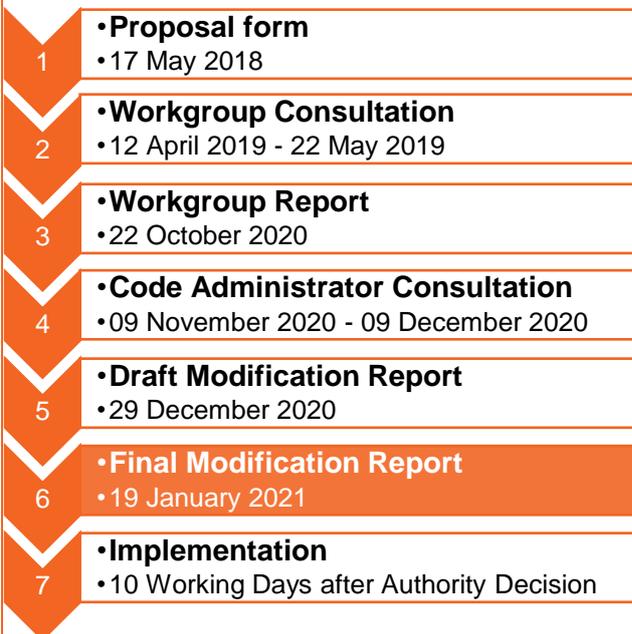


Final Modification Report

CMP300: Cost reflective Response Energy Payment for Generators with low or negative marginal costs

Overview: To ensure that the Response Energy Payment paid to or by generators with respect to a Balancing Mechanism Unit (BMU) with low or negative marginal costs is reflective of the cost or avoided cost of energy production.

Modification process & timetable



Have 5 minutes? Read our [Executive summary](#)

Have 20 minutes? Read the full [Final Modification Report](#)

Have 30 minutes? Read the full [Final Modification Report](#) and annexes

Status summary: Final Modification Report. This report has been submitted to the Authority for them to decide whether this change should happen.

Panel recommendation: The Panel has recommended by majority that both the Proposer's solution and WACM1 better facilitated the CUSC objectives than the current CUSC arrangements.

This modification is expected to have a: **Medium impact** on Mandatory Frequency Response (MFR) providers and National Grid Electricity System Operator (ESO)

Governance route	This modification has been assessed by a Workgroup and Ofgem will make the decision on whether it should be implemented.
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Who can I talk to about the change?	Proposer: Paul Youngman, Drax Power Limited Paul.youngman@drax.com	Code Administrator Chair: Paul Mullen paul.j.mullen@nationalgrideso.com
	Phone: 07738802266	07794537028

Executive Summary

CMP300 seeks to improve the cost reflectivity of the Response Energy Payment (REP) as the current construction of the REP is not reflective of the costs or avoided cost of energy production for generators. It will achieve this by ensuring all BM Units with low or negative marginal costs, as a consequence of having a CfD FiT, are subject to the same REP methodology.

What is the issue?

The current methodology allows for the REP to be set by the Market Index Price (MIP) or at zero for “Non-Fuel” Balancing Mechanism (BM) units that have low or negative marginal costs.

The current construction of the REP does not reflect the cost or avoided cost of energy production for all generators. BM Units with low or negative marginal costs, as a consequence of having a CfD Feed in Tariff (FiT), are not managed the same as “non-fuel” BM Units that have equivalent low or negative marginal costs.

What is the solution and when will it come into effect?

Proposer’s solution:

Currently, the Reference Price which feeds into the calculation of the Response Energy Payment (REP) is set to £0/MWh for “non-fuel” cost BM Units only. Proposer suggests that this is set at £0/MWh for CfD BM Units as well.

Alternative solutions:

Market Participants will have an one-off choice for the REP to be set at £0/MWh (as per Proposer’s Solution) or at the prevailing MIP. This must be exercised within 28 calendar days of ESO’s letter asking them to indicate their choice. Where no choice has been made within 28 calendar days, the REP will be set at £0/MWh.

Implementation date:

Proposer of the Original and WACM1 has requested implementation to be 10 working days after decision from Authority.

If WACM1 is implemented, the ESO would, within 28 calendar days, write to all those relevant Users (those who, as per CMP300 Original, would be classified as being potential parties to whom CMP300 would apply) asking them to reply, within 28 calendar days, to the ESO confirming if they wished their REP (per asset) to be priced as either £0 per MWh or at the prevailing MIP (which could be positive or negative) as per the current baseline.

Workgroup conclusions:

The Workgroup concluded by majority (5 out of 6 votes) that both the Original and WACM1 better facilitated the Applicable CUSC Objectives than the Baseline (the current CUSC arrangements);

The Workgroup concluded by majority that WACM1 better facilitated the Applicable CUSC Objectives than the Original by 4 votes to 2; and

3 Workgroup Members voted that WACM1 was the best option, 2 votes were cast for the Original and 1 vote was cast for the Baseline.

What is the impact if this change is made?

The Proposer believes that the change will make the REP more cost reflective, and alleviate any potential distortion of the Mandatory Frequency Response (MFR) market.

Cost of implementing CMP300 would be negligible should implementation be aligned with the delivery of a new settlements system (~April 2022).

Interactions

Interactions with the Electricity Balancing Guideline (EBGL) Article 18

The Electricity Balancing Guideline (EBGL) is a European Network Code introduced by the Third Energy Package European legislation in late 2017. The EBGL regulation lays down the rules for the integration of balancing markets in Europe, with the objectives of enhancing Europe's security of supply. Article 18 of the EBGL states that TSOs such as the ESO should have terms and conditions developed for balancing services, which are submitted and approved by Ofgem.

There is a change process outlined in other EBGL Articles 4, 5, 6 & 10 on how a proposal should be submitted, approved by Ofgem, how it should be amended, and that there should be a one month public consultation.

ESO submitted terms and conditions for approval to Ofgem that included different sections of different GB network codes, BSC, CUSC and Grid Code, as well as some of the Standard Contract Terms (SCTs). This means that if any of those sections change through a modification, they will also legally have to go through a change process that meets the criteria set out in EBGL.

CMP300 requires changes to CUSC 4.1.3.9A, and so impacts on the EBGL Article 18 Terms and Conditions. Note that CMP323, which brought this EBGL process into the CUSC, was only implemented on 25 June 2020 and therefore some of the EBGL process could not be run for CMP300 notably the CUSC Panel's assessment under CUSC 8.18.A¹ as to CMP300's expected impact on the objectives of the EBGL. However, we were able to meet the requirements of CUSC 8.22.2(iv)² and run the Code Administrator Consultation for 1 month.

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¹ 8.18.8A The CUSC Modification Panel shall evaluate each CUSC Modification Proposal and determine whether the CUSC Modification Proposal constitutes an EBGL Amendment and its expected impact on the objectives of the Electricity Balancing Guideline (and in the event of disagreement The Company's view shall prevail).

² 8.22.2(iv) Where the CUSC Modification Proposal, and if applicable, any Workgroup Alternative CUSC Modification (s) constitutes an EBGL Amendment the Code Administrator's consultation will be not less than one month.

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What is the issue?

Certain generators are required by the Grid Code to provide a Mandatory Frequency Response (MFR) service to assist the ESO with keeping the electricity system frequency within a designated target of 50Hz and receive payments for doing so. These payments are designed to be cost reflective and are split between:

- a Holding Payment (HP) for being capable of providing response; and
- a Response Energy Payment (REP), which is a cost reflective utilisation payment designed to cover the costs of actual response energy.

Generators submit holding price (HP) tenders on a monthly basis to the ESO. The ESO then ranks these tender submissions in economic order.

- When generators are instructed to increase their output (Low Frequency Response), they receive a cost reflective REP payment; and
- When generators are instructed to reduce their output (High Frequency Response), they pay National Grid ESO to reflect the energy costs saved.

The REP is based either on the Market Index Price (MIP) or zero if the generator has low or negative marginal costs, and is classified “non-fuel”.

The classification of “non-fuel” was introduced by “*CMP237 Response Energy Payment for Low Fuel Cost Generation*” to ensure the REP better reflected costs. This was [approved by Ofgem on the 31 October 2016](#) to address an unintended consequence of the REP. The modification rectified an issue where generators with low or negative marginal costs were submitting HPs which were typically the highest in the market. The primary driver of this behaviour was that the REP, which was then based solely on MIP, did not reflect the actual and opportunity costs incurred for providing this service to the ESO.

The current methodology allows for the REP to be set by the Market Index Price (MIP) or at Zero for “Non-Fuel” Balancing Mechanism (BM) units that have low or negative marginal costs. However, it is not only “Non-fuel” BM Units that can have low or negative marginal costs.

The current construction of the REP does not reflect the cost or avoided cost of energy production for all generators. BM Units with low or negative marginal costs, as a consequence of having a CfD Feed in Tariff (FiT), are not managed the same as “non-fuel” BM Units that have equivalent low or negative marginal costs. The Proposer believes that this is a clear distortion that should be addressed.

What is the solution?

Proposer’s solution:

Currently, the Reference Price which feeds into the calculation of the Response Energy Payment (REP)³ is set to £0/MWh for “non-fuel” cost BM Units only.

The Proposer suggests that all BM Units (including CFD BM Units) with a low or negative marginal cost the Reference Price which feeds into the calculation of the Response Energy Payment (REP) would be settled at £0/MWh.

³ The REP is currently calculated by multiplying the response energy by the Reference Price

Workgroup Considerations

The Workgroup convened 4 times to discuss the perceived issue, detail the scope of the defect, devise potential solutions and assess the proposal in terms of the Applicable Objectives.

As part of this, the CMP300 Workgroup took into account the previous work done for CMP237 and assessed the terms of reference set by Panel. Ofgem addressed cost reflectivity of the REP within its decision document on CMP237, agreeing that low or negative marginal cost generators should have a REP set to zero. This was applied at the time to “non fuel” BM Units: Onshore wind, Offshore wind, Solar, Tidal and Wave. These BM Units reference price is set to zero when calculating the REP, to reflect their low or negative marginal cost.

Scope of cross code impacts:

The Workgroup made a firm assumption that no BSC modification would be required. Elexon have since confirmed this assumption on the basis that Low Carbon Contracts Company hold the list of parties who hold a CfD so there is no requirement for National Grid ESO to approach Elexon for this information.

Consideration of SOGL – Mandatory or Voluntary provision?

In line with the Terms of Reference Workgroup members considered interaction with the System Operator Guideline (SOGL); specifically if there were consequential changes to Mandatory Frequency Response.

During Workgroup meetings, it was highlighted that the Mandatory Frequency Response had not been changed. For other services, Grid Code Modification (GC0114) introduced a pre-qualification process for Frequency Containment Reserves (FCR), Frequency Restoration Reserves (FRR), Replacement Reserves (RR).

A Workgroup Member stated that SOGL applies to all new parties so this will capture anyone new connecting. Articles 155, 162, 168 of SOGL state that parties have to make an application to apply for the service and the application can be denied by the Transmission System Operator. It was clear from GC0114 that the services are voluntary and not mandatory, and therefore his view is that the question is whether or not mandatory services will continue or are in fact legally permissible.

It was noted by Workgroup members that the obligations for Mandatory Frequency Response have not yet been removed or altered in response to SOGL. There were no proposals during the workgroup stage to alter the MFR requirements as a consequence of SOGL and this mandatory service remains in place unchanged.

Workgroup Consultation to go to CfD BMU Parties

The Workgroup Consultation was sent to our CUSC distribution list but wasn't specifically issued to those parties who at the time been awarded a CfD contract and were listed on the “CfD Register” held on the Low Carbon Contract Company's website⁴. As new parties have been awarded a CfD contract since the Workgroup Consultation was run, the Chair will contact the Low Carbon Contracts Company to circulate this Code Administrator

⁴ <https://www.lowcarboncontracts.uk/cfds>

Consultation to all parties that have been awarded a CfD contract and are listed on the “CfD Register” as held on the Low Carbon Contract Company’s website⁵

National Grid ESO Workgroup member flagged that as a result of the Clean Energy Package there may be changes to REP payments in the future. However, the National Grid ESO Workgroup Member’s current view is that there aren’t any changes from the Clean Energy Package that impact CMP300.

Ensure no unintended consequences between non-fuel BMU and CfD BMU.

Neither the Proposer nor Workgroup Members nor Workgroup Consultation Respondents (although admittedly all Workgroup Consultation Respondents were Workgroup Members) foresee any unintended consequences emerging from CMP300.

Consideration to whether any values other than “zero” are appropriate

The Proposer stated that the intention of CMP300 is that the solution would replicate the application of CMP237 with a zero price as this is cost reflective.

The following question was posed to industry as part of the Workgroup Consultation:

“The workgroup considered 3 options.

- 1. The original figure of zero pounds per MWh*
- 2. The Market Price*
- 3. An optional price*

Do you favour an option; if so which option is your preference?

If this is option 3 how do you suggest this this would work?”

Following conclusion of the Workgroup Consultation, a Workgroup Member proposed an alternative which would allow market participants a one-off opportunity (for each of their relevant assets) to confirm to National Grid ESO if they wished to use either:

1. The original figure of £0 per MWh; or
2. The Market Price for that particular asset in terms of the applicable REP. Market Participants will have an one-off choice for the REP to be set at £0/MWh (as per Proposer’s Solution) or at the prevailing Market Price. This must be exercised within 28 calendar days of ESO’s letter asking them to indicate their choice. Where no choice has been made within 28 calendar days, the REP will be set at £0/MWh.

The Workgroup agreed that this was a valid Workgroup Alternative Code Modification (WACM) and would henceforth be known as WACM1.

Data provisions what can be shared, how will this work?

National Grid ESO stated that in order to implement the proposal of CMP300, National Grid ESO will need an up to date list of which generators have a valid CfD agreement that is updated as and when new CfD contracts are awarded or previously awarded CfD contracts

⁵ <https://www.lowcarboncontracts.uk/cfds>

are revoked. The Low Carbon Contracts Company (LCCC) has an online register (<https://www.lowcarboncontracts.uk/cfds>) which lists all those projects with a CfD contract.

From discussions with the LCCC, National Grid ESO are comfortable that new CfD contracts would be added to this register. However, it is not clear if or how projects that have CfDs removed would be shown on this register. Therefore NGESO are progressing on the assumption that revoked CfDs will be clearly shown on the register. National Grid ESO believes there could be a Sarbanes-Oxley Act (SOX) compliance risk⁶ for National Grid ESO as they do not own the data being published on the LCCC website but would be reliant on such data to determine who does and doesn't pay REP. Incorporation of the CMP300 solution within the new settlement systems minimises this SOX compliance risk.

Ofgem reason for approving CMP237 – based on economic rationale or the fuel type?

The Proposer believed it was based on economic rationale

The Proposer explained that the principle of applying a cost reflective REP was established in the Ofgem decision for CMP237. However, the decision of CMP237 did not apply to all low or negative marginal cost generators. The view of the Proposer is that Ofgem's consideration on CMP237 is directly associated with the economic case that the REP should be cost reflective and therefore should be applicable to units that have low or negative marginal costs as a consequence of a CfD.

*“Regarding costs covered under the REP, we accept the views expressed by the workgroup member that the intention of the payment mechanism is not only to cover fuel costs but all costs associated with energy production. **However, setting a REP to £0/MWh for providers with zero fuel costs would result in a utilisation payment that more accurately reflects these providers' costs. This change will result in increased certainty for this class of generator, allowing them to submit HPs based on their actual positions which is likely to enhance competition within the MFR market.**”*

The National Grid ESO Workgroup Member believed it was based on fuel type

The National Grid ESO Workgroup Member agreed that all fuel types do have marginal costs. Ofgem's decision letter on CMP237 proposed to exempt generators that have been classed as having zero fuel costs from receiving or paying the REP. This creates a distortion of the market as such generators have to increase their holding price tender to counter act REP payments they may have to pay the ESO when providing MFR. As the REP payments are designed to fairly compensate against fuel costs when providing both high or low frequency response and these generators had no attributable fuel costs it was deemed a barrier for them.

In the view of the National Grid ESO Workgroup Member the decision to approve CMP237 was taken due to fuel/technology type. In the view of the National Grid ESO Workgroup Member the generators mentioned in CMP300 have an attributable fuel cost to them and it is not clear how an asset with a CfD in place has a similar barrier to entry or is losing out

⁶ National Grid ESO's financial processes are subject to the SOX Act 2002, which requires management's opinion on the effectiveness of internal control over financial reporting – see page 14 of National Grid ESO's Annual Compliance Report - <https://www.nationalgrideso.com/document/171471/download>

in a similar way. The Proposer highlighted the Ofgem decision and specifically the cost of reducing output for a CFD generator:

'This generator also has to potentially forego renewable subsidies (e.g. RO, CfD and FITs3) as a result of reducing output. As a result, these generators are effectively submitting HP tenders to price themselves out of consideration which could be inhibiting competition within the MFR market.'

Benefits / Costs

The Proposer explained that he believes this modification to have a marginal cost on the non-CfD industry participants. However, the Proposer couldn't give a view on wider system costs. The National Grid ESO representative noted that a full Cost Benefit Analysis may not be appropriate in this case. However, they urged parties to provide any relevant commercially sensitive information about their plant's marginal cost directly to Ofgem to support the decision making process.

The Workgroup previously sought such approval at the November 2019 Panel; however, a Panel member raised concerns that the Workgroup Report didn't really explain to what extent a CfD plant loses out at the moment under the current arrangements, as it doesn't set out the payments that the affected generator receives/pays/forgoes when it provides response.

The Proposer responded that CMP300 is premised on the logical basis that £0/MWh is a better approximation of the CfD plant's marginal cost than the MIP (as the plant is getting a subsidy). This supports the principle of cost reflectivity. To prove this is the case, parties would have to reveal their plant's precise marginal cost, which is not appropriate in a public report however they noted that this could be addressed through a confidential response to Ofgem.

The Workgroup agreed the following table, which highlights the difference in the treatment of BM units with a CFD.

- The largest component of Non CfD providers' Short Run Marginal Cost (SRMC)⁷ is the fuel cost whilst for CfD providers it is the loss of income from the CfD.
- Altering the calculation so that all CfD BM Units with a low or negative marginal cost had a REP of £0 would be more reflective of the costs and reduced CfD income those sites incur.

⁷ The value of the SRMC indicates at what price (wholesale market, REP, Zero REP) the BMU is willing to generate or not generate. Where price is > SRMC the BMU should increase output, where the price is < SRMC the BMU should decrease output.

Current scenario	For every additional MWh a party with a CfD generates for low frequency response	For every MWh less a party with a CfD generates for high frequency response	Impact
Non CfD BM Units	Increased SRMC (fuel costs) and receives MIP *1.25	Reduces SRMC (fuel costs) and pays MIP *0.75	MIP based pricing broadly reflective of fuel cost based on MIP – No loss incurred through provision of either Low Frequency Response (LFR) or High Frequency Response (HFR).
CfD BM Units with a low or negative marginal cost e.g. Biomass	Incentivised under normal conditions to maximise CfD income / energy flows. MIP*1.25	Reduces flows - therefore losing the CfD income. Saves any marginal fuel costs but pays MIP*0.75	These Units pay MIP *0.75 for any downturn as well suffering reduced income from their CfD when providing HFR. Units incentivised to generate so marginal ability to provide LFR. Not as cost reflective as a REP of £0/MWh.
“Non-fuel” CfD BM Units that can have low or negative marginal costs e.g. Wind	No fuel costs and receive CfD Revenue up to Strike Price based on REP of £0/MWh (rather than MIP as more reflective of SRMC)	No fuel costs will be paid to the ESO based on REP of £0/MWh. (rather than MIP as more reflective of SRMC)	Approach consistent with Ofgem decision CMP237 that removed the distortion for non-fuel CfD BM Units.

The Workgroup provided a further illustrative⁸ example in the table below to show what the SRMC would be for each of these scenarios.

This assumes a fuel cost of £100/MWh (unless this is a technology that does not have a fuel cost), a Strike Price of £100/MWh and a Reference Price of £50/MWh so any CfD Top Up⁹ payment would be £50/MWh. Note for simplicity other SRMC elements such as Operations and Maintenance (O&M) and BSUoS are not considered as these cost elements are on the whole relatively small in comparison with fuel costs and low carbon support and are unlikely to vary significantly between technologies.

⁸ The numbers provided are not actual numbers and are purely for illustrative purposes

⁹ Top Up is the difference between the Reference Price and Strike Price where the Strike Price is greater.

Current scenario	Impact of SRMC
Non CfD BM Units e.g. CCGT	SRMC = Fuel Cost ¹⁰ (£100/MWh) minus CfD Top Up (£0/MWh ¹¹) = £100/MWh
CfD BM Units with a low or negative marginal cost e.g. Biomass	SRMC = Fuel Cost (£100/MWh) minus CfD Top Up (£50/MWh) = £50/MWh
“Non-fuel” CfD BM Units that can have low or negative marginal costs e.g. Wind	SRMC = Fuel Cost (£0/MWh) minus CfD Top Up ¹² (£50/MWh) = -£50/MWh

In terms of profit and loss (Gross Margin), in this example, it was assumed that the BM Units need to recover their SRMC in the wholesale market and the wholesale market price is +£51/MWh at a particular moment in time. At this time the Gross Margin for each of the BM Units is calculated as wholesale market price minus SRMC. The values are then as follows:

- **Non CfD BM Units = -£49/MWh**
- **CfD BM Units with a low or negative marginal cost = +£1/MWh**
- **“Non-fuel” CfD BM Units that can have low or negative marginal costs = +£101/MWh**

Therefore, at a wholesale market price of **+£51/MWh**:

- **Non CfD BM Units** will not want to generate and will only generate at a wholesale market price greater than **+£100/MWh**
- **CfD BM Units with a low or negative marginal cost** will be likely to generate unless the wholesale market price is less than **+£50/MWh**
- **“Non-fuel” CfD BM Units that can have low or negative marginal costs** will continue to generate as long as the wholesale market price does not fall below **minus £50/MWh¹³**.

The key contention of the Proposer is that that the SRMC of the CfD BM Units with a low or negative marginal cost is closer to £0/MWh than the MIP. Therefore it is more cost reflective to not expose these BMUs to the REP.

Workgroup Consultation Summary

The Workgroup held their Workgroup Consultation between 12 April 2019 and 22 May 2019 and received 3 responses. The full responses can be found in Annex 3 but a summary of the key points is set out below:

The Workgroup Consultation responses are set out in full in Annex 3 of this Workgroup Report; however, the key points are summarised below:

¹⁰ Note for a fossil fuelled generator there would also be a cost of carbon element

¹¹ Zero as the BMU is not in receipt of a CfD FIT.

¹² Top Up is the difference between the Reference Price and Strike Price where the Strike Price is greater.

¹³ However, some CfD contracts stop paying top ups where wholesale power prices are negative for prolonged periods

- 2 respondents believe that the proposed change better facilitates the CUSC objectives than the Baseline. However, 1 of these respondents favours an optional pricing approach as it allows market participants to provide their own approach in terms of cost reflective pricing. This has subsequently been raised as WACM1;
- The ESO respondent did not support the proposed implementation approach as a system change (with a significant lead time) is required and stated that the ESO's implementation costs would be £100 – 200K and asked the Proposer to justify the consumer benefit and why this change should be prioritised; and
- 2 respondents agreed that, in their opinion, Ofgem made their decision on CMP237 on economic rationale and not the fuel type. The ESO respondent disagreed and stated that the economic rationale was driven by the fuel type.

Legal text

The legal text for this change can be found in Annex 5.

What is the impact of this change?

MFR Providers

This change will improve competition in the MFR by ensuring that the REP is cost reflective for all MFR providers and all generators with a low or negative marginal cost are treated equally.

Without this change:

- The REP payment will continue to not accurately reflect the generator's cost, or avoided cost for some technologies with a CfD / FiT due to the low or negative marginal cost for these BM Units;
- If a renewable generator was instructed to provide High Frequency Response (reduce output), it would be required to pay the ESO for the cost that was avoided in reducing its energy production when no costs would actually have been incurred. This generator also has to potentially sacrifice renewable subsidies (e.g. CfD FiT) as a result of reducing output. As such, it is not cost-reflective for them to have to pay the ESO for an avoided cost that does not exist.

ESO

To implement this change, ESO identified there would potentially need to be a system change. However, a manual workaround could be accommodated should implementation be earlier than April 2022 when a new settlements system will be delivered. Where there is alignment with this new settlements system then the cost of implementing CMP300 would be negligible as it can be included into this suite of changes. It would also lower the compliance risk impacts.

Consumers

By ensuring that the REP is more cost reflective for all MFR providers this will better facilitate competition for the provision of frequency response - this should consequently reduce the overall cost to the end consumer.

Workgroup vote

The Workgroup met on 31 October 2019 to carry out their Workgroup vote. The 6 Workgroup Members voted and the full Workgroup vote can be found in Annex 4. The tables below provide:

- a summary of how many Workgroup members believed the Original and WACM1 were better than the Baseline; and
- a summary of the Workgroup members' views on the best option to implement this change.

The Applicable CUSC non-charging Objectives are:

CUSC non-charging objectives

- The efficient discharge by the Licensee of the obligations imposed on it by the Act and the Transmission Licence;
- Facilitating effective competition in the generation and supply of electricity, and (so far as consistent therewith) facilitating such competition in the sale, distribution and purchase of electricity;
- Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency *; and
- Promoting efficiency in the implementation and administration of the CUSC arrangements.

*Objective (c) refers specifically to European Regulation 2009/714/EC. Reference to the Agency is to the Agency for the Cooperation of Energy Regulators (ACER).

CMP300 - Assessment of the Original and WACM1 vs the Baseline (the current CUSC arrangements)

As shown by the table below, the Workgroup concluded by majority (5 out of 6 votes) that the Original and WACM1 better facilitated the CUSC Objectives than the Baseline.

Proposed Solution	Of the 6 votes, how many said that this option was better than the Baseline
Original	5
WACM1	5

The Workgroup concluded by majority that WACM1 better facilitated the Applicable CUSC Objectives than the Original by 4 votes to 2.

CMP300 Best Option

3 Workgroup Members voted that WACM1 was the best option, 2 votes were cast for the Original and 1 vote was cast for the Baseline.

Workgroup Member	Company	BEST Option?	Which objective(s) does the change better facilitate? (if baseline not applicable)
Paul Youngman	Drax Power Limited	Original	(a), (b), (d)
Garth Graham	SSE Generation Ltd.	WACM1	(b)
Grahame Neale (Alternate for Jamie Webb)	National Grid ESO	Baseline	n/a
Ewen Ellen	Scottish Power	WACM1	(b)
Karl Maryon	Haven Power	Original	(a), (b), (d)
Robert Longden	Cornwall Insight Ltd.	WACM1	(b)

Code Administrator Consultation Summary

The Code Administrator Consultation was issued on the 9 November 2020 and closed at 5pm on 9 December 2020. We received 2 responses. 1 respondent supported the change and implementation approach; however the other respondent didn't. A summary of these responses can be found in the table below, and the full responses can be found in Annex 6.

Supports change and Implementation Approach	Does not support change or Implementation Approach
<p>Supports Original and WACM 1 and argues they better facilitate the Applicable Objectives a, b and d.</p> <p>Setting the Response Energy Payment (REP) to zero for renewable generators receiving a Contract for Difference Feed in Tariff (CfD FiT) will better reflect the short run marginal costs (SRMC) of these CFD FiT Units than a calculated REP based on the Market Index Price (MIP).</p> <p>Seek Implementation 10 Working days after an Authority decision - concerned if delivery of the CMP300 solution were contingent upon delivery of a new settlement system in 2022 by the ESO given the uncertainty that is inherent in delivering system.</p> <p>This change will improve competition for Mandatory Frequency Response (MFR) by ensuring that the REP is cost reflective for all MFR providers. The modification should also ensure all renewable generators with a low or negative marginal cost are treated equally.</p>	<p>Agrees that certain CfD generators could have a SRMC which is closer to zero than market price. However, this depends on the level of profit over fuel price that the CfD provides.</p> <p>Original assumes that all CfD providers will have a SRMC close to zero which seems incorrect or at least inconclusive.</p> <p>WACM1 allows generators to elect which price they are exposed to. For plant which tend to deliver more of one type of response, then this choice can potentially be exploited to provide an inflated benefit.</p> <p>Suggested that the choice between using zero or the MIP as the REP level could be made by the ESO or Ofgem, based on evidence provided by the generator to demonstrate whether their SRMC is closer to zero or MIP.</p>

Under CUSC 8.17¹⁴ and 8.23.2(i)¹⁵, ESO are required to justify whether or not to include the views from the Code Administrator Consultation in the CMP300 solution. The ESO Workgroup Member and ESO Panel Member noted the difference in viewpoints and that these views and debate had been addressed in this document. They also noted

¹⁴ 8.1.7 Where a CUSC Modification Proposal constitutes an EBGL Amendment, The Company, when undertaking its role in the CUSC Panel or Working Groups during the CUSC Modification Process, shall provide justification for including or not including the views of stakeholders resulting from the Code Administrator consultation.

¹⁵ 8.23.2(l) whether the CUSC Modification Proposal and if applicable, any Workgroup Alternative CUSC Modification(s) constitutes an EBGL Amendment and if so, and in addition to (i) above, a The Company's justification for including or not including the views resulting from the relevant consultation in the CUSC Modification Proposal and if applicable, any Workgroup Alternative CUSC Modification (s)

that a respondent had suggested as part of their Code Administrator Consultation response “*that the choice between using zero or the MIP as the REP level could be made by the ESO or Ofgem, based on evidence provided by the generator to demonstrate whether their SRMC is closer to zero or MIP*”. Unfortunately, the CUSC governance process does not allow for this to be considered as a Workgroup Alternative as the Workgroup was discharged prior to the Code Administrator Consultation being issued. However, this is something that could be considered if a party wishes to raise a further Modification.

Legal text issues raised in the Code Administrator Consultation

One respondent stated that the legal text for WACM1 would appear to benefit from two clarifications:

- The legal text says that CfD generators can elect to “*set the Reference Price to Max*”, but doesn’t really set out what setting the reference price to “Max” means; and
- Clarification on the process / timescales for Users to exercise their choice for the Response Energy Payment to be set at £0/MWh or at the prevailing Market Index Price.

A meeting was held on 7 December 2020 between the Code Administrator, the ESO, the respondent, the Proposer and the Proposer of WACM1 to discuss these points and agree revised legal text. The following changes were agreed (the changes since the Code Administrator Consultation was issued are highlighted in red text):

*A User with a “CfD BMU” (a BM Unit registered in respect of a Power Station whose operator is a party to an agreement with the CfD Counterparty) the User can elect **within 28 calendar days of ESO’s notice asking them to indicate their choice**, at the outset of the agreement with the CfD Counterparty, to set the Reference Price to $\max(\sum_s \{PXP_{sj} \times QXP_{sj}\} / \sum_s \{QXP_{sj}\} \times 1.25, 0)$ ~~Max~~ for Response Energy Payments for that CfD BMU for the duration of that agreement. **In the absence of ~~Until~~ such election**, which can only be made once by reference to that CfD agreement, the Reference Price shall be **zero** by default.*

The CUSC Panel on 18 December 2020 considered these changes and by majority agreed that these changes were minor rather than typographical. In accordance with CUSC 8.23.4¹⁶, the CUSC Panel directed the CMP300 Workgroup to review these changes. If the CMP300 Workgroup unanimously agreed that these changes were minor, then the Draft Final Modification Report would be presented for recommendation vote at a Special Panel already scheduled for 8 January 2021. The CMP300 Workgroup unanimously did agree that the proposed changes to the legal text were minor.

Panel Recommendation Vote

The Panel met on the 8 January 2021 to carry out their recommendation vote.

¹⁶ CUSC 8.23.4(ii) if the change required is not considered to be a typographical error then the CUSC Modifications Panel may direct the Workgroup to review the change. If the Workgroup unanimously agree that the change is minor the CUSC Modifications Panel may instruct the Code Administrator to make the appropriate change and the Panel Chairman will undertake the CUSC Modifications Panel Recommendation Vote otherwise the Code Administrator shall issue the CUSC Modification Proposal for further Code Administrator consultation after which the Panel Chairman will undertake the CUSC Modifications Panel Recommendation Vote.

They assessed whether a change should be made to the CUSC by assessing the proposed change and any alternatives against the Applicable Objectives.

Ahead of the vote taking place, the Panel considered whether or not the proposal was detrimental to the EBGL objectives under Article 3 of EU Law. The Panel by majority agreed that CMP300 was not detrimental to the EBGL objectives; however some Panel members argued this CMP300 may distort competition and therefore could be argued to be detrimental to EBGL Objective (a)¹⁷.

Vote 1: Does the Original or WACM1 facilitate the objectives better than the Baseline?

Panel Member: Andy Pace

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Overall AO (Y/N)
Original	Neutral	Yes	Neutral	Neutral	Yes
WACM1	Neutral	Yes	Neutral	Neutral	Yes

Voting Statement

This modification will result in more cost reflective response energy payments and therefore improve the efficiency of the mandatory frequency response procurement process. This modification therefore better meets applicable CUSC objective (b) by improving competition in the generation and supply of electricity. We prefer WACM1 as this introduces an additional option which will allow generators to choose the applicable price that will apply to their site. This allows generators to select the market index price or zero depending on which most closely represents their marginal price.

Panel Member: Cem Suleyman

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Overall AO (Y/N)
Original	Yes	Yes	Neutral	Yes	Yes
WACM1	Yes	Yes	Neutral	Yes	Yes

Voting Statement

I agree that both the Original and WACM1 better facilitate the Applicable CUSC Objectives for broadly the same reasons as provided by the Proposer. I believe that WACM1 is not quite as good as the Original as there is the chance that the system could be gamed (although I believe this is highly unlikely for reasons

¹⁷ EBGL Objective (a) fostering effective competition, non-discrimination and transparency in balancing markets

which I will explain) such that a BMU could be subject to a zero REP where the BMU's SRMC would not justify this.

In broad terms, the amount of Mandatory Frequency Response (MFR) utilisation that a BMU will get is a function of its MFR Holding Price and the cost of repositioning (exercised through the BM). In the main, a BMU's MFR utilisation is a function of its position in the merit order. So, a BMU deep in the money may get some High frequency response, but relatively little low frequency response as the costs of deloading the BMU will be prohibitive. A BMU out of merit will get relatively little frequency response at all as the cost of synchronising it will be prohibitive (as it includes various start-up costs in addition to its incremental costs). However, the marginal BMUs will be the ones which get the bulk of the MFR provision, as the cost to reposition these units to part load (and thus be able to provide both Low and High frequency response) is generally the cheapest.

Having understood this, consider how one could make extra money by electing to have a zero REP. The obvious way is to apply a zero REP to a relatively high SRMC (close to marginal/out of merit) BMU which then primarily provides High frequency response. The BMU would then save a decent amount on its SRMC, but not have to pay anything back to the ESO through the zero REP. However, an out of merit BMU is highly unlikely to provide any frequency response as its repositioning costs are prohibitive. Also, the marginal BMUs are likely to be providing relatively equal amounts of both High and Low frequency response as these BMUs are most likely to be at part load. Thus, they will gain on the High frequency response but lose on the Low frequency response and the whole thing becomes a wash. Therefore I don't believe there is a realistic gaming opportunity.

I note the concerns raised by the Uniper respondent which principally relate to the lack of transparency of the SRMC of the BMU this modification applies to. This is completely understandable, but these costs cannot be revealed for obvious reasons of commercial confidentiality. The respondent notes that the modification could be improved by essentially requiring approval from Ofgem and/or the ESO. This process will effectively happen as the Proposer intends to submit the SRMC data for the BMU in question to Ofgem confidentially to justify the modification. I do note though that the respondent appears to accept the principle that if the BMU's SRMC is closer to zero than the MIP then the change may be justified.

I note that the ESO have made two (highly questionable in my opinion) objections to the modification. Firstly, the ESO states that CMP237 was accepted on the basis that the BMUs in question have a particular fuel type rather than based on the economic consequences of the BMUs' particular characteristics (primarily zero fuel costs and low carbon support). This argument is clearly absurd and can be illustrated with a simple thought experiment. Taking for example a wind BMU subject to support under the Renewables Obligation (RO). Its SRMC is effectively fuel cost minus a certain number of Renewable Obligation Certificates (ROC). For the purpose of this example, let's assume the wind BMU receives 1 ROC for every 1MWh produced and the value of a ROC is £50/MWh. This means the SRMC of the wind BMU is negative £50/MWh. Therefore, a zero REP is closer to the BMU's SRMC than the MIP. However, let's now assume that for whatever reason the government decides to remove

the RO and instead implement a wind generation tax at £50/MWh. This would mean the SRMC of the wind BMU is now positive £50/MWh. Clearly the wind BMU now does not have a fuel cost, but its SRMC is closer now to the MIP than zero. Would it still be appropriate to apply a zero REP. Obviously not!

Finally, the ESO claims that to implement the change will cost it between £100k and £200k. I am incredulous as to how basically disapplying the REP (by setting it to zero) for one BMU, something which applies to many BMUs already, can cost so much. In the event that this is actually true (which I doubt it is), I think this speaks to the lack of cost effectiveness and efficiency of the ESO's internal IT arrangements, something which Ofgem and other stakeholders have made reference to in the past.

Panel Member: Garth Graham

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Overall AO (Y/N)
Original	Neutral	Yes	Neutral	Neutral	Yes
WACM1	Neutral	Yes	Neutral	Neutral	Yes

Voting Statement

Reviewing the Workgroup Report and Code Administrator Consultation responses I believe the case has been made as to why, in my view, the Original is better (than the baseline) in terms of facilitating competition in the generation and supply of electricity. This is because it ensures that response energy payments are more reflective of the costs or avoided cost of the production of the electricity.

In terms of WACM1, this is closely aligned with the Original and thus it is better (than the baseline) in terms of facilitating competition in the generation and supply of electricity for the reasons noted above.

When compared with the Original, WACM1 is better still for facilitating competition as it ensures that the need for parties to apply a risk premia for regulatory risk (of entering into a CfD contract on the basis of a known pricing regime – as per the CUSC baseline – only for it to fundamentally change after the contract has been entered into) will be addressed via a one off, one way option for those parties, that have entered into such legally binding contracts, to allow them to continue to pay or be paid on the same basis that they entered those contracts.

Therefore my 'best' option is WACM1.

Panel Member: Grace March

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Overall AO (Y/N)
Original	Neutral	Yes	Neutral	Neutral	Yes
WACM1	Neutral	Yes	Neutral	Neutral	Yes
Voting Statement					
<p>This modification will result in a more cost reflective payment and remove a distortion between BMUs that have similar economic positions. It therefore will level the playing field and increase competition in MFR. It does not seem appropriate to allow parties to choose which pricing structure is applied to their BMUs, as they are likely to choose the option which benefits them most which may not necessarily be the most cost reflective. WACM1 still meets the applicable objectives better than the baseline methodology as it will be more cost reflective for those participants who choose to change.</p>					

Panel Member: Joseph Dunn

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Overall AO (Y/N)
Original	Neutral	Yes	Neutral	Neutral	Yes
WACM1	Neutral	Yes	Neutral	Neutral	Yes
Voting Statement					
<p>Both the original and the alternative better facilitate ACO (b) as they improve technology neutrality, ensuring REP are cost reflective. WACM1 is better than the original with respect to ACO (b) as it allows additional costs to be included.</p>					

Panel Member: Jon Wisdom

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Overall AO (Y/N)
Original	Neutral	Neutral	Neutral	Neutral	No
WACM1	Neutral	Neutral	Neutral	Neutral	No
Voting Statement					
<p>It does not appear that the proposal or subsequent WACMs are better than baseline. Whilst the intention and the principles around how both options might be better than the baseline has been demonstrated to some extent, there is a</p>					

lack of data to support that decision. The proposer has made it clear that they would not be willing to share their data with the workgroup as it is highly confidential and would only share this with Ofgem to support the decision.

The removal of REP payments from non-fuel BMUs as part of CMP237 was driven by the economic rationale that the response energy payment would recover the fuel cost associated with the service and so non-fuel BMUs should not be exposed to this. It is not clear that CMP300's assessment has fully demonstrated that a similar rationale applies as some CfD units (e.g. biomass) do have an associated fuel cost and therefore a different marginal price exposure.

Without this evidence it is not possible to support or reject so the proposal is neutral against all objectives and not suitable for implementation overall.

Panel Member: Mark Duffield

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Overall AO (Y/N)
Original	Neutral	No	Neutral	Neutral	No
WACM1	Neutral	No	Neutral	Neutral	No

Voting Statement

I do not believe that either the Original or WACM1 better facilitate the Applicable CUSC objectives when compared to the current baseline.

The modification has at its heart the assumption that all CfD providers would receive a more cost reflective Response Energy Payment should the rate be set to zero rather than the rate used for providers other than zero fuel cost providers. However in common with a respondent to the Code Administrator consultation the matter is clearly far more nuanced and depends highly on the actual fuel costs incurred by the CfD provider. Generally speaking the higher the fuel cost of a CfD unit in relation to its CfD strike price, the less appropriate it would appear is a £0/MWh Response Energy Payment. It may be true that for specific BM Units that are in receipt of a CfD it would be more appropriate, however this seems then to drive down a more unit specific solution to be able to meet the hurdle of better facilitating competition. As long as a general approach is used then the potential for an inappropriate price to be applied, so damaging competition remains under the Original proposal.

Panel Member: Paul Jones

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Overall AO (Y/N)
Original	Neutral	No	Neutral	Neutral	No
WACM1	Neutral	No	Neutral	Neutral	No

Voting Statement

Understand the issue that is driving this change. However, it is not clear that a CFD plant with a positive fuel price necessarily always has a Short Run Marginal Price closer to zero than market price. This depends on how the CfD strike price, the fuel cost and the market price relate to each other. Therefore, it is not correct to assume that you should treat all CFD plant in the same manner as zero fuel cost plant, as in the original proposal. With WACM1, there is a potential additional issue whereby operators could seek to choose a price which provides an unfair advantage, particularly if the delivery of response tends to be more in one direction (i.e. either high or low frequency response).

Whilst having sympathy with the proposer of the modification who presumably does have a CfD strike price and fuel price combination which means its costs are closer to zero than market price, this cannot be assumed to be the case across the board. An alternative to these proposals which would remove the above concerns would be for operators to provide evidence to NGESO or Ofgem, on a case by case basis, to demonstrate that for their CfD units the Response Energy Payment should indeed be set at zero rather than MIP.

Panel Member: Paul Mott

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Overall AO (Y/N)
Original	Neutral	No	Neutral	Neutral	No
WACM1	Neutral	No	Neutral	Neutral	No

Voting Statement

The proposal and WACM1 do not represent an improvement on baseline. The removal by CMP237 of REP payments from non-fuel BMU was because the response energy payment would recover the fuel cost associated with the service - so non-fuel BMUs should not benefit from this, under CMP237, as they have no fuel. But some CfD units (e.g. biomass) do have an associated fuel cost which is recovered through response energy payments, so CMP300 doesn't have obvious validity and could be deleterious to competition. Implementation is low but not zero cost, so there does need to be a positive benefit.

Vote 2 – Which option is the best?

Panel Member	BEST Option?
Andy Pace	WACM1
Cem Suleyman	Original
Garth Graham	WACM1
Grace March	Original
Joseph Dunn	WACM1
Jon Wisdom	Baseline
Mark Duffield	Baseline
Paul Jones	Baseline
Paul Mott	Baseline

Panel conclusion

The Panel has recommended by majority that both the Proposer's solution and WACM1 better facilitated the CUSC objectives than the current CUSC arrangements.

When will this change take place?**Implementation date:**

The view of the Proposer was that CMP300 would require being implemented at the earliest opportunity to ensure there is a level playing field for all generators providing MFR. The Proposer of the Original and WACM1 has requested implementation to be 10 working days after decision from Authority.

If WACM1 is implemented, the ESO would, within 28 calendar days, write to all those relevant Users (those who, as per CMP300 Original, would be classified as being potential parties to whom CMP300 would apply) asking them to reply, within 28 calendar days, to the ESO confirming if they wished their REP (per asset) to be priced as either £0 per MWh or at the prevailing Market Price (which could be positive or negative) as per the current baseline.

The National Grid ESO representative would prefer implementation of CMP300 to be aligned with the delivery of the new settlements system in ~ April 2022.

Acronyms, key terms and reference material

Acronym / key term	Meaning
Baseline	The CUSC as it is currently
BM	Balancing Mechanism
CfD FIT	Contracts for Difference Feed in Tariff – difference payments are made by either LCCC to the generator or vice versa depending on whether the Reference Price is greater than or less than the 'strike price'.
HFR	High Frequency Response
LCCC	Low Carbon Contracts Company whose primary role is to manage CFDs with low carbon generators throughout their lifetime.
LFR	Low Frequency Response
MIP	Market Index Price
REP	Response Energy Payment
Reference Price	A measure of the average market price for electricity in the GB market
SRMC	Short Run Marginal Cost
Strike Price	A price for electricity reflecting the cost of investing in a particular low carbon technology

Reference material:

1. [CMP237 Ofgem decision](#)

Annexes

Annex	Information
Annex 1	CMP300 Proposal Form
Annex 2	CMP300 Terms of Reference
Annex 3	CMP300 Workgroup Consultation Responses
Annex 4	CMP300 Workgroup Vote
Annex 5	CMP300 Legal Text
Annex 6	CMP300 Code Administrator Consultation Responses