

Hybrid Metering Guidance

Disclaimer

This guidance is designed to support understanding but does not replace or override the provisions set out in the relevant agreements, including CfD, LCHA, and DPA. It does not constitute legal or investment advice and should not be relied upon as such. Generators, Producers, and Emitters should seek professional advice where required.

LCCC reserves the right to amend this guidance as needed. It should not be interpreted as limiting the evidence, information, or documentation that may be required to assess contractual milestones.

The nature, level, and timing of our review process remain at LCCC's discretion, and we may request further evidence or reconsider previously submitted information at any time.



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Terms and Definitions

Abbreviation	Meaning
API	Application Programming Interface
AR8	Allocation Round 8
BESS	Battery Energy Storage System
BMU	Balancing Mechanism Unit
BSC	Balancing and Settlement Code
CfD	Contracts for Difference
CP	Conditions Precedent
CT	Current Transformer
FAT	Factory Acceptance Testing
FO	Facility Output
HBMU	Hybrid Balancing Mechanism Unit
HES	Head-End System
HFO	Hybrid Facility Output
LAMO	Loss Adjusted Metered Output
LCCC	Low Carbon Contracts Company
NESO	National Energy System Operator
NTP	Network Time Protocol
SAT	Site Acceptance Testing
SCADA	Supervisory Control and Data Acquisition
UTC	Coordinated Universal Time
VT	Voltage Transformer



Who is this guidance for?

This guidance is intended for prospective AR8 bidders and generators with a hybrid CfD contract. It sets out the types of generator arrangements that may be eligible, those that are not eligible, the transition process into hybrid metering, and the additional assurance requirements that apply to generators using hybrid metering.

1. Introduction

Reliable and robust metering is fundamental to the integrity of the CfD scheme, protecting consumers and ensuring good value for money. Under the Standard Terms and Conditions¹ of the CfD, each CfD Facility has historically been required to be metered by a separate Balancing Mechanism Unit (BMU). This was introduced to ensure that generators' Metered Output and their CfD Difference Payments are calculated and settled accurately.

However, the requirement for separate BMUs creates financial, timing, and technical barriers to the co-location of different energy assets at the same site. Technological advancements mean it is now possible to utilize asset-level measurement data, alongside settlement metering, to identify generation attributable to a CfD Facility. This reduces the need for separate BMUs, whilst maintaining robust settlement arrangements.

From Allocation Round 8, Government will allow hybrid metering for single technology/multiple commercial arrangements in the CfD. As outlined in the AR8 policy decision, multiple CfD facilities, and CfD and merchant facilities, of the same technology type will be permitted to share a BMU. In these arrangements, asset level measurement data, including sub-metering and digital equivalents will be used to distinguish separate commercial arrangements within the same BMU.

The Conditions of the CfD will require CfD generators to provide SCADA level data (or equivalent) to assist in calculating CfD Difference Payments at a sub-BMU level while sharing a BMU with other permitted units of the same technology, in line with the published AR8 policy position.

For the purposes of the BSC, sites will continue to settle at the BMU boundary, whilst the contractual treatment of hybrid arrangements is governed through the standalone AR8 Hybrid Metering provisions. Asset-level measurement data is used in conjunction with settlement metering to identify the generation attributable to a CfD Facility and support the calculation of CfD Difference Payments.

Hybrid metering will be optional, and generators can give notice to request hybrid metering at any time during the contract. Additionally, generators who already hold a CfD (AR7 and earlier) can make a request for hybrid metering to LCCC. It will be at LCCC's sole discretion to approve requests for hybrid metering, which are required to meet approval conditions set out in the contract and, for pre-AR8 CfDs, an amendment to the CfD will be required to incorporate the hybrid metering provisions.

These requirements and conditions are set out in this document.

¹ <https://www.gov.uk/government/publications/contracts-for-difference-cfd-allocation-round-8-standard-terms-and-conditions>



2. Eligibility

Permitted Hybrid Configurations

Permitted configurations are limited to same-technology arrangements where the CfD Facility and Related Facility can be clearly identified, measured and distinguished, and where the metering and information systems support robust allocation of generation volumes.

This will include standard CfD and merchant combinations of the same technology and may also include certain phased or related facility structures where the contract expressly allows them. In each case, the generator must be able to show that the arrangement preserves a clear distinction between the CfD Facility and any Related Facility for the purposes of settlement, compensation, compliance, and audit.

Permitted examples include:

- A CfD Facility and merchant facility of the same technology sharing a BMU.
- Multiple CfD Facilities of the same technology sharing a BMU, where permitted under the contractual framework.
- Same-technology phased project arrangements permitted under the CfD contract.

Non-permitted Hybrid Configurations

Hybrid metering is limited to the scope of Type 1 HBMU ² arrangements only and does not extend to more complex configurations.

Multiple technologies

Non-permitted configurations include arrangements that fall outside the limited AR8 policy scope or cannot be supported with sufficient certainty and control. This includes more complex hybrid metering models involving multiple technologies, for example: wind and solar within one BMU. This also extends to generation and storage and on-site demand, under HBMU Type 1, please see the NESO HBMU guidance² for further clarification on BMU and non-standard BMUs.

Private Network

Private Network Agreement arrangements are not eligible for Hybrid Metering. Where a proposal involves split grid connections, phased structures or other complex scenarios, generators should not assume eligibility; LCCC will assess whether the arrangement remains within the approved policy scope and whether the contract can operate clearly and reliably in that specific case. Generators with non-standard set-ups should engage directly with their associated Contract Manager.

² <https://www.neso.energy/document/373196/download>



Multiple CfDs – same allocation round

Arrangements whereby Generators seek to include multiple facilities that hold CfDs from the same Allocation Round are not permitted, except where the Facility Generation Technology is Tidal Stream or the CfDs are phased agreements

Other Government support schemes

Where a proposed hybrid metering arrangement includes facilities supported under other Government support schemes, Generators should consult relevant scheme administrators at an early stage. Such arrangements may introduce additional contractual, settlement and operational considerations.

3. Hybrid Metering Overview

A hybrid metering arrangement relies on the principle that the site continues to settle at the BMU boundary for BSC purposes, while the CfD payment calculation is supported by additional metering and information systems behind that boundary. The core requirement is that the site architecture, metering configuration and data flows allow LCCC to identify the generation attributable to the CfD Facility separately from the generation attributable to the Related Facility. This must be through a clear electrical and logical design, supported by evidence, and capable of being understood, tested and audited by LCCC.

LAMO Apportionment Factor

The LAMO apportionment factor is used to determine the proportion of total site generation attributable to the CfD Facility. This factor is calculated on a half-hourly basis using operational data derived from the Generator's SCADA system.

The apportionment factor is calculated as: $\sum \frac{FO}{HFO}$

Where:

FO (Facility Output) is the generation attributable to the CfD Facility

HFO (Hybrid Facility Output) is the total generation attributable to the whole hybrid facility



Hybrid CfD Settlement

As illustrated below, settlement remains at the BMU level based on the whole site output. Asset-level operational data is used to derive a CfD allocation factor, which is then applied to BMU output to calculate CfD Difference Payments.

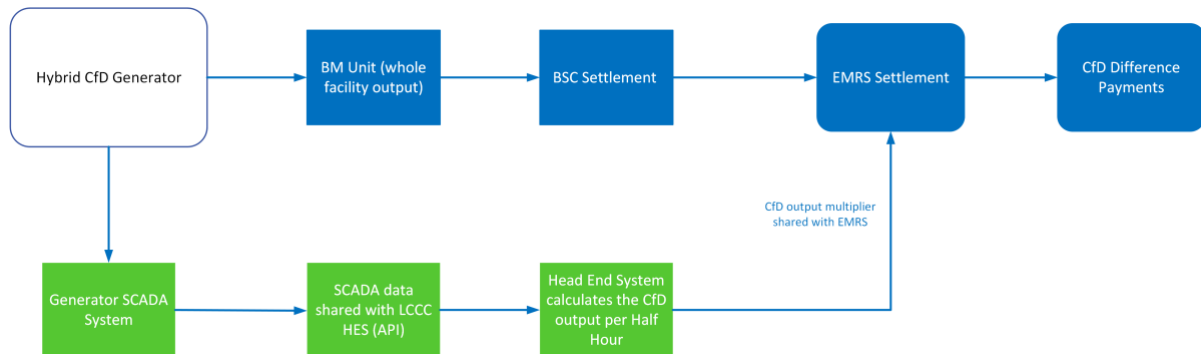


Figure 1 Hybrid Metering CfD Settlement Process

4. Transition to Hybrid Metering

For Generators who identify part way through their contract that they wish to utilise hybrid metering – often due to new tagged on generation and upgrades of existing assets, now meaning that CfD and non-CfD generation require separation via SCADA data derived multipliers.

Transition to hybrid metering should be presented as a staged process rather than a single event. At a high level, the generator first submits a Hybrid Metering Notice, accompanied by a Directors' Certificate, and with sufficient supporting information for LCCC to assess the proposed arrangement. If the request is approved, the project then moves into a transition period during which the generator is expected to complete the necessary metering, systems, testing and evidence activities.

The Generator shall, no later than ten (10) Business Days after the Hybrid Metering Approval Date, notify LCCC of its expected Hybrid Metering Physical Transition Date (the "**Expected Physical Transition Date**"), which shall fall on a date no earlier than six (6) months after the Hybrid Metering Approval Date.

The Expected Physical Transition Date is the point at which the Related Facility becomes connected to and capable of exporting through the relevant BMU arrangement, while the Hybrid Metering Implementation Date follows once LCCC is satisfied that the required Hybrid Metering Conditions have been fulfilled or waived in accordance with the contract. Generators should be made aware that approval of the concept does not by itself mean the arrangement is operational for CfD payment purposes.



Process for Transition to Hybrid Metering (Pre-Start Date)

Step	Owner	Process activity	Output / evidence	Next stage
1	Generator	Identify the proposed hybrid metering arrangement and confirm that the configuration is within the AR8 provisions and capable of being supported under the CfD.	Initial configuration description and eligibility rationale.	Prepare notice
2	Generator	Submit a Hybrid Metering Notice , accompanied by a Directors' Certificate, to LCCC, supported by the proposed metering architecture, site configuration, evidence plan and expected transition timeline.	Hybrid Metering Notice and supporting evidence pack.	LCCC review
3	LCCC	Review eligibility and the proposed arrangement, including whether the Facility and any Related Facility can be clearly identified, measured and assured.	Eligibility assessment and approval decision.	Prepare response notice
4	LCCC / Generator	Submit a Hybrid Metering Response Notice . If approved, the generator progresses the approved hybrid metering arrangement, including the completion of physical works, system configuration, testing, assurance activities and evidence collation.	Transition plan, completed works, test results and updated evidence pack.	Physical transition
5	Generator	Notify LCCC of the Expected Physical Transition Date prior to the anticipated Start Date and provide evidence that the approved metering arrangements have been implemented.	Evidence of physical connection, metering configuration and operational readiness.	Operational Conditions assessment
6	Generator	Demonstrate that the Hybrid Metering Conditions have been satisfied as part of the evidence	Operational Conditions evidence pack, including	Assurance review



		submitted in support of the Operational Conditions Precedent , this must be accompanied by an Operational CP Notice and a Directors' Certificate	Hybrid Metering Conditions evidence.	
7	LCCC	Carry out an assurance review to confirm that the Operational Conditions Precedent , including the relevant Hybrid Metering Conditions , have been satisfied.	Assurance outcome and confirmation of satisfied or outstanding conditions.	Decision point
8	LCCC	Determine that the Operational Conditions Precedent , including the relevant Hybrid Metering Conditions, have been met and confirm the Start Date in accordance with the Contract.	Confirmed Start Date.	Go live
9	Generator / LCCC	Hybrid metering arrangement becomes effective from the Start Date , subject to ongoing compliance, assurance and notification obligations.	Operational hybrid metering arrangement and ongoing compliance obligations.	Ongoing monitoring



Process for Transition to Hybrid Metering (Post-Start Date)

Step	Owner	Process activity	Output / evidence	Next stage
1	Generator	Identify the proposed hybrid metering arrangement and confirm that the configuration is within the AR8 provisions and capable of being supported under the CfD.	Initial configuration description and eligibility rationale.	Prepare notice
2	Generator	Submit a Hybrid Metering Notice , accompanied by a Directors' Certificate, to LCCC, supported by the proposed metering architecture, site configuration, evidence plan and expected transition timeline.	Hybrid Metering Notice and supporting evidence pack.	LCCC review
3	LCCC	Review eligibility and the proposed arrangement, including whether the Facility and any Related Facility can be clearly identified, measured and assured.	Eligibility assessment and approval decision.	Prepare response notice
4	LCCC / Generator	Submit a Hybrid Metering Response Notice . If approved, the project enters the transition period. The generator completes physical works, system configuration, testing, assurance activities and evidence collation.	Transition plan, completed works, test results and updated evidence pack.	Physical transition
5	Generator	Confirm the Expected Physical Transition Date and notify LCCC promptly if that date changes.	Confirmed expected Physical Transition Date and change notifications where applicable.	Proceed to date
6	Generator	Hybrid Metering Physical Transition Date occurs when the Related Facility becomes physically connected to, and capable of exporting electricity	Evidence that physical connection and export capability are in place.	Assurance review



		through, the relevant BMU arrangement.		
7	LCCC	Carry out a post-physical-transition assurance review to confirm that the required metering, systems and evidence conditions have been satisfied in accordance with the contract.	Assurance outcome and confirmation of satisfied, outstanding or waived conditions.	Decision point
8	LCCC	Confirm the Hybrid Metering Implementation Date once LCCC is satisfied that the Hybrid Metering Conditions have been met.	Confirmed Hybrid Metering Implementation Date.	Go live
9	Generator / LCCC	Hybrid arrangement becomes effective for CfD payment purposes from the Hybrid Metering Implementation Date, subject to ongoing compliance, assurance and notification obligations.	Operational hybrid metering arrangement and ongoing compliance obligations.	Ongoing monitoring



5. Audit, Assurance and Compliance

Hybrid metering arrangements introduce an increased reliance on data and systems behind the BMU boundary to support CfD settlement. As a result, Generators must demonstrate that their proposed arrangement meets the Hybrid Metering Conditions and provides a level of assurance broadly equivalent to that achieved under standard BMU-level metering.

In assessing compliance with the Hybrid Metering Conditions, LCCC will review both the technical evidence itself and whether the overall evidence is:

- Complete
- Internally consistent
- Sufficient to support reliance on hybrid metering data from the Start Date

This assessment is not limited to whether data can be produced. LCCC will assess whether the overall metering and information environment is sufficiently robust, transparent and controlled to support accurate, auditable and long-term CfD settlement.

Generators are responsible for providing clear, structured and traceable evidence to support their proposed arrangement.

Core Assurance Areas

Generators should expect to provide evidence across the following core areas:

Measurement Accuracy

Generators must demonstrate that all relevant metering and SCADA equipment:

- Is appropriately specified, installed and commissioned
- Meets applicable technical or industry standards (or equivalent)
- Is calibrated and capable of producing consistently reliable and accurate data

Supporting evidence may include equipment specifications, calibration records and commissioning documentation.

Requirement	What LCCC will assess	Likely Example Evidence
SCADA accuracy measurement	LCCC will assess whether the SCADA measurement equipment used for hybrid settlement is installed, commissioned and maintained to provide reliable and accurate generation data. This includes confirmation that measurement devices can be traced to the relevant generating assets and that measurement coverage is complete across the hybrid arrangement.	CT/VT/Meter certificates, or equivalent manufacturer certification; equipment specifications and accuracy class documentation; FAT/SAT and commissioning records; single line diagrams showing measurement locations; measurement boundary diagrams identifying CfD and merchant assets; turbine, inverter or sub-system metering register; traceability documentation linking physical devices to SCADA tags and generating units; measurement coverage matrix demonstrating all



		generating assets are measured; BMU-to-SCADA reconciliation evidence.
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Communication and Transmission

Generators must demonstrate that data used for hybrid metering:

- Is transferred in a secure, consistent and transparent manner
- Has clearly defined data flows from source through to the settlement environment
- Uses structured naming conventions and tag mapping
- Maintains data integrity during transmission

Supporting evidence may include system architecture diagrams, data flow mappings and security or configuration documentation.

Requirement	What LCCC will assess	Likely Example Evidence
SCADA communication and transmission	LCCC will assess whether operational data used for hybrid metering is communicated securely, transmitted reliably and made available in a transparent and auditable manner. LCCC will also assess whether the controls used to allocate and segregate CfD and merchant generation operate correctly.	SCADA architecture and communications network diagrams; end-to-end data flow diagrams; SCADA tag mapping and naming convention documentation; vendor interface specifications; communications test reports; data transmission validation results; availability monitoring, alarm and watchdog configurations; allocation methodology documentation; allocation logic specifications; allocation test scenarios and results; boundary export reconciliation reports; independent meter register records; segregation controls demonstrating merchant generation cannot be allocated to CfD generation.



Integrity and Processing

Generators must demonstrate that:

- Data is traceable from source through to settlement outputs
- Time-stamping and alignment of data is consistent and verifiable
- Processing logic (including any allocation or calculation steps) is clearly defined and controlled
- Appropriate governance, version control and audit trails are in place

Supporting evidence may include processing logic documentation, audit logs, and system control procedures

Requirement	What LCCC will assess	Likely Example Evidence
SCADA integrity and processing	LCCC will assess whether the data used for hybrid settlement is traceable, time-aligned and protected from unauthorised change. LCCC will also assess whether supporting systems, controls and processing logic provide an accurate, transparent and auditable basis for CfD settlement calculations.	SCADA configuration records showing scaling factors and transformation rules; signal mapping and processing logic documentation; change control policies and change approval records; system audit logs and event logs; access control matrix and user role definitions; data quality procedures and validation controls; missing data, duplicate data and exception handling procedures; timestamp management procedures; NTP configuration and UTC alignment evidence; operational SCADA data extracts; generator-to-BMU reconciliation reports; aggregation methodology and calculation specifications; end-to-end data flow and traceability documentation.

LCCC will work alongside Generators and our technical partner to ensure reasonable equivalence across different set-ups. Where a defined type of evidence is not available, but a reasonable equivalent can be provided, LCCC will work with the Generator to assess its suitability.

Hybrid arrangements will remain subject to ongoing compliance audit obligations, including maintaining the approved metering architecture, notifying LCCC of relevant changes, preserving the distinction between the Facility and any Related Facility, and providing further information where required.



If information and monitoring obligations are not met, if the approved arrangement is materially altered without approval, or if the data environment no longer provides sufficient confidence in settlement integrity, LCCC may need to consider remedial steps under the contract. The guidance should therefore set expectations on prompt engagement, corrective action and evidence refreshes, while also making clear that persistent or material failures may lead to suspension, revocation of approval or other contractual remedies where appropriate.

Head-End System

LCCC's Head-End System (HES) acts as the central platform for collecting, storing and processing SCADA-based operational data used within hybrid metering arrangements. For generators utilising hybrid metering, the HES enables the integration of behind-the-boundary data with settlement metering outputs to support the calculation of CfD qualifying volumes. In practice, the system receives SCADA data from generator assets, validates and aggregates this data across settlement periods, and applies the relevant calculation logic to derive apportionment factors used in CfD settlement.

The HES provides a controlled and auditable data environment, ensuring that all inputs, processing steps and outputs are traceable. This is critical to maintaining confidence in settlement accuracy, as CfD payments under hybrid arrangements rely on data that sits outside the Balancing Mechanism Unit boundary. The system is therefore subject to defined assurance and audit requirements, including verification of calculation logic, alignment between SCADA data and HES inputs, and compliance with security and data management standards.

Details of the HES data interface, including API specifications, data schemas and submission requirements, will be provided by LCCC as part of the onboarding process for generators progressing with Hybrid Metering. Generators should ensure their SCADA and operational systems can interface with the HES in line with these requirements.



Annex

Frequently Asked Questions

Q: Is hybrid metering mandatory for AR8 projects?

A: No. Hybrid metering is optional. Generators may continue to use a separate BMU for their CfD Facility in line with existing arrangements. Hybrid metering provides an alternative mechanism for eligible generators who wish to share a BMU with an associated same-technology facility while maintaining separate CfD settlement arrangements.

Q: What types of projects are eligible for hybrid metering?

A: Hybrid metering is currently limited to single technology arrangements within the scope set out in the AR8 policy position. Examples include a CfD solar facility sharing a BMU with a merchant solar facility, or multiple same-technology facilities with distinct commercial arrangements. The Generator must demonstrate that the CfD Facility can be clearly identified and distinguished from any Related Facility for settlement, compliance and audit purposes.

Q: Can a CfD facility share a BMU with a facility that uses a different generation technology?

A: No. Hybrid metering is currently limited to same-technology arrangements. For example, a solar CfD Facility and a merchant solar facility may be eligible, whereas a solar facility and a wind facility sharing a BMU would not fall within the permitted scope of hybrid metering.

Q: Can a generator apply for hybrid metering after a CfD contract has started?

A: Yes. Generators may submit a Hybrid Metering Notice at any point during the contract term. Approval is subject to LCCC's assessment of the proposed arrangement and satisfaction of the Hybrid Metering Conditions set out in the contract.

Q: Can existing CfD generators pre-AR8 move to hybrid metering?

A: Yes. Existing CfD generators may request approval to transition to hybrid metering. Any approval will be subject to the relevant contractual requirements and LCCC's assessment of whether the proposed arrangement can operate reliably and support accurate CfD settlement and an amendment to the CfD will be required to give effect to the relevant provisions.

Q: Will CfD payments commence under the hybrid arrangement as soon as the related facility is connected?

A: No. The Expected Physical Transition Date and the Hybrid Metering Implementation Date are separate milestones. Hybrid settlement arrangements only become effective for CfD payment purposes from the Hybrid Metering Implementation Date, once LCCC is satisfied that the Hybrid Metering Conditions have been met or waived in accordance with the contract.



Q: How is the CfD generation volume calculated under hybrid metering?

A: Settlement continues to be based on metered output at the BMU boundary. SCADA-derived operational data is used to calculate a LAMO apportionment factor which identifies the proportion of generation attributable to the CfD Facility. This factor is then applied to the BMU output to determine the volume eligible for CfD Difference Payments.

Q: What happens if SCADA data is unavailable or incomplete?

A: Generators are responsible for maintaining the systems and processes required to support hybrid metering. Where operational data is unavailable, incomplete or unreliable, LCCC may require further information, apply contractual fallback provisions where applicable, or take other actions permitted under the contract to protect settlement integrity.

Q: What evidence will LCCC require to approve a hybrid metering arrangement?

A: LCCC will require evidence demonstrating that the arrangement meets the Hybrid Metering Conditions. This may include metering architecture diagrams, SCADA system information, commissioning records, calibration evidence, data flow mappings, processing logic documentation, testing results and any other information reasonably required to assess the proposed arrangement.

Q: Will LCCC approve all requests for hybrid metering that fall within an eligible configuration?

A: No. Eligibility alone does not guarantee approval. LCCC will assess whether the proposed arrangement can be supported in practice and whether sufficient assurance can be provided that CfD settlement will remain accurate, transparent and auditable.

Q: Can I make changes to my approved hybrid metering arrangement after it has been implemented?

A: Material changes to an approved hybrid metering arrangement must be notified to LCCC and may require further assessment and approval. Generators remain responsible for ensuring that the approved arrangement continues to satisfy the Hybrid Metering Conditions throughout the contract term.

Q: Can multiple CfD Facilities from the same Allocation Round share a BMU under hybrid metering?

A: No. Multiple facilities that hold CfDs from the same Allocation Round are not generally permitted to share a BMU under the CfD. Existing exemptions for phased agreements and Tidal Stream projects continue to apply where provided for under the relevant contractual framework.



Q: Does hybrid metering change BSC settlement arrangements?

A: No. The site will continue to settle at the BMU boundary point for BSC purposes. Hybrid metering affects how CfD contractual volumes are identified and allocated within the BMU but does not alter the underlying BSC settlement arrangements.

Q: Can a CfD unit be co-located with an asset that has secured another form of government subsidy e.g. capacity agreement, or would it be an excluded application?

A: Not necessarily. A co-located asset receiving another form of government support does not automatically prevent the use of hybrid metering under the CfD. The arrangement must remain within the permitted scope of the AR8 hybrid metering policy and the Generator must be able to demonstrate a clear and auditable distinction between the facility and any Related Facility. Existing contractual restrictions and subsidy control requirements continue to apply where relevant. Please refer to LCCC's Co-location Guidance and the applicable support scheme documentation for further information on co-located arrangements.

Q: Excess generation beyond installed capacity submitted into the CfD can be sold as merchant – is this the same as in previous rounds?

A: Excess generation above the Installed Capacity Estimate should be managed in accordance with the relevant CfD requirements and guidance. Generators should refer to the applicable Installed Capacity/FIC guidance for further information. Hybrid Metering may be required where a Generator proposes to distinguish CfD and non-CfD generation within a shared BMU

Q: On BMUs and co-location with BESS If the solar farm and the co-located battery are registered under separate BMUs, is it still possible to charge the BESS from the grid while the solar continues to receive its CfD difference payment, and then discharge that stored energy later?

A: The CfD is metered at the point of generation so provided the solar farm and the BESS are registered under separate BMUs, then this is possible. Please refer to our co-location guidance published on our website for more information

