience of carrying out ISAE 3000 assurance engagements and appropriate understanding and experience of the type of sustainability information they will be reviewing;

- v. Has systems to monitor the performance of verifiers and reviewers, which are reviewed regularly;
- vi. Keeps up with verification best practice.

5.31 NORA does not provide accreditation of verifiers. It is the responsibility of BOS account holders to ensure that the appointed verifier is independent, suitably qualified and possesses the appropriate understanding of sustainability and/or UERs.

Preparing for Verification

5.32 It is good practice to engage a verifier as early as possible in the process to establish what evidence the verifier will require and to help identify any difficulties early on.

5.33 Common verification practice is for data to be supplied to the verifier in an organised evidence pack. For verifying the sustainability of biofuels, this would be expected to include the following.

- i. A copy of the data in the application for BOS Certificates and carbon savings.
- ii. A high-level description of the supply chain.
- iii. All supporting evidence held by the BOS account holder.
- iv. Any field audit reports that the BOS account holder has relied upon in making its application for BOS Certificates and carbon savings.
- v. Certification and supporting assurance opinions held by the BOS account holder.
- vi. Periodic inventory records for the BOS account holder's mass balance system.
- vii. Calculation spreadsheets (preferably supplied electronically so that verifiers can test the formulae).
- viii. Contact details of the organisations in the previous stages in the supply chain (where available).

If this data is not provided in an ordered fashion, the verifier may need to request information that may increase the verification effort required.

5.34 Assurance is to be provided on the BOS account holder's reported data, not the systems and processes used to generate the data. Nonetheless, these controls will be examined, and the greater the confidence that can be placed on them, the less effort that needs to be given to verifying the data for the same level of assurance. Evidence of the effectiveness of controls can come from internal sources, such as management reviews and internal audits, as well as external audits.

5.35 There is no requirement to pass physical evidence (such as copies of invoices etc.) from farms, processors or other suppliers along the supply chain. The party which generates the carbon and/or sustainability data can retain this evidence. In verifying the data on sustainability criteria reported by a BOS account holder, the verifier may expect to work back up the supply chain to the source data using the chain of custody records. The co-operation of those in the supply chain is therefore vital.

5.36 The verifier will use a risk-based approach; therefore, it is unlikely that every organisation in the supply chain will be contacted. The exact approach may vary with each verifier and supply chain.

- 5.37 It is not necessary to verify information which has already been subject to independent assurance, including that given by voluntary schemes.
- 5.38 If the verifier finds evidence that information has been incorrectly reported, the BOS account holder may amend the data or withdraw the consignments in question from the verification process.

Guidance on Verification

- 5.39 Specific guidance aimed at verifiers is published by the UK's Department for Transport: *RTFO Guidance Part Three: Guidance for Verifiers*²⁸. It may also be helpful for verifiers in preparing for UER engagements.

oooOOOooo

²⁸ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/782806/rtfo-guidance-part-3-guidance-for-verifiers-year-2019.pdf