Department for
Energy Security
& Net Zero

Carbon Emissions Limits in the Capacity Market

Guidance

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Reader's Guide

Sections 1 and 2 of this Guidance document introduce the carbon emissions limits within the GB Capacity Market (CM) and how they apply.

Section 3 covers the carbon emission limits requirements that apply during the Prequalification process, including what needs to be provided within a Prequalification Application, by CMU Type, as outlined in Table 1 in Section 3.1.

Section 4 covers the carbon emission limits requirements that apply after Prequalification, to certain categories of capacity providers that have not provided a Fossil Fuel Emissions Declaration to the Delivery Body during Prequalification, with the deadlines for the different CMU type outlined in Table 2 at the end of Section 4.3.

Section 5 covers the Fossil Fuel Emissions Declaration (Exhibit ZA of the Rules).

Section 6 covers the Fossil Fuel Emissions Commitment (Exhibit ZB of the Rules). All New Build, Unproven DSR and Refurbishing CMU Applications for Prequalification must provide a Fossil Fuel Emissions Commitment to the Delivery Body.

Section 7 covers Emissions Related Material Changes.

Section 8 covers the Fossil Fuel Removal Declaration (Exhibit ZC of the Rules).

Section 9 covers the carbon emissions limits requirements for CMUs participating in Secondary Trading.

Section 10 covers which Rules and Rules amendments are applicable, in particular how the Capacity Market Amendment (No.2) Rules, the Capacity Market (Amendment) Rules 2021 and Capacity Market (Amendment) Rules 2024 work together to introduce the Rules applicable to Applicants and Agreement holders.

Finally, Section 11 describes how carbon emissions are calculated, including detail of how and why the different formula are applied, according to component-type.

The Annexes contain illustrative examples to act as an aid to calculating carbon emissions. Annex A provides a summary of the relevant formulae that are contained within Schedule 8 of the Rules and Annex B includes a series of worked examples to demonstrate how to apply the formulae to calculate the fossil fuel emissions for a variety of circumstances.

Annex C is an FAQ answering questions specifically related to emissions verification.

While we recommend reading the Guidance document in its entirety, as well as the relevant Rules, please consider the following sections if the corresponding statement applies to you:

- If you are an Existing or Proven DSR CMU type, please read Sections: 3, 4, 5 and 7.
- If you are a New Build, Unproven DSR or a Refurbishing CMU type, please read Sections: 4 and 6.

Please read the Capacity Market Rules. Reading this guidance is not a substitute for reading the Capacity Market Rules.

1. Introduction

On 4 July 2019, the recast Electricity Regulation ("the Electricity Regulation")[1] came into effect as part of the EU's Clean Energy Package[2]. Article 22 of the Electricity Regulation[3] outlines design principles for capacity mechanisms including requirements in respect of mechanisms such as the GB Capacity Market (CM). Article 22(4) introduced a requirement for capacity mechanisms to include carbon emissions limits, with a difference in treatment for capacity which started commercial production before 4 July 2019 (i.e. the date Article 22(4) came into effect) and on or after that date.

As per Article 22(5) of the Electricity Regulation, Capacity Agreements awarded before 1 January 2020 are not subject to the carbon emissions limits for the duration of the agreement. To ensure compliance with the carbon emission limits in respect of capacity participating in the early 2020 auctions only, amendments were made to the Capacity Market Rules ("the Rules") by the Capacity Market Amendment (No. 5) Rules 2019, which came into force on 18 July 2019 (prior to the Prequalification Window in 2019)[4]. Capacity Agreements awarded in the early 2020 auctions will continue to be governed by the Rules that applied at that time with regards to carbon emissions.

The Government consulted, between 22 July 2019 and 13 September 2019[5], on arrangements for applying the carbon emissions limits in respect of 'existing' capacity (generating units which are Fossil Fuel Components[6] that had a Commercial Production Start Date[7] before 4 July 2019). Following the publication of the EU's ACER guidance on Article 22 on 17 December 2019[8], the Government consulted further on the carbon emissions limits on arrangements for reporting and verifying carbon emissions in the CM[9].

The Capacity Market (Amendment) (No. 2) Rules 2020 came into force on 30 June 2020[10] in advance of Prequalification for the early 2021 auctions and amended the Rules to, amongst other changes, introduce a carbon emissions reporting and verification mechanism. The Capacity Market (Amendment) Rules 2021 introduced further refinements to those Rules, and the Capacity Market (Amendment) Rules 2024 also introduced some changes. As a result of Rule 8.3.13A, Capacity Agreements awarded in the early 2021 auctions will largely continue to be governed by the Rules that applied at that time with regards to carbon emissions, but in other places Rules amendments will be applicable, for example changes to Exhibit ZA.

The Prequalification process during 2020 and early stakeholder feedback provided opportunity for review and between 5 March 2021 and 16 April 2021 the Government consulted on refinements to certain formulae and clarifications to the emissions limits[11]. A number of changes were identified to ensure that the formulae used better reflect the carbon emissions of certain technologies and that the legislation gives full effect to our policy intent.

[1] Regulation (EU) 2019/943 on the internal market for electricity.
[2] https://ec.europa.eu/energy/en/topics/energy-strategy-and-energy-union/clean-energy-all-europeans.
[3] Due to the effect of s3 of the EU (Withdrawal) Act 2018 and section 5 of the Retained EU Law (Revocation and Reform) Act 2023, the Electricity Regulation is assimilated law and continues to apply to the CM. Article 22 is retained largely in its original form, with some minor amendments made to it by the Electricity and Gas (Internal Markets and Network Codes) (Amendment etc.) (EU Exit) Regulations 2020.
[4] Capacity Market (Amendment) (No. 5) Rules 2019.
[5] https://www.gov.uk/government/consultations/capacity-market-carbon-dioxide-emissions-limits
[6] A Fossil Fuel Component is any generating unit (including where it is a DSR CMU component) which produces electricity using a Fossil Fuel (as per the definition of 'Fossil Fuel Component' in Rule 1.2.1).
[7] This is how the CM implemented the distinction introduced under Article 22 in relation to the 4 July 2019 date and starting commercial production. (See the definition of 'Commercial Production Start Date' in Rule 1.2.1).
[8] ACER Opinion of 17 December 2019 (No 22/2019).
[9] https://www.gov.uk/government/consultations/capacity-market-proposals-for-future-improvements.
[10] In addition, the Capacity Market Amendment (No. 3) Rules 2020 came into force on 18 July 2020 to substitute Schedule 9 of the Rules.
[11] https://www.gov.uk/government/consultations/capacity-market-2021-proposals-for-improvements.

The Capacity Market (Amendment) Rules 2021[12] came into force on 30 June 2021 and amended the Rules to, amongst other changes, introduce new formulae for the calculation of carbon emissions for certain technologies.

The Rules require compliance with the carbon emission limits by all 'new' capacity (i.e. when considered against the 4 July 2019 date introduced by the Electricity Regulation, that is generating units which are Fossil Fuel Components that have a Commercial Production Start Date *on or after* 4 July 2019) participating in all auctions and Delivery Years, and by all 'existing' capacity (i.e. with a Commercial Production Start date *before* 4 July 2019) in respect of auctions for the Delivery Year commencing on 1 October 2024 and all subsequent Delivery Years. This guidance uses the terms 'new capacity' and 'existing capacity' in the context of the 4 July 2019 date introduced by the Electricity Regulation, and, where used, these terms should not be confused with the terms 'New Build CMU' and 'Existing CMU' which are distinctly defined terms for the purposes of the CM.

This document provides guidance only and should not be relied on as a substitute for reading the Rules. Please consider the Rules in detail, and where necessary, seek independent legal advice to establish the obligations in respect of carbon emissions which are applicable to you.

[12] See the Capacity Market (Amendment) Rules 2021.

2. The carbon emissions limits

2.1 What are the carbon emissions limits?

There are two carbon emissions limits that apply in the Capacity Market to capacity which use Fossil Fuels[13] to produce electricity:

a) 550g of CO2 of Fossil Fuel origin per kWh of electricity generated ("the Fossil Fuel Emissions Limit"); and

b) 350 kg CO2 of Fossil Fuel origin on average per year per installed kWe ("the Fossil Fuel Yearly Emissions Limit").

The carbon emissions limits apply at component level. The Rules describe a component which uses Fossil Fuels to produce electricity as a Fossil Fuel Component or an Associated Fossil Fuel Component[14] (each a "relevant Fossil Fuel Component" for the purposes of this document).

2.2 How do you demonstrate compliance with the carbon emissions limits?

All Prequalification applicants must commit, as part of the application process[15], to comply with the carbon emissions limits if awarded a Capacity Obligation for the relevant Delivery Year[16], regardless of whether the CMU comprises, or will comprise, of a Fossil Fuel Component.

Where your CMU already comprises of a relevant Fossil Fuel Component at Prequalification, as an Applicant you are required (in most cases) to demonstrate compliance with the carbon emissions limits by providing the Delivery Body a Fossil Fuel Emissions Declaration[17] with the Prequalification application (an "Application", see Section 3).

2.2.1. During Prequalification

The Rules provide that CMUs will not prequalify to enter the Capacity Market where the carbon emissions limits are exceeded, therefore in order to monitor compliance by Applicants, a number of requirements arise during Prequalification which are detailed in Section 3 below. In summary:

- Applicants in respect of an Existing Generating CMU or Proven DSR CMU which includes a relevant Fossil Fuel Component must provide a Fossil Fuel Emissions Declaration with the Application (or if having instead made a declaration under rule 3.18.3(a), before 22 days before

[13] 'Fossil Fuel' is defined in Rule 1.2.1. Note that waste is not considered a fossil fuel (unless the waste is something which was produced directly or indirectly from a fossil fuel listed in Rule 1.2.1 (a) to (f) for use as a fuel for a Generating Unit, and, when burned, it produces a greenhouse gas) so energy-from-waste installations are not subject to these emissions limits.

[14] An Associated Fossil Fuel Component is a Fossil Fuel Component which supplies electricity to a Storage Facility (i.e. a battery) via a Private Network or as an Electricity Supplier in respect of that Storage Facility (See Rule 1.2.1).'Storage Facility' is defined in Regulation 2 of the Electricity Capacity Regulations 2014.

[15] Applicants in respect of CMUs that comprise only of components with a Commercial Production Start Date before 4 July 2019 and made an application in respect of a Delivery Year before 2024 were not required to make this declaration at Prequalification. However, in the event that such a CMU were to add any components with a Commercial Production Start Date on or after 4 July 2019 as a result of an Emissions Related Material Change, you will be required to make a declaration to align with Rule 3.4.11 when submitting a Fossil Fuel Emissions Declaration.

[16] Other than Interconnector CMUs. See Rule 3.4.11.

[17] In the form set out in Exhibit ZA of the Rules. Section 5 of this document considers Fossil Fuel Emissions Declarations.

the relevant CM Auction). Rather than providing a Fossil Fuel Emissions Declaration with an Application, an Applicant can also confirm that a declaration will be submitted by a future deadline which allows for 12 continuous months of data to be gathered[18]. An Applicant will not Prequalify if a Fossil Fuel Emissions Declaration is not provided when required.

- An Applicant will not Prequalify if the declared Fossil Fuel Emissions for a component with a Commercial Production Start Date on or after 4 July 2019 exceed the Fossil Fuel Emissions Limit[19].

- An Applicant will not Prequalify if the declared Fossil Fuel Emissions and Fossil Fuel Yearly Emissions for a component with a Commercial Production Start Date before 4 July 2019 exceeds the Fossil Fuel Emissions Limit and the Fossil Fuel Yearly Emissions Limit[20]..

- All Applicants in respect of a New Build Generating, Unproven DSR or Refurbishing CMU must provide the Delivery Body a Fossil Fuel Emissions Commitment[21]. A Fossil Fuel Emissions Commitment includes promises to comply with the Fossil Fuel Emissions Limit, and to provide a Fossil Fuel Emissions Declaration (which specifies carbon emissions) at a future deadline.

In order for the Delivery Body to ensure the appropriate obligations are complied with in relation to the Commercial Production Start Date of a relevant Fossil Fuel Component, an Existing Generating, Proven DSR or Refurbishing (in respect of the Pre-Refurbishment component) CMU that applies to Prequalify which comprises of at least one relevant Fossil Fuel Component must confirm to the Delivery Body whether the Commercial Production Start Date of the relevant Fossil Fuel Component is before or on or after 4 July 2019[22].

2.2.2. After Prequalification

Following the award of Capacity Agreements, the Rules require certain categories of capacity providers to provide the Delivery Body with a Fossil Fuel Emissions Declaration before a deadline where one has not been provided during Prequalification or prior to the relevant auction (if the Applicant is in receipt of a deadline extension under rule 3.18). The requirements which arise after Prequalification are covered in Section 4 of this document below.

CMUs may undergo material changes which impact the carbon emissions of components contained in the CMU. The Rules anticipate this scenario to ensure that the components remain compliant with the carbon emissions limits during the course of a capacity agreement. For example, in respect of instances where a Fossil Fuel Emissions Declaration is provided to the Delivery Body and a component subsequently undergoes a material change, or where one was not provided by an Existing Generating or Proven DSR CMU which did not comprise of any relevant Fossil Fuel Components and it later includes a relevant Fossil Fuel Component. Section 7 of this guidance covers “Emissions Related Material Changes”, i.e. a term used in the Rules for where a CMU undergoes a change which impacts its previous carbon emissions.

[18] This confirmation under Rule 3.6.5(ca) and Rule 3.6.5A (Existing Generating) or Rule 3.9.5(ca) and Rule 3.9.5A (Proven DSR) is given via the Delivery Body Portal.
[19] See Rule 4.4.2(k)(i).
[20] See Rule 4.4.2(k)(ii).
[21] In the form set out in Exhibit ZB of the Rules. Section 6 of this document considers Fossil Fuel Emissions Commitments.
[22] See Rule 3.4.5B.

2.3 How the carbon emissions limits apply in respect of Demand Side Response (DSR)

It is possible for a relevant Fossil Fuel Component to be comprised in a DSR CMU. Each individual Generating Unit which is a relevant Fossil Fuel Component is subject to the carbon emissions limits, including where different components are aggregated to form one CMU such as a DSR aggregator.

You need to carefully consider the Commercial Production Start Date of each relevant Fossil Fuel Component, particularly where a DSR CMU comprises of a number of different components with different Commercial Production Start Dates.

In order for the Delivery Body to ensure the appropriate obligations are complied with in relation to the Commercial Production Start Date of a relevant Fossil Fuel Component, an Unproven DSR CMU that notifies the Delivery Body of its components, must, when providing a Fossil Fuel Emissions Declaration, confirm to the Delivery Body whether the Commercial Production Start Date of the relevant Fossil Fuel Component is before or on or after 4 July 2019[23].

3. Carbon emissions limits - During Prequalification

The Rules specify requirements during Prequalification in respect of carbon emissions limits, which you should consider carefully before submitting an Application:

- If an Existing Generating, or Proven DSR CMU comprises of at least one relevant Fossil Fuel Component, subject to a few limited exceptions described in the Rules, a Fossil Fuel Emissions Declaration is required at Prequalification, (or if in receipt of a deadline extension, by the deadline specified in rule 3.18[24]).

- **All** New Build Generating, Unproven DSR CMUs and Refurbishing CMUs Applicants must provide the Delivery Body a Fossil Fuel Emissions Commitment[25] regardless of generating technology type and whether the CMU comprises, or will or may comprise, of a relevant Fossil Fuel Component.

- The number of components specified in the Exhibit ZA must align precisely with those declared in an application. This will help prevent discrepancies, particularly in cases where a single CMU comprises multiple subcomponents. Ensuring consistency in components listings is essential for accurate matching and calculation, supporting the government's requirements to publish emission data reliably.

- It is important that the Primary Fuel Type declared, must match those that are listed in schedule 9 of the Rules. Please do not use technical variations which deviate from the terminology used in schedule 9.

[23] See Rule 8.3.3A(a)(ia).
[24] Generally, where a CMU does not comprise of a Fossil Fuel Component at any point, a Fossil Fuel Emissions Declaration will not be required.
[25] In the form set out in Exhibit ZB of the Rules.

3.1 Providing a Fossil Fuel Emissions Declaration with an Application

Table 1 below describes, in respect of each CMU type; the requirement at Prequalification for a Fossil Fuel Emissions Declaration, the relevant Rules, and summarises exceptions to the requirement to provide a Fossil Fuel Emissions Declaration with an Application.

The table assumes an Existing Generating or Proven DSR CMU comprises of at least one relevant Fossil Fuel Component when an Application is submitted. Where it does not, **Table 2** in Section 4.3 of this document details scenarios in which a Fossil Fuel Emissions Declaration will be required after Prequalification.

The relevant deadline by which a Fossil Fuel Emissions Declaration must be provided in respect of each CMU type following an Emissions Related Material Change after a first Fossil Fuel Emissions Declaration is provided is considered in Section 7 of this document.

Table 1 – Requirement for a Fossil Fuel Emissions Declaration during Prequalification.

CMU Type	**Is a new Fossil Fuel Emissions Declaration required during Prequalification?**	**When is a new Fossil Fuel Emissions Declaration *not* required during Prequalification?**
Existing Generating CMU.	Yes, a new declaration must be provided, if: - Rule 3.6.5(a) applies - Rule 3.6.5(b), (ca) do not apply. - The Applicant has not met the conditions specified in rule 3.18.3 A previous Declaration must be re-used in accordance with Rule 3.6.5ZA if it remains accurate due to the reasons in Rule 3.6.5(b)	Where you confirm one of the following[26]: 1- You have determined that the CMU would not prequalify if a Fossil Fuel Emissions Declaration were to be provided unless the Fossil Fuel Emissions CCUS Formula or Design Efficiency CHPQA Formula are applied, but at the time of Application do not have 12 months of data and/or the qualifying CHPQA Certificate (see Rule 3.6.5(ca) and Rule 3.6.5A). 2- The CMU burns mixed fuels but at the time of Application you do not have 12 months of data required to apply the Fossil Fuel Emissions Mixed Fuel Formula or Fossil Fuel Emissions Composite Formula (see Rule 3.6.5(ca) and Rule 3.6.5A)[27]. 3- The Applicant has met the conditions set out in rule 3.18.3
Proven DSR CMU.	Yes, a new Declaration must be provided, if: - Rule 3.6.5(a) applies - Rule 3.6.5(b), (ca) do not apply. - The Applicant has not made met the conditions specified in rule 3.18.3	Where you confirm one of the following: 1- You have determined that the CMU would not prequalify if a Fossil Fuel Emissions Declaration were to be provided unless the Fossil Fuel Emissions CCUS Formula or Design Efficiency CHPQA Formula are applied but at the time of application do not have

[26] To the Delivery Body via the DB Portal.
[27] See Section 11.5 of this guidance for relevant formulae.

CMU Type	Is a new Fossil Fuel Emissions Declaration required during Prequalification?	When is a new Fossil Fuel Emissions Declaration *not* required during Prequalification?
Proven DSR CMU.	A previously submitted Declaration must be re-used in accordance with Rule 3.9.5ZA if it remains accurate due to the reasons in Rule 3.6.5(b)	12 months of data and/or the qualifying CHPQA Certificate (see Rule 3.9.5(ca)[28] and Rule 3.9.5A). 2- The CMU burns mixed fuels but at the time of application you do not have 12 months of data required to apply the Fossil Fuel Emissions Mixed Fuel Formula or Fossil Fuel Emissions Composite Formula (see Rule 3.6.5(ca) and Rule 3.6.5A)[29]. 3- The Applicant has met the conditions set out in rule 3.18.3
New Build Generating CMU	No, however a Fossil Fuel Emissions Commitment is required during Prequalification (See Rule 3.7.4)	A New Build CMU is not required to provide a Fossil Fuel Emissions Declaration during Prequalification.
Refurbishing CMU	No, however a Fossil Fuel Emissions Commitment is required during Prequalification (See Rule 3.8.3)	A Refurbishing CMU is not required to provide a Fossil Fuel Emissions Declaration during Prequalification.
Unproven DSR CMU	No, however a Fossil Fuel Emissions Commitment is required during Prequalification (See Rule 3.10.4)	An Unproven DSR CMU is not required to provide a Fossil Fuel Emissions Declaration during Prequalification.

If your Existing Generating or Proven DSR CMU does not comprise of at least one relevant Fossil Fuel Component, a Fossil Fuel Emissions Declaration is not required at Prequalification. **However, under Rule 3.6.6 or Rule 3.9.6 (as applicable) you will need to confirm that in the event of an Emissions Related Material Change resulting in the CMU comprising of at least one relevant Fossil Fuel Component, a Fossil Fuel Emissions Declaration will be provided to the Delivery Body by the deadline in Rule 8.3.12(b)**[30] (see **Table 2**).

3.2 'Reusing' a previously submitted Fossil Fuel Emissions Declaration which remains accurate

There may be circumstances where a Prequalification Applicant has already provided the Delivery Body a Fossil Fuel Emissions Declaration in relation to a CMU which still remains accurate, and a further obligation arises to provide a Fossil Fuel Emissions declaration in relation to the same CMU, whether during Prequalification or during a Delivery Year. During Prequalification, you must 'reuse' the Fossil Fuel

[28] As above in respect of Rule 3.9.5(ca).
[29] See Section 11.5 of this guidance for relevant formulae.
[30] See Rule 8.3.12(b). Note that, due to the effect of Rule 8.3.13A(b), only the deadline in Rule 8.3.12(b)(ii)(aa) applies to an agreement awarded in the early 2021 auctions.

Emissions Declaration already provided to the Delivery Body, rather than providing a new one where the previous declaration remains accurate.

3.2.1 Circumstances in which a previous declaration would not remain accurate

The following summarises circumstances in which a previous declaration would not remain accurate:

a) The previous Fossil Fuel Emissions Declaration specifies values for at least one relevant Fossil Fuel Component relying on its compliance with the Fossil Fuel Yearly Emissions Limit. (The previous declaration does not remain accurate because the calculation of Fossil Fuel Yearly Emissions relies on 12 continuous months of data during an 'Emissions Year'[31]);

b) The previous Fossil Fuel Emissions Declaration is a Transitional Fossil Fuel Emissions Declaration, and was not verified for the 2023 prequalification window;

c) The Application is for the 2024 Delivery Year or a subsequent Delivery Year and the previous Fossil Fuel Emissions Declaration was for a T-1 Delivery Year in 2021, 2022, or 2023. (The previous declaration does not remain accurate because Applicants for such auctions would not have been required to declare emissions of relevant Fossil Fuel Components with a Commercial Production Start Date before 4 July 2019[32]);

d) The CMU has undergone an Emissions Related Material Change since the previous Fossil Fuel Emissions Declaration was provided; or

e) Where the CMU has applied any of the formulae introduced by the Capacity Market (Amendment) Rules 2021, relating to the Design Efficiency CHPQA formula and/or the Fossil Fuel Emissions CCUS Formula, Fossil Fuel Emissions Mixed Fuels Formula and Fossil Fuel Emissions Composite Formula to determine Fossil Fuel Emissions. (The previous declaration does not remain accurate because the calculation of Fossil Fuel Yearly Emissions relies on 12 continuous months of data during an 'Emissions Year').

3.3 Mandatory CMUs

Mandatory CMUs which are comprised of a relevant Fossil Fuel Component may seek to opt-out of making an Application for a Delivery Year if, in respect of that Delivery Year, the CMU will be operational but would exceed the Fossil Fuel Emissions Limit. An opt-out notification provided under Rule 3.11 will need to state this in the summary of reasons made in the notification[33].

3.4 Not Prequalifying due to carbon emissions requirements

The Rules ensure that carbon emissions requirements must be complied with in order for you to Prequalify and therefore potentially access a Capacity Agreement so **you must carefully consider which carbon emissions requirements you are subject to before submitting an Application**.

Under Rule 4.4.2(i), an Applicant for a New Build Generating, Refurbishing or Unproven CMU (which are **all** required to provide a Fossil Fuel Emissions Commitment with an Application under Rule 3.7.4, 3.8.3 or Rule 3.10.4 as applicable) which fails to provide a Fossil Fuel Emissions Commitment with the Application or provides an invalid declaration will not Prequalify.

[31] In respect of a Fossil Fuel Emissions Declaration provided with an application, this 12 month period must be within the 14 months leading up to the Prequalification Window you make your application. In respect of a Fossil Fuel Emissions Declaration provided after Prequalification, this 12 month period must be within 14 months of the date the declaration is made. See the definition of "Emissions Year" in Rule 1.2.1.
[32] An Applicant for a Delivery Year in 2022 or 2023 does not need to declare carbon emissions of a relevant Fossil Fuel Component with a Commercial Production Start Date before 4 July 2019 (see Rule 3.6.5(d) or Rule 3.9.5(d).
[33] See Rule 3.11.2A.

Under Rule 4.4.2(j) and (k), an Applicant in respect of an Existing Generating CMU or Proven DSR CMU which is required to provide a Fossil Fuel Emissions Declaration with an Application (under Rule 3.6.5(a) or Rule 3.9.5(a) as applicable) but fails to do so, provides an old form declaration, or provides a Fossil Fuel Emissions Declaration which demonstrates that the carbon emissions limits have been exceeded, will not Prequalify.

4. Carbon emissions limits - After Prequalification

The Rules specify requirements for certain categories of capacity providers to provide the Delivery Body with a Fossil Fuel Emissions Declaration where one has not been provided during Prequalification:

- An Existing Generating or Proven DSR CMU which did not comprise of a relevant Fossil Fuel Component during Prequalification (and therefore did not provide a Fossil Fuel Emissions Declaration with the Application), who subsequently comprise of a relevant Fossil Fuel Component (Section 4.1 below).

- An Existing Generating or Proven DSR CMU in respect of which a confirmation was made under Rule 3.6.5(ca) or Rule 3.9.5(ca) with the Application, where the Applicant determined that the CMU would not Prequalify if a Fossil Fuel Emissions Declaration were to be provided unless the relevant Fossil Fuel Emissions CCUS Formula and/or the Design Efficiency CHPQA Formula are applied but at the time of application did not have 12 months of data and/or the qualifying CHPQA Certificate (Section 4.2 below).

- An Existing Generating or Proven DSR CMU burning mixed fuels in respect of which a confirmation was made under Rule 3.6.5(ca) or Rule 3.9.5(ca) with the Application, where the Applicant determined that the CMU at the time of application did not have 12 months of data to apply the Fossil Fuel Mixed Fuel Formula or Fossil Fuel Emissions Composite Formula (Section 4.2 below).

- An Existing Generating or Proven DSR CMU which has made a declaration under Rule 3.18.3(a) (Section 4.3 below).

- A New Build, Unproven DSR CMUs or Refurbishing CMU which, after a Capacity Agreement is awarded, comprises of a relevant Fossil Fuel Component (Section 4.4 below).

4.1 Existing Generating and Proven DSR CMUs which contained no relevant Fossil Fuel Components during Prequalification

Existing Generating and Proven DSR CMUs without any relevant Fossil Fuel Components are not required to submit a Fossil Fuel Emission Declaration at Prequalification[34]. However, under Rule 3.6.6 or Rule 3.9.6 (as applicable) an Applicant in respect of the CMU will have confirmed that in the event of an Emissions Related Material Change resulting in the CMU comprising of at least one relevant Fossil Fuel

[34] This also applies to CMUs in respect of which the Applicant made a confirmation under Rule 3.6.5(d) or Rule 3.9.5(d).

Component, a Fossil Fuel Emissions Declaration will be provided to the Delivery Body by the deadline in Rule 8.3.12(b)[35]. **Table 2**, at the end of Section 4, sets out the relevant deadline for each CMU type.

Emissions Related Material Changes are covered in Section 7 of this document and include, for example, the development of a new generating unit onsite or, for a DSR CMU, component reallocation.

4.2 Existing Generating and Proven DSR CMUs in respect of which a confirmation under Rule 3.6.5(ca) and Rule 3.6.5A or Rule 3.9.5(ca) and Rule 3.9.5A was made

Some Existing Generating and Proven DSR CMUs which comprised of a relevant Fossil Fuel Component will have made the declarations under Rule 3.6.5 (ca) and Rule 3.6.5A or Rule 3.9.5 (ca) and Rule 3.9.5A during Prequalification instead of providing a Fossil Fuel Emissions declaration with an Application. This is because at the time of submitting the Application, they intended to/needed to apply the mixed fuels, CCUS and/or the CHP formulae but at the time of application the CMU did not have 12 months of data and/or the relevant CHPQA Certificate. In respect of CHP and CCUS, during Prequalification, they also determined that the CMU would not prequalify if a Fossil Fuel Emissions Declaration were to be provided without the relevant Fossil Fuel Emissions CCUS Formula and/or the Design Efficiency CHPQA Formula. **Table 2**, at the end of Section 4, sets out the relevant deadline for each CMU type.

4.3 Existing Generating or Proven DSR CMU in respect of which a declaration was made under Rule 3.18.3(a)

Existing Generating and Proven DSR CMUs which would otherwise be required to submit a Fossil Fuel Emissions Declaration along with their application at Prequalification, can delay this requirement by making a declaration under Rule 3.18.3(a) and meeting the conditions specified under Rule 3.18.3(b). This allows for Applicants which have not been able to secure an emissions verification in time for the end of Prequalification. By meeting the conditions specified in Rule 3.18.3(b), the Applicant gains access to a new deadline for the provision of the verified declaration, which is 22 working days before the relevant auction, until which time they would be conditionally prequalified. Failure to submit a verified Fossil Fuel Emissions Declaration by the new deadline would result in a failure to prequalify.

4.4 New Build, Refurbishing and Unproven DSR CMUs

All New Build, Refurbishing and Unproven DSR CMUs provide the Delivery Body with a Fossil Fuel Emissions Commitment at Prequalification under Rule 3.7.4, 3.8.3 or 3.10.4 (as applicable).

Rule 8.3.11 sets out the deadline by which a Fossil Fuel Emissions Declaration must be provided to the Delivery Body if, after Prequalification, the CMU comprises of a relevant Fossil Fuel Component. The deadlines vary depending on CMU type[36].

If, by the time the Capacity Agreement takes effect, a CMU does not comprise of any relevant Fossil Fuel Components, Rule 8.3.11 will not be applicable and the capacity provider will not be required to submit a Fossil Fuel Emission Declaration (i.e. the deadlines will not become applicable). This will probably be the

[35] Note that, due to the effect of Rule 8.3.13A(b), only the deadline in Rule 8.3.12(b)(ii)(aa) applies to an Agreement awarded in the early 2021 auctions.
[36] Note that, due to the effect of Rule 8.3.13A, only the deadlines in Rules 8.3.11(b)(i)(aa) or (bb), Rule 8.3.11(b)(ii)(aa), (bb) or (cc) and Rule 8.3.11(b)(iii)(aa) apply to Capacity Agreements awarded in the early 2021 auctions.

case, for example, for a Generating CMU in a non-dispatchable generating technology class, such as offshore wind.

In respect of a CMU which, during Prequalification, the Applicant anticipated that it will or may comprise of a relevant Fossil Fuel Component[37], however the Applicant subsequently choose not to develop that or any Fossil Fuel Component, confirmation that a Fossil Fuel Emissions Declaration will not be submitted should be communicated to the Delivery Body in writing/by email. **Table 2** below sets out the relevant deadline for each CMU type.

Table 2 – Deadlines for submission of a Fossil Fuel Emissions Declaration (after Prequalification).

CMU Type	What was provided during Prequalification?	When is a Fossil Fuel Emissions Declaration required?
Existing Generating CMU or Proven DSR CMU which did not provide a Fossil Fuel Emissions Declaration during Prequalification because Rule 3.6.5(a) or Rule 3.9.5(a) did not apply[38].	Confirmation under Rule 3.6.6 or Rule 3.9.6.	Following an Emissions Related Material change, the CMU comprises of a relevant Fossil Fuel Component[39], see Rule 8.3.12(b) for the deadlines.
Existing Generating CMU or Proven DSR CMU without 12 months of data and/or CHPQA Certificate applying the Fossil Fuel Emissions CCUS Formula, Fossil Fuel Emissions Mixed Fuels Formula and Fossil Fuel Emissions Composite Formula and/or the Design Efficiency CHPQA Formula.	Confirmations in accordance with Rule 3.6.5(ca) and 3.6.5A(b) or Rule 3.9.5(ca) and 3.9.5A(b).	See the deadlines in Rule 8.3.12A(b).
Existing Generating CMU or Proven DSR CMU which has made a declaration under rule 3.18.3(a) during Prequalification	Evidence required to meet conditions under 3.18.3(b)	No later than 22 working days prior to the commencement of the first Bidding Window for the Capacity Auction to which the application relates to.[40]
New Build CMU where the declarations described under Rule 3.7.4(a)-(c) were not made.	Fossil Fuel Emissions Commitment.	Where the CMU comprises of a relevant Fossil Fuel Component, the start of the first Delivery Year of the Capacity Agreement (or the date the Capacity Agreement takes effect in accordance with Rule 6.7.4(a)(ii) or Rule 6.8.5); or The date on which a Notice of Intention to Terminate issued by the Delivery Body to the Capacity Provider in respect of

[37] i.e. If, when completing a Fossil Fuel Emissions Commitment, you retained paragraph (b) of Part 2 of Exhibit ZB.
[38] i.e. The CMU did not comprise of a relevant Fossil Fuel Component during Prequalification.
[39] Note, under the definition of Emissions Related Material Change, a Fossil Fuel Component with an Installed Capacity below 1MW is not considered.
[40] See Rule 3.18.1(c)

CMU Type	What was provided during Prequalification?	When is a Fossil Fuel Emissions Declaration required?
New Build CMU where the declarations described under Rule 3.7.4(a)-(c) were not made.	Fossil Fuel Emissions Commitment.	the CMU states that a Termination Notice will be issued (see Rule 8.3.11(b)(i)(aa)).
Refurbishing CMU where the declarations described under Rule 3.8.3(a)-(c) were not made.	Fossil Fuel Emissions Commitment.	Where the CMU comprises of a relevant Fossil Fuel Component, two months after the Auction Results Day where; the CMU is Prequalified as an Existing CMU following a notification under Rule 4.4.3AB(a)(ii), and is awarded a Capacity Agreement in respect of that CMU, or where, following the submission of a notice under Rule 5.5.14[41], a Capacity Agreement is awarded to the Pre-Refurbishment CMU[42] ; or the start of the first Delivery Year of the Capacity Agreement (see Rule 8.3.11(b)(ii)(aa), (bb) and (cc))
Unproven DSR CMU where the declarations described under Rule 3.10.4(a)-(c) were not made.	Fossil Fuel Emissions Commitment.	Where the CMU comprises of a relevant Fossil Fuel Component, the date the Capacity Provider provides a DSR Test Certificate under Rule 8.3.2(a) (See Rule 8.3.11(b)(iii)(aa))
New Build Generating CMU where a declaration under Rules 3.7.4(a)-(c) was made.	Fossil Fuel Emissions Commitment (where any of paras (d)-(g) in Part 2 of the declaration were retained).	Where the CMU comprises of a relevant Fossil Fuel Component, see the deadline in Rule 8.3.11(b)(i)(cc) or (dd).
Refurbishing CMU where a declaration under Rule 3.8.3(a)-(c) was made.	Fossil Fuel Emissions Commitment (where any of paras (d)-(g) in Part 2 of the declaration were retained).	Where the CMU comprises of a relevant Fossil Fuel Component, see the deadline in Rule 8.3.11(b)(ii)(dd) or (ee).
Unproven DSR CMU where a declaration under Rule 3.10.4(a)-(c) was made.	Fossil Fuel Emissions Commitment (where any of paras (d)-(g) in Part 2 of the declaration were retained).	Where the CMU comprises of a relevant Fossil Fuel Component, see the deadline in Rule 8.3.11(b)(i) (bb) or (cc).

[41] An Applicant for a Refurbishing CMU must specify in any confirmation notice pursuant to Rule 5.5.14 whether or not it also wishes to participate in the Capacity Auction with respect to the associated Pre-Refurbishment CMU. (See Rule 5.5.15).
[42] The Pre-Refurbishment CMU means, in relation to a Refurbishing CMU, the Existing CMU that would remain in the absence of any improvement works being carried out. (See definition in Rule 1.2.1).

4.4 Termination in respect of carbon emissions

Under Rule 8.3.14(b), the Termination Event in Rule 6.10.1(o) will apply if, after being awarded a Capacity Agreement, the Delivery Body is made aware that a CMU made a declaration in a Fossil Fuel Emissions Commitment[43], a Fossil Fuel Emissions Declaration[44] or during Prequalification (in respect of carbon emissions)[45] and did not provide a Fossil Fuel Emissions Declaration when required to under any of Rule 8.3.11, Rule 8.3.12, Rule 8.3.12A or Rule 8.3.13 (i.e. any of the Rules which contain the deadlines for providing a Fossil Fuel Emissions Declaration) or if the carbon emissions limits are exceeded.

5. The Fossil Fuel Emissions Declaration (Exhibit ZA)

The purpose of a Fossil Fuel Emissions Declaration is to demonstrate compliance with the carbon emissions limits in respect of relevant Fossil Fuel Components comprised in a CMU, and to require commitments in respect of potential Emissions Related Material Changes[46] to a CMU in the future. Exhibit ZA of the Rules sets out the content and form of a Fossil Fuel Emissions Declaration which must be used. Parts 1 and 2 (including the relevant sections identified in Part 2) as well as Parts 5, 7 and 8 of the Fossil Fuel Emissions Declaration must always be completed.

5.1 Relevant Fossil Fuel Components with an Installed Capacity under 1 MW

Most of the information and evidence required in a Fossil Fuel Emissions Declaration is in respect of demonstration of compliance with the carbon emissions limits by relevant Fossil Fuel Components with an Installed Capacity[47] equal to or above 1MW.

However, Part 5 of the Fossil Fuel Emissions Declaration must also be completed in respect of existing or potential future Fossil Fuel Components with an Installed Capacity under 1 MW. This means that a Fossil Fuel Emissions Declaration is required even where a CMU is only comprised of relevant Fossil Fuel Components with an Installed Capacity under 1 MW. In such a case, as the Fossil Fuel Emissions Declaration will not contain values for Fossil Fuel Emissions or Fossil Fuel Yearly Emissions (in Part 3 of the Declaration), the Fossil Fuel Emissions Declaration does not need to be verified by an Independent Emissions Verifier.

5.2 Independent Verification

Other than in respect of “Transitional Fossil Fuel Emissions Declarations” (see 5.2.1 of this Section), Fossil Fuel Emissions and Fossil Fuel Yearly Emissions included in Part 4 of a Fossil Fuel Emissions Declarations will need to be independently verified by an Independent Emissions Verifier[48] (“IEV”),

[43] i.e. Due to paragraph (c) of Part 2 of Exhibit ZB.
[44] i.e. Due to Parts 5 and 7 of Exhibit ZA.
[45] Under Rule 3.4.11.
[46] See Section 7 of this document in respect of Emissions Related Material Changes.
[47] Installed Capacity is the nominal (or ‘nameplate’) capacity of a Generating Unit or DSR CMU Component, in MW. (See definition in Rule 1.2.1)
[48] Note that the requirements of an “Independent Emissions Verifier” are different from an “Independent Technical Expert”. See the definition of “Independent Emissions Verifier” in Rule 1.2.1.

accredited by UKAS (or equivalent national body[49]) to ISO/IEC 17029:2019 for the verification of calculations and values included in a Fossil Fuel Emissions Declaration. Information on accredited IEVs is available on UKAS' website at https://www.ukas.com/accreditation/about/developing-new-programmes/development-programmes/ecm-verification/.

5.2.1. Transitional Fossil Fuel Emissions Declarations

Fossil Fuel Emissions Declarations provided for Prequalification before the commencement of the Prequalification Window in 2024, are "Transitional Fossil Fuel Emissions Declarations", and do not need to be independently verified by an IEV, although those submitted for the 2023 prequalification had the option of being voluntarily verified and remaining valid for the following prequalification.[50] This means that a Fossil Fuel Emissions Declaration provided at any point from the opening of the Prequalification Window in 2024 may need to be independently verified by an IEV - you will need to plan for this in advance and consider the Verification FAQs found in Annex C.

As per Rule 3.6.5(c)(i) in respect of Existing Generating CMUs, and Rule 3.9.5(c)(i) in respect of Proven DSR CMUs, it will not be possible to rely on a Transition Fossil Fuel Emissions Declaration when making a confirmation under Rule 3.6.5(b) or Rule 3.9.5(b) in any subsequent Application. Similarly, under Rule 8.3.11(d)(i), a Refurbishing CMU will be unable to rely on a Transitional Fossil Fuel Emissions Declaration when making a declaration under Rule 8.3.11(c).

5.2.2. Having a Fossil Fuel Emissions Declaration independently verified

To reduce the risk of a shortage of access to IEVs at a critical time, we recommend that, where possible, in respect of declarations you intend to provide to the Delivery Body during at any point from the start of the 2024 Prequalification Window, you seek to have more straightforward Fossil Fuel Emissions Declarations (which do not specify Fossil Fuel Yearly Emissions or rely on one or more the Fossil Fuel Emissions CCUS Formula, Fossil Fuel Emissions Mixed Fuels Formula and Fossil Fuel Emissions Composite Formula and/or the Design Efficiency CHPQA Formula) verified by an IEV in good time.

In subsequent Prequalification Applications, provided that no Emissions Related Material Change takes place after the Fossil Fuel Emissions Declaration has been verified, you may then seek to make a confirmation under Rule 3.6.5(b) in respect of an Existing Generating CMU, Rule 3.6.5(b) in respect of a Proven DSR CMU and Rule 8.3.11(c) in respect of a Refurbishing CMU and must reuse the same verified Fossil Fuel Emissions Declaration.

It is your responsibility to ensure that, where applicable, Fossil Fuel Emissions Declarations are independently verified in good time to meet the end of the Prequalification period or any other applicable deadlines.

5.3 A CMU with a multi-year Capacity Agreement

If your CMU holds multi-year Capacity Obligations, and you are required to provide a Fossil Fuel Emissions Declaration by the Rules, you are not expected to submit a further Fossil Fuel Emissions Declaration in relation to every Delivery Year of the Capacity Agreement, once you have fulfilled the relevant obligation in the Rules, unless, subsequent to providing a Fossil Fuel Emissions Declaration, an Emissions Related Material Change occurs (see Section 7 below).

[49] If verifier is established outside the UK, it must be accredited by an accreditation body that is a member and signatory of one or more of the following: (i) the European Cooperation of Accreditation (EA); (ii) the International Laboratory Accreditation Cooperation (ILAC); or (iii) the International Accreditation Forum (IAF)

[50] See Rule 3.15.2 and the definition of 'Transitional Fossil Fuel Emissions Declaration' as amended by the Capacity Market (Amendment) (No.2) Rules 2022.

6. The Fossil Fuel Emissions Commitment (Exhibit ZB)

The purpose of a Fossil Fuel Emissions Commitment (Exhibit ZB) is to require an Applicant to make commitments in respect of the carbon emissions of any relevant Fossil Fuel Component which will potentially comprise in the CMU. CMUs that seek to prequalify as New Build, Refurbishing or Unproven DSR will need to provide the Delivery Body a Fossil Fuel Emissions Commitment with an Application at Prequalification[51].

All Prequalification applicants in respect of a New Build, Unproven DSR or Refurbishing CMU, must provide the Delivery Body a Fossil Fuel Emissions Commitment. This includes CMUs that do not include (or are not expected to include) any relevant Fossil Fuel Component. If the CMU is successful in securing a capacity agreement and it includes a relevant Fossil Fuel Component, it will need to submit a Fossil Fuel Emissions Declaration at a later date, as indicated at **Table 1** in this document.

6.1 Entering the same CMU in different Prequalification Windows

An Applicant who enters the same CMU in different Prequalification Windows and the classification of the CMU does not change (whether New Build, Refurbishing or Unproven DSR) will need to submit a separate Fossil Fuel Emissions Commitment with each Application.

If your CMU is successful in securing multiple Capacity Agreements in different auctions and the CMU subsequently includes at least one relevant Fossil Fuel Component, you will need to provide a Fossil Fuel Emissions Declaration at the deadline indicated in **Table 2** in respect of the agreement which has the earliest Delivery Year (if the CMU comprises of a relevant Fossil Fuel Component).

You can, at the same time, provide the same Fossil Fuel Emissions Declaration in respect of every other Capacity Agreement which has a different Delivery Year for which a Fossil Fuel Emissions Commitment has been submitted and a Fossil Fuel Emissions Declaration is due. Alternatively, you will be able to submit another Fossil Fuel Emissions Declaration before the next deadline which is applicable to the CMU[52].

[51] See Rule 3.7.4 in respect of New Build CMUs, Rule 3.8.3 in respect of Refurbishing CMUs, and Rule 3.10.4 in respect of Unproven DSR CMUs.
[52] The relevant deadline under Rule 8.3.11(b).

7. Emissions Related Material Changes

7.1 What is an Emissions Related Material Change?

Rule 8.3.12 and Rule 8.3.13 contain requirements for a Fossil Fuel Emissions Declaration to be provided following an 'Emissions Related Material Change'.[53]

'Emissions Related Material Change' is defined in Rule 1.2.1. In respect of a CMU, it means adding a Fossil Fuel Component or Storage Facility which has part or all of its electricity requirements met by an Associated Fossil Fuel Component that has an Installed Capacity equal to or greater than 1 MW; and in respect of a Fossil Fuel Component that has an Installed Capacity equal to or greater than 1 MW (including where that Fossil Fuel Component is an Associated Fossil Fuel Component) means any change which alters its Fossil Fuel Emissions or Fossil Fuel Yearly Emissions. For a Fossil Fuel Component or Associated Component that has an Installed Capacity below 1 MW, an Emissions Related Material Change is any change that increases the Installed Capacity to 1 MW or more.

An example of an Emissions Related Material Change to a CMU is adding a Fossil Fuel Component when undertaking component reallocation in a DSR CMU. Examples of Emissions Related Material Changes to a relevant Fossil Fuel Component are a change of fuel or a refurbishment of a turbine in one of the components which alters its carbon emissions.

Routine maintenance or interventions aimed at resolving a fault that do not alter the outcome of the emissions calculations do not constitute an Emissions Related Material Change to a relevant Fossil Fuel Component. Removal of a relevant Fossil Fuel Component from a CMU does not constitute an Emissions Related Material Change as it does not alter the carbon emissions of other relevant Fossil Fuel Components[54].

7.2 Existing Generating and Proven DSR CMUs which contained no relevant Fossil Fuel Components during Prequalification

Under Rule 8.3.12, if an Existing Generating or Proven DSR CMU does not comprise of one or more relevant Fossil Fuel Component at the time of Prequalification, but following an Emissions Related Material Change includes one or more relevant Fossil Fuel Component, it should provide its first Fossil Fuel Emissions Declaration to the Delivery Body by the deadline specified in Rule 8.3.12(b), unless a declaration under Rule 3.6.5A or 3.9.5A was made at Prequalification in which case the deadlines specified in Rule 8.3.12A(b) apply.

[53] Note that, due to the effect of 8.3.13A, only the deadlines in Rule 8.3.12(b)(ii)(aa) and Rule 8.3.13(c) (ii), (ii) and (iii) apply to an agreement awarded in the early 2021 auctions.
[54] Where all relevant Fossil Fuel Components are removed, then a Fossil Fuel Removal Declaration is required under Rule 8.3.15 (see Section 9 of this document).

7.3 A CMU which, after providing a Fossil Fuel Emissions Declaration, undergoes an Emissions Related Material Change

Under Rule 8.3.13, where a Capacity Provider has previously provided a Fossil Fuel Emissions Declaration, following an Emissions Related Material Change an 'Updating Fossil Fuel Emissions Declaration'[55] will be required by the deadline in 8.3.13(c).

The Updating Fossil Fuel Emissions Declaration must relate to all relevant Fossil Fuel Components previously specified, even where a component has not been subject to an Emissions Related Material Change, and should include fully re-calculated values and seek independent re-verification where appropriate. Any deadline requirements relating to the calculations used are detailed in Section 3. An Updating Fossil Fuel Emissions Declaration should be viewed as a replacement of the Fossil Fuel Emissions Declaration, which was made before the Emissions Related Material Change, rather than an amendment to it.

7.4 A CMU with multiple Capacity Agreements which undergoes an Emissions Related Material Change

A CMU with multiple Capacity Agreements for different Delivery Years that undergoes an Emissions Related Material Change is required to provide an Updating Fossil Fuel Emissions Declaration in respect of the CMU to meet the obligation under Rule 8.3.13 under each agreement. In such circumstances, you may submit an Updating Fossil Fuel Emissions Declaration to comply with the obligation in relation to one of the agreements, and then confirm to the Delivery Body that they rely on that same Updating Fossil Fuel Emissions Declaration in relation to fulfilling the obligation to provide an Updating Fossil Fuel Emissions Declaration in respect of all other existing agreements.

7.5 DSR Component Reallocation

Capacity Providers for Proven DSR CMUs will need to consider whether a first Fossil Fuel Emissions Declaration or Updating Fossil Fuel Emissions Declaration is required under Rule 8.3.12(b) or Rule 8.3.13(a) following DSR component reallocation[56] because such a change is an Emissions Related Material Change where a relevant Fossil Fuel Component is added or removed.

For example, a DSR CMU which undergoes component reallocation during a Delivery Year of an Agreement (which we will call "Agreement A") will, unless it has a multi-year obligation and has not yet met the requirements in Rule 8.3.2 (DSR Test) and Rule 8.3.6 (Evidence of Total Project Spend), be required to provide the Delivery Body an Updating Fossil Fuel Emissions Declaration[57].

If the CMU is awarded a separate Agreement which begins the Delivery Year after end of Agreement A (which we will call "Agreement B"), following a component reallocation during Agreement A, you will need to provide the Delivery Body a new DSR Test Certificate. In this case, in respect of Agreement B, as the CMU is classified Unproven DSR, a Fossil Fuel Emissions Declaration will need to be provided by the date you provide the DSR Test Certificate for Agreement B if the CMU comprises of a relevant Fossil Fuel

[55] See the definition of this term in Rule 1.2.1. An Updating Fossil Fuel Emissions Declaration will also be in the form of Exhibit ZA and must meet the requirements in Rule 3.15.
[56] Where the requirements in Rule 8.3.12(a) are met in respect of a first Fossil Fuel Emissions Declaration, or 8.3.13(b) in respect of an Updating Fossil Fuel Emissions Declaration.
[57] By the applicable deadline in Rule 8.3.13(c) (See Rule 8.3.4(n)). Within the 5 Working Days provided for notification under Rule 8.3.4(n), if you do not provide the Delivery Body the Fossil Fuel Emissions Declaration, you must inform the Delivery Body in writing of which deadline in Rule 8.3.13(c) is applicable to you.

Component[58]. This is the case even if you have provided the Delivery Body an Updating Fossil Fuel Emissions Declaration under Rule 8.3.13 in accordance with Rule 8.3.4(h) and 8.3.11 for Agreement A. You could, where the deadlines for Agreement A and Agreement B align, submit two copies of the same Fossil Fuel Emissions Declaration to fulfil both obligations where the emissions data/information relate to the same relevant Fossil Fuel Components.

If your CMU does not undergo component reallocation, or a new DSR Test Certificate is provided to the Delivery Body ahead of you entering the same CMU for Prequalification for a capacity auction for a subsequent Agreement, and the CMU is classified as a Proven DSR CMU in that Application, you may be able to rely on the Updating Fossil Fuel Emissions Declaration it submitted following the component reallocation[59].

7.7 A relevant Fossil Fuel Component using formulae relying on 12 months of data undergoing an Emissions Related Material Change

The deadlines for provision of a Fossil Fuel Emissions Declaration take account of circumstances where a relevant Fossil Fuel Component needs to use 12 months of data in a formula to determine its Fossil Fuel Emissions or Fossil Fuel Yearly Emissions.

For example, a CMU that has one or more components must submit an Updating Fossil Fuel Emissions Declaration within two months of an Emissions Related Material Change taking place, unless the change affects directly one or more of the components that rely on the Fossil Fuel Yearly Emissions Limit, in which case the deadline is 14 months from the change, to allow these components to gather 12 months of data.[60]

For CMUs which comprise of one or more components relying on one or more of the Fossil Fuel Emissions CCUS Formula, Fossil Fuel Emissions Mixed Fuel Formula, Fossil Fuel Emissions Composite Formula and/or Design Efficiency CHPQA Formula, the deadline varies depending on which formula is applicable and you should consider Rule 8.3.13(c) carefully to determine which deadline applies to you. If your CMU comprises of numerous relevant Fossil Fuel Components, each relying on a different formula, for example one component relies on the Fossil Fuel Emissions Mixed Fuel Formula, and one relies on the Design Efficiency CHPQA Formula, then the latest deadline is the one that applies to provision of the Fossil Fuel Emissions Declaration (in the example, it would be the deadline in Rule 8.3.13(c)(v)) This is the case irrespective of whether the change affects the component relying on the relevant formula or not.

[58] See Rule 8.3.11. You must inform the Delivery Body in writing by the date you provide the DSR Test Certificate if you intend to rely on one of the later deadlines in Rule 8.3.11(b)(iii).
[59] See Rule 3.9.5(b).
[60] See Rule 8.3.13(c)(i) and (c)(iii).

8. The Fossil Fuel Removal Declaration (Exhibit ZC)

The purpose of a Fossil Fuel Removal Declaration is to require you to provide evidence to the Delivery Body which demonstrates that, subsequent to a Fossil Fuel Emissions Declaration being provided in respect of a CMU, the CMU no longer comprises of at least one relevant Fossil Fuel Component where previously the CMU did comprise of at least one relevant Fossil Fuel Component. Exhibit ZC of the Rules sets out the content and form of a Fossil Fuel Removal Declaration which must be used.

Under Rule 8.3.15, a Fossil Fuel Removal Declaration is required if a CMU no longer contains any relevant Fossil Fuel Components e.g. following component reallocation in a DSR CMU which removes all Fossil Fuel Components, or refurbishment of a component so that it will not produce electricity using a Fossil Fuel. A Fossil Fuel Removal Declaration must be provided as soon as reasonably practicable after the Emissions Related Material Change which leads to the CMU no longer comprising of any relevant Fossil Fuel Component.

9. Secondary Trading

CMUs participating in Secondary Trading as an 'Acceptable Transferee' under Rule 9.2.4 will need to comply with the carbon emissions limits, as applicable.

A Fossil Fuel Emissions Declaration is necessary in order to requalify as an Eligible Secondary Trading Entrant for any CMUs which comprise of a relevant Fossil Fuel Component, irrespective of the Commercial Production Start Date.[61]

You should consider the requirements in the Rules carefully when considering a secondary trade in respect of a CMU which comprises of a relevant Fossil Fuel Component. For example, for a person to be an 'Acceptable Transferee' in respect of a CMU which comprises of one or more relevant Fossil Fuel Components, a Fossil Fuel Emissions Declaration will need to be provided to the Delivery Body if one has not previously been provided[62] and the person will need to confirm to the Delivery Body whether the Fossil Fuel Component has a Commercial Production Start Date before, on, or after 4 July 2019.[63]

[61] Any Fossil Fuel Emissions Declaration submitted before the Prequalification Window in 2024 is a 'Transitional Fossil Fuel Emissions Declaration' and does not need to be verified by an IEV.
[62] See Rule 9.2.6(e)(x) in respect of the Delivery Years commencing in 2021, 2022, and 2023, and Rule 9.2.6(e)(xi) in relation to Delivery Years commencing in 2024 or subsequently. Note that in respect of Delivery Years commencing in 2024 or subsequently, a Fossil Fuel Emissions Declaration will be required even where one has been provided previously in relation to the Delivery Years commencing in 2021, 2022, and 2023 due to the exception in Rule 9.2.6(e)(xi).
[63] See Rule 9.2.6(e)(xii).

10. Applicability of Rules amendments

As is the case with many of the Rules, the Rules applicable at the time a Capacity Agreement is awarded will continue to be effective for the duration of the agreement in question and amendments to those Rules will also be applicable. This is unless the 'application' provision of the Rules instrument which amends those Rules says otherwise (for example, it says the amendments do not apply to existing agreements) or the wording of a Rule explicitly says who it applies to.

Capacity Agreements awarded before the Prequalification Window in 2019 were not subject to the carbon emissions limits for the duration of the agreement as these were awarded before any carbon emissions requirements were introduced to the Rules and emissions Rules were not applied to them.

Capacity Agreements awarded as a result of the Prequalification Window in 2019 were subject to carbon emissions Rules during that Prequalification, as a result of the Capacity Market (Amendment) Rules (No.5) 2019. For example, those Applicants were subject to a Rule 3.4.10 requiring provision of a declaration with an Application.

The Capacity Market (Amendment) (No.2) Rules 2020 (made in June 2020[64]) stated that they did not apply to previously awarded agreements and introduced a new carbon emissions regime to the Rules to account for the methodologies provided in the ACER guidance. For example, Rule 3.4.10 was omitted for Capacity Agreements awarded as a result of the 2020 Prequalification Window (in the early 2021 auctions) and new Rules 3.6.5, 3.9.5, 3.7.4 and 3.8.3 were introduced alongside emissions formulae.

Following consultation, those Rules, such as Rule 3.6.5 and 3.9.5, were amended by the Capacity Market (Amendment) Rules 2021 so that they applied differently in relation to the Prequalification Window in 2022, as well as to Capacity Agreements awarded in the early 2021 auctions. Note that some Rules (e.g the new formulae and associated deadlines[65] relating to the Fossil Fuel Emissions CCUS Formula, Fossil Fuel Emissions Mixed Fuels Formula and Fossil Fuel Emissions Composite Formula and/or the Design Efficiency CHPQA Formula) were amended so that they will not apply to agreements awarded in the early 2021 auctions[66].

The template Fossil Fuel Emissions Declaration (Exhibit ZA) was substituted by the Capacity Market (Amendment) Rules 2021 and amended by the Capacity Market (Amendment) Rules 2024[67]. The version of the template Fossil Fuel Emissions Declaration document (Exhibit ZA) which appears in the latest informal consolidation of the Rules should be used to fulfil an obligation which arises at any point in the future in respect of agreements awarded in the capacity auctions in early 2021 and in subsequent auctions.[68]

[64] By the Capacity Market (Amendment) (No.2) Rules 2020 and the Capacity Market (Amendment) (No.3) Rules 2020.
[65] For example, in respect of the deadline applicable where an Updating Fossil Fuel Emissions Declaration is submitted following an Emissions-Related Material Change, or where a CMU submits a Fossil Fuel Emissions Declaration after Prequalification having submitted a Fossil Fuel Commitment at Prequalification.
[66] See Rule 8.3.13A.
[67] See here for the Capacity Market (Amendment) Rules 2024.
[68] For example, New Build /Refurbishing/Unproven DSR CMUs awarded in agreement in early 2021 which are required to provide a Fossil Fuel Emissions Declaration by the deadline in Rule 8.3.11, or Existing/Proven DSR CMUs who are required to provide an Updating Fossil Fuel Emissions Declaration under Rule 8.3.13.

11. How to calculate carbon emissions

This section provides guidance on how to calculate the Fossil Fuel Emissions and, if required, the Fossil Fuel Yearly Emissions of a relevant Fossil Fuel Component using the formulae provided in Schedule 8 of the Rules. **You should consider Schedule 8 of the Rules carefully before making an application for Prequalification and seek expert advice on any calculations which you make when determining carbon emissions for inclusion in a Fossil Fuel Emissions Declaration, as this document provides a summary only.**

11.1 Fossil Fuel Emissions

The Fossil Fuel Emissions ("FFE") of a Generating Unit is a value expressed in grams of carbon dioxide per kWhe and is determined in accordance with the following formula:[69] [70]

$$FFE = \frac{0.0036 \times EF_{f,CO2}}{\eta_{des}} = \left[\frac{gCO_2}{kWh_e}\right]$$

Note the following when applying this formula:

- 0.0036 is a set value for a conversion factor (1 kWh equal to 0.0036 GJ) which must not be altered.
- The Emission Factor ("$EF_{f,CO2}$") is determined by using the value specified in the table in Schedule 9 of the Rules corresponding to the fuel used by a Generating Unit.
- When determining Design Efficiency ("η_{des}") in accordance with the relevant formula in Part 3 of Schedule 8 to the Rules, the values deemed to be most representative of the normal operation of the Generating Unit should be used, where applicable, for each variable.
- When calculating the FFE, all input values except the defined conversion factor should be maintained to two decimal places.
- As this is a theoretical calculation, based on the design of the Generating Unit and the fuel utilised, a Generating Unit's FFE should not change year on year (unless the component undergoes an Emissions Related Material Change).
- Only fuels used to produce electricity should be considered for the calculation of FFE. Fuels that are used for the purposes of start-up, cool-off and flame-control activities should not be taken into account when calculating the FFE of the Generating Unit and should not be considered when determining whether a component is a mixed fuels component.

If a Generating Unit is equipped with CCUS technology, **Table 3** outlines the specific formulae that you may choose to apply for these cases, and they are described in further detail in Section 11.4. In the case of Generating Units using more than one fuel the alternative formulae that must be applied are listed in **Table 3** and further described at Section 11.5.

[69] See Part 1 of Schedule 8 to the Rules.
[70] Unless more than one fuel is used to generate electricity or the Generating Unit has installed CCUS technology and intends to discount captured emissions by applying the Fossil Fuel Emissions CCUS Formula.

Table 3 – Formulae to calculate Fossil Fuel Emissions of a Generating Unit71

Formula Name	When the formula is applied	Formula	Further Guidance
Fossil Fuel Emissions Formula	Standard formula to be applied to a Generating Unit that uses one fuel to produce electricity and the person does not intend to apply the Fossil Fuel Emissions CCUS Formula.	$FFE = \frac{0.0036 \times EF_{f,CO2}}{\eta_{des}} = \left[\frac{gCO_2}{kWh_e}\right]$	See Section 11.1.
Fossil Fuel Emissions CCUS Formula	May be applied if the Generating Unit is equipped with CCUS technology and uses one fuel to produce electricity.	$FFE = \frac{0.0036 \times (1 - TCF) EF_{f,CO2}}{\eta_{des}} = \left[\frac{gCO_2}{kWh_e}\right]$	See Section 11.4.
Fossil Fuel Emissions Mixed Fuel Formula	Must be applied if the Generating Unit uses more than one fuel to produce electricity, unless the person chooses to apply the Fossil Fuel Emissions Composite Formula.	$FFE = \frac{0.0036 \times EF_W}{\eta_{des}} = \left[\frac{gCO_2}{kWh_e}\right]$	See Section 11.5.1.
Fossil Fuel Emissions Composite Formula	May be applied if the Generating Unit uses more than one fuel to produce electricity and is equipped with CCUS equipment.	$FFE = \frac{0.0036 \times (1 - TCF) EF_W}{\eta_{des}} = \left[\frac{gCO_2}{kWh_e}\right]$	See Section 11.5.2.

For the formulae listed in **Table 3**:

- The weighted emissions factors, "EF_W", is determined by applying the relevant corresponding formula in Part 5.2 of Schedule 8.
- The Design Efficiency, η_{des}, is determined using the formulae described in Part 3.2 in Schedule 8 of the Rules and is discussed in further detail in sections 11.2 and 11.3 of this document.

Alongside the Fossil Fuel Emissions Declaration, as per the requirements in Part 6 of Exhibit ZA, you will need to submit, in respect of each component declared in Part 3 of Exhibit ZA, evidence of:

a) the data used to calculate the values of the variables used to determine Design Efficiency ("η_{des}") of the relevant Fossil Fuel Component (for example from a power plant commissioning contract, the power plant testing that is deemed to be most representative of the plant's normal operation, or equivalent information from other technical sources);

[71] See Part 1 of Schedule 8 to the Rules. Note that only the standard *Fossil Fuel Emissions Formula* is available to CMUs which were awarded capacity agreements in the early 2021 capacity auctions.

b) a description (including title and year) of the ISO (International Organisation for Standardisation) or EN (European Standards) standard/s applied, if any, (for example from the power plant commissioning contract, the most recent power plant testing);

c) confirmation of which fuel is used by the Fossil Fuel Component and therefore used to determine the appropriate Emission Factor ("$EF_{f,CO2}$"); and

d) details of any assumptions made in the calculation of Fossil Fuel Emissions

e) a copy of the Qualifying CHPQA Certificate used (if applied).

11.2 Calculation of the Design Efficiency for components other than CHP components

The Design Efficiency ("η_{des}") of a Generating Unit[72] is a value expressed as a percentage, determined in accordance with the following formula[73]:

$$\eta_{des} = \frac{W_E}{Consumption\ Rate \times NCV} = [\%]$$

Note the following when determining Design Efficiency in accordance with the formula in Schedule 8 Part 3.2(a):

- The Net Calorific Value (NCV) should be taken from the table at Schedule 9 of the Rules based on the fuel used by the Generating Unit. You must determine the value of W_E in relation to the Generating Unit as the maximum electrical output of the Generating Unit expressed in MW.
- The Consumption Rate must be determined in relation to the Generating Unit and is the consumption rate of fuel used by the Generating Unit at maximum electrical output, in kilograms per second.
- Variables may be determined through recent power plant testing, a power plant commissioning contract, or equivalent information from other technical sources as appropriate.
- Where multiple values are available, the value that is deemed to be most representative of the Generating Unit's normal operation should be used.

11.3 Calculation of the Design Efficiency for CHP components

This section describes the Design Efficiency Formula that a person may choose to apply in respect of a Generating Unit in the CHP Generating Technology Class awarded a capacity agreement after the coming into force of the Capacity Market (Amendment) Rules 2021[74].

11.3.1. The Design Efficiency CHPQA Formula

In order to apply the Design Efficiency CHPQA Formula, CHP installations must be covered by a CHP Quality Assurance (CHPQA) Certificate. These certificates are provided to installations as part of the CHPQA Programme, a government initiative that provides a comprehensive methodology for evaluating the quality of CHP schemes. CHPs that are not covered by a CHPQA certification will still be able to

[72] Other than a Generating unit which is in the Combined Heat and Power (CHP) Generating Technology Class intends to apply the Design Efficiency CHPQA Formula or the Design Efficiency Steam Formula.
[73] See section 1 of Part 3 of Schedule 8 to the Rules.
[74] CMUs awarded a capacity agreement in the early 2021 auction may instead choose to apply the Design Efficiency Steam Formula. See para 3.1(b) of Part 3 of Schedule 8 to the Rules.

participate in the CM but will need to apply the formulae developed for non-CHP plant detailed in Section 11.2.[75]

The Design Efficiency ("η_{des}") is a value expressed as a percentage, determined in accordance with the following formula[76] :

$$\eta_{des} = \frac{TPO}{TFI \times Cf \times F_e} = [\%]$$

The total power output (TPO), total fuel input (TFI) and percentage of fuel referable to electricity generation (F_e) of the Generating Unit are values determined under the CHPQA Programme and are specified on a CHPQA Certificate for that unit. The TPO, TFI are all expressed in MWh while F_e is expressed as a percentage. The conversion factor (Cf) value corresponds to the type of fuel used by the Generating Unit and is specified in Schedule 9 of the Rules. The purpose of the conversion factor is to convert the TFI, which is calculated on a Gross Calorific Value basis, into a figure calculated on a Net Calorific Value basis, in coherence with how emissions are calculated for other technologies.

11.3.2. The CHPQA Certificate

When taking values from the CHPQA certificate, you should consider that a 'scheme' on the certificate corresponds to a CMU component (i.e. a Generating Unit). Where there is the possibility for you to arrange your Generating Units into a CHP scheme for the purposes of CHPQA certification, this should be done bearing this in mind.

11.3.3. The Design Efficiency Steam Formula

For CMUs awarded a Capacity Obligation in an auction before the Capacity Market (Amendment) Rules 2021 came into force, relating to units who prequalified in 2020, the following Design Efficiency Steam Formula applies:

$$\eta_{des} = \frac{W_E + Q\ W_T}{Consumption\ Rate \times NCV} = [\%]$$

You must determine Q in relation to the Generating Unit as the efficiency of the turbine comprised in the Generating Unit that is outputting steam, expressed as a percentage. The power extracted by expanding the output steam (W_T) must be determined using Part 4 of Schedule 8 to the Rules.

As provided in Part 4 of Schedule 8 to the Rules, a CHP installation may assume the value of W_T to be zero[77]. For example, where you determine W_T cannot be determined by applying the formula in paragraph (b) of Part 4 because each value would have a negligible value. Other examples are where CHP installations do not have a turbine that is outputting steam or are otherwise unable to determine Q or W_T. By taking W_T to be zero, the value of "$Q\ W_T$" is zero so CMUs in the Combined Heat and Power (CHP) Generating Technology Class are effectively applying a formula equivalent to the formula for Generating Units not in the Combined Heat and Power (CHP) Generating Technology Class.

11.4 The Fossil Fuel Emissions CCUS Formula – For Carbon Capture, Utilisation and Storage (CCUS)

When calculating the Fossil Fuel Emissions of a generating unit equipped with CCUS technology you may choose to discount the average percentage of carbon dioxide captured per kWh of electricity produced. For components using only one fossil fuel to generate electricity, this can be done by calculating the

[75] See Part 3.1 of Schedule 8 of the Rules.
[76] See also section 2 of Part 3 of Schedule 8 to the Rules.
[77] See paragraph (a) of Part 4 of Schedule 8 to the Rules.

Generating Unit's FFE through the Fossil Fuel Emissions CCUS Formula in Schedule 8, Part 1.2 (b) of the Rules.

$$FFE = \frac{0.0036 \times (1 - TCF) EF_{f,CO2}}{\eta_{des}} = \left[\frac{gCO_2}{kWh_e}\right]$$

To do this, you must calculate a 'transferred CO2 factor' (TCF), defined as the percentage of CO2 captured and transferred out of the total CO2 generated by the generating unit across an 'Emissions Year'. The period of time which an Emissions Year relates to depends on the deadline in respect of which a Fossil Fuel Emissions Declaration is provided.[78] For example, if a Fossil Fuel Emissions Declaration is provided with an Application, it means any continuous period of 12 months within the 14 months preceding the opening of Prequalification window for that year.

The TCF must be calculated in accordance with the formulae set out in Schedule 8, Part 4.1. It is made up of two components: $C02_{generated}$ and $CO2_{transferred}$.

$C02_{generated}$ must be calculated in accordance with the formula in Schedule 8, Part 7.2(a):

$$C02_{generated} = TFEI \times EF_{f,CO2} \times 0.0036 = [kgC0_2]$$

$CO2_{transferred}$ is the CO2 captured and transferred by the generating unit over an Emissions Year (in kg). Note the following:

- Any metering method is accepted, provided that it is accurate to ±2.5%.
- Captured CO2 may be included in the calculation of $CO2_{transferred}$ regardless of the end use, provided it is not simply released into the atmosphere after capture. CO2 that is simply released after capture does not count as captured CO2 and a plant that releases all its captured CO2 will not be able to calculate TCF or use the Fossil Fuel Emissions CCUS Formula.

Once these two components have been calculated, TCF can be calculated in line with the formula in Schedule 8, Part 4.1:

$$TCF = \frac{CO2_{transferred}}{CO2_{generated}} = [\%]$$

Once TCF has been calculated, Fossil Fuel Emissions must be determined in line with the Fossil Fuel Emissions CCUS Formula, which is located in Schedule 8, Part 1.2(b) of the Rules.

11.4.1. CCUS and CHP

You may opt to apply both the CHP-specific Design Efficiency CHPQA Formula together with the Fossil Fuel Emissions CCUS Formula in respect of a Generating Unit that is in the CHP Generating Technology Class and that is equipped with CCUS technology. This will involve calculating Design Efficiency based on the fuel used for electricity generation only, using values taken from a Qualifying CHPQA Certificate, as described in Section 11.3. Simultaneously, the average percentage of CO2 captured and transferred per kWh of electricity generated will be discounted from FFE calculations by using the Fossil Fuel Emissions CCUS Formula described above in Section 11.4. This will involve calculating $CO2_{transferred}$, defined as the total quantity of CO2 captured and transferred by the generating unit over a continuous 12-month period.

[78] See the definition of 'Emissions Year' in Rule 1.2.1.

In the absence of further adjustments, however, applying the Fossil Fuel Emissions CCUS Formula alongside the Design Efficiency CHPQA Formula in respect of a unit in the CHP Generating Technology Class would create an undue advantage: declared fossil fuel emissions would be those resulting from electricity generation only, while $CO2_{transferred}$ would reflect avoided CO2 emissions from production of both electricity and heat. Essentially, this would amount to 'inflating' the quantity of CO2 captured relative to the quantity of electricity generated.

To correct this, you must calculate TCF with no adjustment made to use only the percentage of fuel referrable to electricity. In other words, when calculating $C02_{generated}$ in line with the formula in Schedule 8, Part 7.2(a), TFEI is the total fuel input during the relevant 12-month period (comprising fuel used to produce heat as well as fuel used to produce electricity).

11.5 Fossil Fuel Components using more than one Fossil Fuel

A Fossil Fuel Emissions Declaration submitted in relation to a Fossil Fuel Component that burns more than one fuel to produce electricity must specify all types of fuels used to produce electricity and will be required to account for emissions from all fossil fuels burned, rather than the primary fuel only. The type/s of fuels used should be specified under 'Generating Unit Fuel Type/s' and the emissions for the component under 'Fossil Fuel Emissions' and 'Fossil Fuel Yearly Emissions' (where appropriate) in the table in Part 3 of Exhibit ZA. Note the following if your component uses more than one fuel to produce electricity:

- When calculating the emissions, if one of the fuels used is not a fossil fuel (e.g. biofuels) then the Emission Factor for that fuel is 0.
- Any fuel used solely for the purpose of starting the combustion process of a Generating Unit should not be taken into account as, under the definition of 'Fossil Fuel Component' in the Rules, it is the fuel used to produce electricity which is relevant.

11.5.1. The Fossil Fuel Emissions Mixed Fuel Formula

Generating Units burning more than one fuel[79] to produce electricity will be required to account for emissions from all fuels burned, rather than the primary fuel only.[80] You must therefore use the Fossil Fuel Emissions Mixed Fuel Formula in in Schedule 8, Part 1.2(c):

$$FFE = \frac{0.0036 \times EF_W}{\eta_{des}} = \left[\frac{gCO_2}{kWh_e}\right]$$

If you are making use of the Fossil Fuel Emissions Mixed Fuel Formula, you will need to calculate a weighted emission factor (EF_W) that accounts for the proportion and carbon content of each fuel burned. The relevant formula is set out in Schedule 8, Part 5.1(a) of the Rules:

$$EF_W = (FS_{F1} \times EF_{F1}) + (FS_{F2} \times EF_{F2}) + \cdots + (FS_{Fn} \times EF_{Fn}) = \left[\frac{kg\ CO_2}{TJ}\right]$$

Where the product of the share of each fuel burned to produce electricity, FS, and its standard Emission Factor, EF, are combined to enable a more accurate reflection of the Fossil Fuel Emissions of a plant using mixed fuels. The fuel share, FS, is calculated using the relevant formula as set out in Schedule 8, Part 8.1 of the Rules:

$$FS_i = \frac{Q_{Fi} \times NCV_{Fi}}{(Q_{F1} \times NCV_{F1}) + (Q_{F2} \times NCV_{F2}) + \ldots + (Q_{Fn} \times NCV_{Fn})} = [\%]$$

[79] Where at least one fuel is a Fossil Fuel.
[80] Not applicable to agreements awarded in the early 2021 capacity auctions.

Where F_i is the fuel for which the FS is being calculated, F_1 is the primary fuel, F_2 is the secondary fuel and F_n is any other fuel that is part of the fuel mix to be considered individually. The energy input of each fuel is calculated by multiplying the quantity of fuel, Q (in Gigagrams, Gg) by the Net Calorific Value (NCV) of the fuel (as specified in Schedule 9 of the Rules).

11.5.2 The Fossil Fuel Emissions Composite Formula

When preparing an application in respect of a Generating Unit burning more than one fuel and that is equipped with CCUS technology, you may opt to make use of the CCUS-specific formulae by applying the Fossil Fuel Emissions Composite Formula, set out in Schedule 8, Part 1.2(d), to calculate emissions:

$$FFE = \frac{0.0036 \times (1 - TCF) EF_W}{\eta_{des}} = \left[\frac{gCO_2}{kWh_e}\right]$$

You must calculate EF_W following the equations described in Section 11.5.1. Next, you should use EF_W in calculating $CO2_{generated}$. The formula for doing this is set out in Schedule 8, Part 7.2(b) of the Rules:

$$C02_{generated} = TFEI \times EF_W \times 0.0036 = [kgC0_2]$$

Once $C02_{generated}$ has been calculated, you can determine the appropriate TCF value using the formula described in Schedule 8, Part 4.1 and Section 11.4 of this document.

11.5.3 Plant burning mixed fuels and CHP

In respect of a Generating Unit using more than one fuel to produce electricity, you must apply the Fossil Fuel Emissions Mixed Fuel Formula to determine FFE. If the same Generating Unit is in the CHP Generating Technology Class, you may also opt to use the Design Efficiency CHPQA Formula in Schedule 8, Part 3.2(c) to calculate the Generating Unit's design efficiency for use in the Fossil Fuel Emissions Mixed Fuel Formula that is set out in Schedule 8, Part 1.2(c).[81]

When calculating EF_W, you should apply the formula set out in Schedule 8, Part 5.1(b), which pertains specifically to Generating Units that burn more than one fuel to produce electricity and that have also opted to apply the Design Efficiency CHPQA Formula. The formula brings together the new formulae pertaining to both units burning mixed fuels and units in the CHP Generating Technology Class. It produces a weighted emission factor that accounts for the not only for the percentage of the total fuel input referable to electricity generation, but also for the percentage by which each different fuel contributes to the fuel mix:

$$EF_W = \frac{(Q_{F1} \times QE_{F1} \times EF_{F1}) + (Q_{F2} \times QE_{F2} \times EF_{F2}) + \ldots + (Q_{Fn} \times QE_{Fn} \times EF_{Fn})}{TFI \times F_e} = \left[\frac{kgCO_2}{TJ}\right]$$

Data to be used in this formula, which are not found on the CHPQA certificate, need to be drawn from an Emissions Year, in line with the approach for plant burning mixed fuels.

Once EF_W has been calculated, you should apply the Design Efficiency CHPQA Formula in Schedule 8, Part 3.2(c). You then apply the Fossil Fuel Emissions Composite Formula set out in Schedule 8, Part 1.2(d).

[81] Note that holding a CHPQA certificate is a prerequisite to applying this formula as it relies on values in the certificate. A CHP installation burning mixed fuels that does not hold a CHPQA certificate will have to apply the Fossil Fuel Emissions Formula in Schedule 8, Part 1.2(a) in the same way as a plant not in the CHP Generating Technology Class.

11.5.4 Mixed fuels, CHP and CCUS

In respect of a Generating Unit burning more than one fuel to produce electricity, that is in the CHP Generating Technology Class and that is equipped with CCUS technology, you may apply the Fossil Fuel Emissions Composite Formula described in Section 11.5.2 of this document instead of the Fossil Fuel Emissions Mixed Fuel Formula, and may also choose to apply the Design Efficiency CHPQA Formula described in Section 11.3.

The Fossil Fuel Emissions Composite Formula is set out in Schedule 8, Part 1.2(d):

$$FFE = \frac{0.0036 \times (1 - TCF)EF_W}{\eta_{des}} = \left[\frac{gCO_2}{kWh_e}\right]$$

You should first calculate a weighted emission factor (EF_W) in line with the standard formula set out in Schedule 8, Part 5.2(a). This EF_W should be used in calculating $C02_{generated}$ in accordance with the formula in Schedule 8, Part 7.2(b) of the Rules and the corresponding TCF. Please note that the standard formula at 5.2(a) should be used when calculating the EF_W that is then used to calculate TCF. This is to ensure that the whole fuel intake of the plant is taken into account, including the fuel that goes towards heat production. This ensures that the amount of CO2 captured is not 'inflated' relative to the quantity of electricity produced.

Next, you should calculate a CHP-specific EF_W of fuel referable to electricity generation only in line with the formula in Schedule 8, Part 5.2(b). Using this EF_W, the generating unit should next calculate Fossil Fuel Emissions in accordance with the Fossil Fuel Emissions Composite Formula which is found in Schedule 8, Part 1.2(d).

Note that Design Efficiency should be calculated in line with the Design Efficiency CHPQA formula, which can be found in Schedule 8, Part 3.2(c).

We acknowledge that applying these sets of formulae in this way will involve using data from up to three different continuous 12-month periods.

11.6. Plants applying CCUS, CHP and Mixed Fuel formulae without 12 months of data

The Fossil Fuel Emissions CCUS Formula, Fossil Fuel Emissions Mixed Fuel Formula, Fossil Fuel Emissions Composite Formula and Design Efficiency CHPQA Formula, introduced as part of the Capacity Market (Amendment) Rules 2021 require data over an Emissions Year in order to be calculated, i.e. a continuous 12-month period.

It may be that, in respect of an Existing Generating or Proven DSR CMU, you do not have 12 months of emissions data at Prequalification because the installation work for the relevant units has been completed less than 12 months before the date of submission of your application, or because the unit is not complete, or because it has not yet started commercial production yet. If you wish to apply one of these formulae but do not have 12 continuous months of data available, the Rules account for this in the deadline by which a Fossil Fuel Emissions Declaration is required.

For example, the deadlines for submitting a Fossil Fuel Emissions Declaration in accordance with Rule 8.3.12A(b) are:

- 14 months after the date the agreement takes effect for CMUs applying the Fossil Fuel Emissions CCUS Formula, the Fossil Fuel Emissions Mixed Fuel Formula or the Fossil Fuel Emissions Composite Formula (but not the Design Efficiency CHPQA Formula).

- The last day of August following a CHPQA Delivery Year for CMUs applying the Design Efficiency CHPQA Formula (even where they also apply the Fossil Fuel Emissions CCUS Formula, the Fossil Fuel Emissions Mixed Fuel Formula or the Fossil Fuel Emissions Composite Formula).

You will need to make the relevant confirmation via the Delivery Body portal, as set out in Rule 3.6.5A(b) or Rule 3.9.5A(b). This is to ensure that no special extension for the submission of the Fossil Fuel Emissions Declaration is granted if you would be compliant by applying other formulae available to it, for which you have the relevant data.

It is therefore essential that, prior to applying for Prequalification, you calculate Fossil Fuel Emissions of a relevant Fossil Fuel Component (i.e. using the standard Fossil Fuel Emissions Formula) using data already available to check if it would be compliant with the Fossil Fuel Emissions Limit without the use of additional formulae for which you lack 12 months of data. This does not apply to components burning mixed fuels without 12 months of data, which will be able to benefit from the extension irrespective of whether they would be compliant or not without applying the relevant formulae.

Where the full 12 months data becomes available during the Prequalification Window, we encourage you to submit your application once you have the data so that you are able to provide a full Fossil Fuel Emissions Declaration with the application. However, this might not be possible or advisable when the full 12 months of data become available only shortly before the end of the Prequalification Window, given the timescales required for the Declaration being prepared and, where required[82], independently verified. In these situations, you should aim to submit your application before the 12 months of data becomes available, and state in your application that you do not have 12 months of data available to make the requisite calculations. Please take care to avoid unintentionally making a false declaration by submitting your application where you declare you don't have 12 months of data after the 12 months of data would have been available.

When applying one or more formulae that require data from more than one continuous 12 months period, you are encouraged to use the same 12 months period where possible. It is however possible to use different 12 months period, so long as compliance with the appropriate deadlines (in most cases, a continuous 12-month period within the 14 months preceding the submission of the Fossil Fuel Emissions Declaration) is respected.

The Delivery Body checks that a Fossil Fuel Emissions Declaration is validly completed. A Fossil Fuel Emissions Declaration that is submitted more than 2 months after the date it has been verified by an Independent Emissions Verifier may not be accepted as it would indicate the 12 continuous months of data fall outside of an Emissions Year.

11.7 The Emission Factor of Fossil Fuels not listed in Schedule 9 of the Rules

The table in Schedule 9 of the Rules lists the Emission Factors that Fossil Fuels must use when applying the formulae in Schedule 8 of the Rules to calculate their emissions. The formulae requiring an Emission

[82] i.e. In respect of a Fossil Fuel Emissions Declaration which is not a Transitional Fossil Fuel Emissions Declaration and contains at least one relevant Fossil Fuel Component with an Installed Capacity equal to or greater than 1MW.

Factor include the Fossil Fuel Emissions Formula and Fossil Fuel Emissions CCUS Formula[83], the formulae to determine weighted emissions factors[84] and the formula to determine $CO2_{generated}$[85].

The table in Schedule 9 was integrated into the Rules to reflect guidance provided when carbon emissions limits were implemented prior to EU Exit[86] and should therefore reflect the fuels used by Generating Units participating in the CM.

Where a fuel used by your Generating Unit is not named in the table, you should first consider whether the fuel is a Fossil Fuel according to the definition in Rule 1.2:

> *"Fossil Fuel means:*
>
> *(a) coal;*
>
> *(b) lignite;*
>
> *(c) peat;*
>
> *(d) natural gas (within the meaning of section 21 of the Energy Act 1976);*
>
> *(e) crude liquid petroleum;*
>
> *(f) bitumen;*
>
> *(g) any substance which—*
>
> *(i) is produced directly or indirectly from a substance mentioned in paragraphs (a) to (f) for use as a fuel for a Generating Unit; and*
>
> *(ii) when burned, produces a greenhouse gas (within the meaning of section 92 of the Climate Change Act 2008)"*

Fuels that clearly do not fall within this definition, such as biogas and biomass, should apply an Emission Factor of 0 where required (for example when applying the formula to determine the weighted emission factor of a plant burning mixed fuels, where the other fuel/s in the mix are Fossil Fuels).

If your Generating Unit uses a Fossil Fuel which is not named in Schedule 9 but you consider falls within the definition of Fossil Fuel set out above, please contact the Energy Security policy team on energy.security@beis.gov.uk for advice on the approach to apply.

11.8 Fossil Fuel Yearly Emissions

In respect of the Delivery Year in 2024/25 and subsequent Delivery Years, a relevant Fossil Fuel Component with a Commercial Production Start Date before 4 July 2019 that does not comply with the Fossil Fuel Emissions Limit, may participate in the CM if a Fossil Fuel Emissions Declaration demonstrates that it complies with the Fossil Fuel Yearly Emissions Limit[87].

[83] See Part 1 of Schedule 8 of the Rules.
[84] See Part 5 of Schedule 8 of the Rules.
[85] See Part 4 of Schedule 8 of the Rules.
[86] See the EU ACER opinion. ACER Opinion of 17 December 2019 (No 22/2019).

[87] An Existing Generating CMU or a Proven DSR CMU which comprises of a component which exceeds both the Fossil Fuel Emissions Limit and the Fossil Fuel Yearly Emissions Limit will not Prequalify to participate in the CM (See Rule 4.4.2(k)(ii)). A New Build, Refurbishing CMU or Unproven CMU which comprises of a component with a Commercial Production Start Date before 4 July 2019 which exceed both the Fossil Fuel Emissions Limit and the Fossil Fuel Yearly Emissions Limit will breach the declaration made in a Fossil Fuel Emissions Commitment and Rule 8.3.14(b)(ii)(bb) provides that the Termination Event in Rule 6.10.1(o) will be applicable.

The Fossil Fuel Yearly Emissions ("FFYE") of a Generating Unit determined in accordance with the following formula[88]:

$$FFYE = \frac{FFE \times Electricity\ Production}{Installed\ Capacity} = \left[\frac{kg\ CO_2}{kWe}\right]$$

This calculation requires application of the Fossil Fuel Emissions calculated in respect of the Generating Unit in accordance with Part 1 of Schedule 8 to the Rules. You must determine the value of the Electricity Production[89] of a Generating Unit over an 'Emissions Year'.

Note that the period of time which an Emissions Year relates to depends on the deadline in respect of which a Fossil Fuel Emissions Declaration is provided.[90] For example, if a Fossil Fuel Emissions Declaration is provided with an Application, it means any continuous period of 12 months within the 14 months preceding the opening of Prequalification window for that year.

Compliance over this period demonstrates the ability of the CMU to operate within the Fossil Fuel Yearly Emissions Limit. By submitting a Fossil Fuel Emissions Declaration which specifies the Fossil Fuel Yearly Emissions of a component, a CM participant will also be required to operate within this limit during the relevant Delivery Year[91], in the event it secures a Capacity Agreement for that Delivery Year.

Alongside the Fossil Fuel Emissions Declaration, as per the requirements in Part 6 of Exhibit ZA, you will need to submit, in respect of each component declared in Part 3 of the Fossil Fuel Emissions Declaration, evidence of the data used to calculate the Electricity Production for each relevant Fossil Fuel Component (for example from a verified metering system, or TSO/DSO metering).

[88] See Part 2 of Schedule 8 to the Rules.
[89] The electricity exported (as defined in Regulation 2 of the Electricity Capacity Regulations 2014) into the Total System by the Generating Unit in an Emissions Year, expressed in GWh (See Part 2 of Schedule 8 to the Rules).
[90] See the definition of 'Emissions Year' in Rule 1.2.1.
[91] See Rule 3.4.11.

Annex A – Summary of Formulae in Schedule 8 of the Rules

Formula	Location in Schedule 8	Name in Rules
$FFE = \frac{0.0036 \times EF_{f,CO2}}{\eta_{des}} = \left[\frac{gCO_2}{kWh_e}\right]$	Part 1.2(a)	Fossil Fuel Emissions Formula
$FFE = \frac{0.0036 \times (1 - TCF) EF_{f,CO2}}{\eta_{des}} = \left[\frac{gCO_2}{kWh_e}\right]$	Part 1.2(b)	Fossil Fuel Emissions CCUS Formula
$FFE = \frac{0.0036 \times EF_W}{\eta_{des}} = \left[\frac{gCO_2}{kWh_e}\right]$	Part 1.2(c)	Fossil Fuel Emissions Mixed Fuel Formula
$FFE = \frac{0.0036 \times (1 - TCF) EF_W}{\eta_{des}} = \left[\frac{gCO_2}{kWh_e}\right]$	Part 1.2(d)	Fossil Fuel Emissions Composite Formula
$FFYE = \frac{FFE \times Electricity\ Production}{Installed\ Capacity} = \left[\frac{kg\ CO_2}{kWe}\right]$	Part 2.1	Fossil Fuel Yearly Emissions Formula
$\eta_{des} = \frac{W_E}{Consumption\ Rate \times NCV} = [\%]$	Part 3.2(a)	Design Efficiency Formula
$\eta_{des} = \frac{W_E + Q\ W_T}{Consumption\ Rate \times NCV} = [\%]$	Part 3.2(b)	Design Efficiency Steam Formula
$\eta_{des} = \frac{TPO}{TFI \times Cf \times F_e} = [\%]$	Part 3.2(c)	Design Efficiency CHPQA Formula
$TCF = \frac{CO2_{transferred}}{CO2_{generated}} = [\%]$	Part 4.1	Formula to determine transferred CO2 factor
$EF_W = (FS_{F1} \times EF_{F1}) + (FS_{F2} \times EF_{F2}) + \ldots + (FS_{Fn} \times EF_{Fn}) = \left[\frac{kg\ CO_2}{TJ}\right]$	Part 5.2(a)	Standard formula to determine

Formula	Location in Schedule 8	Name in Rules
		weighted emission factor
$EF_W = \frac{(Q_{F1} \times QE_{F1} \times EF_{F1}) + (Q_{F2} \times QE_{F2} \times EF_{F2}) + \ldots + (Q_{Fn} \times QE_{Fn} \times EF_{Fn})}{TFI \times F_e} = \left[\frac{kgCO_2}{TJ}\right]$	Part 5.2(b)	CHP formula to determine weighted emission factor
$W_T = M\ RT\ ln\left(\frac{P_1}{P_0}\right)\left(\frac{1}{1000}\right) = [MW]$	Part 6.1(a)	Formula to determine the power extracted by expanding the output steam
$C02_{generated} = TFEI \times EF_{f,CO2} \times 0.0036 = [kgC0_2]$	Part 7.2(a)	Standard formula to determine $CO2_{generated}$
$C02_{generated} = TFEI \times EF_W \times 0.0036 = [kgC0_2]$	Part 7.2(b)	Mixed fuel formula to determine $CO2_{generated}$
$FS_i = \frac{Q_{Fi} \times NCV_{Fi}}{(Q_{F1} \times NCV_{F1}) + (Q_{F2} \times NCV_{F2}) + \ldots + (Q_{Fn} \times NCV_{Fn})} = [\%]$	Part 8.1	Formula to determine Fuel Share

Annex B – Worked Examples

The following worked examples demonstrate, **for illustrative purposes only,** how to compute Fossil Fuel Emissions in a variety of circumstances. **You should consider Schedule 8 of the Rules carefully before making an application for Prequalification and seek expert advice on any calculations which you make when determining carbon emissions for inclusion in a Fossil Fuel Emissions Declaration, as this document provides a summary only.**

2.1 A Generating Unit using one fuel (no CCUS, no CHP)

This example considers an OCGT unit combusting natural gas to produce electricity ("Generating Unit A"). No CCUS equipment is included in Generating Unit A, and no heat is used elsewhere (i.e. the unit is not in the CHP Generating Technology Class). Table A on the following page shows the data required to perform the calculations, including the source to be used for each data item.

Table A– Data required to perform calculations for Generating Unit A (no CCUS, no CHP)

Data	Description	Example Value	Source
Generating Unit Fuel Type	Fuel type used by the Generating Unit	Natural Gas	Plant specifications
NCV	Net Calorific Value of fuel	48.0 TJ/Gg	Schedule 9
$Consumption\ Rate$	Consumption rate of fuel by the Generating Unit at maximum electrical output	5.96 kg/s	Plant operator
W_E	Maximum electrical output of the Generating Unit	100 MW	Plant operator
$EF_{f,CO2}$	Emission Factor of the fuel	56100 $kgCO_2/TJ$	Schedule 9
$Electricity\ Production$	Electricity generated by the Generating Unit in an Emissions Year	48.0 GWh	Plant operator
$Installed\ Capacity$	Nominal electrical capacity of the Generating Unit	100 MW	Plant specifications

Design Efficiency

First the Design Efficiency ("η_{des}") of Generating Unit A must be calculated. This value represents the efficiency of the plant at maximum output and is calculated as follows, using the equation in Schedule 8, Part 3.2(a):

$$\eta_{des} = \frac{W_E}{Consumption\ Rate \times NCV} = \frac{100\ MW}{5.96\ \frac{kg}{s} \times 48.0\ \frac{TJ}{Gg}} = 0.350 = 35.0\%$$

$$\eta_{des} = \frac{W_E}{Consumption\ Rate \times NCV} = \frac{100\ MW}{5.96\ \frac{kg}{s} \times 48.0\ \frac{TJ}{Gg}} = 0.350 = 35.0\%$$

Where the values W_E, $Consumption\ Rate$, and NCV are as described in Table A.

Fossil Fuel Emissions

The Fossil Fuel Emissions ("FFE") of Generating Unit A per unit of electricity generated is then calculated based on the plant's design efficiency ("η_{des}") and the Emissions Factor of the fuel being used. This is calculated using the equation in Schedule 8, Part 1.2(a) as follows:

$$FFE = \frac{0.0036 \times EF_{f,CO2}}{\eta_{des}} = \frac{0.0036 \times 56100\ \frac{kgCO_2}{TJ}}{0.350} = 577.0\ \frac{gCO_2}{kWh_e}$$

Where $EF_{f,CO2}$ is as described in Table A.

577gCO$_2$/kWh$_e$ of Fossil Fuel Emissions exceeds Fossil Fuel Emissions Limit of 550 gCO$_2$/kWh$_e$, so the Generating Unit is not compliant. However, if Generating Unit A started commercial production before July 4th 2019, it may still be able to participate in the CM if it complies with the Fossil Fuel Yearly Emissions Limit, as described below.

Fossil Fuel Yearly Emissions

The Fossil Fuel Yearly Emissions ("FFYE") of Generating Unit A are calculated from the Fossil Fuel Emissions ("FFE"), the annual Electricity Production of the Generating Unit, and its nominal Installed Capacity. The is calculated using the equation in Schedule 8, Part 2.1 as follows:

$$FFYE = \frac{FFE \times Electricity\ Production}{Installed\ Capacity} = \frac{577.0\ \frac{gCO_2}{kWh_e} \times 48.0\ GWh}{100\ MW} = 277.0\ \frac{kg\ CO_2}{kWe}$$

$$FFYE = \frac{FFE \times Electricity\ Production}{Installed\ Capacity} = \frac{577.0\ \frac{gCO_2}{kWh_e} \times 48.0\ GWh}{100\ MW} = 277.0\ \frac{kg\ CO_2}{kWe}$$

Where the values $Electricity\ Production$ and $Installed\ Capacity$ are defined in Table A.

277 kgCO$_2$/kW$_e$ value of Fossil Fuel Yearly Emissions is below the Fossil Fuel Yearly Emissions Limit of 350 kgCO$_2$/kW$_e$.

2.2 A Generating Unit using one fuel and equipped with CCUS

This example considers a CCGT unit combusting natural gas to produce electricity ("Generating Unit B"). Generating Unit B is equipped with CCUS technology, with the CO_2 being transferred elsewhere for utilisation. No heat from the plant is used elsewhere (i.e. the unit is not in the CHP Generating Technology Class). Table B shows the data required to perform the calculations, including the source to be used for each data item.

Table B – Data required to perform calculations for Generating Unit B

Data	Description	Example Value	Source
Fuel type	Fuel type consumed by Generating Unit B	Natural Gas	Plant specifications
NCV	Net Calorific Value of fuel	48.0 TJ/Gg	Schedule 9
$Consumption\ Rate$	Consumption rate of fuel by Generating B Unit at maximum electrical output	21.72 kg/s	Plant operator
W_E	Maximum electrical output of Generating Unit B	490 MW	Plant operator
$EF_{f,CO2}$	Emission Factor of the fuel	56100 $kgCO_2/TJ$	Schedule 9
$CO2_{transferred}$	Total CO2 captured and transferred by Generating Unit B over an Emissions Year	138000000 $kgCO_2$	Plant operator
$TFEI$	Total fuel combusted to generate electricity over the same Emissions Year used for $CO2_{transferred}$	990426 MWh	Plant operator

Design efficiency

First the Design Efficiency ("η_{des}") of Generating Unit B must be calculated. This value represents the efficiency of the plant at maximum output and is calculated as follows, using the equation in Schedule 8, Part 3.2(a):

$$\eta_{des} = \frac{W_E}{Consumption\ Rate \times NCV} = \frac{490\ MW}{21.72\ \frac{kg}{s} \times 48.0\ \frac{TJ}{Gg}} = 0.470 = 47.0\%$$

Where the values W_E, $Consumption\ Rate$, and NCV are defined in Table B.

Transferred CO_2

As Generating Unit B is equipped with CCUS technology, the CCUS formulae can be applied. First, the total CO_2 emissions generated by the Generating Unit in one year is calculated based on the total fuel consumption ("$TFEI$") and the fuel's Emission Factor ("$EF_{f,CO2}$"). The calculation is performed as follows, using the equation in Schedule 8, Part 7.2(a):

$$
\begin{aligned}
CO2_{generated} &= TFEI \times EF_{f,CO2} \times 0.0036 \\
&= 990426\ MWh \times 56100\ \frac{kgCO_2}{TJ} \times 0.0036 \\
&= 200026435\ kgCO_2
\end{aligned}
$$

Where $TFEI$ and $EF_{f,CO2}$ are defined in Table B.

Then the Transferred CO_2 Factor ("TCF") can be calculated. This uses $CO2_{generated}$ as calculated above, as well as the total CO2 captured at the Generating Unit and transferred elsewhere ("$CO2_{transferred}$"), measured over the same year for which $TFEI$ was measured. The calculation is as follows, using the equation in Schedule 8, Part 4.1:

$$
TCF = \frac{CO2_{transferred}}{CO2_{generated}} = \frac{138000000\ kgCO_2}{200026435\ kgCO_2} = 0.690 = 69.0\ \%
$$

Where $CO2_{transferred}$ is defined in Table B.

Fossil Fuel Emissions

The Fossil Fuel Emissions ("FFE") of Generating Unit B per unit of electricity generated is then calculated based on Generating Unit B's design efficiency ("η_{des}"), the Emission Factor of the fuel being used, and the Transferred CO_2 factor ("TCF") This is calculated using the equation in Schedule 8, Part 1.2(b) as follows:

$$
\begin{aligned}
FFE &= \frac{0.0036 \times (1 - TCF) EF_{f,CO2}}{\eta_{des}} \\
&= \frac{0.0036 \times (1 - 0.690) \times 56100\ \frac{kgCO_2}{TJ}}{0.470} \\
&= 133.2\ \frac{gCO_2}{kWh_e}
\end{aligned}
$$

133.2 gCO_2/kWh_e is below the Fossil Fuel Emissions Limit of 550 gCO_2/kWh_e, so Generating Unit B is eligible to apply to participate in the Capacity Market.

2.3 A Generating Unit using one fuel applying a CHP formula

This example considers a reciprocating diesel engine operating in CHP mode (i.e. both electricity and heat are exported by the plant) ("Generating Unit C"). Generating Unit C is not equipped with CCUS technology. Generating Unit C is covered by a Qualifying CHPQA certificate, which is used to support the calculations. Table C shows the data required to perform the calculations, including the source to be used for each data item.

Table C – Data required to perform calculations for Generating Unit C

Data	Description	Example Value	Source
Generating Unit Fuel Type	Fuel used by Generating Unit C	Diesel	Plant specifications
C_f	Conversion factor of fuel	0.94	Schedule 9

Data	Description	Example Value	Source
TPO	Total power output of Generating Unit C as determined for the equivalent CHP scheme under the CHPQA Programme	5450 MWh	CHPQA certificate
TFI	Total fuel input as specified in the same Qualifying CHPQA certificate	13010 MWh	CHPQA certificate
F_e	Percentage of fuel referable to electricity generation	54.5%	CHPQA certificate
$EF_{f,CO2}$	Emission Factor of the fuel	74100 $kgCO_2/TJ$	Schedule 9

Design efficiency

First the Design Efficiency ("η_{des}") of Generating Unit C must be calculated. This value represents the efficiency of the plant at maximum output. When applying the Design Efficiency CHPQA Formula, η_{des} is calculated using values specified on the CHPQA certificate. The equation is found in Schedule 8, Part 3.2(c):

$$\eta_{des} = \frac{TPO}{TFI \times Cf \times F_e} = \frac{5450\ MWh}{13010\ MWh \times 0.94 \times 0.545} = 0.818 = 81.8\%$$

Where the values TPO, TFI, C_f, and F_e are defined in Table C.

Fossil Fuel Emissions

The Fossil Fuel Emissions ("FFE") of Generating Unit C per unit of electricity generated is then calculated based on its design efficiency ("η_{des}") and the Emission Factor of the fuel being used. This is calculated using the equation in Schedule 8, Part 1.2(a) as follows:

$$FFE = \frac{0.0036 \times EF_{f,CO2}}{\eta_{des}} = \frac{0.0036 \times 74100\ \frac{kgCO_2}{TJ}}{0.818} = 326.1\ \frac{gCO_2}{kWh_e}$$

Where $EF_{f,CO2}$ is defined in Table C.

326 gCO_2/kWh_e is below the Fossil Fuel Emissions Limit of 550 gCO_2/kWh_e, the Generating Unit C is eligible to participate in the Capacity Market.

2.4 A Generating Unit using one fuel applying the CHP and equipped with CCUS

This example considers a coal-fired Generating Unit in the CHP Generating Technology Class (i.e. both electricity and heat are exported by the plant) ("Generating Unit D"). Generating Unit D is equipped with post-combustion CO_2 capture technology, and the captured CO_2 is transferred and utilised elsewhere. Generating Unit D is covered by a Qualifying CHPQA certificate, which is used to support the calculations. Table D shows the data required to perform the calculations, including the source to be used for each data item.

Table D – Data required to perform calculations for a plant with one fuel applying the CHP and CCUS formula

Data	Description	Example Value	Source
Generating Unit Fuel Type	Fuel used by Generating Unit D	Anthracite	Plant specifications
C_f	Conversion factor of fuel	0.95	Schedule 9
TPO	Total power output of the Generating Unit as determined for the equivalent CHP scheme under the CHPQA programme	40390 MWh	CHPQA certificate
TFI	Total fuel input as specified in the same qualifying CHPQA certificate	175610 MWh	CHPQA certificate
F_e	Percentage of fuel referable to electricity generation	47.5%	CHPQA certificate
$EF_{f,CO2}$	Emission Factor of the fuel	98300 $kgCO_2/TJ$	Schedule 9
$CO2_{transferred}$	Total CO2 captured and transferred by Generating Unit D over an Emissions Year	15810000 $kgCO_2$	Plant operator
$TFEI$	Total fuel combusted to generate electricity over the same Emissions Year used for $CO2_{transferred}$	72060 MWh	Plant operator

Design efficiency

First the Design Efficiency ("η_{des}") of Generating Unit D must be calculated. This value represents the efficiency of Generating Unit D at maximum output. When applying the Design Efficiency CHPQA Formula, η_{des} is calculated using values specified on the CHPQA certificate. The equation is as follows, using the equation in Schedule 8, Part 3.2(c):

$$\eta_{des} = \frac{TPO}{TFI \times Cf \times F_e} = \frac{40390\ MWh}{175610\ MWh \times 0.95 \times 0.475} = 0.510 = 51.0\%$$

Where the values TPO, TFI, C_f, and F_e are defined in Table D.

Transferred CO_2

As Generating Unit D is equipped with CCUS technology, the CCUS formulae may be applied. First, the total CO_2 emissions generated by the site in one year is calculated based on the total fuel consumption ("$TFEI$") and the fuel's Emission Factor ("$EF_{f,CO2}$"). The calculation is performed as follows, using the equation in Schedule 8, Part 7.2(a):

$$\begin{aligned} C02_{generated} &= TFEI \times EF_{f,CO2} \times 0.0036 \\ &= 72060\ MWh \times 98300\ \frac{kgCO_2}{TJ} \times 0.0036 \\ &= 25500592.8\ kgC0_2 \end{aligned}$$

Where $TFEI$ and $EF_{f,CO2}$ are defined in Table D. Note that the total fuel consumption $TFEI$ does not have to be measured over the same year as that used in the CHPQA certificate, and thus, as is the case in this example, $TFEI$ does not necessarily equal TFI.

Then the Transferred CO_2 Factor ("TCF") can be calculated. This uses $CO2_{generated}$ as calculated above, as well as the total CO2 captured at Generating Unit D and transferred elsewhere ("$CO2_{transferred}$"). Note that, $CO2_{transferred}$ must be measured over the same year for which $TFEI$ was measured. The calculation is as follows, using the equation in Schedule 8, Part 4.1:

$$TCF = \frac{CO2_{transferred}}{CO2_{generated}} = \frac{15810000\ kgC0_2}{25500592.8\ kgC0_2} = 0.620 = 62.0\ \%$$

Where $CO2_{transferred}$ is defined in Table D.

Fossil Fuel Emissions

The Fossil Fuel Emissions ("FFE") of Generating Unit D per unit of electricity generated is then calculated based on the plant's design efficiency ("η_{des}"), the Emission Factor of the fuel used, and the Transferred CO_2 factor ("TCF"). This is calculated using the equation in Schedule 8, Part 1.2(b) as follows:

$$FFE = \frac{0.0036 \times (1 - TCF) EF_{f,CO2}}{\eta_{des}}$$

$$= \frac{0.0036 \times (1 - 0.620) \times 98300 \ \frac{kgCO_2}{TJ}}{0.510}$$

$$= 263.7 \ \frac{gCO_2}{kWh_e}$$

This value of Fossil Fuel Emissions is below the Fossil Fuel Emissions Limit of 550 gCO_2/kWh_e, so Generating Unit D is eligible to apply to participate in the Capacity Market.

2.5 A Generating Unit using two fuels

This example considers a gas reciprocating engine burning a combination of natural gas and blast furnace gas to produce electricity ("Generating Unit E"). Generating Unit E is not equipped with CCUS technology, and no heat is used elsewhere (i.e. it is not in the CHP Generating Technology Class). Table E shows the data required to perform the calculations, including the source to be used for each data item.

Table E – Data required to perform calculations for Generating Unit E

Data	Description	Example Value	Source
Generating Unit Fuel Type (primary)	1st fuel type used by the generating unit	Natural Gas	Plant specifications
Generating Unit Fuel Type (secondary)	2nd fuel type used by Generating Unit E	Blast Furnace Gas	Plant specifications
η_{des}	Design Efficiency	30.8%	Appropriate technical source (e.g. testing data)
NCV_{F1}	Net Calorific Value of fuel 1	48.0 TJ/Gg	Schedule 9
NCV_{F2}	Net Calorific Value of fuel 2	2.47 TJ/Gg	Schedule 9
Q_{F1}	Quantity of fuel 1 used by Generating Unit E during an Emissions Year	2.53 Gg	Plant operator
Q_{F2}	Quantity of fuel 2 used by Generating Unit E during an Emissions Year	2.04 Gg	Plant operator
EF_{F1}	Emission Factor of 1st fuel	56100 $kgCO_2/TJ$	Schedule 9
EF_{F2}	Emission Factor of 2nd fuel	260000 $kgCO_2/TJ$	Schedule 9

$Electricity\ Production$	Electricity generated by Generating Unit E in an Emissions Year	10.8 GWh	Plant operator
$Installed\ Capacity$	Nominal electrical capacity of Generating Unit E	20 MW	Plant specifications

Design Efficiency

For Generating Unit E, the Design Efficiency ("η_{des}") of the Generating Unit may be estimated from an appropriate technical data source such as the plant specifications or previous testing data. The value that is selected should be equal to the power generated by the plant for each unit of energy input, on a Net Calorific Value basis, and should be representative of the Generating Unit's normal operation when burning the mixed fuels. In this example, Generating Unit E's Design Efficiency is as follows:

$$\eta_{des} = 0.308 = 30.8\%$$

Fuel Share and Weighted Emissions Factor

To calculate the Fossil Fuel Emissions ("FFE") of Generating Unit E , first a weighted emission factor ("EF_W") must be calculated, accounting for the different fuel components. To do this, the Fuel Share for each fuel component is calculated first, using the equation in Schedule 8, Part 8.1 for each fuel separately, as follows:

$$\begin{aligned} FS_1 &= \frac{Q_{F1} \times NCV_{F1}}{(Q_{F1} \times NCV_{F1}) + (Q_{F2} \times NCV_{F2})} \\ &= \frac{\left(2.53\ Gg \times 48.0\ \frac{TJ}{Gg}\right)}{\left(2.53\ Gg \times 48.0\ \frac{TJ}{Gg}\right) + \left(2.04\ Gg \times 2.47\ \frac{TJ}{Gg}\right)} \\ &= 0.960 \\ &= 96.0\% \end{aligned}$$

$$\begin{aligned} FS_2 &= \frac{Q_{F2} \times NCV_{F2}}{(Q_{F1} \times NCV_{F1}) + (Q_{F2} \times NCV_{F2})} \\ &= \frac{\left(2.04\ Gg\ \frac{kg}{s} \times 2.47\ \frac{TJ}{Gg}\right)}{\left(2.53\ Gg \times 48.0\ \frac{TJ}{Gg}\right) + \left(2.04\ Gg \times 2.47\ \frac{TJ}{Gg}\right)} \\ &= 0.040 \\ &= 4.0\% \end{aligned}$$

Then the weighted emission factor can be calculated using the equation in Schedule 8, Part 5.1(a) as follows:

$$
\begin{aligned}
EF_W &= (FS_{F1} \times EF_{F1}) + (FS_{F2} \times EF_{F2}) \\
&= \left(0.960 \times 56100 \frac{kg\ CO_2}{TJ}\right) + \left(0.040 \times 260000 \frac{kg\ CO_2}{TJ}\right) \\
&= 64256 \frac{kg\ CO_2}{TJ}
\end{aligned}
$$

Where EF_{F1} and EF_{F2} are defined in Table E.

Fossil Fuel Emissions

Finally, the Fossil Fuel Emissions ("FFE") of Generating Unit E can be calculated, using the plant's design efficiency ("η_{des}") and the weighted emission factor calculated above ("EF_W"). This is calculated using the equation in Schedule 8, Part 1.2(c) as follows:

$$
FFE = \frac{0.0036 \times EF_W}{\eta_{des}} = \frac{0.0036 \times 64256\ \frac{kgCO_2}{TJ}}{0.308} = 751.0\ \frac{gCO_2}{kWh_e}
$$

This value of Fossil Fuel Emissions exceeds the Fossil Fuel Emissions Limit of 550 gCO_2/kWh_e, so Generating Unit E is not compliant. However, if the plant had started commercial production before July 4th 2019, it is able to calculate against the Fossil Fuel Yearly Emissions Limit, as described below.

Fossil Fuel Yearly Emissions

The Fossil Fuel Yearly Emissions ("FFYE") of Generating Unit E are calculated from the Fossil Fuel Emissions ("FFE"), the annual Electricity Production of the Generating Unit, and its nominal Installed Capacity. The is calculated using the equation in Schedule 8, Part 2.1 as follows:

$$
FFYE = \frac{FFE \times Electricity\ Production}{Installed\ Capacity} = \frac{751.0\ \frac{gCO_2}{kWh_e} \times 10.8\ GWh}{20\ MW} = 405.5\ \frac{kg\ CO_2}{kWe}
$$

Where the values $Electricity\ Production$ and $Installed\ Capacity$ are defined in Table E.

This value of Fossil Fuel Yearly Emissions exceeds the Fossil Fuel Yearly Emissions Limit of 350 $kgCO_2/kW_e$, therefore the plant is ineligible to participate in the Capacity Market.

2.6 A Generating Unit using two fuels and equipped with CCUS

This example considers a gas reciprocating engine burning a combination of natural gas and blast furnace gas to produce electricity ("Generating Unit F"). No heat is used elsewhere (i.e. Generating Unit F is not in the CHP Generating Technology Class). Generating Unit F is equipped with post-combustion CO_2 capture technology, with the CO_2 being transferred and utilised elsewhere. Table F shows the data required to perform the calculations, including the source to be used for each data item.

Table F – Data required to perform calculations for a plant with two fuels applying the mixed fuels and CCUS formula

Data	Description	Example Value	Source
Generating Unit Fuel Type (primary)	1st fuel used by Generating Unit F	Natural Gas	Plant specifications

Data	Description	Example Value	Source
Generating Unit Fuel Type (secondary)	2nd fuel used by the Generating Unit F	Blast Furnace Gas	Plant specifications
η_{des}	Plant Design Efficiency	30.8%	Appropriate technical source (e.g. testing data)
NCV_{F1}	Net Calorific Value of fuel 1	48.0 TJ/Gg	Schedule 9
NCV_{F2}	Net Calorific Value of fuel 2	2.47 TJ/Gg	Schedule 9
Q_{F1}	Quantity of fuel 1 used the Generating Unit F during an Emissions Year	2.53 Gg	Plant operator
Q_{F2}	Quantity of fuel 2 used by Generating Unit F during an Emissions Year	2.04 Gg	Plant operator
EF_{F1}	Emission Factor of fuel 1	56100 $kgCO_2/TJ$	Schedule 9
EF_{F2}	Emission Factor of fuel 2	260000 $kgCO_2/TJ$	Schedule 9
$CO2_{transferred}$	Total CO2 captured and transferred by Generating Unit F over an Emissions Year	6730000 $kgCO_2$	Plant operator
$TFEI$	Total fuel combusted to generate electricity over the same Emissions Year used for $CO2_{transferred}$	35065 MWh	Plant operator

Design Efficiency

For Generating Unit F, the Design Efficiency ("η_{des}") of the Generating Unit must be estimated from an appropriate technical data source such as the plant specifications or previous testing data. The value that is selected should be equal to the power generated by the plant for each unit of energy input, on a Net Calorific Value basis and should be representative of the plant's normal operation when burning the mixed fuels. In this case, the plant's Design Efficiency is as follows:

$$\eta_{des} = 0.308 = 30.8\%$$

Fuel Share and Weighted Emissions Factor

To calculate the Fossil Fuel Emissions ("FFE") of Generating Unit F, first a weighted emission factor ("EF_W") must be calculated, accounting for the different fuel components. To do this, the Fuel Share for each fuel component is calculated first, using the equation in Schedule 8, Part 8.1 for each fuel separately, as follows:

$$\begin{aligned} FS_1 &= \frac{Q_{F1} \times NCV_{F1}}{(Q_{F1} \times NCV_{F1}) + (Q_{F2} \times NCV_{F2})} \\ &= \frac{\left(2.53\ Gg \times 48.0\ \frac{TJ}{Gg}\right)}{\left(2.53\ Gg \times 48.0\ \frac{TJ}{Gg}\right) + \left(2.04\ Gg \times 2.47\ \frac{TJ}{Gg}\right)} \\ &= 0.960 \\ &= 96.0\% \end{aligned}$$

$$\begin{aligned} FS_2 &= \frac{Q_{F2} \times NCV_{F2}}{(Q_{F1} \times NCV_{F1}) + (Q_{F2} \times NCV_{F2})} \\ &= \frac{\left(2.04\ Gg \times 2.47\ \frac{TJ}{Gg}\right)}{\left(2.53\ Gg \times 48.0\ \frac{TJ}{Gg}\right) + \left(2.04\ Gg \times 2.47\ \frac{TJ}{Gg}\right)} \\ &= 0.040 \\ &= 4.0\% \end{aligned}$$

Then the weighted emission factor can be calculated using the equation in Schedule 8, Part 5.1(a) as follows:

$$\begin{aligned} EF_W &= (FS_{F1} \times EF_{F1}) + (FS_{F2} \times EF_{F2}) \\ &= \left(0.960 \times 56100 \frac{kg\ CO_2}{TJ}\right) + \left(0.040 \times 260000 \frac{kg\ CO_2}{TJ}\right) \\ &= 64256 \frac{kg\ CO_2}{TJ} \end{aligned}$$

Where EF_{F1} and EF_{F2} are defined in Table F.

Transferred CO_2

As Generating Unit Ft is equipped with CCUS technology, the CCUS formulae can be applied. First, the total CO_2 emissions generated by Generating Unit F in one year is calculated based on the total fuel consumption ("$TFEI$") and the weighted Emission Factor calculated above ("EF_W"). The calculation is performed as follows, using the equation in Schedule 8, Part 7.2(b):

$$\begin{aligned} C02_{generated} &= TFEI \times EF_W \times 0.0036 \\ &= 35065\ MWh \times 64256\ \frac{kgCO_2}{TJ} \times 0.0036 \\ &= 8111292\ kgC0_2 \end{aligned}$$

Where $TFEI$ is defined in Table F.

Then the Transferred CO_2 Factor ("TCF") can be calculated. This uses $CO2_{generated}$ as calculated above, as well as the total CO_2 captured at the Generating Unit and transferred elsewhere ("$CO2_{transferred}$"),

measured over the same year for which $TFEI$ was measured. The calculation is as follows, using the equation in Schedule 8, Part 4.1:

$$TCF = \frac{CO2_{transferred}}{CO2_{generated}} = \frac{6730000\ kgC0_2}{8111292\ kgC0_2} = 0.830 = \ 83.0\ \%$$

Where $CO2_{transferred}$ is defined in Table F.

Fossil Fuel Emissions

The Fossil Fuel Emissions ("FFE") of Generating Unit F per unit of electricity generated is then calculated based on the plant's design efficiency ("η_{des}"), the weighted emission factor calculated above ("EF_W"), and the Transferred CO_2 factor ("TCF") This is calculated using the equation in Schedule 8, Part 1.2(d) as follows:

$$\begin{aligned} FFE &= \frac{0.0036 \times (1 - TCF) EF_W}{\eta_{des}} \\ &= \frac{0.0036 \times (1 - 0.830) \times 64256\ \frac{kgCO_2}{TJ}}{0.308} \\ &= 127.7\ \frac{gCO_2}{kWh_e} \end{aligned}$$

This value of Fossil Fuel Emissions is below the Fossil Fuel Emissions Limit of 550 gCO_2/kWh_e, so the Generating Unit is eligible to participate in the Capacity Market.

2.7 A Generating Unit using two fuels and applying the CHP formula

This example considers a gas reciprocating engine burning a combination of natural gas and blast furnace gas, and operating in CHP mode (i.e. both electricity and heat are exported by the Generating Unit so it falls within the CHP Generating Technology Class) ("Generating Unit G"). Generating Unit G is not equipped with CCUS technology. Generating Unit G is covered by a Qualifying CHPQA certificate, which is used to support the calculations. Table G shows the data required to perform the calculations, including the source to be used for each data item.

Table G – Data required to perform calculations for a plant with two fuels applying the mixed fuels and CHP formula

Data	Description	Example Value	Source
Generating Unit Fuel Type (primary)	1st fuel used by the generating unit	Natural Gas	Plant specifications
Generating Unit Fuel Type (secondary)	2nd fuel used by the generating unit	Blast Furnace Gas	Plant specifications
NCV_{F1}	Net Calorific Value of fuel 1	48.0 TJ/Gg	Schedule 9
NCV_{F2}	Net Calorific Value of fuel 2	2.47 TJ/Gg	Schedule 9

Q_{F1}	Quantity of fuel 1 used by the Generating Unit during an Emissions Year	2.53 Gg	Plant operator
Q_{F2}	Quantity of fuel 2 used by the Generating Unit during an Emissions Year	2.04 Gg	Plant operator
W_E	Maximum electrical output of Generating Unit G	20 MW	Plant operator
EF_{F1}	Emission Factor of fuel 1	56100 $kgCO_2/TJ$	Schedule 9
EF_{F2}	Emission Factor of fuel 2	260000 $kgCO_2/TJ$	Schedule 9
C_f	Conversion factor of fuel 1	0.9025	Schedule 9
TPO	Total power output of Generating Unit G as determined for the equivalent CHP scheme under the CHPQA programme	10800 MWh	CHPQA certificate
TFI	Total fuel input as specified in the same qualifying CHPQA certificate	35065 MWh	CHPQA certificate
F_e	Percentage of fuel referable to electricity generation	54.5%	CHPQA certificate

Design Efficiency

First the Design Efficiency ("η_{des}") of Generating Unit G must be calculated. This value represents the efficiency of the Generating Unit at maximum output. When applying the Design Efficiency CHPQA Formula, η_{des} is calculated using values specified on the CHPQA certificate. The equation is as follows, using the equation in Schedule 8, Part 3.2(c):

$$\eta_{des} = \frac{TPO}{TFI \times C_f \times F_e} = \frac{10800\ MWh}{35065\ MWh \times 0.9025 \times 0.545} = 0.626 = 62.6\%$$

Where the values TPO, TFI, C_f, and F_e are defined in Table G. Note that C_f is the conversion factor for the primary fuel being used: this should be the fuel with the greatest contribution on an energy basis. If fuels are used with the same total energy input, the fuel with the highest value of C_f should be used.

Fuel Share and Weighted Emission Factor

To calculate the Fossil Fuel Emissions ("FFE") of Generating Unit G, first a weighted emission factor ("EF_W") must be calculated, accounting for the different fuel components. This is calculated by first calculating the Fuel Share for each fuel component, using the equation in Schedule 8, Part 8.1 for each fuel separately, as follows:

$$\begin{aligned} FS_1 &= \frac{Q_{F1} \times NCV_{F1}}{(Q_{F1} \times NCV_{F1}) + (Q_{F2} \times NCV_{F2})} \\ &= \frac{\left(2.53\ Gg \times 48.0\ \frac{TJ}{Gg}\right)}{\left(2.53\ Gg \times 48.0\ \frac{TJ}{Gg}\right) + \left(2.04\ Gg \times 2.47\ \frac{TJ}{Gg}\right)} \\ &= 0.960 \\ &= 96.0\% \end{aligned}$$

$$\begin{aligned} FS_2 &= \frac{Q_{F2} \times NCV_{F2}}{(Q_{F1} \times NCV_{F1}) + (Q_{F2} \times NCV_{F2})} \\ &= \frac{\left(2.04\ Gg \times 2.47\ \frac{TJ}{Gg}\right)}{\left(2.53\ Gg \times 48.0\ \frac{TJ}{Gg}\right) + \left(2.04\ Gg \times 2.47\ \frac{TJ}{Gg}\right)} \\ &= 0.040 \\ &= 4.0\% \end{aligned}$$

Where Q_{F1}, Q_{F2}, NCV_{F1} and NCV_{F2} are defined in Table G.

Using these component Fuel Shares, a weighted Emission Factor ("EF_W") can also be calculated, using the equation in Schedule 8, Part 5.1(a) as follows:

$$\begin{aligned} EF_W &= (FS_{F1} \times EF_{F1}) + (FS_{F2} \times EF_{F2}) \\ &= \left(0.960 \times 56100 \frac{kg\ CO_2}{TJ}\right) + \left(0.040 \times 260000 \frac{kg\ CO_2}{TJ}\right) \\ &= 64256 \frac{kg\ CO_2}{TJ} \end{aligned}$$

Where EF_{F1} and EF_{F2} are defined in Table G.

Fossil Fuel Emissions

Finally, the Fossil Fuel Emissions ("FFE") of Generating Unit G can be calculated, using its Design Efficiency ("η_{des}") and the weighted emission factor calculated above ("EF_W"). This is calculated using the equation in Schedule 8, Part 1.2(c) as follows:

$$FFE = \frac{0.0036 \times EF_W}{\eta_{des}} = \frac{0.0036 \times 64256\ \frac{kgCO_2}{TJ}}{0.626} = 369.5\ \frac{gCO_2}{kWh_e}$$

This value of Fossil Fuel Emissions is below the Fossil Fuel Emissions Limit of 550 gCO_2/kWh_e, so Generating Unit G is eligible to participate in the Capacity Market.

2.8 A Generating Unit using two fuels applying the CHP formula and equipped with CCUS

This example considers a Generating Unit in the CHP Generating Technology Class (i.e. both electricity and heat are exported by the plant), which burns a combination of different coals (anthracite and lignite) ("Generating Unit H"). Generating Unit H is equipped with CCUS technology, and the captured CO_2 is transferred and utilised elsewhere. Generating Unit H is covered by a Qualifying CHPQA certificate, which is used to support the calculations. Table H shows the data required to perform the calculations, including the source to be used for each data item.

Table H – Data required to perform calculations for a plant with two fuels applying the mixed fuels, CHP and CCUS formula

Data	Description	Example Value	Source
Generating Unit Fuel Type (primary)	1st fuel used by Generating Unit H	Anthracite	Plant specifications
Generating Unit Fuel Type (secondary)	2nd fuel used by generating unit H	Lignite	Plant specifications
η_{des}	Plant Design Efficiency	51.0%	Appropriate technical source (e.g. testing data)
NCV_{F1}	Net Calorific Value of fuel 1	26.7 TJ/Gg	Schedule 9
NCV_{F2}	Net Calorific Value of fuel 2	11.9 TJ/Gg	Schedule 9
Q_{F1}	Quantity of fuel 1 used the Generating Unit H during an Emissions Year	17.0 Gg	Plant operator
Q_{F2}	Quantity of fuel 2 used by Generating Unit H during an Emissions Year	15.7 Gg	Plant operator
EF_{F1}	Emission Factor of fuel 1	98300 $kgCO_2/TJ$	Schedule 9
EF_{F2}	Emission Factor of fuel 2	101000 $kgCO_2/TJ$	Schedule 9
$C_{f,F1}$	Conversion factor of fuel 1	0.95	Schedule 9
TPO	Total power output of Generating Unit H as determined for	40390 MWh	CHPQA certificate

Data	Description	Example Value	Source
	the equivalent CHP scheme under the CHPQA programme		
TFI	Total fuel input as specified in the same qualifying CHPQA certificate	175610 MWh	CHPQA certificate
F_e	Percentage of fuel referable to electricity generation	47.5%	CHPQA certificate
$CO2_{transferred}$	Total CO2 captured and transferred by the Generating Unit over an Emissions Year	15810000 $kgCO_2$	Plant operator
$TFEI$	Total fuel combusted to generate electricity over the same Emissions Year used for $CO2_{transferred}$	72060 MWh	Plant operator

Design efficiency

First the Design Efficiency ("η_{des}") of Generating Unit H must be calculated. This value represents the efficiency of the Generating Unit at maximum output. When applying the Design Efficiency CHPQA Formula, η_{des} is calculated using values specified on the CHPQA certificate. The equation is as follows, using the equation in Schedule 8, Part 3.2(c):

$$\eta_{des} = \frac{TPO}{TFI \times C_{f,W} \times F_e} = \frac{40390\ MWh}{175610\ MWh \times 0.95 \times 0.475} = 0.510 = 51.0\%$$

Where the values TPO, TFI, C_f, and F_e are defined in Table H. Note that C_f is the conversion factor for the primary fuel being used: this should be the fuel with the greatest contribution on an energy basis. If fuels are used with the same total energy input, the fuel with the highest value of C_f should be used.

Fuel Share and Weighted Emission Factor

To calculate the Fossil Fuel Emissions ("FFE") of Generating Unit H first a weighted emission factor ("EF_W") must be calculated, accounting for the different fuel components. This is calculated by first calculating the Fuel Share for each fuel component, using the equation in Schedule 8, Part 8.1 for each fuel separately, as follows:

$$
\begin{aligned}
FS_1 &= \frac{Q_{F1} \times NCV_{F1}}{(Q_{F1} \times NCV_{F1}) + (Q_{F2} \times NCV_{F2})} \\
&= \frac{\left(17.0\ Gg \times 26.7\ \frac{TJ}{Gg}\right)}{\left(17.0\ Gg \times 26.7\ \frac{TJ}{Gg}\right) + \left(15.7\ Gg \times 11.9\ \frac{TJ}{Gg}\right)} \\
&= 0.709 \\
&= 70.9\%
\end{aligned}
$$

$$
\begin{aligned}
FS_2 &= \frac{Q_{F2} \times NCV_{F2}}{(Q_{F1} \times NCV_{F1}) + (Q_{F2} \times NCV_{F2})} \\
&= \frac{\left(15.7\ Gg \times 11.9\ \frac{TJ}{Gg}\right)}{\left(17.0\ Gg \times 26.7\ \frac{TJ}{Gg}\right) + \left(15.7\ Gg \times 11.9\ \frac{TJ}{Gg}\right)} \\
&= 0.291 \\
&= 29.1\%
\end{aligned}
$$

Where Q_{F1}, Q_{F2}, NCV_{F1} and NCV_{F2} are defined in Table H.

Using these component Fuel Shares, a weighted Emission Factor ("EF_W") can also be calculated, using the equation in Schedule 8, Part 5.1(a) as follows:

$$
\begin{aligned}
EF_W &= (FS_{F1} \times EF_{F1}) + (FS_{F2} \times EF_{F2}) \\
&= \left(0.709 \times 98300 \frac{kg\ CO_2}{TJ}\right) + \left(0.291 \times 101000 \frac{kg\ CO_2}{TJ}\right) \\
&= 99085.7 \frac{kg\ CO_2}{TJ}
\end{aligned}
$$

Where EF_{F1} and EF_{F2} are defined in Table H.

Transferred CO_2

As Generating Unit H is equipped with CCUS technology, the CCUS formulae can be applied. First, the total CO_2 emissions generated by the Generating Unit in one year is calculated based on the total fuel consumption ("$TFEI$") and the weighted Emission Factor ("EF_W"). The calculation is performed as follows, using the equation in Schedule 8, Part 7.2(b):

$$
\begin{aligned}
C02_{generated} &= TFEI \times EF_W \times 0.0036 \\
&= 72060\ MWh \times 99085.7\ \frac{kgCO_2}{TJ} \times 0.0036 \\
&= 25704416.0\ kgC0_2
\end{aligned}
$$

Where $TFEI$ is defined in Table H, and $EF_{f,W}$ is the value calculated above. Note that the total fuel consumption $TFEI$ does not have to be measured over the same twelve months period as that used in the CHPQA certificate, and thus, as is the case in this example, $TFEI$ does not necessarily equal TFI.

Then the Transferred CO_2 Factor ("TCF") can be calculated. This uses $CO2_{generated}$ as calculated above, as well as the total CO_2 captured at Generating Unit H and transferred elsewhere ("$CO2_{transferred}$"). Note that $CO2_{transferred}$ must be measured over the same twelve months period for which $TFEI$ was measured. The calculation is as follows, using the equation in Schedule 8, Part 4.1:

$$TCF = \frac{CO2_{transferred}}{CO2_{generated}} = \frac{15810000\ kgC0_2}{25704416.0\ kgC0_2} = 0.615 = \ 61.5\ \%$$

Where $CO2_{transferred}$ is defined in Table H.

Fossil Fuel Emissions

The Fossil Fuel Emissions ("FFE") of Generating Unit H per unit of electricity generated is then calculated based on the plant's design efficiency ("η_{des}"), the weighted Emission Factor calculated above, and the Transferred CO_2 factor ("TCF") This is calculated using the equation in Schedule 8, Part 1.2(d) as follows:

$$\begin{aligned} FFE &= \frac{0.0036 \times (1 - TCF) EF_W}{\eta_{des}} \\ &= \frac{0.0036 \times (1 - 0.615) \times 99085.7\ \frac{kgCO_2}{TJ}}{0.510} \\ &= 269.3\ \frac{gCO_2}{kWh_e} \end{aligned}$$

This value of Fossil Fuel Emissions is below the Fossil Fuel Emissions Limit of 550 gCO_2/kWh_e, so Generating Unit H is eligible to participate in the Capacity Market.

Annex C – Capacity Market Emissions Verifications: Frequently Asked Questions (FAQs)

Introduction

Purpose of this document

This document contains answers to frequently asked questions about the requirement that those wishing to participate in the Capacity Market (CM) must have their compliance with the CM's carbon emissions limits verified by an Independent Emissions Verifier (IEV).

Although prequalification is not the only occasion a verified Fossil Fuel Emissions Declaration is required, in this guidance we refer to those who require the services of an IEV under the Capacity Market Rules ("CM Rules" or "the Rules") as "applicants".

This document is being issued for two reasons:

- As a direct response to specific questions that DESNZ, National Grid ESO (as CM delivery body) and IEVs have received about the IEV process.
- More generally, to remind applicants of their obligations under the Rules, and the practicalities of complying with the verification requirement. In particular, we are concerned that misconceptions about the verification process may lead some applicants to leave it too late to submit their request for verification to an IEV, which in turn may result in them not having their compliance verified by an IEV by the relevant deadline, and therefore not being able to participate in the CM.

Other relevant documents and status of document

This document is issued by DESNZ, but it has been reviewed by NESO, UKAS and the IEVs, and reflects their input. It should be read alongside the rest of the Carbon Emissions Limits in the Capacity Market Guidance (of which this forms an annex) as well as the UKAS (the body that accredits IEVs) guidance which can be found in their website.

None of these documents, including this FAQ, is a substitute for the legislation to which they relate –

i.e. the provisions of the CM Rules relating to Fossil Fuel Emissions Declarations and verification.[92] An informal consolidation of the CM Rules, which are frequently amended, may be found here. Every effort has been made to ensure that this guidance and the two publications referred to above are consistent with the CM Rules, but in the event of any inconsistency, the Rules will prevail, and only a court can rule definitively on their meaning.

Guidance on submitting an application on the EMR DB portal can be found here.

FAQS

1. Which verifiers can be used to verify my emissions?
2. How much will verification cost?
3. Can emissions reporting and verification completed for other schemes, such as UK ETS, be used to comply with the Capacity Market Rules Requirements?
4. Will verifications involve on-site visits?
5. What will I be expected to prepare for IEVs ahead of a verification?
6. Which version of the Exhibit ZA should I use?
7. When will I need to complete verification for?
8. What if I cannot get verified in time?
9. How long will verifications take?
10. Do the emissions limits apply to individual combustion units feeding into a Fossil Fuel Component?
11. What materiality will be applied in the verification process?
12. What are appropriate data sources for design efficiency?
13. Am I required to attach supporting data or documents to my Exhibit ZA in my application if Part 9, 1(b) is selected?
14. Who needs to sign my Exhibit ZA application?
15. What are the deadlines for new build and refurbishing sites?

[92] These include, but are not limited to CM Rules 3.6.5, 3.6.5A, 3.6.6, 3.9.5, 3.9.5A, 3.9.6, 4.4.4(j), 6.10.1B, 6.10.2(zd), 8.3.11, 8.3.12, 8.3.12A, 8.3.13, 8.3.14 and Exhibits ZA to ZC. See also the definitions of terms used in these provisions set out in Rule 1.2 (e.g. Fossil Fuel Emissions Declaration and Independent Emissions Verifier).

Frequently Asked Questions

1. Which verifiers can be used to verify my emissions?

Full information on UK verifiers can be found on the UKAS website.

If using a verifier from outside the UK, it must be accredited by an accreditation body that is a member and signatory of one or more of the following: (i) the European Cooperation of Accreditation (EA); (ii) the International Laboratory Accreditation Cooperation (ILAC); or (iii) the International Accreditation Forum (IAF).

2. How much will verification cost?

The cost of verification will depend on an individual verifier's assessment of your requirements. There is no set banding and costs may vary between different verifiers.

3. Can emissions reporting and verification completed for other schemes, such as UK ETS, be used to comply with the Capacity Market Rules Requirements

While underpinning data and calculations can be used in the completion of a Fossil Fuel Emissions Declaration and be shared with an IEV for the CM verification requirement, completed documentation for other schemes should not be submitted for the purposes of the CM, and cannot satisfy the CM Rules in respect of carbon emissions limits because the Rules require information about emissions to be submitted in the form of Exhibit ZA, including signature by an IEV.

4. Will verifications involve on-site visits?

Whether an IEV needs to visit a CMU is a matter for the IEV in each case. In deciding what methods to use in a given case, IEVs need to exercise independent expert judgment based on a wide range of potentially relevant factors that cannot be exhaustively listed.

Overall, Government expects that in most cases verification will consist, at least in the first instance, of desk-based review of relevant documents, calculations and data provided by the applicant, rather than on-site inspection or testing of an applicant's equipment.

However, we do not believe that it is practicable to set out, in the abstract, criteria that would enable an individual potential applicant to know for certain whether an IEV will consider it necessary at some point in the verification process to arrange to visit its premises or test its equipment before certifying its Fossil Fuel Emissions Declaration in relation to a particular CMU.

Accordingly, no such criteria are set out in this or other guidance.

Moreover, it is possible that in a particular case, an IEV may initially take the view that verification can be conducted purely as a desk-based exercise, but then subsequently decide that it is necessary to visit the applicant's premises.

The only way to find out whether an IEV will request an on-site visit as part of the verification process is to prepare your Fossil Fuel Emissions Declaration, engage an IEV, and begin a dialogue with them. Any verification process that involves an on-site visit is likely to take longer to complete, so if your IEV is going to request such a visit, the sooner you find this out the better.

5. What will I be expected to prepare for IEVs ahead of a verification?

The purpose of Fossil Fuel Emissions Declarations is to demonstrate that a CMU complies with the carbon emissions limits under the CM Rules. In order to do this, a person is required to:

- calculate emissions using specified formulae;
- "show its working", explaining how it has arrived at the emissions figures given;
- share its working and the information that has fed into those calculations with an IEV.

The role of the IEV is not to assist with any of these tasks. It is to check that the applicant has performed them correctly, using information that is authoritative, traceable and transparent and therefore to:

- confirm that the declaration is "true and accurate in all material respects", as provided in Part 9, paragraph 1a of Exhibit ZA (an "unqualified certificate");
- confirm that the declaration is generally true and accurate, but an unqualified certificate cannot be provided because of reasonable risk of mis-statement of data derived from the technical specification(s)/ performance test(s) of combustions units made available to the IEV, as provided in Part 9, paragraph 1b[93] of Exhibit ZA (a “qualified certificate”); or
- conclude that the applicant’s declaration is insufficient or materially inaccurate such that it cannot be verified, and to decline to certify the declaration in its current form.

It follows that in most cases the IEV will not be able to carry out its function under the CM Rules – and may not even be in a position to advise a person as to what work the IEV will need to do as part of the verification process– unless, **before contacting the IEV**, the person seeking verification **has already made a conscientious effort to prepare a Fossil Fuel Emissions Declaration**, including all the calculations and information.

Independently verified Fossil Fuel Emissions Declarations are the means by which we ensure that carbon emissions limits are complied with. This is a key (and increasingly important) part of delivering the CM policy in practice, and of the UK government's wider decarbonisation agenda. The integrity of the regime rests on verification, but verification depends on rigorous preparation of the declaration and accompanying materials.

[93] Note: Verifier should agree with client whether the “[attached to this declaration]” should be removed. Keeping this in and not providing these documents could result in a failure to prequalify.

Before verification, a person should therefore prepare the Exhibit ZA, calculations underpinning the final emissions figure, and the sources of the underlying data, with supporting documentation where relevant. If you have not prepared a Fossil Fuel Emissions Declaration before, you may well find that it takes time to gather the necessary information, work out which formulae to use, and carry out the required calculations.

Note that if you are using a CHPQA certificate to derive values to input into a formula, you may also need to include the data sources underpinning figures in the certificate.

An IEV will not be checking the correctness of elements of the Exhibit ZA that are not covered by their remit, so it is important to ensure the rest of the Exhibit is completed according to the CM Rules and EMR Guidance (e.g. ensuring director signatures are provided).
The UKAS guidance has a useful table in section 3.3 explaining the formulae set out in the CM rules and information that may be required in cases of "complex verification" as defined by the document.

Once you have made a conscientious initial effort to prepare a Fossil Fuel Emissions Declaration, before confirming a verification slot with an IEV, we would strongly advise you to engage in a preliminary discussion with an IEV about their likely expectations (based on information you provide to them about your CMU) and the most efficient way to proceed if, for example:

- You envisage that you may need to book time with an IEV relatively close to the deadline you need to submit a Fossil Fuel Emissions Declaration to the Delivery Body because you are not yet in a position to complete the declaration and anticipate needing more time.
- You are responsible for completing Fossil Fuel Emissions Declarations for a number of CMUs and have queries regarding prioritisation.

6. Which version of the Exhibit ZA should I use?

Applicants must use the latest version of Exhibit ZA in the consolidated version of the CM Rules, unless providing an older version of the Exhibit which was signed by a verifier no later than four weeks after the introduction of a newer version (see Rule 3.17.1).

A new version of the Exhibit ZA was introduced on 17 July 2024, meaning any version of the Exhibit prior to this version will not be accepted unless signed by a verifier before 14 August 2024.

7. When will I need to complete verification for?

An Exhibit ZA, where required during Prequalification, must be submitted with an Application during the prequalification window. The 2025 Prequalification Window will run from August 2025 until 1 October 2025. The full timeline can be found here.

In some cases, the Exhibit ZA is provided after prequalification. The relevant Rules are discussed in sections 4.3 and 7 of the Carbon Emissions Limits Guidance document (of which this forms an annex), which sets out the relevant deadlines.

8. What if I cannot get verified in time?

Applying to the 2024 prequalification onwards, DESNZ has implemented, via the, the option of a deadline extension as a last resort mechanism for applicants unable to verify in time for the end of prequalification. This is set out in Rule 3.18. To access the deadline extension the applicant must comply with the requirements set out in Rule 3.18, which includes providing, during prequalification, evidence of an IEV booking prior to the new deadline of 22 working days prior to the commencement of the relevant auction (same as the planning consents deadline).

IEV's are not guaranteed to have capacity after the Prequalification Window ends, particularly as ETS verification commence, therefore **in order to minimise risk, you are strongly advised to ensure that, wherever possible, you complete verification by mid- August**.

Applicants who are granted a deadline extension will become, provided the rest of their application is approved, conditionally prequalified. Failure to prequalify will apply to any applicants who:

- Fail to submit a verified Exhibit ZA with their Application where required and do not obtain a deadline extension, or;
- Obtain a deadline extension but do not submit a verified Exhibit ZA by the time of the new deadline.

Under Rule 8.3.14, if submitting a deferred Exhibit ZA post auction, a failure to meet the relevant deadline will result in a Termination Notice under Rule 6.10.1(o).

9. How long will verifications take?

Verification is a process of vouching calculations and cross checking the information which supports the data presented within Exhibit ZA. It is generally a two-stage process of an initial verification, followed by a technical review of the original verification. The time it takes will vary in each case depending on the circumstances, and in particular on the complexity of the calculations that the CM Rules require to be carried out. Overall, we expect there to be some correlation between the kind of CMU and the length of time taken to carry out verification, but this does not mean that there will not be some cases when a CMU of a type where the Fossil Fuel Emissions Declaration might generally be expected to be verified quickly takes several days to verify, possibly including a site visit.

Design efficiency-based verifications for applicants using the standard Fossil Fuel Emissions Formula[94] can take as little as a few hours to a day and a half; however, complex checks, as defined by the UKAS guidance linked above, can take as long as 2-3 days or even longer. The work that has to be done is partly dictated by the CM Rules and is partly a matter of the IEV's expert judgment. It is advisable to allow up to 2 weeks for verification to be completed. However, bear in mind that, as noted above, verifiers are a finite resource. While 2 weeks may be sufficient time to allow for even a complex verification to be carried out, any allowance of time is academic if you cannot book the time with an available verifier because they are all busy during that period verifying other applicants' Fossil Fuel Emissions Declarations.

We recommend engaging with an IEV well ahead of time to ensure a smooth process. As noted

[94] Found at Part 1.2(a) of Schedule 8 of CM Rules

above, unless you have made progress with completing the Fossil Fuel Emissions Declaration before contacting the IEV, you are unlikely to be able to have a constructive conversation with the verifier about the information they will need from you and the work they will want to carry out.

10. Do the emissions limits apply to individual combustion units feeding into a Fossil Fuel Component?

The CM Rules apply at component level so they require each Fossil Fuel Emissions Declaration to be given in respect of a "Fossil Fuel Component". We have been asked on what basis emissions should be calculated where multiple combustion units feed into a single turbine (which comprises a Generating Unit for the purposes of the Rules).

In our view, the correct approach is to amalgamate the emissions from the individual combustion units (calculated using the appropriate methodology set out in the CM Rules) into an average figure for the component as a whole (the turbine plus all combustion units feeding into it, for example), to which the limits are applied. This is consistent with CM policy and reflects international best practice, e.g. as represented by the guidance on calculations relating to carbon emissions limits in capacity mechanisms of the Agency for the Cooperation of Energy Regulators.

11. What materiality will be applied in the verification process?

It is not unusual for systems of emissions verification to include a concept of materiality. This is inevitable, and the reasons for it in the case of the CM are clear. For example, in any given case, there may be questions about:

- the appropriateness (in terms of their likely predictive accuracy) of the methodologies and calculations used in producing the declaration; and
- the rigour and diligence with which the applicant has applied those methodologies and carried out those calculations, and whether any of the data that it has fed into them is likely to have made the results less accurate than they might otherwise be compared to alternative sources which may be more reliable. (An example, depending on the type and age of equipment used in a plant, might be the degree of reliance placed on a manufacturer's performance figures.)

Sometimes, as in the case of the EU ETS and UK ETS regimes, specific materiality thresholds are prescribed by legislation in respect of specific aspects of measurement, calculation, or verification. This is not the approach taken by the CM Rules.

However, the concept of materiality is central to the verification process as set out in the Rules, not least because the confirmation that verifiers give when providing an unqualified certificate as set out in Part 9 of Exhibit ZA refers to the applicant's declaration being "true and accurate in all material respects".

It follows that in the CM context, when deciding what form of opinion (if any) to give in respect of a declaration, verifiers must, where they consider it appropriate to do so, exercise their expert

judgment in relation to both types of question about materiality outlined above. Since any such exercise of judgment will be highly case-specific, it is not possible to put forward a single, percentage figure as a materiality threshold for accuracy.

That said, consistent with general industry practice, we would not expect the quantitative materiality threshold applied by an IEV in relation fossil fuel emissions declarations to exceed 5% of fossil fuel emissions in any case.

Note that the application by the verifier of a materiality level does not mean that errors (e.g. mistakes of arithmetic in working out formulae) or misstatements can be ignored. Any such issues detected during the verification should be corrected by the applicant. If they cannot be corrected, the verifier will consider the materiality of these misstatements in their verification opinion.

12. What are appropriate data sources for design efficiency?

This is a question that has arisen in connection with determining what value is to be used in the relevant CM Rules formulae to represent the "consumption rate of fuel" used by a generating unit operating at maximum electrical output, as part of the calculation of Design Efficiency.

The DESNZ Emissions limits guidance makes the following general point:

- "When determining Design Efficiency…the values deemed to be most representative of the normal operation of the Generating Unit should be used…for each variable."

More specifically in relation to the formulae including Consumption Rate, it states:

- "Variables may be determined through recent power plant testing, a power plant commissioning contract, or equivalent information from other technical sources as appropriate."
- "Where multiple values are available, the value that is deemed to be most representative of the Generating Unit’s normal operation should be used."

Consistent with the DESNZ guidance quoted above, applicants should provide verifiers the most representative data, such as recent performance tests if available. Where an applicant does not have (or expect to have, before it completes the declaration) access to relevant (recent) performance test data to provide it with a value for its plant's consumption rate, it should consider having a preliminary discussion with an IEV about the alternative data it would rely on for its consumption rate and the reasons for why performance data would not be available.

If an IEV is provided with supporting data source(s) where the representativeness of the stated consumption rate compared to the current normal operations cannot be determined, then it should select Part 9, 1(b) when completing the Exhibit ZA to provide a qualified certificate.

Alternatively, the applicant may choose to schedule a performance test which would mitigate the risk of their performance data being materially at variance with current plant configuration.

13. Am I required to attach supporting data or documents to my Exhibit ZA in my application if Part 9, 1(b) is selected?

Although applicants are not required to attach any supporting documents or data which they provided to the IEV to the Fossil Fuel Emissions Declaration when submitting it to the Delivery Body, it is important that the optional words “attached to this declaration” in Part 9 para 1(b) of Exhibit ZA are deleted or struck through by the verifier.

We ask that all relevant supporting information and documents are attached to the Exhibit ZA template separately, rather than inputted into the template itself.

14. How should the Exhibit ZA be signed?

The Exhibit should be signed in the following way:

Signed.....Name of the verifier (person)

Authorised signatory (Print Name).....Name of the verifier (person)

Position.....Position of the verifier (position of person in the company)

Authorised signatory for and on behalf of.....Name of the verification company

15. What are the deadlines for new build and refurbishing sites?

CMU Type	What was provided during Prequalification?	When is a Fossil Fuel Emissions Declaration required?
Existing Generating CMU or Proven DSR CMU which did not provide a Fossil Fuel Emissions Declaration during Prequalification because Rule 3.6.5(a) or Rule 3.9.5(a) did not apply[95].	Confirmation under Rule 3.6.6 or Rule 3.9.6.	Following an Emissions Related Material change, the CMU comprises of a relevant Fossil Fuel Component[96], see Rule 8.3.12(b) for the deadlines.
Existing Generating CMU or Proven DSR CMU without 12 months of data and/or CHPQA Certificate applying the Fossil Fuel Emissions CCUS Formula, Fossil Fuel Emissions Mixed Fuels Formula and Fossil Fuel	Confirmations in accordance with Rule 3.6.5(ca) and 3.6.5A(b) or Rule 3.9.5(ca) and 3.9.5A(b).	See the deadlines in Rule 8.3.12A(b).

[95] i.e. The CMU did not comprise of a relevant Fossil Fuel Component during Prequalification.
[96] Note, under the definition of Emissions Related Material Change, a Fossil Fuel Component with an Installed Capacity below 1MW is not considered.

Emissions Composite Formula and/or the Design Efficiency CHPQA Formula.		
Existing Generating CMU or Proven DSR CMU which has made a declaration under rule 3.18.3(a) during Prequalification	Evidence required to meet conditions under 3.18.3(b)	No later than 22 working days prior to the commencement of the first Bidding Window for the Capacity Auction to which the application relates to.[97]
New Build CMU where the declarations described under Rule 3.7.4(a)-(c) were not made.	Fossil Fuel Emissions Commitment.	Where the CMU comprises of a relevant Fossil Fuel Component, the start of the first Delivery Year of the Capacity Agreement (or the date the Capacity Agreement takes effect in accordance with Rule 6.7.4(a)(ii) or Rule 6.8.5); or The date on which a Notice of Intention to Terminate issued by the Delivery Body to the Capacity Provider in respect of the CMU states that a Termination Notice will be issued (see Rule 8.3.11(b)(i)(aa)).
Refurbishing CMU where the declarations described under Rule 3.8.3(a)-(c) were not made.	Fossil Fuel Emissions Commitment.	Where the CMU comprises of a relevant Fossil Fuel Component, two months after the Auction Results Day where; the CMU is Prequalified as an Existing CMU following a notification under Rule 4.4.3AB(a)(ii), and is awarded a Capacity Agreement in respect of that CMU, or where, following the submission of a notice under Rule 5.5.14[98], a Capacity Agreement is awarded to the Pre-Refurbishment CMU[99] ; or the start of the first Delivery Year of the Capacity Agreement (see Rule 8.3.11(b)(ii)(aa), (bb) and (cc))
Unproven DSR CMU where the declarations described under Rule 3.10.4(a)-(c) were not made.	Fossil Fuel Emissions Commitment.	Where the CMU comprises of a relevant Fossil Fuel Component, the date the Capacity Provider provides a DSR Test Certificate under Rule 8.3.2(a) (See Rule 8.3.11(b)(iii)(aa))

[97] See Rule 3.18.1(c)
[98] An Applicant for a Refurbishing CMU must specify in any confirmation notice pursuant to Rule 5.5.14 whether or not it also wishes to participate in the Capacity Auction with respect to the associated Pre-Refurbishment CMU. (See Rule 5.5.15).
[99] The Pre-Refurbishment CMU means, in relation to a Refurbishing CMU, the Existing CMU that would remain in the absence of any improvement works being carried out. (See definition in Rule 1.2.1).

New Build Generating CMU where a declaration under Rules 3.7.4(a)-(c) was made.	Fossil Fuel Emissions Commitment (where any of paras (d)-(g) in Part 2 of the declaration were retained).	Where the CMU comprises of a relevant Fossil Fuel Component, see the deadline in Rule 8.3.11(b)(i)(cc) or (dd).
Refurbishing CMU where a declaration under Rule 3.8.3(a)-(c) was made.	Fossil Fuel Emissions Commitment (where any of paras (d)-(g) in Part 2 of the declaration were retained).	Where the CMU comprises of a relevant Fossil Fuel Component, see the deadline in Rule 8.3.11(b)(ii)(dd) or (ee).
Unproven DSR CMU where a declaration under Rule 3.10.4(a)-(c) was made.	Fossil Fuel Emissions Commitment (where any of paras (d)-(g) in Part 2 of the declaration were retained).	Where the CMU comprises of a relevant Fossil Fuel Component, see the deadline in Rule 8.3.11(b)(i) (bb) or (cc).

If unsure, please contact NESO.

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