Guidance

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Market Stabilisation Charge

Subject	**Market Stabilisation Charge Calculation Methodology v4.0~~3~~**
Publication date:	~~26 August 2022~~20 March 2023
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The purpose of this document is to help domestic suppliers and other market participants understand the workings of the Market Stabilisation Change (MSC). Ofgem announced this measure on 16 February 2022 as a short-term intervention to address risks to consumers from ongoing wholesale market volatility. This version of the guidance contains changes to the MSC that will take effect from ~~07 September 2022~~5 April 2023.

This guidance explains the methodology for calculating this charge and other aspects of its operation, including how often the charge will be updated.

Document version	Date of publication	Comments
1.0	16 February 2022	Published with original decision
2.0	16 May 2022	Includes outcome of parameter review, amended for latest indexation profile and inclusion of electricity losses and Unidentified Gas (UIG).
3.0	26 August 2022	Includes amendments for the latest indexation profile and to reflect the differing sets of algebra required for the remainder of Cap period 8 and 9a and 9b. Specifically:

		• Updated algebra for the calculation of *a, b, c* and *a', b', c'* using the transitional weights set out in the Decision on changes to the wholesale methodology • Update to the calculation of gas *Pcn*, *Pcn+1, Pcn+2* values using the transitional weights set out in the Decision on changes to the wholesale methodology. • Update to the calculation of electricity *Pcn, Pcn+1, Pcn*+2 values using the transitional weights *and* the demand weighting adjustment as set out in the Decision on changes to the wholesale methodology. • Updated calculation for the consumption weighting factor *t* to reflect the transition to quarterly cap updates • Introduction of the term *Sn+2* reflect the transition to quarterly cap updates • Use of quarterly rather than seasonal prices for the calculation of *Wn+1* and *Wn+2* • Continued use of the volume factor *v* to reflect that the indexation profile remains non-linear until the end of cap period 9b
4.0	20 March 2023	Includes amendments for the 3-1.5-3 (Quarterly) indexation profile and to reflect the updated algebra required for the model to function until 31 March 2024. Specifically: • Update for reference to decision to extend the MSC beyond 31 MMarch 2023 • Removal of algebra and terms relating to the transitional indexation approach and replacing with relevant algebra and terms for Quarterly indexation. • Removal of the reference to *v*, the volume factor, as it is no longer required for Quarterly indexation • Update to the definition of *t* for Quarterly indexation • Removal of reference to specific demand weights for *Sn, Sn+1, Sn+2* as they are

		all now quarterly demand weights for Quarterly indexation • Clarification of use of monthly prices for the calculation of *Wn*, the wholesale cost of energy

Contents

1. Introduction

1.1. Ofgem announced on 16 February 2022 our decision to introduce Licence Condition 24A – the Market Stabilisation Charge ("**MSC**") – as a temporary measure to address risks to consumers from market volatility in the short term.[1] This is a wider package of measures announced on 3 and 4 February 2022 to help stabilise the retail market and protect consumers. As part of our decision published 26 August 2022, we ~~have~~ decided to extend the MSC licence condition until the end of March 2023. Following a further period of consultation, on 3 February 2023 we decided to extend the MSC again, subject to an earlier or later cessation date being specified, until the end of March 2024.

1.2. The MSC, which came into effect on 14 April 2022, will help suppliers to better manage, on behalf of consumers, the risks posed by severe energy price volatility. This will mitigate the risk of consumers facing significant additional costs from further disorderly supplier exits, as well as the associated negative effects on investment, innovation and competition in the retail energy market. The MSC will only be triggered if wholesale prices fall below the level assumed in the price cap. Even then, active consumers will still be able to achieve savings when wholesale prices fall. The full reasoning for introducing the MSC is set out in the decision document published on 16 February 2022 (the "**February Decision**").

1.3. Under this measure, all suppliers acquiring a domestic customer are required to pay the MSC to the losing supplier. This is a volumetric charge and represents a proportion of the economic loss to the losing supplier for the energy purchased on behalf of their customer.

1.4. The MSC is comprised of two sub-charges; one for gas and one for electricity. For the purposes of this methodology, references to wholesale prices should be read to mean one reference to the wholesale gas cost and another to the wholesale electricity cost. The MSC is applicable to all domestic customer switches between licensed gas and electricity suppliers.

1.5. The MSC will only take effect where wholesale gas and/or electricity prices fall below the implied price cap wholesale element for the relevant period, taken as an average over a 5-day observation window. In the February Decision, we originally set out that the

[1] Ofgem 2022, Decision on short-term interventions to address the risks to consumers from market volatility

parameters of the MSC would include a trigger point set at 30% below the implied price cap wholesale element, and a derating factor of 75%.

1.6. In our decision of 16 May 2022[2] (the "**May Decision**") we published updated MSC parameters, reflecting ongoing high levels of market volatility, which have been in effect since 25 May 2022**.** From this date, the trigger point has been set at 10% below the implied price cap wholesale element. In addition, the May Decision set a **derating factor** of 85%. This will determine the percentage of nominal hedging losses beyond the trigger point that will be covered by the MSC, while allowing active consumers to continue to benefit from falling prices beyond the trigger point.

1.7. The trigger point and derating factor work together as a pair to set the strength of the MSC. Figure 1 below shows how, past the trigger point, the MSC grows to cover a portion of suppliers' incremental losses. This means that active customers continue to benefit from cheaper tariffs as wholesale prices fall; however, the risk of consumer detriment occurring from supplier failures/exits as a result of unsustainable hedging losses is at least partly mitigated.

[2] Ofgem 2022, ~~Decision on changes to the market stabilisation charge~~ Decision on changes to the market stabilisation charge

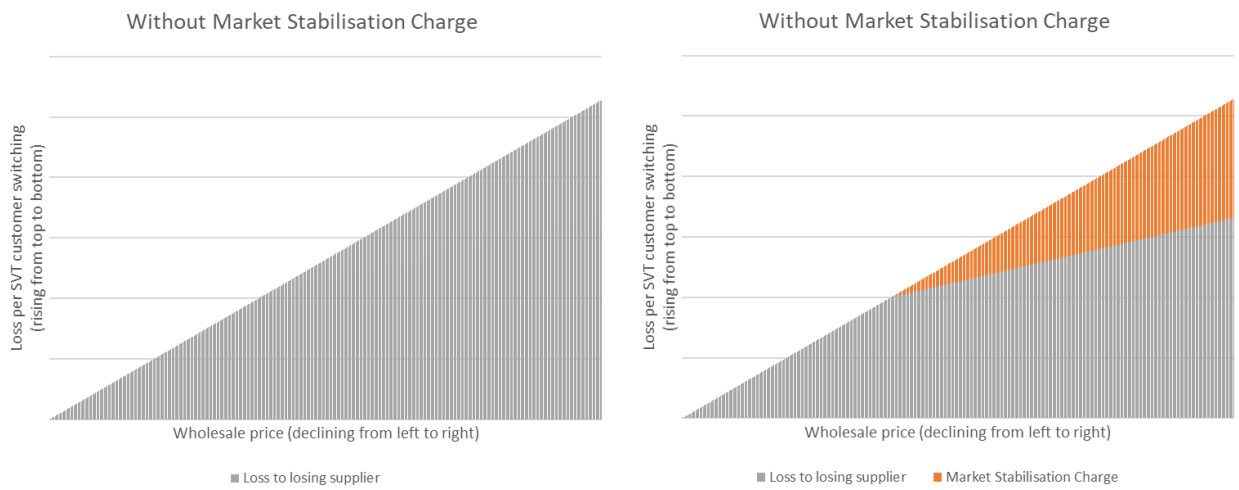

Figure 1: Illustrative example of the relationship between wholesale price, nominal hedging losses and MSC

1.8. Ofgem will calculate and publish the level of the charge on a weekly basis in line with the methodology set out in this guidance, enabling suppliers to factor this in when setting their retail tariffs.

1.9. As a novel intervention, we will review the impact of the MSC monthly basis. If it is not having the effect that we intended, perhaps because there are significant and unexpected market developments, such as material changes in supplier hedging positions or the level of customer switching, we may adjust the methodology and its key parameters if necessary. Any future adjustment to the price cap that materially affects the price cap indexation profile may require us to make an adjustment to this guidance to take account of this change in circumstance. Before doing so, we will consult stakeholders as described later in this document.

Changes to the MSC Guidance

1.10. On ~~28 June~~3 February ~~2022~~ 2023 we consulted[3] on changes to the indexation profile used in the MSC calculation to ~~reflect our proposals to~~complete the transition ~~move~~ to a quarterly price cap. This would ~~bring~~ maintain alignment between the indexation profile used

[3] Ofgem ~~2022~~2023, ~~Consultation on extending short-term interventions and adjusting the MSC calculation,~~ Consultation on Technical changes to the Market Stabilisation Charge (MSC) model indexation methodology to reflect our decision to extend the MSC beyond 31 March 2023~~https://www.ofgem.gov.uk/publications/consultation-extending-short-term-interventions-and-adjusting-msc-calculation~~

in the MSC ~~into alignment with~~and the wholesale methodology element of the price cap and reduce the risk of suppliers being incorrectly compensated in the event the MSC is triggered.

1.11. **This Guidance document sets out the current methodology used in the MSC calculation.** These changes to the MSC along with this version of the MSC guidance will come into effect from ~~7 September 2022~~5 April 2023 and will remain in effect until the MSC expires, or further guidance is published to replace this. You can review the previous (V3) MSC Guidance here[4], (V2) MSC Guidance here[5] and the original (V1) MSC Guidance here[6].

1.12. Section 2 of this document describes in detail the charging methodology, including how the charge is calculated, when it will come into effect, the frequency of updates, and a description of the role of the Retail Energy Code Company (RECCo) in administering the charge.

[4] Ofgem 2022, MSC guidance v3.0, MSC Guidance (Version 3)
[5] Ofgem 2022, MSC guidance v2.0, MSC Guidance (Version 2)
[6] Ofgem 2022, MSC guidance v1.0, MSC Guidance (Version 1)

Your feedback

General feedback

1.13. We believe that consultation is at the heart of good policy development. We are keen to receive your comments about this guidance. We'd also like to get your answers to these questions:

1. Do you have any comments about the overall quality of this guidance?
2. Do you have any comments about its tone and content?
3. Was it easy to read and understand? Or could it have been better written?
4. Do you have any further comments?

Please send any general feedback comments to retailpolicyinterventions@ofgem.gov.uk

2. Market Stabilisation Charge Calculation Methodology

Section summary

This section describes the Charging Methodology for the Market Stabilisation Charge

How the MSC is calculated

2.1. The MSC is based on the hedging losses incurred by a nominal supplier ~~(~~, hedging the ~~first~~ next cap period~~)~~ in line with the relevant indexation approach assumed in the price cap methodology. This means that the hedging strategy of a nominal supplier for the 3-1.5-12 ~~original 6-2-12~~ indexation profile ~~was~~ is reflected as a nominal hedge on a ~~6-2-6~~3-1.5-3 basis, which implies suppliers hedge progressively an average of 4.5 months ahead~~, and for the 7-1-12 / 3-1.5-12 indexation profile the nominal hedge is reflected on a 7-1-6 / 3-1.5-3 basis.~~[7]. It applies only beyond a trigger point, derated by a derating factor and accounting for the fact that suppliers hold different volumes of gas/electricity at different times of the year.

2.2. This guidance relates to the calculation of the MSC using a ~~7-1-6 /~~ 3-1.5-3 ("**Quarterly**") ~~calculation~~ indexation approach ~~following~~ which reflects the completion of the transition to quarterly cap updates and gives effect to our decision to extend the MSC beyond 31 March 2023. ~~the publication of updated guidance to industry with respect to the 7-1-12/3-1.5-12 transitional price cap indexation in August 2022 (the "**August Indexation Guidance Letter**")[8] and our decision on changes to the Price Cap Methodology.[9]~~

~~2.2.~~ The algebra has been developed in such a way to represent an enduring set of terms based on a Quarterly indexation profile to be used for the calculation of the MSC. The model is constructed to function for the year from 1 April 2023 – 31 March 2024, which is the current expiration date of the MSC.

~~The 7-1-6 / 3-1.5-3 transitional indexation approach (the "**Transitional Indexation Approach**") impacts the MSC formula differently for cap period 8 (from 01 April to 31~~

~~[7] Further details of assumed hedging strategy can be found in Appendix 2 of the consultation on changes to the wholesale methodology and the proposed algebra to implement those changes in chapter 3 of the consultation on proposed changes to the MSC calculation~~

~~[8] Ofgem 2022, Final Guidance on treatment of price indexation in future default tariff cap periods, Final guidance on treatment of price indexation in future default tariff cap periods (ofgem.gov.uk)~~

~~[9] Ofgem 2022, Price cap – Decision on changes to the wholesale methodology, https://www.ofgem.gov.uk/publications/price-cap-decision-changes-wholesale-methodology~~

~~September 2022, "**P8**"), cap period 9a (from 1 October to 31 December 2022, "**P9a**") and cap period P9b (from 1 January to 31 March 2023, "**P9b**"). In practice this means that 3 sets of algebra are needed. To simplify this as far as practicable within the guidance, we set out the features common across each period in the main document and present the components that change for each cap period as individual appendices. This approach allows us to present one set of guidance for the remaining duration of the MSC.~~

~~*Transitional Indexation Arrangements*~~

~~2.3. One major implication is reflected through our position on how P9 seasonal hedges accumulated prior to 01 June are split into two quarters. This is on the basis that one proportion will be delivered in Q4 2022 (P9a) and the other in Q1 2023 (P9b) to avoid an overcomplication of the MSC formula. For example, if the MSC is triggered and a customer switches in P9a, the compensation will reflect the loss associated with all accumulated hedges in P9, but accordingly apportioned specifically for P9a, this is explained further in paragraph 2.12.~~

~~2.4. Furthermore, transitional weights are incorporated into the terms of the formula to ensure a 50:50 split between the volume hedged prior to 1 June 2022 and post 1 June 2022 for each of the periods. To accurately reflect these changes, a number of new terms are required, which are explained below. Due to the dynamic nature of the model, the requirements of these terms vary according to the price cap period during which the MSC is calculated meaning a different model is required during each cap period.~~

~~2.5. The weekly published model will be based on the relevant algebra for the cap period and the dates from which each set of algebra will be effective are shown in Appendix 1.~~

~~*Changes to Algebra*~~

~~2.6. The formula used to calculate the MSC itself does not change in response to the Transitional Indexation Approach. However, the calculation of the terms within this algebra do. Specifically:~~

- ~~the calculation of the terms *a*, *b* and *c* (and a', b', c') that describe the proportion associated with each hedging period with respect to the total volume of hedges held;~~
- ~~the calculation of the consumption weighting factor (*t*) is updated to reflect the transitional arrangements in P8 and the shorter forward hedges in P9a and P9b;~~

- seasonal demand weights transition from 6 monthly to quarterly weightings, which require the addition of the term *Sn+2* to the existing *Sn* and *Sn+1*.

2.7. The term *v*, the volume factor, was introduced to the MSC formula to ensure that it is correctly apportioned to the total volume a nominal supplier holds at any point in time and controls for a varying total volume held throughout the hedging period. The transition to quarterly cap updates reinforces the need for the volume factor (*v*) as the Transitional Indexation Arrangements interact with the MSC calculation.

2.8. The price cap indexation terms (*PCn*, *PCn+1* and *PCn+2*) used in the MSC model, are derived according to the Transitional Indexation Approach as set out in our decision on changes to the wholesale methodology. It is worth noting that in addition to the transitional weights to ensure a 50:50 split between 7-1-12 and 3-1.5-12 blocks as set out below, for the electricity price cap indexation terms, there is also an additional adjustment to reflect the difference between seasonal and quarterly demand weights[10].

2.9. We also introduce the terms TWQ4 and TWQ1 to replicate the 50:50 split between 7-1-6 and 3-1.5-3 blocks followed by the price cap methodology. They are applied to the post 01 June 2022 period. The transitional weights in trading days (as set out in the Final Indexation Guidance Letter) and the transitional weights in delivery days (which have been calculated using the same methodology) are shown below.

Term	Applicable from	Applicable to	Transitional weight (trading days)	Transitional weight (delivery days)[11]
TWQ4	06 June 2022	18 August 2022	1.148	1.134
TWQ1	19 August 2022	16 November 2022	0.984	0.983

[10] This is consistent with those set out in our decision on changes to the wholesale methodology – 1.126 between 06 June and 05 August, 0.905 between 08 August and 18 August and 1.036 between 19 August and 16 November

[11] There are 88.5 weighted delivery days 1 Feb - 1 June, 78 between 2 June – 18 Aug and 90 between 19 Aug – 16 Nov. Therefore TWQ4 = 88.5/78 and TWQ1 = 88.5/90.

~~2.10. The move to a quarterly Price Cap also requires that we also transition to using the quarterly seasonal demand weights. This transition will occur throughout P8 and be fully implemented in P9a and P9b. These weights (consistent with Annex 2) are set out below.~~

~~Quarter~~	~~Electricity[12]~~	~~Gas[13]~~
~~Jan – Mar~~	~~28.6%~~	~~42.2%~~
~~Apr – Jun~~	~~22.8%~~	~~16.8%~~
~~Jul – Sep~~	~~20.8%~~	~~7.7%~~
~~Oct – Dec~~	~~27.8%~~	~~33.2%~~

~~2.11. Finally, we introduce a Q term to apportion the seasonal hedges associated with P9 delivery period towards P9a and P9b, accumulated prior to 1 June 2022. This implies that there is a different proportion of P9 hedges allocated to P9a and P9b respectively by the introduction of the terms Q4 and Q1[14]. This is explained by a longer P9a delivery period than P9b delivery period.~~

~~Term~~	~~adjustment~~
~~Q4~~	~~0.506~~
~~Q1~~	~~0.494~~

The MSC Formula

~~2.12.~~2.3. The MSC is based on a four factor formula to give a £/MWh charge, with two of these factors varying with time and/or wholesale prices. Each factor in the equation has been carefully set to ensure that the MSC delivers the policy as described in the original February 2022 decision document and any subsequent updates. The methodology below describes how each factor works, and why it is set as it is.

~~[12] Profile class 1~~
~~[13] Non-PPM share of demand~~
~~[14] Consistent with the calculation in Annex 2 v1.11 tab 3b (as calculated in cells E49-F50 and explained in cell E48) https://www.ofgem.gov.uk/sites/default/files/2022-05/DRAFT%20-%20Annex_2_-_wholesale_cost_allowance_methodology_v110%20%28data_removed%29165244467986 5.xlsx~~

~~2.13.~~2.4. The Market Stabilisation Charge (A, £/MWh) is calculated using the formula below:

$$A = x \cdot l \cdot t \cdot c$$

where:

x	The derating factor (%)
l	Qualifying losses (£/MWh)
t	Consumption weighting factor (%)
c	Conversion factor (unitless)

and:

$$w_c > w_t,\ x = 0$$

$$w_c \leq w_t,\ x = 85\%$$

and:

$$w_t = 90\% \cdot w_{pc}$$

where:

w_t	The Losing Supplier Loss Trigger (as defined below), including elec losses/UIG (£/MWh)
w_c	The wholesale cost of energy (as defined below), including elec losses/UIG (£/MWh)
w_{pc}	The wholesale element of price cap (as defined below), including elec losses/UIG (£/MWh)

Losing Supplier Loss Trigger (w_t)

~~2.14.~~2.5. The Losing Supplier Loss Trigger is met when the wholesale cost (w_c, see below) is less than or equal to 90% of the wholesale element of the price cap for the relevant period (w_{pc}, see below). The MSC is therefore initially triggered when the wholesale cost (w_c, see below) falls more than 10% lower than the wholesale cost element of the price cap (w_{pc}).

~~2.15.~~2.6. This means that the MSC will not apply, and the market will function as normal, unless wholesale prices fall a certain amount below the level assumed in the price cap.

Wholesale element of price cap (w_{pc})

~~2.16.~~2.7. The wholesale element of the price cap (w_{pc}) ~~period~~ is the cost of the hedge held by a nominal supplier which has hedged in line with the Quarterly~~7-1-6 / 3-1.5-3~~

~~transitional~~ indexation approach ~~(the "**Transitional Indexation Approach**")~~. It therefore changes throughout the cap period as the composition of the supplier's hedge changes.

~~2.17.~~2.8. The wholesale element of the price cap (w_{pc}) for the purposes of this methodology is a weighted average of the relevant ~~Price~~ price ~~Cap~~ cap indexation of the current cap period (PC_n), next cap period (PC_{n+1}), and ~~next+1~~current cap period + 2 (PC_{n+2}).

~~2.18. As a result of the non-linear indexation profile, index values are no longer calculated as an average of the index values of the observation period, but as an average weighted by the numbers of trading days of the observed values in observation period. The non-linearity is captured by halved index values during the 16 March 2022 – 19 May 2022 period and the weighted trading days applied from 1 June 2022 which result in the transitional weights (TWQ4 and TWQ1). The sum of the index values for the period is then divided by the number of trading days.~~

~~2.19.~~2.9. As well as being weighted to account for the number of days of each period nominally held, the relevant price cap indices are further weighted to apply the correct weighting for the months that are nominally held. In order to correctly take the weighted average, the terms by which PC_n, PC_{n+1} and PC_{n+2}~~,~~ are multiplied therefore add to equal 1, whilst varying with time and reflecting the relative weight of each period's hedges.

~~2.20.~~2.10. PC_n is a static value as the current period's hedge has already been bought at the current price cap level, whilst PC_{n+1} and PC_{n+2} are dynamic values as they are being progressively bought by suppliers whilst future price cap observation windows are open.

$$w_{pc} = \frac{PC_n \cdot (a \cdot S_n) + PC_{n+1} \cdot (b \cdot S_{n+1}) + PC_{n+2} \cdot (c \cdot S_{n+2})}{a \cdot S_n + b \cdot S_{n+1} + c \cdot S_{n+2}}$$

Where:

$PC_n = relevant\ Price\ Cap\ indexation\ of\ the\ current\ price\ cap\ period$ (£/MWh or p/therm)

$PC_{n+1} = relevant\ Price\ Cap\ indexation\ of\ the\ next\ price\ cap\ period$ (£/MWh or p/therm)

$PC_{n+2} = relevant\ Price\ Cap\ indexation\ of\ the\ \sout{next}current\ cap\ period + \sout{1}2\ \sout{price\ cap\ period}$ (£/MWh or p/therm)

$S_n = Total\ fuel\ type\ seasonal\ demand\ weighting\ for\ the\ current\ cap\ period$

$S_{n+1} =$ Total fuel type seasonal demand weighting $for\ the\ next\ cap\ period$

$S_{n+2} =$ Total fuel type seasonal demand weighting $for\ the\ \sout{next}current\ cap\ period + \sout{1}2$

$a = The\ volumes\ associated\ with\ the\ current\ cap\ period\ (n)$

$b = The\ volumes\ associated\ with\ the\ next\ cap\ period\ (n+1)$

$c = The\ volumes\ associated\ with\ the\ \sout{next}current\ cap\ period + \sout{1}2\ (n+2)$

~~2.21.~~2.11. The applicable algebra for the calculation for the terms *a, b, c* ~~and a', b', c' are now different during each cap period. This is due to the weightings arising from the Transitional Indexation Approach, meaning these terms evolve differently during each cap period. The applicable algebra for each cap period that the MSC remains in effect~~ are shown in *Appendi~~x~~ces ~~2-4~~I*.

Wholesale cost (w_c)

~~2.22.~~2.12. The transition to a quarterly price cap necessitates a change to how we calculate the wholesale cost (w_c). ~~Previously it~~ It was previously ~~was~~ defined on a seasonal basis, however, ~~a move towards~~the change to a quarterly price cap means that it is now defined on a quarterly basis.

~~2.23.~~2.13. The wholesale cost (w_c) is calculated as the weighted average (based on a five-day observation window, see 'when the MSC will be calculated' below) of the forward contracts for the remainder of the period for which a supplier is hedged (assuming they hedge in line with the ~~Transitional~~ Quarterly ~~Indexation~~ indexation ~~Approach~~approach).

2.14. ~~For~~ w_n ~~*Wn* it~~ is calculated using ~~quarterly prices, followed by~~ monthly prices as set out in the table below: ~~from 6 June 2022.~~

Table 1 – Prices used for the calculation of w_n

Length of cap period remaing	**Prices used**
<3 months but greater than or equal to 2 months	Average of M+1 and M+2
Less than 2 months but greater than or equal to 1 month	M+1
Less than 1 month	M+1 as a proxy for more granular price data

2.15. ~~For~~ w_{n+1} and w_{n+2} are based on quarter +1 and quarter +2 ahead prices respectively ~~from 6 June 2022~~.

~~2.24.~~2.16. ~~It is~~The terms are then adjusted to account for the relevant seasonal weighting in a similar manner to w_{pc}, see above. This methodology is analogous to that used to set the price cap.

~~2.25.~~2.17. As with w_{pc}, w_c is bounded by the equivalent values for the current and next two periods (w_n, w_{n+1} and w_{n+2}). Where w_{n+1} is the cost of energy for the next ~~(~~price cap~~)~~ period~~"~~ and w_{n+2} is the cost of energy for the current ~~next+1 (~~price cap~~)~~ period +2.

$$w_c = \frac{w_n \cdot (a' \cdot S_n) + w_{n+1} \cdot (b' \cdot S_{n+1}) + w_{n+2} \cdot (c' \cdot S_{n+2})}{a' \cdot S_n + b' \cdot S_{n+1} + c' \cdot S_{n+2}}$$

and:

$w_n = Weighted\ average\ cost\ energy\ for\ the\ remainder\ of\ the\ current\ cap\ period$ (£/MWh or p/therm)

$w_{n+1} = Period\ ahead\ cost\ of\ energy\ for\ the\ next\ cap\ period$ (£/MWh or p/therm)

$w_{n+2} = Period\ ahead\ cost\ of\ energy\ for\ the\ ~~next + 1\ period~~current\ cap\ period + 2$ (£/MWh or p/therm)

$S_n = as\ above$

$S_{n+1} = as\ above$

$S_{n+2} = as\ above$

$a' = The\ volumes\ associated\ with\ the\ current\ cap\ period$ (n)

$b' = The\ volumes\ associated\ with\ the\ next\ cap\ period$ (n+2)

$c' = The\ volumes\ associated\ with\ the\ ~~next~~current\ cap\ period + 2(n + 2)~~1~~$

~~2.26.~~2.18. The applicable algebra for the calculation for the terms *a', b', c'* are shown in *Appendix II.*

*Derating factor (**x**)*

~~2.27.~~2.19. The derating factor derates the level of the charge that the acquiring supplier would pay, once the charge has been triggered. When the wholesale price is greater than w_t the derating factor is 0. From $w_t \geq w_c$ the derating factor is set to 85%, meaning that suppliers and consumers effectively share further losses.

~~2.28.~~2.20. The definition of the derating factor is:

$w_c > w_t, x = 0$

$w_c \leq w_t, x = 85\%$

Where w_c and w_t are as defined above.

Qualifying losses (l)

~~2.29.~~2.21. The qualifying losses (l) to which the derating factor applies are the difference between the wholesale price (w_c) and the Losing Supplier Loss Trigger (w_t). This means that the losses that the MSC covers are the incremental losses below the trigger point. Even if the MSC is triggered, the MSC does not apply to losses above w_t, so wholesale savings between the wholesale element of the price cap (w_{pc}) and w_t could be passed directly on to active customers in full; only savings beyond w_t will be dampened by the MSC.

~~2.30. The non-linear 7-1-6 / 3-1.5-3 transitional indexation profile implies that a nominal supplier will not hold the same volume of hedges at any point in time during the observation period. Therefore, the volume factor (v), that was introduced to the MSC formula in version 2 of the guidance to ensure that the charge is correctly apportioned to the total volume a nominal supplier holds at any point in time, continues to be applicable during cap periods 8, 9a and 9b. This volume factor controls for the varying total volume held throughout the hedging period and is represented as:~~

~~$V = (a + b + c)$~~

~~Where a, b, and c are as defined above.~~

l is calculated using the formulae below:

$w_c > w_t,\ l = 0$
$w_c \leq w_t,\ l = v.(w_t - w_c)$

Where w_c and w_t are as defined above.

Consumption weighting factor (t)

~~2.31.~~2.22. The MSC billed to gaining suppliers uses each customer's estimated annual consumption of gas and/or electricity (Estimated Annual Consumption (EAC) / Annual Quantity (AQ) volumes). The consumption weighting factor is therefore applied to the MSC value to account for the fact that a nominal supplier hedging in line with ~~the~~ a ~~Transitional~~ Quarterly ~~Indexation~~ indexation ~~Approach~~ approach will only have purchased energy to cover a proportion (approx. 4.5 months) of the lost customer's annual consumption.

~~2.32.~~2.23. As suppliers' total hedge value varies with how electricity and gas demand fluctuates throughout the year, the MSC tracks the volumes throughout the year in to reflect

the fact that suppliers are holding the largest volume of energy when the demand associated with the hedge held is higher. Therefore, the MSC factors in higher losses for customers lost when the consumption weighting factor is higher.

2.24. The term *t* tracks the seasonality and should reflect the value of the hedge held. It is calculated monthly and is the sum of the next 4.5 months demand weights (%) for the relevant fuel; determined according to the formulae:

$$t = \sum_{n}^{n+3.5} \text{Consumption weight}$$

$where\ n = month\ in\ which\ the\ switch\ occurs$ ~~This is different for P8 than for P9a and P9b as described below.~~

~~For P8 t is now defined as:~~

~~$t = (Ave\ 8\ fwd\ months * (a/v) + Ave\ of\ 4.5\ fwd\ months * ((b+c)/v))$~~

~~This is because P8 hedges are valued over an 8 month forward looking period and P9a and P9b hedges are valued at the forward 4.5 months, therefore, a weighted average is used. In this formulation *t* interacts with *a, b* and *c,* therefore it varies on a daily basis and the MSC model for period 8 has been built on this basis.~~

~~2.33. For P9a and P9b t is defined as:~~

~~$t = Ave\ of\ 4.5\ fwd\ months$~~

~~2.34. This is because all hedges (P9a, P9b and P10a) are valued at the forward 4.5 months. As the formulation of *t* in this case is much simpler, and does not rely on *a, b* and *c,* there is no need for a daily calculation.~~

~~2.35.~~2.25. The consumption weight for each month is applied following the principles outlined in Annex 2 of the Price Cap[15].

[15] Ofgem 2018, ~~6 November 2018,~~ Default Tariff Cap: Decision; Appendix 2 – Cap level analysis and headroom, available at: Appendix 2 - Cap level analysis and headroom (ofgem.gov.uk)

Conversion factor (c)

~~2.36.~~2.26. The conversion factor (c) converts the qualifying losses from a p/therm value for gas and £/MWh for electricity into a £/MWh value.

~~2.37.~~2.27. The conversion factor for gas (c_{gas}) is equal to 0.3412.

$$c_{gas} = 0.3412$$

~~2.38.~~2.28. The conversion factor for electricity (c_{elec}) is 1 as qualifying losses are expressed in £/MWh.

$$c_{elec} = 1$$

~~*Seasonal*~~ *Quarterly demand weighting*

~~2.39.~~2.29. The fuel type ~~seasonal~~ quarterly demand weightings (S_n , S_{n+1} , S_{n+2}) capture the relative importance of the hedge held for each ~~season~~cap period and are aligned with those used in the Annex 2, the wholesale cost model of the price cap. ~~For the P8 MSC model we use the summer 6 monthly demand weightings for *Sn* (P8) as this was based on 6 monthly contracts. For *Sn+1* and *Sn+2*, given that they are based on quarterly contracts[16], we propose to use the 3 monthly demand weights. These weights applicable to each season are shown below where n is current price cap period.~~

~~Cap period 8~~	~~*Sn*~~	~~*Sn+1*~~	~~*Sn+2*~~
~~**Electricity**~~	~~43.6%~~	~~27.8%~~	~~28.6%~~
~~**Gas**~~	~~24.5%~~	~~33.2%~~	~~42.2%~~

~~For the P9a MSC model we use the 3 monthly demand weights for each of the terms *Sn, Sn+1* and *Sn+2*, given that they are based on quarterly contracts. These are shown below.~~

~~Cap period 9a~~	~~*Sn*~~	~~*Sn+1*~~	~~*Sn+2*~~

~~[16] Recognising that the P9 split allows us to do this, however, there is an element of simplification given that P9 was hedged for 6 months as part of the transitional arrangements.~~

Electricity	27.8%	28.6%	22.8%
Gas	33.2%	42.2%	16.8%

2.40.2.30. For the P9b MSC model we use the 3 monthly demand weights for each of the terms *Sn, Sn+1* and *Sn+2*, given that they are based on quarterly contracts. These are shown below.

Cap period 9b	*Sn*	*Sn+1*	*Sn+2*
Electricity	28.6%	22.8%	20.8%
Gas	42.2%	16.8%	7.7%

When the MSC will be calculated

2.41.2.31. Ofgem will calculate and publish the level of the charge on a weekly basis in line with a transparent methodology, enabling suppliers to factor this in when setting their retail tariffs.[17] The MSC is denominated in terms of £/MWh, and as such is a volumetric charge. RECCo will use this charge and switching data containing net EAC and AQ volumes gained/lost by suppliers to calculate a £ denominated cost/payment due to each supplier over the course of a billing period.

Charge value period and updates

2.42.2.32. Ofgem will publish the gas and electricity charge values on an ex-ante, on a weekly basis, based on the average of the previous five trading days' values for w_c and w_t (or for a shorter period if any of the weekdays are public holidays).

2.43.2.33. Ofgem will publish the charge value at the end of the working day each Monday (or the following working day if the Monday/Tuesday is a public holiday). The updated charge value will take effect from 00.00am on the Wednesday after publication (or Thursday/Friday if the Monday/Tuesday is a public holiday). The charge will then remain in place until the next scheduled weekly charge takes effect.

[17] Ofgem 2022, Market stabilisation charge dashboard, Market Stabilisation Charge dashboard

When the MSC will be triggered

~~2.44.~~2.34. The Market Stabilisation Charge is triggered when the average wholesale price in a weekly (Monday – Friday) observation window (w_c) is 10% or more below the weighted rolling average of the price cap index (w_{pc}) for the relevant fuel.

~~2.45.~~2.35. As the MSC comprises two sub-charges, it is possible that only one of these charges may be triggered at any given time. However, as gas and electricity prices tend to closely track one another this is unlikely and, even if this were the case, it would not be a problem - the sub-charge that is triggered would simply be relatively small.

~~2.46.~~2.36. If the wholesale cost rises above the trigger point, the MSC becomes inactive again as the value becomes 0, and Licence Condition 24A only creates an obligation to pay the MSC if the Losing Supplier Loss Trigger is met.

How long the MSC will apply for

~~2.47.~~2.37. The MSC will be a temporary measure, having come into effect on 14 April 2022. Subject to an earlier or later cessation date being specified, i~~I~~t is due to expire on 31 March ~~2023~~2024.

Guidance updates

~~2.48.~~2.38. The Authority may, following consultation, revise this guidance from time-to-time if it believes a revision is necessary to achieve the policy objective of the MSC. As this is a novel intervention, we will review the impact of the MSC monthly. If it is not having the effect that we intended, perhaps because there are significant and unexpected market developments, such as material changes in supplier hedging positions or the level of customer switching, then we retain the right to adjust the methodology and its key parameters if needed.

~~2.49.~~2.39. Before making changes to the guidance, we commit to consult stakeholders on our proposed changes for 14 days. We shall consider any representations that are duly made and not withdrawn during this consultation period before announcing our decision on any necessary amendment. Any changes would come into effect no earlier than when we publish the second weekly update to the charge after the consultation period closes.

Implementing the MSC

Retail Energy Code

~~2.50.~~2.40. To give effect to the MSC, Ofgem introduced two Change Proposals to the Retail Energy Code (REC). The first of these REC0034 was approved by Ofgem on 14 April 2022[18]. This REC change allows for the effective discharge of the new licence obligation on energy suppliers to pay the MSC. R0034 will allow the REC to operate the MSC, by introducing the new REC MSC Schedule. A subsequent Change Proposal (R0035: "Market Stabilisation Charge – Administration") was approved on 27 June 2022. It introduces the necessary governance and charging arrangements to operationalise the MSC scheme and allow these MSC payments to be administered. RECCo has developed an invoicing and billing mechanism that delivers a value for money solution for suppliers (and ultimately consumers) to give suppliers entitled to payments under the MSC confidence that funds will be transferred in a reasonable timeframe.

[18] Ofgem 2022, Decision to approve rec change proposal REC0034

Appendices

Index

Appendix 1 – ~~Implementation of updated algebra~~Wholesale element of the price cap (W_{pc}) weighting factors

2.41. The terms and definitions used in determining the wholesale element of the price cap (W_{pc}) weighting factors (a, b, c), in delivery days, are presented below:

$$a = \frac{D_{rem}}{D_h}$$

$$b = \frac{D_{acc} + (D_{M1} - D_{sw})}{D_h}$$

$$c = \frac{D_{sw}}{D_h}$$

Where:

D_{rem} = *Number of delivery days remaining in the current cap period period* (n) $(calendar\ days)$

Commencing at a value equal to the number of delivery days in the current cap period *(n)*, subtracted by 1, thus ensuring it reduces to zero on the final day of the current cap period *(n)*

D_h = *Maximum cumulative number of days hedge held* $(calendar\ days)$

A value equal to the number of days between the closure of the observation window for current cap period *(n)* during the previous cap period *(n-1)* and the end of the current cap period *(n)* ~4.5 months, which corresponds to the sum of $D_{rem} + D_{acc} + D_{m1}$

D_{acc} = *Number of delivery days of the current cap period* (n) *hedged during the previous cap period* $(n-1)$ $(calendar\ days)$

A value representing the volume of hedge already accumulated for the current cap period *n* during the previous cap period *(n-1)*.

D_{sw} = *A term growing by* 1 *from the first day of the observation window for the following cap period* $(n+2)$ *during cap period* (n) $(calendar\ days)$

This value facilitates the switch between the accumulation of hedges for the next cap period *(n+1)* and following cap period *(n+2)* at the point one observation window closes and the next opens.

D_{M1} = *Number of delivery days since the first delivery day of the current cap period* (n) $(calendar\ days)$

~~2.51. Given the differing sets of algebra which will apply for the remainder of cap period 8 and period 9a and 9b, the table below sets out the dates that each version of the MSC model will be in place for, until end March 2023. This aligns with the first scheduled update when we move from one cap period to another, however, the effective from~~

~~date will not necessarily begin on the same day as the subsequent charge restriction period.~~

~~MSC model~~	~~Published~~	~~Effective from~~	~~Effective to~~
~~**P8**~~	~~Mon 05 September 2022~~	~~Wed 07 September 2022~~	~~Tue 04 October 2022~~
~~**P9a**~~	~~Mon 03 October 2022~~	~~Wed 05 October 2023~~	~~Tue 03 January 2023~~
~~**P9b**~~	~~Mon 02 January 2023~~	~~Wed 04 January 2023~~	~~Fri 31 March 2023~~

Appendix 2 – ~~Algebra applicable to cap period 8~~Wholesale cost (W_c) weighting factors

2.42. The terms and definitions used in determining the wholesale element of the price cap (W_c) weighting factors (a', b', c'), in trading days, are presented below:~~The weighting terms (*a/a'*, *b/b'* and *c/c'*) used for the calculation of *Wc* and *Wpc* are updated as follows:~~

$$a' = \frac{T_{rem}}{T_h}$$

$$b' = \frac{T_{acc} + (T_{M1} - T_{sw})}{T_h}$$

$$c' = \frac{T_{sw}}{T_h}$$

Where:

T_{rem} = *Number of trading days remaining in the current cap period period* (n) $(working\ days)$

Commencing at a value equal to the number of delivery days in the current cap period *(n)*, subtracted by 1, thus ensuring it reduces to zero on the final day of the current cap period *(n)*

T_h = *Maximum cumulative number of days of hedge held* ~4.5 *months* $(working\ days)$

A value equal to the number of days between the closure of the observation window for the current cap period *(n)* during the previous cap period *(n-1)* and the end of the current cap period *(n)* ~4.5 months, which corresponds to the sum of $T_{rem} + T_{acc} + T_{m1}$

T_{acc} = *Number of trading days of the current cap period* (n) *hedged during the previous cap period* $(n-1)$ $(working\ days)$

A value representing the volume of hedge already accumulated for the current cap period *(n)* during the previous cap period *(n-1), this value is always 30 as it corresponds the price cap notice period*

T_{sw} = *A term growing by* 1 *from the first day of the observation window for the following cap period* $(n+2)$ *during cap period* (n) $(working\ days)$

This value facilitates the switch between the accumulation of hedges for the next cap period *(n+1)* and following cap period *(n+2)* at the point one observation window closes and the next opens.

T_{M1} = *Number of trading days since the first delivery day of the current cap period* (n) $(working\ days)$

~~2.52. Terms *a* and *a'*, the volumes associated with the current Cap period:~~

- ~~remain unchanged~~

2.53. Terms *b* and *b'*, the volumes associated with the next Cap period (P9a) are:

- multiplied by *Q4*, the proportion of P9 allocated to P9a
- multiplied by *TWQ4* from 06 June to 18 August to reflect the transitional weight adjustment
- in order to allow for a 50:50 split between 7-1-6 and 3-1.5-3.
- discounted by 50% from 16 March to 19 May inclusive to reflect the original transitional arrangements moving to a 7-1-6 indexation approach

2.54. Terms *c* and *c'*, the volumes associated with the following Cap period (P9b) are:

- multiplied by *Q1*, the proportion of P9 allocated to P9b
- multiplied by *TWQ1* from 19 August to 16 November to reflect the transitional weight adjustment in order to allow for a 50:50 split between 7-1-6 and 3-1.5-3
- discounted by 50% from 16 March to 19 May inclusive to reflect the original transitional arrangements moving to a 7-1-6 indexation approach
- multiplied by zero to demonstrate the pause in increasing the hedging level for n+2 to facilitate algebra understanding.

2.55. The value for *Th* (the total volume of hedges held for the relevant cap periods before Cap period n starts, expressed in terms of trading days) remains at 168 and *Dh* (the total volume of hedges held for the relevant cap periods before Cap period n starts, expressed in terms of calendar days) remains at 242.

2.56. The updated terms are presented below, which reflect the 7-1-6 / 3-1.5-3 transitional indexation approach for the remainder of P8. The profile was built based on trading days and *a, b,c* (in calendar days) for the calculation of *Wpc,* was extrapolated from *a' b' c'* (in trading days) for the calculation of *Wc*.

Wholesale element of the price cap (*Wpc*) weighting factors

$$a = \frac{D_{rem}}{D_h}$$

$$b = \frac{Q4 * \left((D_n + 0.5(D_{D1} - D_{a50}) + (D_{a50} - D_{a63})\right) + TWQ4 * (D_{a63} - D_{a141})}{D_n}$$

$$c = \frac{Q1 * \left((D_n + 0.5(D_{a1} - D_{a50}) + (D_{a50} - D_{a63})\right) + 0 * (D_{a63} - D_{a141}) + TWQ1 * (D_{a141} - D_{a1P9b})}{D_n}$$

Where:

D_{rem} = *Calendar days remaining in period n (P8)*[19]

D_n = *Weighted calendar days of next period (P9A) hedged during the n – 1 period (P7) = 51*

D_n = *Total number of calendar days in 8 months of hedges*

D_{a1} = *Term growing by 1 unit per calendar day from calendar day 1 of period n (1st April '22)*

D_{a50} = *Term growing by 1 unit per calendar day from calendar day 50 of period n (20th May '22)*

D_{a63} = *Term growing by 1 unit per calendar day from calendar day 63 of period n (2nd June'22)*

D_{a141} = *Term growing by 1 unit per calendar day from calendar day 141 of period n (19th August '22)*

D_{a1P9b} = *Term growing by 1 unit per calendar day from calendar day 1 of period n + 1 (1st October '22)*

= always 0 during P8

$Q4$ = *The proportion of P9 allocated to P9a*

$Q1$ = *The proportion of P9 allocated to P9b*

$TWQ4$ = *Transitional weight to allow 50:50 split between 7 – 1 – 6 and 3 – 1.5 – 3 blocks*

$TWQ1$ = *Transitional weight to allow 50:50 split between 7 – 1 – 6 and 3 – 1.5 – 3 blocks*

Wholesale cost (*Wc*) weighting factors

$$a' = \frac{T_{rem}}{T_n}$$

$$b' = \frac{Q4 * \left((T_n + 0.5(T_{D1} - T_{a33}) + (T_{a33} - T_{a42})\right) + TWQ4 * (T_{a42} - T_{a96})}{T_n}$$

$$c' = \frac{Q1 * \left((T_n + 0.5(T_{a1} - T_{a33}) + (T_{a33} - T_{a42})\right) + 0 * (T_{a42} - T_{a96}) + TWQ1 * (T_{a96} - T_{a1P9b})}{T_n}$$

Where:

~~T_{rem} = Trading days remaining in period n (P8)[20]~~

~~T_n = Weighted trading days of next period (P9A) hedged during the n – 1 Season (P7) = 37~~

~~T_n = Total number of trading days in 8 months worth of hedges~~

~~T_{d1} = Term growing by 1 unit per trading day from trading day 1 of period n (1st April '22)~~

~~T_{d33} = Term growing by 1 unit per trading day from trading day 33 of period n (20th May '22)~~

~~T_{d42} = Term growing by 1 unit per trading day from trading day 42 of period n (6th June'22)~~

~~T_{d96} = Term growing by 1 unit per trading day from trading day 96 of period n (19th August '22)~~

~~T_{d1P9b} = Term growing by 1 unit per trading day from trading day 1 of period n + 1 (3rd October '22)~~

~~= always 0 during P8~~

~~Q4 = The proportion of P9 allocated to P9a~~

~~Q1 = The proportion of P9 allocated to P9b~~

~~TWQ4 = Transitional weight to allow 50: 50 split between 7 – 1 – 6 and 3 – 1.5~~

~~– 3 blocksTWQ1 = Transitional weight to allow 50: 50 split between 7 – 1 – 6 and 3~~

~~– 1.5 – 3 blocks~~

~~Appendix 3 – Algebra applicable to cap period 9a~~

~~2.57. The weighting terms (*a/a'*, *b/b'* and *c/c'*) are updated as follows:~~

~~2.58. Terms *a* and *a'*, the volumes associated with the current cap period are:~~

- ~~updated to reflect the difference between the cumulative weight purchased up to the 18 August (93) and the daily growing sum of the daily delivered weight in season n (P9a)[21]~~

~~2.59. Terms *b* and *b'*, the volumes associated with the next cap period (P9b)~~

- ~~multiplied by *Q1*, the proportion of P9 allocated to P9b~~
- ~~multiplied by *TWQ1* from 19th August 2022 to 16th November 2022 to reflect the overall uplift in order to allow for a 50:50 split between 7-1-6 and 3-1.5-3.~~

~~2.60. Terms *c* and *c'*, the volumes associated with the following Cap period (P10a)~~

- ~~are updated to reflect the start of the observation period (17th November 2022) for Cap period 10a.~~

~~2.61. The value for Th (the sum of maximum cumulative hedge weight held for each Cap period expressed in trading days before Cap period n starts) is ~154 (this is the sum of cumulative hedge weight held for P9a = 93 and and P9b = ~ 61). The value for Dh (the sum of maximum cumulative hedge weight held for each Cap period expressed in delivery days before Cap period n starts) is ~220 (this is the sum of cumulative hedge weight held for P9a = ~ 133 and P9b = ~ 87). Th and Dh here represent the maximum of the cumulative purchased hedges for each Cap period before P9a starts.~~

~~Wholesale element of the price cap (*Wpc*) weighting factors~~

$$a = \frac{D_c - D_{pass}}{D_n}$$

$$b = \frac{Q1 * D_n + TWQ1 * D_{n2} + TWQ1 * (D_{a1} - D_{a48})}{D_n}$$

$$c = \frac{D_{a48}}{D_n}$$

Where:

D_c = Cumulative weight purchased up to 18 August '22 = 132.75

D_{pass} = Sum of daily delivered weight in period n (P9a) = 1.443 * calendar day of period

$Q1 * D_n$

= Weighted purchase weight of next period (P9b) hedged up to the 62nd calendar day of period n – 1 (P8) (1st June '22) = Q1 * 88.5

D_{n2} = Calendar days of next period (P9b) hedged after the 1st June and before P9a starts = 43

D_n = Max of the cumulative hedge weight purchased before P9a starts = ~220 (133 for P9a, 87 for P9b)

D_{a1} = Term growing by 1 unit per calendar day from calendar day 1 of period n (1st October '22)

D_{a48} = Term growing by 1 unit per calendar day from calendar day 48 of period n (17th November '22)

$Q1$ = The proportion of P9 allocated to P9b

$TWQ1$ = Transitional weight to allow 50:50 split between 7 – 1 – 6 and 3 – 1.5 – 3 blocks

Wholesale cost (*Wc*) weighting factors

$$a' = \frac{T_c - T_{pass}}{T_n}$$

$$b' = \frac{Q1 * T_n + TWQ1 * T_{n2} + TWQ1 * (T_{a1} - T_{a34})}{T_n}$$

$$c' = \frac{T_{a34}}{T_n}$$

Where:

T_c = Cumulative weight purchased up to 18 August = 93

T_{pass} = Sum of daily delivered weight in season n (P9a) = 1.476 * trading day of period

$Q1 * T_n$

= Weighted purchase weight of next season (P9b) hedged up to the 41st trading day of period n – 1 (P8) (1st June '22) = Q1 * 62

~~T_{n2} = Trading days of next period (P9b) hedged after the 1st June and before P9a starts = 30~~

~~T_n = Max of the cumulative hedge weight purchased before P9a starts ~93 + ~61 = ~154~~

~~T_{d1} = Term growing by 1 unit per trading day from trading day 1 of period n (3rd October '22)~~

~~T_{d34} = Term growing by 1 unit per trading day from trading day 34 of period n (17th November '22)~~

~~$Q1$ = The proportion of P9 allocated to P9b~~

~~$TWQ1$ = Transitional weight to allow 50:50 split between 7 – 1 – 6 and 3 – 1.5 – 3 blocks~~

~~Appendix 4 – Algebra applicable to cap period 9b~~

~~2.62. The weighting terms (*a/a'*, *b/b'* and *c/c'*) are proposed to be updated as follows:~~

~~2.63. Terms a and a', the volumes associated with the current season,~~

- ~~are updated to reflect the difference between the cumulative weight purchase up to the 16 November and the daily growing sum of the daily delivered weight in season n (P9b)[22]~~

~~2.64. Terms *b* and *b'*, the volumes associated with the next price cap season (P10a),~~

- ~~updated to reflect the start of the observation period (20th February 2023) for Cap period 10b.~~

~~2.65. Terms *c* and *c'*, the volumes associated with the following price cap season (P10b) are~~

- ~~updated to reflect the start of the observation period (20th February 2023) for Cap period 10b.~~

~~2.66. The value for *Th* (the sum of maximum of cumulative hedge weight held, expressed in trading days before Cap period n starts) is ~123 (this is the sum of cumulative hedge weight held for P9b = 93 and P10a = 30). The value for *Dh* (the sum of maximum of cumulative hedge weight held, expressed in delivery days before Cap period n starts) is ~178 (this is the sum of cumulative hedge weight for P9b = ~133 and P10a = 45). *Th* and *Dh* here represent the maximum of the cumulative purchased hedges for each Cap period before P9b starts.~~

~~Wholesale element of the price cap (*Wpc*) weighting factors~~

$$\alpha = \frac{D_c - D_{pass}}{D_h}$$

$$b = \frac{D_n + (D_{a1} - D_{b51})}{D_n}$$

$$c = \frac{D_{a51}}{D_n}$$

D_c = Cumulative weight purchased up to 16th November '22 = 132.75

D_{pass} = Sum of daily delivered weight in period n (P9b) = 1.475 * calendar day of period

D_n = Calendar days of next period (P10a) hedged during the n − 1 period (P9b) = 45

D_h = Max of the cumulative hedge weight purchased as long as you dont deliver for period n

= ~178 (133 for P9b, 45 for P10a)

D_{a1} = Term growing by 1 unit per calendar day from calendar day 1 of period n (2nd January 2023)

D_{a51} = Term growing by 1 unit per calendar day from calendar day 50 of period n (20th February '23)

Wholesale cost (*Wc*) weighting factors

$$a = \frac{T_c - T_{pass}}{T_n}$$

$$b = \frac{T_n + (T_{a1} - T_{a35})}{T_n}$$

$$c = \frac{T_{a35}}{T_n}$$

T_c = Cumulative weight purchased up to 16th November '22 = 93

T_{pass} = Sum of daily delivered weight in period n (P9b) = 1.453 * trading day of period

T_n = Trading days of next period (P10a) hedged during the n − 1 period (P9b) = 30

T_h = Max of the cumulative hedge weight purchased before P9b starts = ~123

T_{a1} = Term growing by 1 unit per trading day from trading day 1 of period n (3rd January 2023)

T_{a35} = Term growing by 1 unit per trading day from trading day 35of period n (20th February '23)