



**LOW CARBON
CONTRACTS COMPANY**

POWERING NET ZERO

Installed Capacity and Final Installed Capacity Guidance

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Version 4

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



2. Introduction

- 2.1 This guidance has been prepared by Low Carbon Contracts Company Ltd (“LCCC”) to support Generators in delivering the requirements of the Contract for Difference (“CfD”), specifically regarding the Installed Capacity (“IC”), the Initial Installed Capacity Estimate (“IICE”), Installed Capacity Estimate (“ICE”) and the Final Installed Capacity (“FIC”). The parts of the CfD which are relevant to this guidance are the definitions of “Installed Capacity”, “Initial Installed Capacity Estimate”, “Installed Capacity Estimate”, “Final Installed Capacity” and Conditions 5, 6 and 7 (Adjustments to Installed Capacity Estimate: Relevant Construction Event, Adjustments to Installed Capacity Estimate: Permitted reduction and Final Installed Capacity; Maximum Contract Capacity).
- 2.2 This guidance does not and is not intended to supersede or replace the provisions of the CfD. This guidance does not constitute legal, or investment advice and generators should not have reliance upon it. Generators should consult with professional advisors where they require advice whether legal or otherwise on the application of the CfD or the content of this guidance.
- 2.3 This guidance and any associated guidance is subject to change.
- 2.4 Defined terms used in this guidance and not defined herein should be given the meaning provided in the CfD (which is comprised of the CfD Agreement (being the front section) and the FIT Contract for Difference Standard Terms and Conditions (Standard T&C), Version 3 of which was published by the Department for Business, Energy and Industrial Strategy on 1 May 2019 (“Conditions”). The references to Conditions in this guidance document, are references to Conditions in Version 3 of the Standard Terms and Conditions. However, this guidance (where applicable) will apply similarly to contracts issued pursuant to Versions 1, and 2 and Investment Contracts, so Generators should refer to the equivalent provisions in their contracts.
- 2.5 Generators are encouraged to consult with LCCC to discuss any queries they have at the earliest opportunity (see contact details on page 18).



3. Installed Capacity

3.1 “Installed Capacity”¹ is defined in the CfD as:

“...the capacity of the Facility (expressed in MW) were it to be operated at optimal operating conditions at the Facility on a continual basis for a sustained period at the maximum capacity possible without causing damage to it, net of:

- A All electrical loads required so to operate the Facility and/or deliver electricity; and
- B All electrical losses that would be incurred from the Generating Unit(s) to the Metering Equipment at the Boundary Point in so operating the Facility and/or delivering electricity. (assuming any source of power used by the Facility to generate electricity was available to it without interruption) and provided that, where a Facility uses combined heat and power, the capacity of the Facility shall be determined by reference to a condition where any reduction of heat generated would not result in any increase in electrical generation.”

3.2 “Facility”^{2, 3} is defined in the CfD as:

“The generating facility comprising all assets, which are used (or intended to be used) to generate or deliver electricity....

- A which were taken into account by the Generator in determining the Initial Installed Capacity Estimate (“IICE”);
- B which are (except as otherwise agreed in writing by the CfD Counterparty) situated within the area shaded on the map provided; and
- C are described pursuant to Paragraph (C)(i) of Part A of Schedule 1 of the Standard T&Cs...

¹ Definition for AR3 contracts, please refer to the definition given in earlier contracts as necessary.

² Definition for AR3 contracts, please refer to the definition given in earlier contracts as necessary.

³ The full definition of “Facility” should be referred to. The definition for all technologies is identical, other than in the case of offshore wind where the definition also refers to the situation of Offshore Transmission System assets. The definition for offshore wind is otherwise as summarised above.



[adjusted in relation to reductions or determinations in capacity pursuant to Conditions 5, 6 and 7] and otherwise excluding all assets forming part of the Transmission System or a Distribution System³”.

The “Facility” is further described in the “Facility Description” provided by the generator pursuant to the requirements of the Initial Conditions Precedent.

- 3.3 The definition of “Installed Capacity” states that the Facility must “be operated on a continual basis”, meaning that the capacity of all assets of the Facility which are necessary for the continuous generation of electricity should be included in determining IC, taking into consideration their positive and/or negative contribution towards generation. IC of the Facility is therefore the total capacity net of any parasitic electrical load and/or electrical losses without which the Facility would not be able to continuously generate, in accordance with all regulatory and safety requirements, as measured at the export meter. LCCC considers the export meter to be part of the Facility.
- 3.4 The IICE in MW is the capacity as is stated in Clause 7.1 of the CfD Agreement. The Installed Capacity Estimate (“ICE”) is the Generator’s estimate of the Installed Capacity from time to time, being the Initial Installed Capacity Estimate at the time the CfD Agreement is executed as it may be reduced in accordance with Conditions 5 and 6 (see paragraph 2.14). The ICE cannot be more than the IICE.
- 3.5 The parasitic electrical loads and electrical losses that should be deducted when determining the ICE are:
- A any parasitic electrical load generated by auxiliary equipment required to operate the Facility for a sustained period of time safely and efficiently at the maximum capacity possible and without causing damage to the Facility (expressed as a percentage of the Installed Capacity); and
 - B any electrical losses within the Facility from the generating units to the export metering point when generating at the maximum capacity possible and without causing damage to the Facility (expressed as a percentage of the Installed Capacity).
- 3.6 Any parasitic electrical load and/or electrical losses required to operate equipment to handle or prepare a material, substance or such other matter

³ The full definition of “Facility” should be referred to. The definition for all technologies is identical, other than in the case of offshore wind where the definition also refers to the situation of Offshore Transmission System assets. The definition for offshore wind is otherwise as summarised above.

which is not necessary for the Facility to operate should not be deducted when determining IC (see box below).

Example on parasitic electrical load and electrical losses to be deducted

The parasitic electrical load of conveyor belts used to deliver fuel for generating electricity should be deducted when determining the IC if it is necessary for the Facility to continuously generate for a sustained period at the maximum capacity possible and without causing damage to the Facility.

If a Facility has a parasitic electrical load of equipment that is separately metered it should not be deducted when determining the IC if it is not necessary for the Facility to continuously generate for a sustained period and without causing damage to the Facility. An example would be a pre-treatment facility adjacent to the Facility, which is used to segregate recyclable material from fuel, if it is separately metered and is not necessary for the Facility to continuously generate for a sustained period and without causing damage to the Facility.

- 3.7 The capacity set out in grid connection agreements, conditions of planning consent, subsequent changes to planning consents and/or any other permissions are not relevant to determination of IC under the CfD. For example, the IC cannot be less than the Required Installed Capacity (“RIC”) due to the Generator not having sufficient transmission or distribution capacity (adjustments to the ICE are limited to those related to Permitted reduction and Relevant Construction Event (“RCE”) – see sections 4 and 5 below).
- 3.8 Generators should not install, commission or operate generating assets, as part of the Facility, whose aggregate maximum generating capacity exceeds the ICE as the FIC cannot exceed the ICE, unless the additional capacity is separately metered.
- 3.9 For thermal fuelled technologies, the IC is the maximum nameplate capacity of the steam turbine and/or gas turbines and engines minus parasitic loads and electrical losses to and including the export meter.
- 3.10 For Combined Heat and Power (“CHP”) schemes the IC is the net electrical power output when the turbine or engine is in power only mode at maximum continuous rating minus parasitic loads and electrical losses to the export meter.



- 3.11 For wind technologies, the IC is the aggregate capacity of all individual wind turbine generator nameplate capacities, (including the operation of any power modes) less all parasitic electrical loads and electrical losses to and including the export meter.
- 3.12 For PV technology, the IC of the Facility is rated in MW of AC power (MWAC), not MW of DC power (MWp), since it is on this capacity rating that electricity is generated and output in MWh of the Facility measured.
- 3.13 The Operation Conditions Precedent (“OCP”) set out in Schedule 1 Part B, paragraph 2.1 (B) requires the Generator to commission no less than 80% of IC and provide evidence thereof. All OCPs must be satisfied to serve a valid Start Date Notice.
- 3.14 LCCC guidance on Commissioning Tests for OCP and FIC includes details of how electrical losses and parasitic loads should be measured.
- 3.15 The ICE may be adjusted under Condition 5 (Adjustment to Installed Capacity Estimate: Relevant Construction Event) (“RCE-Adjusted Installed Capacity Estimate”) and/or before the Milestone Delivery Date (“MDD”) under Condition 6 (Adjustment to Installed Capacity Estimate: Permitted reduction) (the “Revised ICE”) of the Conditions. These matters are referred to further below.





4. Adjustments to Installed Capacity Estimate: Permitted reduction to the Milestone Delivery Date

- 4.1 Condition 6 “Adjustments to Installed Capacity Estimate: Permitted reduction” sets out the process to reduce the IC by giving notice (the “ICE Adjustment Notice”) prior to the Milestone Delivery Date (“MDD”) where the Generator considers that the IC will be lower than the ICE.
- 4.2 The ICE Adjustment Notice must be given no later than the MDD (the “ICE Adjustment Deadline”) and must:
- A specify the amount, in MW, by which IC will be lower than the ICE;
 - B specify the new Installed Capacity Estimate (the “Revised ICE”) following the reduction. The Revised ICE cannot be less than 75% of the ICE (being the ICE or the “RCE-Adjusted Installed Capacity Estimate” (see section 4), if applicable);
 - C include details of any change in the Facility which result from the reduction to ICE, which shall include revised details of the assets comprising the Facility and any revised aerial view of the unique geographical location of (1) the Facility; (2) the Facility Metering Equipment and (3) if the Facility is Offshore Wind, the Offshore Transmission System, as well as any change to the geographical coordinates specified in Annex 1 of the CfD Agreement; and
 - D include such Supporting Information as the Generator considers relevant to evidence any changes to the assets comprising the Facility resulting from the reduction to ICE.
- 4.3 The Revised ICE will constitute the ICE from the date of the ICE Adjustment Notice.
- 4.4 The Generator can give an ICE Adjustment Notice on only one (1) occasion.
- 4.5 The ICE Adjustment notice is irrevocable, and the Generator cannot subsequently increase ICE, placing a new upper limit on FIC, which may only be reduced in accordance with Condition 5 (Adjustments to Installed Capacity Estimate: Relevant Construction Event).



5. Adjustments to Installed Capacity Estimate: Relevant Construction Event

- 5.1 Condition 5 “Adjustments to Installed Capacity Estimate: Relevant Construction Event” sets out the process to give notice to reduce the ICE where the Generator considers that a Relevant Construction Event has occurred.
- 5.2 An RCE Notice must be issued no later than three (3) months before the Longstop Date, accompanied by a Directors’ Certificate. Once an “RCE Notice” is issued it is irrevocable and, if ICE is reduced, it cannot be subsequently increased.
- 5.3 An RCE is a Construction Event:
- A which no generator acting in accordance with a Reasonable and Prudent Standard and having made all due and careful enquiries would have been aware, and/or of which the Generator was not aware, at the FiT CfD Application Date (being the date the FiT CfD Application was received by the Delivery Body); and
 - B which renders the development, completion, construction, conversion, installation, or commissioning of the Facility to meet the ICE uneconomic. The following are Construction Events that may qualify as Relevant Construction Events:
 - i. new or unknown fauna or flora;
 - ii. unexploded ordnance;
 - iii. mudstone;
 - iv. archaeological remains;
 - v. antiquities; and/or hazardous materials.
- 5.4 If a Generator considers that an RCE has happened, it must give LCCC (an RCE Notice) which must:
- A specify the reduction to the ICE which the Generator considers necessary for the RCE;

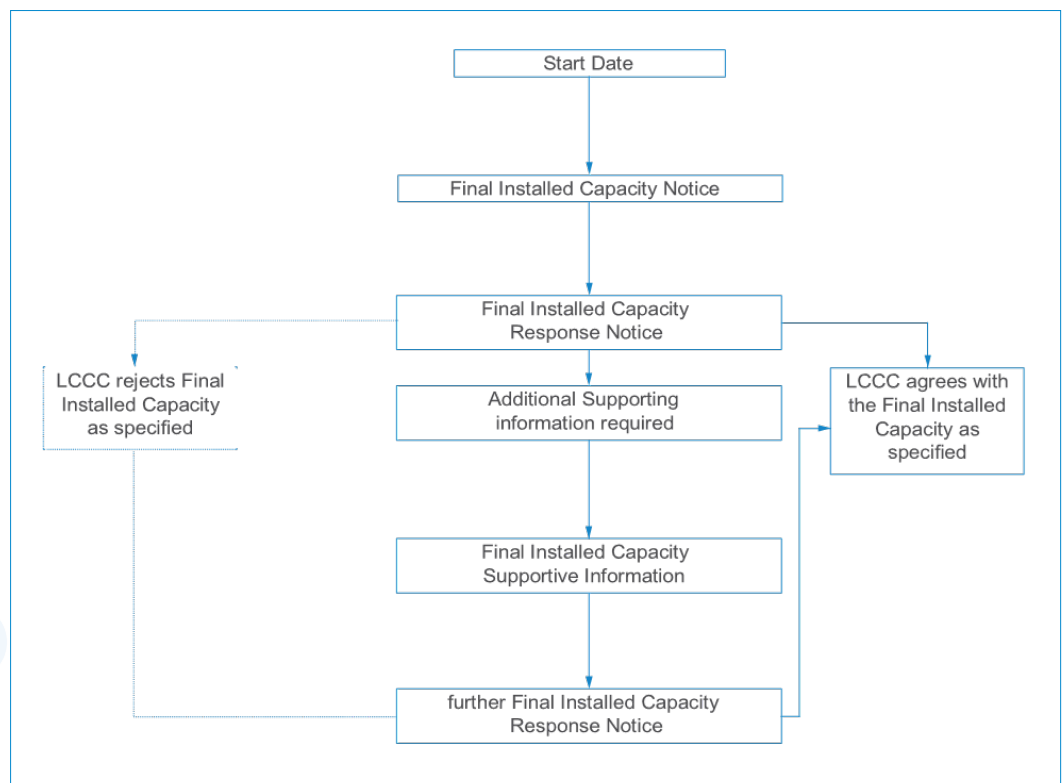
- B specify the resulting reduced ICE which shall apply if the reduction is made (an RCE- Adjusted Installed Capacity Estimate);
 - C detail any changes to the Facility resulting from the proposed reduction in ICE, which shall include:
 - i. revised details of the assets comprising the Facility;
 - ii. any revised aerial view of the unique geographical location of (1) the Facility; (2) the Facility Metering Equipment and (3) if Offshore Wind, the Offshore Transmission System as well as any changes to the geographical coordinates specified in Annex 1 of the CfD Agreement; and
 - D include such Supporting Information as the Generator considers relevant to:
 - i. evidence the existence and/or occurrence of the Construction Event and the basis on which it constitutes an RCE;
 - ii. the basis on which the RCE makes reduction of ICE necessary and to the amount proposed as the RCE-Adjusted Installed Capacity Estimate; and
 - iii. the details any change to the assets comprising the Facility resulting from the proposed reduction, which shall include revised details of the assets comprising the Facility and any revised aerial view of the unique geographical location of (1) the Facility; (2) the Facility Metering Equipment and (3) if the Facility is Offshore Wind, the Offshore Transmission System, as well as any change to the geographical coordinates specified in Annex 1 of the CfD Agreement.
- 5.5 Supporting Information must be provided by accredited professionals and to a Reasonable and Prudent Standard.
- 5.6 If an RCE happens immediately before MDD, such that the Generator is unable to issue an RCE Notice before MDD the Generator must immediately provide, in good faith, an estimate of:
- A the reduction to ICE necessary for the RCE; and
 - B the RCE Adjusted Installed Capacity Estimate.
- 5.7 The Generator shall, as soon as reasonably practicable following the MDD, issue a further RCE Notice in the form provided for in Condition 5.1.



- 5.8 Upon receipt of an RCE Notice, LCCC will review the RCE Notice and within twenty (20) Business Days issue an “RCE Response Notice” to the Generator specifying whether LCCC considers that:
- A an RCE has or has not happened;
 - B it accepts or does not accept the RCE-Adjusted Installed Capacity Estimate; or
 - C it has not been provided with sufficient Supporting Information to determine either of the above or the change to the Facility resulting from the proposed reduction to ICE, which shall include revised details of the assets comprising the Facility and any revised aerial view of the unique geographical location of (1) the Facility; (2) the Facility Metering Equipment and (3) if the Facility is Offshore Wind, the Offshore Transmission System, as well as any change to the geographical coordinates specified in Annex 1 of the CfD Agreement. In this circumstance LCCC will provide details of the additional Supporting Information it requires (the “RCE Supporting Information”).
- 5.9 If LCCC considers that an RCE has happened, it will confirm that either:
- A the RCE-Adjusted ICE is accepted with effect from the date of the RCE Response Notice; or
 - B the RCE-Adjusted ICE is not accepted and ICE shall remain unadjusted.
- 5.10 If LCCC does not consider that an RCE has happened, this will be stated in the RCE Response Notice and the ICE will not be adjusted unless otherwise varied by the Dispute Resolution Procedure.
- 5.11 If LCCC requests additional RCE Supporting Information the Generator will provide it as soon as reasonably practicable and in any event within ten (10) Business Days after receipt of the RCE Response Notice, or such other timescale given by LCCC in its RCE Response Notice.
- 5.12 Once the RCE Supporting Information is received, LCCC will review it and respond to the Generator within ten (10) Business Days, specifying whether LCCC considers that an RCE has or has not happened and whether LCCC accepts or does not accept the RCE-Adjusted Installed Capacity Estimate (a “Further RCE Response Notice”).

6. Final Installed Capacity

- 6.1 Condition 7 “Final Installed Capacity; Maximum Contract Capacity” sets out the process through which the Generator must give notice following the Start Date and, in any event, no later than ten (10) business days after the Longstop Date to specify the IC that has been Commissioned.
- 6.2 The Maximum Contract Capacity, as defined in the Standard T&C, is the Installed Capacity Estimate and, subject to and in accordance with the provisions of condition 7, the Final installed Capacity as determined. The Maximum Contract Capacity applicable to each Settlement Unit is used to cap payments under the CfD, capping effectively the Difference Amounts entitled to Difference payments for each Settlement Unit.
- 6.3 Figure 2 below provides an overview of the contractual process for determining FIC:



- 6.4 The Final Installed Capacity Notice shall specify the FIC, being the IC which has been Commissioned at the date of the notice.

6.5 The FIC shall not exceed ICE (as may be formally adjusted in accordance with Conditions).

6.6 The FIC shall not be less than the Required Installed Capacity (“RIC”).

The RIC is set out in clause 7.2 of the CfD Agreement and must be not less than:

- A 85% of the ICE for offshore wind (other than an “Eligible Low Capacity Facility”).
- B 95% of the ICE for all other technologies (other than an “Eligible Low Capacity Facility”); or
- C in the case of an Eligible Low Capacity Facility that is:
 - i. Offshore Wind, the lower of (i) 85% and (ii) the ICE less the size (expressed in MW) of one of the Facility’s turbines;
 - ii. Onshore Wind or Remote Island Wind, the lower of (i) 95% and (ii) the ICE less the size (expressed in MW) of one of the Facility’s turbines; and
 - iii. Tidal Range, Tidal Stream or Wave, the lower of (i) 95% and (ii) the ICE less the size (expressed in MW) of one of the Facility’s generation engines.

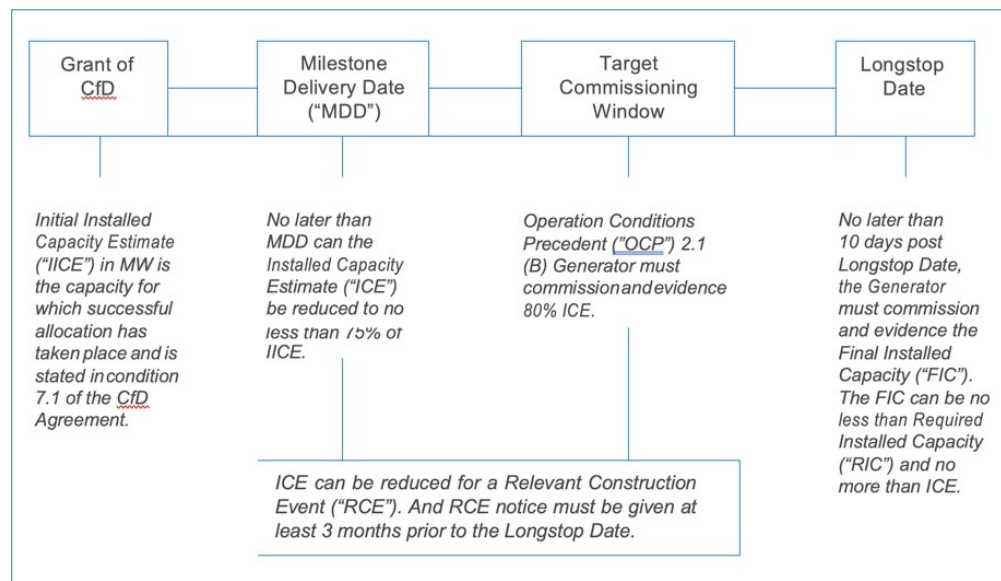
An Eligible Low Capacity Facility is a Facility (i) which has an IICE not greater than thirty (30) MW; and (ii) is Offshore Wind, Onshore Wind, Remote Island Wind, tidal range, tidal stream or wave.

6.7 For all technologies, commissioning and reliability tests should be performed and evidence provided to the satisfaction of LCCC to confirm FIC Commissioned and that the Facility can achieve and operate at a net IC no less than the RIC and no greater than the ICE.

6.8 The Final Installed Capacity Notice should include such Supporting Information as the Generator considers relevant to its determination of the FIC including a description of the Facility (as prescribed in Schedule 1, Part A, paragraph C of the Standard T&C. Details on Commissioning Tests and Supporting Information are available from guidance on OCP and also LCCC’s Commissioning requirements in relation to the relevant technology.

6.9 The Final Installed Capacity Notice must be accompanied by a Directors’ Certificate confirming that it and any Supporting Information supplied by the Generator is true, complete and accurate.

- 6.10 Failing to provide a Final Installed Capacity Notice on or prior to the date ten (10) Business Days after the Longstop Date is a Termination Event under Condition 53.1(D).
- 6.11 Providing a Final Installed Capacity Notice indicating FIC lower than RIC is a Termination Event under Condition 53.1 (D).
- 6.12 Without prejudice to LCCC's rights to terminate, as described by 5.9 and 5.10 above, if (A) the Generator does not provide additional or revised Final Installed Capacity Supporting Information which is sufficient for LCCC to determine the FIC or the assets comprising the Facility or (B) the Generator fails to demonstrate the determination of the FIC to the satisfaction of LCCC, within ten (10) business days after receipt of a further FIC Response Notice, or such longer period as is specified by LCCC, LCCC may deem the FIC to be 80% of the ICE until such time as LCCC agrees the FIC. This is, of course, assuming that the generator has passed its OCPs in relation to commissioning such capacity.
- 6.13 Figure 3 below provides an overview of how the IICE may be changed:





Example: Installed Capacity Estimate; Required Installed Capacity; and Final Installed Capacity

An onshore Facility with an Initial Installed Capacity Estimate (“IICE”) of 160 MW has before the Milestone Delivery Date (“MDD”) adjusted the Installed Capacity Estimate (“ICE”) to 120 MW (the Revised ICE). This becomes the ICE for the remainder of the contract, unless a Relevant Construction Event (“RCE”) occurs.

To issue a Start Date Notice the Generator must pass Operational Conditions Precedent (“OCP”) criteria, which includes evidence that 80% of the ICE has been commissioned. This would be 96MW.

No later than 10 days post the Longstop Date, the Generator must Commission and evidence its Final Installed Capacity (“FIC”). This FIC must be a minimum of the Required Installed Capacity (“RIC”), being 95% of the Revised ICE at 114MW, and a maximum of the Revised ICE of 120MW.

Where the Generator fails to evidence FIC as per the required timeframes, without prejudice to other contractual rights LCCC might have, the FIC would be fixed at 80% of the ICE.





7. Additional Installed Capacity

- 7.1 As stated in 3.8, Generators cannot install, commission or operate generating assets, as part of the Facility, whose aggregate maximum generating capacity exceeds the ICE as the FIC cannot exceed the ICE, unless the additional capacity is separately metered.
- 7.2 In order to keep it separate to the capacity subject to the CfD, any and all such additional capacity must be separately metered and therefore not be subject to difference payments under the CfD. Capacity that is not subject to CfD difference payments is therefore termed 'Merchant Capacity'.
- 7.3 CfDs are allocated on the basis of Installed Capacity and generators are free to optimise up to that Installed Capacity, as well as maximising the load factor that they are able to achieve on that capacity provided that the Installed Capacity does not exceed the ICE).
- 7.4 Following the due process of the CfD, Generators are required to declare and evidence to LCCC a Final Installed Capacity (FIC) that is below or equal to the ICE. The FIC is required to be achieved and agreed by LCCC by no later than ten (10) Business Days after the Long stop date (LD). (See Figure 3 above.)
- 7.5 Through either optimisation activities and/or deliberate additional capacity installation, Generators may seek to exceed their ICE. Any such exceedance is 'overplanting' and not allowed to the extent the exceeded part is not metered separately, i.e. to be considered as Merchant Capacity. (As this would result in increased but unbudgeted cost for the consumers in the form of increased CfD payments over and beyond the budget pursuant to which the relevant allocation rounds was run and CfDs awarded).
- 7.6 Where Merchant Capacity comes by way of plant optimisation and is not planned for at the development stage of a project, the capacity that exceeds the ICE may be spread across multiple generation units such that separate metering may no longer be feasible nor practical. Additionally, it is quite possible that overplanting can lead to additional CfD difference payments even when the actual generation does not exceed the ICE limit. In such scenarios, the Generators must engage with LCCC to provide all necessary information so as to enable LCCC to analyse the proposed overplanting and to assess if and how the generation that comes from the overplanting can be measured and excluded from CfD difference payments so as to fully neutralize the CfD payments from an increased cost attributable to the overplanting. If a method to accurately and appropriately do this can be identified and agreed with the Generator, then LCCC may, with no obligation



to do so, consider granting approval to such proposals on a case by case basis, taking a consistent and transparent approach.

- 7.7 If agreement on a suitable measurement method that ensures full discount of the additional cost impact of such overplanting cannot be reached, then such overplanting on the Facility will not be allowed under the CfD. Therefore, the Generators are strongly encouraged to engage with LCCC before taking any steps to proceed with overplanting, so as to avoid the unintended consequences of breaching the terms of the CfD as well as incurring unnecessary costs. This is in line with one of our two guiding principles, which requires us to minimize costs to consumers and is consistent with the allocation round process and budget.
- 7.8 The list in the table below, which is not exhaustive, and which is for illustrative purposes only, provides examples that all could lead to overplanting and which are not allowed under the CfD unless approved by LCCC and mitigated by separate metering (to become Merchant Capacity), or (through detailed discussion with LCCC), by other agreed means such that the generation coming from the overplanting is not subject to CfD payments. Generators are encouraged to engage with LCCC as soon as possible on all issues related to capacity increases.

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|---|--|
| 1 | Addition of extra generation units such as, additional PV cells or additional wind turbines (even if the total Facility metered output is still limited by software to the ICE/FIC level). Extra generation units might be identical or different to those already in the Facility and this would include storage units also. For the avoidance of doubt, generators are free to seek capacity factor improvements on their generation Facility so long as this does not involve adding generation units, doing so would, for example, then require a change to the Facility Description provided as a contractual obligation. |
| 2 | Where wind turbines are all individually constrained by control software and this constraint is raised on some or all turbines increasing the aggregate Facility IC above the ICE/FIC. This might occur in the example where a grid constraint was initially in place but which was subsequently lifted, allowing for a higher export of electricity. |
| 3 | Optimisation actions that increase the aggregated installed capacity above ICE or MCC (example, adding Power Boost modes, as this would be deemed as overplanting). |
| 4 | In the case of a thermal facility, installation of equipment capable of generating higher levels of electrical output than the ICE where the output is initially limited to or below the ICE limit, and where this limit is subsequently lifted. |

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

Company registration number: **08818711**

Author:
Raj Saggu,
Lead Scheme Manager