



**LOW CARBON
CONTRACTS COMPANY**

POWERING NET ZERO

Fuel Measurement and Sampling (FMS) Guidance

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Version 2

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Disclaimer

This guidance does not and is not intended to supersede or replace the provisions of the CfD. This guidance does not constitute legal or investment advice and should not be relied upon as such. Generators should consult their professional advisors where they require advice, whether legal or otherwise. LCCC further reserves the right to amend this guidance and any associated guidance from time to time.

This guidance should not be viewed as in any way restricting LCCC in the nature, type and/or amount of evidence, information and documentation it will require to satisfy itself of the Generator's fulfilment of the CfD, nor as to the nature, level and timing of our consideration or reconsideration of the evidence that is provided. LCCC reserves the right at any time to request further or additional evidence, and to review or reconsider the evidence already provided.



Useful Acronyms

ACT	Advanced Conversion Technology
AD	Anaerobic Digestion
BEIS	Department for Business, Energy and Industrial Strategy
BS EN	British Standard European Norm
CfD	Contract for Difference
CHP	Combined Heat and Power
CO ₂ eq	Carbon Dioxide Equivalent
DEFRA	Department for Environment, Food and Rural Affairs
EA	Environment Agency
EC	European Commission
EfW	Energy from Waste
EU	European Union
FF	Fossil Fuel
FIFO	First In, First Out
FMS	Fuel Measurement and Sampling
FMSQ	Fuel Measurement and Sampling Questionnaire
FSC	Forestry Stewardship Council
GCV	Gross Calorific Value
GHG	Greenhouse Gas
GJ	Gigajoules
IESBA	International Ethics Standards Board for Accountants
ILUC	Indirect Land-use Change
ISAE	International Standard on Assurance Engagements
kg	kilogram
LCCC	Low Carbon Contracts Company
MJ	Megajoules
MWh	Megawatt Hour
OCP	Operational Conditions Precedent
OIML	Organisation Internationale de Métrologie Légale
PAA	Permitted Ancillary Activities
PEFC	Programme for the Endorsement of Forest Certification
RED	Renewable Energy Directive
RO	Renewable Obligation
RQM	Renewable Qualifying Multiplier
RWP	Relevant Waste Proportion
SBP	Sustainable Biomass Partnership
SC	Sustainability Criteria
UK	United Kingdom
WFD	Waste Framework Directive



2. Introduction

- 2.1 This document provides Generators with guidance on the forms of evidence, information, and documentation that the Low Carbon Contracts Company (LCCC) considers necessary in order to demonstrate fulfilment of Fuel Measurement and Sampling (FMS) requirements including obligations in relation to the Sustainability Criteria (SC) under the Contract for Difference (CfD).
- 2.2 FMS and SC apply to the following Facility Generation Technology:
- Advanced Conversion Technology with or without Combined Heat and Power (CHP)
 - Anaerobic Digestion (AD) with or without CHP (>5MW)
 - Energy from Waste (EfW) with CHP (First Allocation Round only)
 - Biomass Conversion (First Allocation Round only)
 - Dedicated Biomass with CHP

The Generator can check whether FMS and SC apply to their CfD in most instances by checking section 4 of their CfD Agreement, where it will be stated that the Renewable Qualifying Multiplier (RQM) applies (i.e. FMS requirements apply) or does not apply and the SC applies or does not apply.

- 2.3 FMS requirements can be broadly separated into the Generator providing FMS Data for approval of their FMS Procedures and monthly FMS Reports (see relevant sections of this document 6 and 7).
- 2.4 The SC and requirements that a Generator must meet to comply with the SC are outlined further in Section 8 of this document.
- 2.5 FMS and SC guidance have been combined in this document as, where the SC applies to a CfD Generator, they shall report their SC Monthly Information with their FMS Report and shall be required to include information related to the reporting of SC Monthly Information in their FMS Procedures.
- 2.6 Generators that are awarded a CfD as part of the third allocation round and whose Facility applies Advanced Conversion Technology (ACT) shall be required to include in their FMS Procedures and FMS Reports specific information to demonstrate compliance with the ACT Efficiency Standard

criteria. For further information on the ACT Efficiency Standard criteria, please read the current version of the guidance note published by the Department for Business, Energy and Industrial Strategy¹.

- 2.7 LCCC has appointed Ofgem E-serve as a contractor to support and advise LCCC on the FMS and sustainability aspects of the CfD scheme. As the CfD Counterparty, all Notices, and relevant Supporting Information under the CfD should be addressed and submitted to LCCC and any Notices to be issued by the CfD Counterparty will be from LCCC.

¹ The latest version (December 2018) as of publication of this guidance for AR3 can be found here: [Guidance note for ACT compliance with the ACT Efficiency Standard criterion](#)



3. Definitions

- 3.1 The “CfD Counterparty” is the Low Carbon Contracts Company Ltd.
- 3.2 Defined terms used in this guidance and not defined herein should be given the meaning provided in the “CfD” (which is comprised of the CfD Agreement and the CfD Standard Terms and Conditions as published by the Department of Energy and Climate Change on 29 August 2014² and by the Department of Business, Enterprise and Industry Strategy in March 2017³ and May 2019⁴). Note that any new versions of the CfD Agreement or CfD Standard Terms and Conditions may take precedence depending on when a Contract is signed. This guidance is also applicable to Investment Contracts. However, Generators with Investment Contracts are advised to review the equivalent clauses.
- 3.3 For Generators that the SC applies to, the term “fuel” can also mean consignment, where a consignment refers to Biomass, which shares identical sustainability characteristics. See Section 8 for a more detailed description of consignments.

² [Department of Energy and Climate Change, Contract for Difference: Standard Terms and Conditions, published in August 2014.](#)

³ [Department for Business, Energy and Industrial Strategy, Contracts for Difference: Standard Terms and Conditions, version 2 published in March 17](#)

⁴ [Department of Energy and Climate Change, Contract for Difference: Standard Terms and Conditions, Version 3 published 1 May 2019](#)



4. Fuel Measurement and Sampling (FMS)

4.1 The purpose of FMS Procedures is to collect FMS Data. FMS Data enables and assists LCCC to:

- Calculate the RQM in accordance with Condition 11 and Part E of Annex 7 of the CfD Terms and Conditions (see Section 5 of this document);
- Where the Facility is a Baseload Dual Scheme Facility (as indicated in the relevant section of a Generators CfD Agreement), to determine the Imported Electricity Allowance;
- To verify that all FMS Reports and FMS Data use for calculating the RQM are accurate, complete, and not misleading (See Sections 6 and 7 of this document);
- To assess compliance or non-compliance;
 - by the Generator and the Facility with the FMS Exemption Criteria (see Appendix 1 of this document);
 - of the Facility with the Fuelling Criteria (see Appendix 2 of this document);
 - by the Generator with Part A, Annex 7 of the CfD Terms and Conditions; and
 - to determine the ACT Efficiency Multiplier, if the Facility Generation Technology is ACT⁵ and the Generator was awarded their CfD as part of the third allocation round.

4.2 In practice, for a Generator to assist LCCC in undertaking the above, Generators are required to undertake Fuel Measurement and Sampling at their Facility, the method for which they describe in their FMS Procedures. The FMS Data measured in accordance with a Generator's FMS Procedures is reported to LCCC in their FMS Reports each RQM Calculation Month.

4.3 Measuring and sampling fuels enables a Generator to determine, among other things, the following information in respect of the Facility:

⁵ The latest version (December 2018) as of publication of this guidance for AR3 can be found here: [Guidance note for ACT compliance with the ACT Efficiency Standard criterion](#)

- the quantity of each type of fuel used at the Facility, including all consignments and any fuel used for Permitted Ancillary Activities (PAA);
 - the energy content of each fuel; and
 - the percentage of fossil-derived contamination of each fuel by Energy Content.
- 4.4 Regarding Facilities defined as Advanced Conversion Technology (ACT), LCCC accepts the use of Fossil Fuel used in the heating of ACT Facilities gasification or pyrolysis systems to its normal operating temperature or the maintenance of that temperature as PAAs. However, the proportion of Fossil Fuel use may impact CfD payments.



5. Renewable Qualifying Multiplier (RQM)

5.1 The RQM is determined for each RQM Calculation Month of electricity generation and is applied to “Settlement Units” falling in that month. It is used in the calculation of the Baseload Difference Amount, so has a direct impact on the payment made to Generators.

5.2 The RQM can be:

- Deemed, when one of the following conditions apply:
 - The Generator is an FMS Exempted Generator (see Appendix 1);
 - The Strike Price is below the Market Reference Price for a Settlement Unit; and/or
 - The only fuel used for electricity generation at the Facility is Qualifying Waste (see Appendix 1).
- Calculated according to the FMS Data in the FMS Report and, if applicable, the SC Data in the SC Monthly Information;
- If the FMS Report and/or SC Monthly Information has not been received by LCCC, the last received FMS Data and/or SC Monthly Information shall be used to calculate the RQM;
- If LCCC has not received any FMS Report and/or SC Monthly Information, the Assumed RQM – which is defined in the CfD Agreement – shall be used.

5.3 Where the RQM is calculated, the RQM Formula or the Sustainable Fuel RQM Formula are used.

5.4 The RQM Formula is:

$$\text{RQM} = \frac{\text{A}}{\text{B}}$$

Where:

A is the Energy Content of all the fuels with Variable Renewable Content used in generating that Facility’s gross output during the relevant RQM Calculation Month, less the Energy Content of any Fossil Fuel (FF) from which those fuels with Variable Renewable Content are in part composed; and



B is the Energy Content of all the fuels used in generating that Facility's gross output during that RQM Calculation Month.

5.5 The Sustainable Fuel RQM Formula is:

$$\text{RQM} = \frac{\text{A} - \text{C}}{\text{B}}$$

Where:

A is the Energy Content of all the Fuel with Variable Renewable Content used in generating the Facility's gross output during the relevant RQM Calculation Month, less the Energy Content of any FF from which those Fuel with Variable Renewable Content are in part composed;

B is the Energy Content of all the fuels used in generating the Facility's gross output during that RQM Calculation Month; and

C is the Energy Content of all the Unsustainable Fuels used in generating the Facility's gross output during the relevant RQM Calculation Month, less the Energy Content of any FF from which those Unsustainable Fuels are in part composed.

5.6 The Energy Content is calculated by multiplying the gross calorific value (GCV) and the quantity, by weight or volume, of a fuel used in an RQM Calculation Month. The Generator must therefore measure the quantity as well as sampling and measuring the GCV of the fuel. The Generator will then report the measured quantity and GCV of each type of fuel used in an RQM Calculation Month in their FMS Report.

5.7 For example, mixed municipal solid waste can contain a mix of Biomass (e.g. food, cardboard, garden waste) and fossil derived waste (e.g. fossil fuel derived plastic), so Generators using mixed municipal waste or refuse derived fuel are required to determine the percentage of biomass and/or fossil derived contamination in their waste. Examples of methods for determining the biomass content in solid fuels are included in BS EN 15440:2011. Generators can propose other methods, though LCCC recommend that the Generator consults with LCCC on their proposed methods prior to submitting their FMS Procedures.

5.8 In the event that the Market Reference Price is above the Strike Price, LCCC can deem the RQM to be one (1), or, if the SC applies and a known quantity of Unsustainable Fuel has been used in the relevant RQM Calculation Month,



the lower of one or RQM as calculated by the Deemed Sustainable Fuel RQM Formula:

$$\text{RQM} = \frac{\mathbf{A} + \mathbf{C}}{\mathbf{B}}$$

Where **A**, **B** and **C** are the same as in the Sustainable Fuel RQM Formula.





6. FMS Procedures

- 6.1 Agreeing and documenting the FMS Procedures is one of the Operational Conditions Precedent (OCP) requirements which must be fulfilled before a Generator can issue a valid Start Date Notice and start to receive payments under the CfD.
- 6.2 Until the FMS Procedures are accepted and documented by LCCC they are referred to as the “Generator FMS Proposals”.
- 6.3 Paragraph 1.1 of Part A of Annex 7 of the Contract for Difference Standard Terms and Conditions provides that:

“As soon as reasonably practicable following the Agreement Date, the Generator shall give a notice to the CfD Counterparty (an “FMS Proposals Notice”) outlining the FMS Procedures which it proposes to be adopted for the purposes of the Contract for Difference.”

- 6.4 FMS Procedures are likely to be specific to:
- Facility;
 - Technology Type;
 - Fuel Type used; and
 - if the Generator and Facility are required to comply with certain criteria, such as the SC.

Therefore, LCCC encourages Generators to discuss their Generator FMS Proposals prior to submitting an FMS Proposals Notice and submit draft versions to LCCC, so that LCCC can become familiar with the Generator’s FMS Proposal and provide feedback prior to a formal submission.

- 6.5 At the time of publishing this guidance document, LCCC requests that Generators use an FMS Questionnaire (FMSQ) to convey the procedures that they propose to use and provide information supporting the responses that the Generator has put in their FMSQ. The FMSQ and supporting information forms a Generators FMS Proposal. A copy of the FMSQ can be requested from LCCC.
- 6.6 The FMSQ requires the Generator to submit information including, but not limited to:



- The fuels which they shall use at the Facility, including if there are one or more consignments used at the facility (see Section 8 of this document for a definition on consignments);
- If there is more than one consignment and the SC applies, the type of Mass Balance System the Generator intends to use to track Relevant Sustainability Information (see Sections 8 and 9 of this document);
- If they consider themselves to be an FMS Exempted Generator (see Appendix B);
- Any use of Fossil Fuels at their Facility, including Fossil Fuels used for PAA;
- How the quantity, GCV and fossil derived contamination of fuels shall be determined and reported in their FMS Reports; and
- If they intend to use a Third-Party FMS Contractor to undertake their FMS Procedures.

Fossil Fuel (FF) Use

- 6.7 All use of Fossil Fuels (FF) by the Facility must be evidenced to LCCC and Ofgem to determine compliance with the Fuelling Criteria (see Appendix 2 to this document).
- 6.8 Where a Generator includes FF it uses at a Facility, LCCC shall assume that these FF contribute towards generating the Facility's gross output and therefore it is incorporated into the calculation of the Facility's RQM, unless the Generator can demonstrate otherwise.
- 6.9 Generators should explain in their FMS Procedures why discrete amounts of FF do not result in generating the Facility's gross output and explain how an accurate measure of those FF amounts will be achieved.
- 6.10 Previously, Generators have included technical reports in their FMS Procedures submission explaining when FF and the Generator's feedstock are used in start-up, shutdown, when testing and/or using their back-up generator and for maintaining normal operating temperature in their combustion or synthesis (i.e. ACT only) system as well as other operating processes. These reports have been a good means of communicating to LCCC why FF use during some of these operations do not directly contribute to electrical generation at a Facility, so LCCC's recommends that Generator's provide relevant information in their Generator FMS Proposals.

Determining the quantity of fuels used



- 6.11 The Generator must propose how they will determine the quantity of fuel used in each RQM Calculation Month.
- 6.12 When using a solid fuel, examples of how this could be done include:
- measurement over a weighbridge to establish deliveries with stocks run down at the end of the RQM Calculation Month;
 - via a weighbridge on delivery and then performing a stock calculation to establish what is left in the stockpile. A calculation will then enable the Generator to establish the quantity that has been burnt in the RQM Calculation Month; or
 - conveyer belt weighing apparatus.
- 6.13 When using a liquid/gas fuel, LCCC recommend that calibrated flow meters are used.
- 6.14 It might be possible to demonstrate quantity in a month by using a stock calculation and measuring the stock within the storage tank; however this is only acceptable for negligible quantities of fuel and our preference remains for calibrated flow meters to be used.
- 6.15 For ACT Generators awarded a contract from the third and subsequent Allocation Rounds, the Generator will need to measure the quantity of Advanced Fuel as well as the quantity of the Biomass or Waste that the Advanced Fuel derives from.
- 6.16 LCCC recommends that Generators consult information provided by the Organisation Internationale de Métrologie Légale (OIML)⁶ regarding the classification of commercial use weighing devices and what is considered good practice. This should inform Generators in considering the quality of equipment used and other aspects such as the frequency of calibration of equipment.

Determining the GCV of the fuel used

- 6.17 The Generator must propose how fuel will be sampled, including the method and frequency of sampling, and how the data measured during sampling is used to derive GCV values for a given period.
- 6.18 LCCC expect the properties of the fuel, such as its variability, to impact on the proposed sampling.

⁶ [Organisation Internationale de Métrologie Légale \(OIML\)](#)

- 6.19 The location of the sampling within the Facility can vary. Some Generators may propose sampling fuel on delivery while others may propose automatic samplers immediately prior to combustion. Our preference is for sampling to happen as close to combustion as possible. If sampling on delivery, the Generator may need to demonstrate that the GCV will not have degraded between sampling and combustion and that the samples obtained will be representative of the fuel combusted.
- 6.20 If the stock of fuel is being carried over from one month to the next, the Generator will likely sample the stockpile if they are not sampling just prior to burn.
- 6.21 Generators must propose how frequently samples are analysed at a laboratory to determine the GCV. Some examples include:
- Generators send each sample to the lab and then perform a weighted average to determine what the GCV is of that consignment to be reported in the FMS Report; and
 - Generators put each sample into a sealable tub to create a ‘consolidated’ sample. This is then mixed, and a sample is taken from this for lab analysis. Where there is risk of fuel degradation however, more regular laboratory tests are expected.
- 6.22 The Generator shall set out what tests the laboratory will perform to determine the GCV.
- 6.23 Whilst the most common approach tends to be via taking samples for laboratory analysis, there are other approaches. For gases, it can be particularly challenging to obtain a representative sample for laboratory testing.
- 6.24 For ACT Generators awarded a contract in the third and subsequent Allocation Rounds, Generators might install an in-line analyser which takes regular readings of the composition of the Advanced Fuel to determine the GCV.
- 6.25 For ACT Generators awarded a contract in the third and subsequent Allocation Rounds, the analysis of Advanced Fuel GCV should be located after synthesis and prior to combustion (e.g. in the pipe or conduct separating the Combustion and Synthesis Chambers).
- 6.26 For EfW with CHP or ACT Generators using only a single consignment of Waste or Biomass derived wholly from Waste (plus any Fossil Fuel used for PAA) as the fuel for the Facility, LCCC permits the use of BIOMA⁷ software to

⁷ [BIOMA Biogenic Monitoring Software](#)

calculate the GCV of the single consignment of Waste or Biomass derived wholly from Waste, subject to conditions to be discussed and agreed with LCCC regarding the measuring equipment used to determine the inputs to the BIOMA software and the frequency of 3rd Party validation of the software in each year of operation.

- 6.27 Subject to agreement with LCCC, Generators using BIOMA software will be required to complete a BIOMA FMS Questionnaire supporting document alongside a Standard FMS Questionnaire document (for EfW with CHP) or ACT FMS Questionnaire document (for ACT only) as part of their FMS Proposals.

Fossil derived contamination

- 6.28 Any fossil derived contamination of a renewable fuel must be noted in the FMS Report to ensure it is accounted for within the RQM.
- 6.29 For Biomass which doesn't use any fossil binders or contain other FF, this evidence will be in the form of a letter from the fuel supplier to confirm that the fuel is free from fossil fuel contamination or will be evidenced through similar wording within the fuel supply contract.
- 6.30 For Fuels with Variable Renewable Content, such as Waste, the fossil derived contamination of the fuel is likely to vary from month to month, so Generators shall need to conduct regular sampling and testing of the fuel to measure the fossil derived contamination in the fuel. Note that the Energy Content of the fossil derived contamination shall need to be calculated by the Generator (e.g. joules, MJ, GJ), therefore the Generator may need to measure the quantity and GCV of fossil derived contamination to calculate the Energy Content of fossil derived contamination. This can then be reported as a percentage, based on the Energy Content of the fossil derived contamination divided by the total Energy content of the fuel.
- 6.31 For EfW with CHP or ACT Generators using only a single consignment of Waste or Biomass derived wholly from Waste (plus any Fossil Fuel used for PAA) as the fuel for the Facility, LCCC permits the use of BIOMA software to calculate the Energy Content of fossil derived contamination of the single consignment of Waste or Biomass derived wholly from Waste, subject to conditions to be discussed and agreed with LCCC regarding the measuring equipment used to determine the inputs to the BIOMA software and the frequency of 3rd Party validation of the software in each year of operation.
- 6.32 Subject to agreement with LCCC, Generators using BIOMA software will be required to complete a BIOMA FMS Questionnaire supporting document with a Standard FMS Questionnaire document (for EfW with CHP) or ACT FMS Questionnaire document (for ACT only) as part of their FMS Proposals.



Other considerations

- 6.33 Generators should submit information of the equipment and/or processes that they shall use to sample and/or measure. This should include, where possible:
- Where using recognised standard tests or procedures, the Generator should reference these in their Generator FMS Proposals;
 - datasheets of equipment, which includes information such as the equipment type, make and model, relevant standards, measurement range, +/- error of measured values and the reference conditions of the measured range and errors (e.g. ambient temperature and pressure);
 - details on the frequency and tests used to calibrate equipment to maintain the accuracy of equipment, including where applied, the name of any relevant standards used.
- 6.34 When outlining FMS Procedures, LCCC recommend that Generators follow recognised national or international standards.
- 6.35 Regular calibration is an integral part of the quality assurance of all weighing devices. It is recommended that, where possible, inaccuracies from excessive tension or stiffness in the belt, irregular loading, or installation too close to non-weighing rollers should be avoided.
- 6.36 The Generator should consider how their fuel is stored at their site, this will be important to remove any potential for fossil contamination of renewable fuels and also to prevent fuels from degrading which can occur if they are stored in the open.
- 6.37 Generators awarded a CfD in the third and subsequent allocation rounds with a facility designated as ACT shall be required to fill in additional information regarding how they will sample and measure the energy inputs and outputs to their Synthesis Chamber (e.g. gasification or pyrolysis stage) in order to calculate their ACT Efficiency in respect of compliance with the ACT Efficiency Standard criterion. Generators should consult LCCC to understand the requirements that they will need to consider in their FMS Procedures.

Changes to FMS Procedures

- 6.38 FMS Procedures may be amended, supplemented, restated, or replaced from time to time by agreement between the Generator and LCCC during the Term of the CfD.



- 6.39 FMS Procedures are a dynamic and potentially changeable process, since fuel supply arrangements may change, the configuration of a generating station may be modified, and advances may be made in measuring, sampling, and testing techniques. It is, therefore, essential that there is transparency and on-going dialogue between the Generator and LCCC, both during the Generator FMS Proposals process and after the FMS Procedures have been agreed.
- 6.40 If the Generator requires changes to be made to previously agreed FMS Procedures, then the Generator will have to inform LCCC that there is a need for potential changes. LCCC will then assess the changes requested, on a case by case basis, to determine whether:
- the changes requested are appropriate and LCCC should consent to the adoption of changes or not, and
 - if LCCC consents to changes, whether the Generator should submit a new FMS Proposals Notice.
- 6.41 LCCC do not expect a new FMS Proposals Notice to be needed for minor changes that do not impact on the existing procedures; however, LCCC reserves the right to require any additional information that may be helpful in fully understanding the proposed changes.
- 6.42 The following examples are provided to give an impression of the circumstances that would likely require a new FMS Proposals Notice:
- changes to the FMS Procedures that need to be reflected in an updated FMS questionnaire, e.g. changing the way fuels are measured and sampled;
 - proposing to use a new fuel at the Facility.

Non-compliance with FMS Procedures

- 6.43 If a Generator fails to carry out and implement Applicable FMS Procedures in an RQM Calculation Month, then LCCC have the right to calculate or recalculate the RQM.
- 6.44 If a non-compliance is minor and LCCC determines that the non-compliance did not have a material impact on the calculation of the RQM, then LCCC have the right to apply a non-compliance multiplier to the calculation of the RQM. If it is:

- the first instance of non-compliance in a 12-month period, LCCC can apply a multiplier of 0.9
- the second instance of non-compliance in a 12-month period, LCCC can apply a multiplier of 0.8
- any additional instance of non-compliance in a 12-month period, LCCC can apply a multiplier of 0.5.

6.45 If a non-compliance is determined by LCCC to have a material impact on the calculation of the RQM, then LCCC can deem the RQM zero.





7. FMS Reports and Audits

FMS Report

- 7.1 Generators are required to submit an FMS Report to LCCC for each RQM Calculation Month from the Start Date until the expiration of the CfD. Each month an FMS Report needs to be submitted no later than the RQM Submission Deadline, this being the last Business Day of the second calendar month falling immediately after the RQM Calculation Month.
- 7.2 If the FMS Report is not submitted before the RQM Submission Deadline, LCCC can deem the RQM to be zero, however if a Generator submits the FMS Report after the RQM Submission Deadline, then LCCC may recalculate the RQM. Similarly, if the SC applies, the RQM can be deemed zero if the Generator fails to submit SC Monthly Information prior to the RQM Submission Deadline and recalculated if the Generator submits the SC Monthly Information after the RQM Submission Deadline.
- 7.3 Currently, LCCC recommends that the FMS Report is submitted as an excel template (available on request from LCCC) with any supporting documents that evidence the data that is submitted into the excel template. The template is designed with a table so that each row relates to a fuel or consignment used at the Facility during the RQM Calculation Month. The columns in the table relate to FMS Data and/or SC Monthly Information variables, which Generators are required to input data into, such as:
- The quantity of the fuel (kg/tonnes/m³);
 - The GCV of the fuel;
 - The percentage of fossil derived contamination in the fuel;
 - If SC applicable, whether the fuel met the Land Criteria and the GHG emission limits, and which calculation method was used to calculate the GHG emission figure (see Section 8);
 - The supporting documents or evidence that Generators should provide is agreed as part of the FMS Procedures.
- 7.4 If the Facility Generation Technology Type is ACT and was awarded a CfD in the third or subsequent allocation rounds, the Generator will be required to

report information as part of the requirement to comply with the ACT Efficiency Standard criterion⁸.

- 7.5 If LCCC has accepted the Generator to use BIOMA (or similar) software to calculate the energy content of the fossil derived contamination and/or GCV of a single consignment of Waste or Biomass derived wholly from Waste, Generators will be required to submit a supplementary report showing the daily average inputs to and outputs from the software to verify the monthly average energy content of the fossil derived contamination and/or GCV.

FMS Audit

- 7.6 LCCC has the right to perform FMS Audits. If LCCC intends to carry out an FMS Audit, LCCC shall give an FMS Notice to the Generator, specify that LCCC (or any persons nominated by it) intends to exercise the FMS Audit Right and the date by which the Generator must permit the exercise of the FMS Audit Right.
- 7.7 Ofgem will assist LCCC in appointing an auditor and delivering the programme of FMS Audit under the CfD. Scope of the FMS Audit can be found on LCCC's website. This scope sets out the type of information and data LCCC and Ofgem would expect the auditor to review as part of the audit report. Please note that LCCC and Ofgem will add Facility specific points to the scope of FMS Audit as and when needed.

⁸ The latest version (December 2018) as of publication of this guidance for AR3 can be found here: [Guidance note for ACT compliance with the ACT Efficiency Standard criterion](#)



8. Sustainability Criteria (SC)

- 8.1 The Sustainability Criteria (SC) means the Greenhouse Gas (GHG) Emission Criteria and the Land Criteria. The SC is detailed further in Annex B of the CfD.
- 8.2 The GHG Emission Criteria require Generators to undertake specified calculations to determine certain GHG Emissions. The CfD sets out the thresholds for the GHG Emissions Criteria that need to be complied with.
- 8.3 The Land Criteria concern the land from which the Biomass is sourced. There are specific criteria for:
- Bioliquids.
 - Woodfuel; and
 - solid and gaseous Biomass other than Woodfuel (non-woody Biomass criteria).

The table below provides an overview of the reporting applicable to various types of Fuel used by Generators.



Table 1: Reporting requirement by Fuel Category and Type

Fuel Category	Bioliquid		Solid Biomass / Biogas	
	Land Criteria	GHG Criteria	Land Criteria	GHG Criteria
Waste	Exempt	Emissions during and from the process of collection only	Exempt	Exempt
Biomass wholly derived from waste	N/A	N/A	Exempt	Exempt
Processing residues	Exempt	Emissions during and from the process of collection only	If not wood - exempt from land criteria, otherwise reporting required.	Emissions during and from the process of collection only
Residues from agriculture	Reporting required	Emissions during and from the process of collection only	Reporting required	Emissions during and from the process of collection only
Residues from forestry	Reporting required	Full life-cycle emissions	Reporting required	Emissions during and from the process of collection only
Residues from arboriculture	N/A	N/A	If not wood – exempt from land criteria If wood – deemed sustainable and the land criteria for woody biomass	Emissions during and from the process of collection only
Residues from aquaculture and fisheries	Reporting required	Full life-cycle emissions	Reporting required	Emissions during and from the process of collection only
Products, co-products	Reporting required	Full life-cycle emissions	Reporting required	Full life-cycle emissions

Consignment

- 8.4 All consignments of fuel should have the same “sustainability characteristics”. Sustainability characteristics refer to all the following:
- the Biomass feedstock type;
 - the Biomass type of solid form. For example, woodchip and wood pellets which would be classed as different forms of solid Biomass;
 - the Biomass country of origin⁹;
 - the Biomass fuel classification – e.g. whether it is waste, a product, a co-product, or a type of residue with each such type being a separate fuel classification). This aids Generators in determining how to report against certain fuels; and
 - the Biomass’ compliance with the Land Criteria.
 - the Biomass’ compliance with the GHG Emissions Criteria

Note that if some of a single consignment is not compliant with the Land Criteria, the whole consignment would not be compliant with the Land Criteria. Similarly, Biomass shall constitute a single consignment only if the Biomass with the highest greenhouse gas emissions as calculated is compliant with the relevant Greenhouse Gas Emission Criteria. The above characteristics need to be considered when determining consignments.

- 8.5 The consignments will be outlined within the FMS Procedures and once approved form the basis of the monthly FMS Report.
- 8.6 For ACT Generators awarded a contract in the third and subsequent Allocation Rounds, the consignments will be reported as consignments of the Advanced Fuel and therefore this will be impacted by the consignments of feedstock which go into the gasifier or pyrolyser. The Generator should therefore consider feedstock consignments in the first instance and then apportion the Advanced Fuel based on these in order to report in their FMS Report and SC Monthly Information.
- 8.7 If the Generator is using or plans to use a bioliquid they should confirm the date from which the installation, from which the bioliquid is sourced, started producing bioliquids. This will impact the savings in carbon that the Facility must achieve against the Fossil Fuel Comparator.

⁹ The UK can be considered as a single entity. Therefore, if Biomass is from England and Wales, they can be considered the same consignment (providing all other sustainability characteristics are the same).



Land Criteria

- 8.8 Generators will need to demonstrate that all proportions of Woodfuel (solid and gaseous Biomass that is not Waste or wholly derived from Waste) meet the following criteria:
- legally harvested (Annex 7 Part B clarifies that legally harvested shall have the meaning given to that term in Article 2 of the EU Timber Regulation (EU) No. 995/2010)¹⁰; and
 - at least 70% of it was obtained from a sustainable source (or certified by an Environmental Quality Assurance Scheme which ensures the same) as detailed in Part B of Annex 7.
- 8.9 In respect of Bioliquids, the Land Criteria shall be deemed to have been complied with if LCCC is satisfied (and Generators have successfully demonstrated) that the Bioliquid used to generate electricity at the Facility was (i) Waste, (ii) residue (other than residue from agriculture, aquaculture, fisheries or forestry); or (iii) obtained from a Permitted Source.
- 8.10 When considering reporting and compliance, Generators should gather evidence in order to demonstrate compliance and this will need to be presented to the auditor as part of the SC Audit Report.
- 8.11 The Woodfuel Guidance, version 2,¹¹ (published on 8 March 2017 by BEIS), is split into three documents and it explains how the Land Criteria for woody Biomass can be met:
- The Woodfuel advice note sets out the Woodfuel land criteria as defined in the Timber Standard and describes how Generators can comply with the criteria. There are two types of evidence that will be considered in determining compliance:
 - Category A evidence: using Forest Stewardship Council (FSC) certificate scheme or the Programme for the Endorsement of Forest Certification (PEFC) certification scheme. Note that the Sustainable Biomass Partnership (SBP) scheme has been benchmarked as meeting Biomass Category A evidence requirements; and
 - Category B evidence: through collecting bespoke evidence that demonstrates compliance with the criteria.
 - The consignment and mass balance approach sets out how to operate mass balance systems and how to determine consignments. This

¹⁰ [Timber Regulations \(EU\) No. 995/2010](#)

¹¹ [BEIS Woodfuel Guidance Version 2](#)

document should be reviewed in addition to how consignments are determined in accordance with the CfD.

- The risk based regional assessment: a checklist approach, provides guidance for Woodfuel buyers and suppliers to provide Category B evidence in order to comply with the Land Criteria without the use of certification. This guidance additionally serves as a tool to assess whether Generators have complied with the Land Criteria.

Greenhouse Gas (GHG) Criteria

- 8.12** The CfD lists the GHG criteria that Generators must report against per consignment of Biomass and the GHG Threshold that must be met.
- 8.13** For Generators with a CfD contract agreed prior to the third allocation round, the GHG Threshold for the RQM Calculation Month or SC Audit Year that ends prior to 1 April 2020 are:
- 66.7gCO₂eq/MJ, if the Facility Generation Technology is Dedicated Biomass with CHP; or
 - 79.2gCO₂eq/MJ, if the Facility Generation Technology is not Dedicated Biomass with CHP.
 - If the RQM Calculation Month or SC Audit Year is within the period from 01 April 2020 to 31 March 2035 (inclusive), the threshold will be 55.6gCO₂eq/MJ.
 - If the RQM Calculation Month or SC Audit Year is within the period from 01 April 2025 to the end of the Term (inclusive), the threshold 50gCO₂eq/MJ.
- 8.14** For Generators with a CfD contract agreed in the third allocation round, the GHG Threshold is stated as 29kg/CO₂eq/MWh or 8.1gCO₂eq/MJ.
- 8.15** On an annual basis, if the average of the GHG Emissions is below the threshold specified, then the RQM shall be recalculated for each of the months falling in the SC Audit Year where the GHG Threshold was not met by consignments in a month.



9. Fuel Classification

- 9.1 ‘Fuel classification’ determines whether biomass is a product/co-product, waste, or a type of residue. This will help the operator understand how to report against the Sustainability Criteria. For biomass that is wood or derived from wood there are no exemptions to the land criteria, except for ‘waste’.
- 9.2 If the operator believes the fuel being used at the station is classifiable as a waste or a type of residue and so would benefit from an exemption, they will need evidence to demonstrate this to their independent auditor as part of their SC Annual Compliance Report.
- 9.3 It is not necessarily the final fuel that needs to be considered as a waste or residue. It is also possible to claim the exemption if the material from which the final fuel was created was a Waste or a type of residue.
- 9.4 Classifying fuel can be a complex area as sometimes there is not a definitive answer to the question of whether a substance is a Waste or a residue. The sections below aim to give guidance that is as clear and consistent as possible. Do not treat it as legal guidance: seek your own legal or technical advice if you need to.

Definition of waste

- 9.5 The CfD Agreement defines Waste as having the meaning to the term stated in the 2008 Waste Framework Directive 2008/98/EC¹² Article 3(1) of Directive 2008/98/EC of the European Parliament and of the Council states that “waste” means any substance or object which the holder discards or intends or is required to discard”. The changes introduced by the ILUC Directive¹³ exclude from that definition “substances that have been intentionally modified or contaminated to fall within the meaning of waste. Further guidance on this definition was published in August 2012 by the Department for Environment, Food and Rural Affairs (DEFRA) titled ‘Guidance on the legal definition of waste and its application’¹⁴.
- 9.6 The Environment Agency (EA) has an important role under the Waste Framework Directive (WFD), in determining whether a substance is a waste or is derived from waste. As far as possible, an approach consistent with the EA will be taken, however there are times when a material is classified as a waste by the Environment Agency, but this is not definitive for the purpose of the CfD.

¹² [Waste Framework Directive 2008/98/EC](#)

¹³ [ILUC Directive \(EU\) 2015/1513](#)

¹⁴ [Guidance on the legal definition of waste and its application](#)



Definition of residues

- 9.7 The references to residues in the CfD Standard Terms and Conditions are in line with the 2018 Renewable Energy Directive (RED) 2018/2001/EU.
- 9.8 As per Article 2 (Definitions) in the Renewable Energy Directive (2018/2001/EU):
- ‘residue’ means a substance that is not the end product(s) that a production process directly seeks to produce; it is not a primary aim of the production process and the process has not been deliberately modified to produce it;
 - ‘agricultural, aquaculture, fisheries and forestry residues’ mean residues that are directly generated by agriculture, aquaculture, fisheries and forestry and that do not include residues from related industries or processing.

Co-products are different from residues and agricultural residues, as they are the primary aim of the production process. It is therefore appropriate to clarify that agricultural crop residues are residues and not co-products.

- 9.9 The definition of residues from agriculture, aquaculture, forestry, and fisheries can be interpreted to mean that such residues are those generated in harvesting the material being sought. Once the product has been harvested and further processing occurs, any residues generated from this are considered processing residues.
- 9.10 Residues from arboriculture could include wood removed as part of tree surgery, management of municipal parks, and verges of roads and railways. Residues from arboriculture should not include forestry residues.
- 9.11 In calculating the GHG emissions, the CfD includes the term ‘process of collection’ when setting out for certain materials that full lifecycle GHG calculations are not required.
- 9.12 ‘Process of collection’ includes all emissions involved in collecting the Waste or residue, further processing, and transport. This is not necessarily the same as the point of collection, which is considered to be the point where the material is collected by another party. For the ‘process of collection’ any emissions arising after the Waste/residue was created but before it is collected should also be considered. For example, there may be emissions associated with machinery used to gather the Waste/residue into storage containers ready for collection.



Considering fuel classification

- 9.13 When considering the classification of a fuel, we recommend that the Generator first refer to the definitions outlined in the Renewable Energy Directive (2018/2001). Appendix 3 of the Renewable Obligations (RO) – Sustainability Criteria guidance document¹⁵ also has some useful examples that can be referred to, however it should be noted that Generators should not rely on these classifications and should gather evidence to support their own categorisation of a fuel on a case by case basis. This evidence needs to be presented to the auditor as part of the SC Annual Compliance Report.
- 9.14 If the Generator considers their Biomass to be a Waste or type of residue that is not covered in the RED definitions or common classification lists, as either the material is not listed or the way the material was produced does not correspond with the definitions or common classification, they should discuss this with LCCC. This should be done before they use the Biomass.
- 9.15 Note that there may be occasions when due to the differences in the scheme delivery of the RO and the CfD, LCCC may consider a different fuel classification from that stated in Appendix 3 of the RO – Sustainability Guidance document.
- 9.16 Each FMS questionnaire will have questions about fuel classification. If the Generator thinks the fuel is a Waste or a type of residue not covered in the common classification tables, we will ask them to provide evidence of the fuel classification. Generators can also ask us for our view if they think the tables do not cover the fuel classification for a material. This process has been specifically developed for Generators who must meet the Sustainability Criteria.
- 9.17 To do this, we have questions to ensure the Generator presents relevant information to support discussions. These questions will be made available to the Generator in a standard template during the FMS Procedures agreement process.
- 9.18 If any information is unclear or incomplete, we will ask the operator to give us more information, so we can provide our view on fuel classification.
- 9.19 Any view from us on fuel classification is not ‘a decision’ or ‘official approval’. The Generator’s independent auditor should consider all the evidence and seek further information if they need to, as part of the SC Annual Compliance Report. It is not enough for the auditor to rely solely on the correspondence between us and the Generator as part of the fuel classification review.

¹⁵ [Renewables Obligation: Sustainability Criteria, 24 April 2018](#)



- 9.20 If the audit disagrees with the classification, or further information comes to light, we will review the case. If the additional evidence results in the classification being inappropriate, we will consider the impact this has on how the Generator has reported this in their FMS Procedures and Monthly FMS Data Reports.
- 9.21 We will give all our views case by case, based on the information from the Generator. We will seek consistency across the CfD portfolio, but in some cases, it may be appropriate for us to take a different view.

Demonstrating compliance

- 9.22 If the operator is seeking to make use of an exemption associated with fuel classification, whether for a material specified on the common classifications list or otherwise, they must have evidence to demonstrate this.
- 9.23 If a voluntary scheme is not being used, or does not cover this scope, useful documentation may include:
- Permits and certificates (such as waste transfer notes or end-of-waste certificates) issued by the Environment Agency,
 - process flow diagrams which explain how the material is created, and
 - information regarding the uses of the material and its market value
 -
- 9.24 This evidence will be verified in the SC Annual Compliance Report. This means that a Generator must demonstrate to the auditor's satisfaction that the Biomass used for generation is as per the common classifications list or the separately established agreement with us.





10. Mass Balances

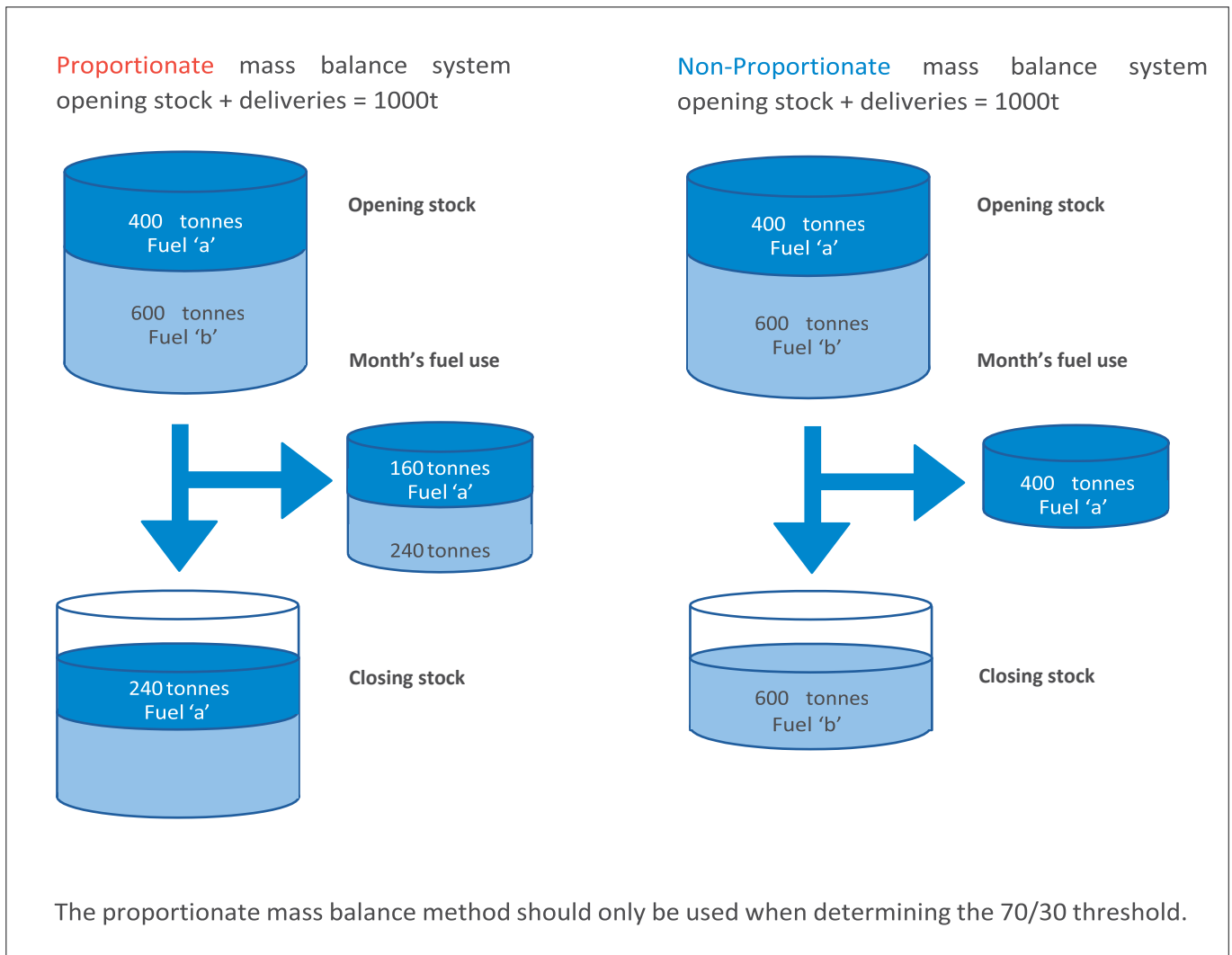
- 10.1 Mass Balance System is relevant where Generators are using a mixture of consignments to generate electricity at the Facility. Where consignments of Biomass are not physically segregated, a Mass Balance System provides for the sustainability profiles of the consignments of Biomass added to a mixture to be attributed to the consignments withdrawn from that mixture.
- 10.2 There are two ways of reporting through a Mass Balance approach. Figure 1 provides an example of how proportionate and non-proportionate mass balance systems are used to calculate opening and closing inventory of stocks (note that all Woodfuel is required to be legally harvested).

Generators may find it appropriate to operate a Mass Balance System approach if they:

- do not have 100% or do not always source sustainable material;
- buy from several different consignment sources;
- have limited internal processes to avoid mixing of material from a legally harvested and sustainable consignment with legally harvested and unsustainable consignments; and
- they already account for some or all consignments using mass balance approaches.



Figure 1 - Proportionate and Non-Proportionate Mass Balance

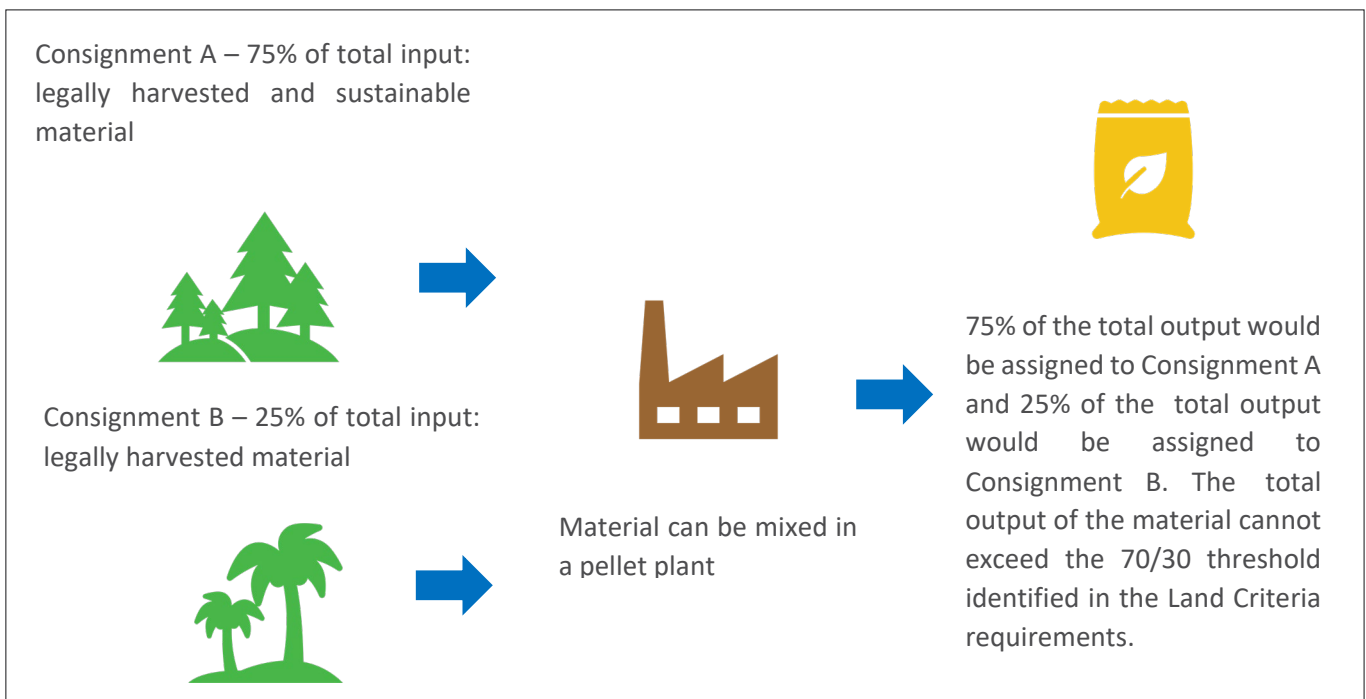


Source: *Renewables Obligation: Sustainability Criteria, Ofgem. © Crown copyright 2018*

- 10.3** The non-proportional method is generally operated on a first in, first out (FIFO) basis. This reduces the risk that there is an amount of unsustainable Biomass within the mix that is never assigned to an extracted quantity of Biomass. If a Generator does not follow a FIFO approach the independent auditor may wish to consider this risk as part of the annual verification process.
- 10.4** There may be reasons why, based on the fuels the Generator is using, that they should use a Mass Balance System. For example, if the Generator is using a Biomass fuel which has FF contamination, it would be preferable to use the proportional method as CfD payments shall not be made for any generation that is not from renewable sources.

- 10.5 In order to comply with the 70/30 threshold as listed in the Land Criteria requirements, Generators must be able to account for the ratio between sustainable consignments and non-sustainable consignments of biomass accurately (note that all Woodfuel is required to be legally harvested). The information must be traceable through the supply chain as this may be requested by LCCC for SC Purposes or required for the SC Annual Compliance Report and SC Audit. Generators should note that the 70/30 rule is not available to Bioliquid stations. A Mass Balance approach allows sources of Biomass with varying percentages of legally harvested and sustainable sources and legally harvested only sources to be mixed whilst ensuring that this is accurately reported to demonstrate compliance of the 70/30 threshold. This can be evidenced in Figure 2.

Figure 2 - Mass balance approach



Source: *Renewables Obligation: Sustainability Criteria*, Ofgem. © Crown copyright 2018

- 10.6 The Mass Balance System requires the sustainability profile attributed to the sum of all the consignments withdrawn from a mixture to be the same, and in the same quantities, as the sustainability profile of the sum of all the consignments added to that mixture.
- 10.7 When considering reporting and compliance, Generators should take the following in to account:
- the number of consignments of Biomass used at the Generating Station where the Project is a Dual Scheme Facility or, where there is only a Facility, then at the Facility. The number of consignments Generators



report against will be agreed as part of their Fuel Measurement & Sampling (FMS) procedures;

- the Mass Balance System is to be used if different consignments of Biomass are mixed at the Generating Station if the Project is a Dual Scheme Facility (or, where there is only a Facility, at the Facility) or at any point in the supply chain; and
- gathering evidence, which may include the use of voluntary schemes, to demonstrate a mass balance chain of custody has been used, or that it is not required.





11. SC Reports and Audits

- 11.1 All Generators (with a minimum Commissioned Installed Capacity of 1MW or above as referenced in Annex 7, Part C) are required to provide certain information monthly and annually to demonstrate compliance with Sustainability Criteria for each consignment of fuel.
- 11.2 The SC Reporting Obligations are set out in Part C, which covers Generators obligations to report performance to the LCCC and to allow audit of compliance by LCCC (and/or parties that LCCC nominates to perform such audit). The results of this SC reporting and auditing in turn feed into the calculation of the Renewable Qualifying Multiplier on the basis set out in Part E of Annex 7.

SC Monthly Report

- 11.3 Generators are required from the Start Date to submit the SC monthly report which comprises of SC Monthly Information and accompanying Directors' Certificates directly to LCCC by the RQM Submission Deadline. Currently, LCCC prefer that this information is submitted in the FMS Report excel template. Please see section 7 for more information.
- 11.4 The SC Monthly Information shall be provided in relation to each consignment of Biomass used to generate electricity at the Facility in respect of the relevant RQM Calculation Month; and, where there has been a mixture of consignments of fuel used to generate electricity at the Facility, by application of a Mass Balance System. As part of their FMS Procedures, LCCC require Generators to outline the number of consignments and what type of Mass Balance System is in operation.
- 11.5 Each submission of SC Monthly Information shall be accompanied by a Directors' Certificate certifying that, to the best of the Generator's knowledge and belief (having made all due and careful enquiries), such SC Monthly Information is true, complete and accurate in all material respects and is not misleading, in each case by reference to the facts and circumstances then existing. The template for this is included in Annex 8 of the CfD.
- 11.6 As part of this submission, Generators do not need to provide the evidence that shows how they have complied with the SC requirements (unless requested to do so). However, this information should be kept in accordance with FMS Procedure¹⁶ agreed with LCCC as this information may be required

¹⁶ [LCCC Fuel Measurement and Sampling Guidance](#)



to assess compliance with Annex 7 of the Conditions and may also be reviewed by the auditor as part of the SC Audit Report.

SC Annual Compliance Report

- 11.7 Generators are required from the Start Date to submit a SC Annual Compliance Report annually covering a period of 1 April – 31 March. Where requested in writing by LCCC the SC Annual Compliance Report will also be accompanied by a Directors' Certificate. The SC Annual Compliance Report should be submitted directly to LCCC and our technical advisor no later than the SC Annual Submission Deadline (i.e. 30 June immediately following the relevant SC Audit Year). If the SC Annual Compliance Report is not provided by the submission deadline, LCCC may apply penalties.
- 11.8 Each SC Annual Compliance Report submission shall include profiling information which requires Generators to identify the origins and characteristics of Biomass. Where the Generators are using other fuels such as Waste or wholly derived from Waste, Generators will be required to submit similar information as detailed in Annex 7, Part C of the CfD.
- 11.9 For Generators using Bioliquids, the Bioliquid Sustainability Audit Report and/or (where applicable) Solid and Gaseous Biomass Sustainability Audit Report is an additional content requirement (detailed in Annex 7, Part C of the Conditions).
- 11.10 The SC Annual Compliance Report provides information to LCCC as required by the CfD. Through the SC Audit report, it also provides an independent third-party view as to whether Generators hold sufficient evidence in relation to the SC Monthly Information to demonstrate compliance with the SC.
- 11.11 A checklist, contained in Appendix 3, outlines the content requirements and to assist Generators in checking that the SC Annual Compliance Report covers all the relevant requirements. In addition to any responsibility held by the verifier, Generators have a responsibility to ensure they are satisfied that the sustainability audit report meets the contractual requirements before submitting it to LCCC.

SC Audit Report

- 11.12 LCCC require a submission of the SC Audit Report, which can be submitted with the Profiling Information together to be included in the SC Annual Compliance Report. The content requirements of the SC Audit Report are detailed in Part C of Annex 7 of the CfD.

- 11.13 The SC Audit report must be prepared by a person who is not a Generator and not a connected person¹⁷ and be prepared in accordance with the requirements of Limited Assurance Engagement practices prescribed in ISAE 3000 or an equivalent standard.
- 11.14 The SC Audit report must contain content (content requirements expanded on below) satisfactory to LCCC, therefore LCCC encourage Generators to get in touch at the earliest opportunity if they have any queries by writing to us at contractmanagement@lowcarboncontracts.uk. LCCC will review the SC Audit Report and raise any queries with the Generator if it doesn't include or comply with the requirements set out in Part C of Annex 7 of the Conditions.
- 11.15 The SC Audit report must contain a detailed narrative identifying whether the systems used to produce the Relevant Sustainability Information are likely to produce information which is reasonably accurate and reliable. A further breakdown of this information is as follows:
- a detailed narrative identifying controls in place to avoid material misstatements due to fraud and or error relating to Relevant Sustainability Information;
 - a detailed narrative identifying whether the systems used to produce the Relevant Sustainability Information are likely to produce information which is reasonably accurate and reliable;
 - a detailed narrative on reporting and measurement methodologies on Relevant Sustainability Information relied on by Generators;
 - a detailed narrative on the robustness of the data Generators have relied on to prepare the Relevant Sustainability Information;
 - a detailed narrative on the selected information and reporting criteria;
 - professional standards applied and level of assurance;
 - work undertaken by auditors to provide the SC Audit Report;
 - generators responsibilities;
 - auditor's responsibilities; and

¹⁷ Connected person shall be construed in accordance with sections 1122 and 1123 of the Corporation Tax Act 2010

- auditor's conclusion which should state whether anything has come to the attention of the auditor which indicates that the Relevant Sustainability Information is not accurate.

Scope of SC Audit Right

11.16 In addition to the audit reports, forming part of the SC Annual Compliance Reports, the CfD sets out a right for LCCC to perform SC Audits (and auditing in relation to FMS Procedures).

11.17 Generators shall grant LCCC or its advisor access to:

- the Facility; where the Facility is a Dual Scheme Facility, the Generating Station; any plant, machinery, processing or storage facility associated with the Facility or, where the Facility is a Dual Scheme Facility, the Generating Station; and any location at which fuel used or to be used at the Facility or, where the Facility is a Dual Scheme Facility, the Generating Station is located, in each case owned, occupied or controlled by Generators and to which Generators can lawfully grant access;
- the books and records of the Generators, insofar as they relate to matters pertinent to the SC Purposes;
- the directors, officers and employees of the Generators who will be instructed to give promptly all Supporting Information reasonably requested by the LCCC (and any persons nominated by it in accordance with the CfD)); and
- in each case as the CfD Counterparty considers to be reasonably necessary for LCCC to fulfil the SC Purposes (the "SC Audit Right").

11.18 LCCC shall give a notice to Generators if they intend to carry out an SC Audit. An SC Audit Notice shall specify that LCCC or any persons nominated by it intend to exercise the SC Audit Right and shall specify the date by which Generators must permit the exercise of the SC Audit Right.

11.19 On receipt of an SC Audit Notice, Generators shall permit LCCC or a nominated party to exercise the SC Audit Right at such time as LCCC may nominate, provided that it is no earlier than one (1) Business Day after receipt of the SC Audit Notice.

11.20 If Generators fail to comply with its obligation to permit LCCC or a nominated party to exercise the SC Audit Right, LCCC may elect to suspend payment of any Net Payable Amounts which would otherwise be payable by LCCC to Generators in any period during which Generators are in non-compliance with such obligation.



12. Appendix 1: FMS Exemption Criteria

- 12.1 The FMS Exemption Criteria means:
- the Facility either (i) does not use any Fuel with Variable Renewable Content for the generation of electricity; or (ii) uses only Qualifying Waste for the generation of electricity; and
 - No Fossil fuel is used at the Facility to generate electricity.
- 12.2 Generators who expect to meet the FMS Exemption Criteria are required to propose and have accepted and documented FMS Exempted Procedures, which shall verify whether the Generator and the Facility are complying with the FMS Exemption Criteria.
- 12.3 FMS Exempted Generator would additionally need to propose and have accepted and documented Full FMS Procedures to account for any instances where the Generator either does not meet the FMS Exemption Criteria in each RQM Calculation Month or uses a fuel that is unsustainable. This also helps support reporting against the SC per consignment.
- 12.4 If the Generator or the Facility isn't satisfying the FMS Exemption Criteria at any time the Generator shall notify LCCC immediately if it is carrying out FMS Exempted Procedures rather than Full FMS Procedures (a "Generator FMS Exemption Notice"). Similarly, LCCC can give the Generator notice via a CfD Counterparty FMS Exemption Notice.
- 12.5 After an FMS Exemption Notice is received, the Generator shall comply with the Full FMS Procedures from the start of the next RQM Calculation Month, unless consented in writing by LCCC to continue FMS Exempted Procedures.
- 12.6 If the Generator has notified LCCC that it wishes to be treated as an FMS Exempt Generator and the FMS Data evidences that the Generator is FMS Exempt, their RQM shall be deemed one, unless the Generator only uses Qualifying Waste.
- 12.7 If the Generator has only used Qualifying Waste to generate electricity at the Facility during an RQM Calculation Month, the RQM shall be deemed to be the Relevant Waste Proportion. This is 0.5, unless another value has been agreed between LCCC and the Generator or a revised RWP has been deemed through an RWP Variation Notice, which is raised by LCCC and consented by the Generator.

13. Appendix 2: Fuelling Criteria

- 13.1 The Fuelling Criteria means the criteria specified in Annex 4 of a Generator's CfD Agreement. The Fuelling Criteria is specific to the Facility Generation Technology. This is summarised in the table below.

Table 2: Fossil Fuel Usage Allowance by Technology Type

Facility Generation Technology	Facility Generates Electricity From	Allowed Fossil Fuel (FF) Usage
Advanced Conversion Technology (ACT)	Advanced Fuels	Only if FF forms part of Waste from which the Advanced Fuel is produced and Permitted Ancillary Activities (PAA).
Anaerobic Digestion (AD)	Gas formed during AD of Biomass (other than sewage or material in a landfill)	Only if FF forms part of Waste from which the gas is produced and PAA.
Biomass Conversion	90% Biomass, by Energy Content	PAA only
Dedicated Biomass with CHP	90% Biomass, by Energy Content	PAA only
Energy from Waste (EfW) with CHP	Waste and/or Biomass which includes more than 10% FF by Energy Content (excl. FF used for PAA)	Only if FF forms part of the Waste and PAA.

- 13.2 The Permitted Ancillary Activities Exception applies to all the Facility Generation Technologies in the table above. This states that the Fuelling Criteria shall not be breached by the use of FF for PAA as long as the Energy Content of the FF used for PAA is below 10% of the Energy Content of all fuels used by the Facility to generate electricity or for PAA.
- 13.3 Generators are required to record all fuel types used at the Facility in their FMS Procedures, including fuel used for PAA.
- 13.4 Any fuels used at a Facility by a Generator which they consider to be PAA are required to be recorded in their FMS Procedures. The Generator should

provide an explanation as to why any fuel they consider the fuel usage to be PAA.

- 13.5 Note that all FF used in a Facility is applicable to the Fuelling Criteria, however this is considered separately from the use of FF used to generate electricity in calculating the RQM. Please see section 4 in this document for more details regarding reporting of FF for the RQM calculation.
- 13.6 If a Generator fails to meet the Fuelling Criteria in an RQM Calculation Month, then LCCC have the right to calculate or recalculate the RQM.
- 13.7 The recalculation shall be in the form of applying a multiplier to the RQM as follows:
- the first instance of non-compliance in a 12-month period, LCCC can apply a multiplier of 0.9
 - the second instance of non-compliance in a 12-month period, LCCC can apply a multiplier of 0.8
 - any additional instance of non-compliance in a 12-month period, LCCC can apply a multiplier of 0.
- 13.8 Regarding Facilities defined as ACT, LCCC accepts the use of Fossil Fuel used in the heating of ACT Facilities gasification or pyrolysis system to its normal operating temperature or the maintenance of that temperature as Permitted Ancillary Activities.



14. Appendix 3: SC Annual Compliance Report Checklist

Director's Certificate (if requested by LCCC)		
Profiling data (to be completed using the template provided by LCCC)		
Audit Report shall include:		
	Title	Clear title using the wording 'Independent Assurance Report'
	Date of the report	
	Addressee	This should set out the name and address of the organisation subject to the CfD which operates the Facility.
	Responsibilities of Generator and auditor	There should be a clear section setting out the responsibilities of the Generator and the responsibilities of the auditor.
	Statement confirming ISAE 3000	The audit report should confirm that it has been performed in accordance with ISAE 3000 (revised).
	Statement of ISQC1 and IESBA	The auditor should outline whether they comply with ISQC1 – International Standard on Quality Control 1. and IESBA - International Ethics Standards Board for Accountants. If they do not comply with them directly, they should outline what they have in place which is equivalent and whether this includes any national or international standards.
	Identification of the assessment criteria	The report should set out the assessment criteria referring to the CfD Contract and the date it was signed. The assessment criteria may at times include guidance where it is relevant such as the BEIS Woodfuel guidance documents.
	Identification and description of subject matter	This should make clear reference to the Facility name, the annual period for which the audit is taking place and provide the data which is subject to audit. LCCC recommend Generators to engage with them to determine if the generator has a preferred template to display this data within the audit report. A copy of the Profiling Information



	template can be requested by emailing contractmanagement@lowcarboncontracts.uk .
Summary of work performed	This section should outline what the auditor has done as part of the assurance engagement and give an overview of the evidence reviewed. This should touch on consignment, fuel classification, evidence for compliance with the Land Criteria, Greenhouse Gas Emission calculations and operation of any Mass Balance system. The FMS Procedures are fundamental to supporting the Generator to demonstrate compliance by consignment and therefore LCCC expect the auditor to understand these and be comfortable that the Generator is operating these as agreed.
Limitations (where appropriate)	If the auditor has experienced any limitations when undertaking the audit, they should set these out within the report. If they have not experienced any limitations, it is acceptable not to include this section.
Restrictions on use of the report (where appropriate)	The auditor may wish to include any restrictions on the use of the report. Where these are included, they must not restrict viewing by LCCC and our technical advisor.
Opinion (auditor's conclusion)	The audit report will set out a clear conclusion which is the auditor's opinion once they have completed the work as part of the assurance engagement.
Recommendations given, as appropriate	The audit may include any additional remarks or recommendations for improvements. Such recommendations should not affect the opinion.
Details of the verifier and signature	The audit should be signed by the auditor or auditing company and the location the auditing company is based.
Detailed narrative to include the following	<ul style="list-style-type: none"> - identifying systems and whether they will produce information which is reasonably accurate and reliable - identifying controls to protect against material misstatement due to fraud or error - specifying frequency and methodology of any sampling - as to the robustness of data
Identification of the following (bioliquid only)	<ul style="list-style-type: none"> - environmental quality assurance certification (bioliquid only) - whether restored land bonus included (bioliquid only) - emission saving from soil carbon accumulation (bioliquid only)
Declaration/confirmation of the following	That any recommendations made for the previous reporting period have been addressed, or if not, why not.

© Low Carbon Contracts Company Ltd
Fleetbank House
2-6 Salisbury Square
London EC4Y 8JX
lowcarboncontracts.uk
E: info@lowcarboncontracts.uk

Company registration number: **08818711**

Author:
OC (LCCC)

Co-author:
MJ (Ofgem)