GB PRICING Methodology

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| Date | Version Number | Comments |
| 20/05/22 | V1.0 | Initial Version |
| 15/03/23 | V1.1 | Revision to initial version to correct the competitiveness HHI criteria, replacing “above” with “below”; clarification of review period; addition of new DFS product to Appendix B; correction to EFR product name in Appendix B; version control table added. |
| 20/05/25 | V1.2 | Reviewed pricing methodology in line with requirement in section 4.3. Some changes to the document, include: Change of product classification from “Legacy and New” to “Enduring and Phased/Phasing out”. An updated Appendix B, indicating which products are being phased out/phasing out. Updates to reflect the change from ESO to NESO, as well as from Pricing Proposal to Pricing Methodology. |

## Introduction

1. The **GB Pricing Methodology (PM)** has been developed for the GB market in order to provide clear guidance to the GB Transmission System Operator (TSO) of which payment mechanism is utilised when a new Balancing product is introduced.
2. Article 6(4) of Regulation (EU) 2019/943[[1]](#footnote-2) states that ***“settlement of balancing energy for standard balancing products and specific balancing products shall be based on marginal pricing (pay-as-cleared)*** unless the regulatory authority approves an alternative pricing method on the basis of a joint proposal by all transmission system operators ***following an analysis demonstrating that that alternative pricing method is more efficient”*** (emphasis added).
3. Article 6(14) of Regulation (EU) 2019/943 states that *“Transmission system operators may, where standard balancing products are not sufficient to ensure operational security or where some balancing resources cannot participate in the balancing market through standard balancing products, propose, and the regulatory authority may approve, derogations from paragraphs 2 and 4 for specific balancing products which are activated locally without exchanging them with other transmission system operators.”*
4. Article 6(14) of Regulation (EU) 2019/943 also states that *“Proposals for derogations shall include a description of measures proposed to minimise the use of specific products, subject to economic efficiency, a demonstration that the specific products do not create significant inefficiencies and distortions in the balancing market either inside or outside the scheduling area, as well as, where applicable, the rules and information for the process for converting the balancing energy bids from specific Balancing products into balancing energy bids from standard Balancing products.”*
5. PM was developed in 2022 in order for the GB TSO to ascertain when Marginal Pricing (Pay as Cleared) should be used for Balancing products and highlights the process for when Alternative Payment Mechanisms can be utilised if deemed to be more efficient.
6. In 2022 products were classed as Legacy and New. Legacy products were products that were active prior to the approval of the methodology. However, now all balancing products will be classed as enduring or phased/phasing out as per Appendix B. Any products being phased out/phasing will not be reviewed and assessed.

## Scope

**1.1** T**he PM i**s the proposal for GB in accordance with Article 6(4) of Regulation (EU) 2019/943.

**1.2** T**he PM** defines the methodology to determine the pricing mechanism of Balancing Energy resulting from Frequency Restoration Reserves with manual activation (hereafter referred to as “mFRR”), Replacement Reserves (hereafter referred to as “RR”) and Frequency Containment Reserves (FCR), also known as Specific Balancing products. Capacity payments (i.e., Balancing Capacity) are out of scope of this PM.

## Definitions and Criteria

**2.1** All definitions for mFRR, RR and FCR can be found in Commission Regulation (EU) 2017/1485[[2]](#footnote-3).

**2.2** Definitions for Balancing Energy, Balancing Capacity, Standard Balancing products and Specific Balancing products can be found in Regulation (EU) 2019/943. For clarity, definitions for Alternative Payment Mechanism and Marginal Pricing (Pay as Cleared) are set out in the table below.

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| Term  | Definition  |
| Marginal Pricing (Pay as Cleared)  | Auction whereby a uniform price is given for all transactions.  |
| Alternative Payment Mechanism  | Any payment mechanism which is different to Marginal Pricing. For example, but not limited to, Pay as Bid or Market Indexing  |

**2.3** Marginal Pricing (Pay as Cleared) will be the payment mechanism used for all in scope products if the product meets the following criteria, subject to the conditions outlined in General Principles (Section 3).

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| Criteria  | Definition  | Measures  |
| a) Homogeneity  | The product cannot be distinguished from the same product offered by different providers by the consumer (TSO).  | The range of offerings from providers may be determined by:  i) Degree of allowable variation of parameters (including but not limited to): * Location.
* Speed of Delivery.
* Duration of Service.
* Recovery Periods.

  ii) Range of Prices submitted by different technology types. |
| b) Full Information  | As much information as possible for the market in which the product is available is correct, transparent and available to all parties.  | Types of information available to market prior to price being set.  This should include as a minimum (but not limited to): * volumetric information
* timescales
* operational impacts
* prices

 The information should be available in a suitable timescale. |
| c) Competition | The market in which the product is in has competition and is not distorted by a single or dominant market participant.  | Herfindahl-Hirschman Index[[3]](#footnote-4) i) Percentage of time that one unit/company (select where applicable) sets a marginal price based on modelling and projections ii) If the market scores above 1500 as per the index, it will be deemed as competitive.  |

**2.4** The TSO shall complete an assessment form (included in Annex A of this document) against the three criteria outlined in paragraph 2.3 upon development of a product. This assessment will determine whether the market criteria are present for Marginal Pricing to be more efficient or an Alternative Payment Mechanism (e.g., Pay as Bid, Market Indexing) would be more efficient. If all 3 criteria outlined in paragraph 2.3 are met, NESOwill conduct a Cost Benefit Analysis (CBA) (including all implementation costs) to determine if implementing Marginal Pricing will result in a positive outcome for the market. If the CBA shows a positive outcome for consumers, then the product shall be settled on a Pay as Cleared basis. If these criteria are not met and/or the CBA shows a negative outcome, an Alternative Payment Mechanism may be utilised if it results in a more economically efficient outcome.

**2.5** If Marginal Pricing is not the outcome of the assessment, the TSO shall provide further details as outlined in Article 6(14) of Regulation (EU) 2019/943 covered within paragraph 3.4 of this document. This will enable Alternative Payment Mechanisms to be used subject to economic efficiency.

## General Principles

**3.1** The settlement of balancing energy for all new Specific Balancing products shall be based on Marginal Pricing if the criteria in paragraph 2.3 are met.

**3.2** The TSO may evaluate any new products to determine whether they are in scope of the outlined criteria. Alternative settlement methods may be used when the criteria in paragraph 2.3 cannot be met.

**33.** If any new products meet one or more of the criteria (a) to (c), the NESOwill perform an assessment to determine whether use of an alternative pricing method is more economically efficient.

**3.4** That assessment will include the elements outlined in Article 6(14) of Regulation (EU) 2019/943:

1. a description of measures proposed to minimise the use of the Specific Balancing product (as highlighted in the aforementioned regulation), subject to economic efficiency and;
2. an evaluation of whether the product will create significant inefficiencies or distortions in the balancing market either inside or outside the scheduling area.
3. Where applicable, the rules and information for the process for converting the balancing energy bids from Specific balancing products into balancing energy bids from standard balancing products are found at Article 6(14) of EU Regulation 2019/943.

**35.** NESOwill share its assessment with the Authority via the Electricity Balancing Regulation (EBR)[[4]](#footnote-5)Article 18 submission. Timescales will be aligned with those set out in the Electricity Balancing Regulation (EBR). The outcome of the assessment will also be shared publicly.

**36.** If that assessment concludes that it is more economically efficient to use an Alternative Pricing Method, NESO may do so. If it does not, NESO must undertake the CBA to see if Marginal Pricing is more applicable.

**3.7** Where NESO launches a product that is developed after the PM has been approved, NESO will perform a market assessment. This assessment will take place no more than 2 years after initial launch of the product (initial review) and thereafter at least once every 3 year(s) (periodic review). If the market assessment shows a significant change in conditions, NESOshall conduct a further assessment in accordance with paragraph 2.3 to determine whether the respective product is suitable for settlement using Marginal Pricing. This assessment shall include a CBA of the impact Marginal Pricing will have on the market and include implementation costs. If the CBA does show a positive impact, the product will be suitable for settlement based on Marginal Pricing. If the CBA does not show a positive impact for

consumers by implementing Marginal Pricing, the product may remain settled on its Alternative Payment Mechanism. This assessment will be sent to Ofgem for approval. Ofgem will have two months to respond.

**3.8 Products being phased out will not be assessed using this Pricing Methodology, as NESO expect that many of these products will be phased out in the near future, or replaced with other products, as per introduction point vi) of this document. Phased out products will also not be assessed.**

**3.9** Where Balancing Mechanism Units (BMUs) are providing a new reserve service, they will still be instructed under a Balancing Mechanism Bid Offer Acceptance (BM BOA). This means that either:

1. Some BM BOAs will need to be settled using Marginal Pricing; or
2. BMUs will continue to be settled using their current Alternative Payment Mechanism for the foreseeable future.

**Publication and Review of the PM**

**4.1** The TSO shall publish the **PM** in a timely fashion after the Authority has approved the . Methodology**4.2** The **PM** will be published on the TSO website in a timely fashion after approval is received, and industry informed via the Joint European Stakeholder Group (JESG) mailing list.

**4.3** The TSO shall review the **Pricing methodology every 3 yea**rs and advise the Authority of the outcome of any such review. The review will be sent to the Authority for approval.

**Appendix A – NESO Assessment**

**New Product Assessment Form – utilisation settlement mechanism**

**Context**

Article 6(4) of Regulation 2019/943 obliges TSOs to settle balancing energy (utilisation) on a Pay as Cleared (PAC) basis for standard and specific balancing products. Currently most balancing products in GB use a Pay as Bid (PAB) settlement for balancing energy as an Alternative Payment Mechanism. We have created a Pricing Methodology (PM), which has been approved by Ofgem, to assess which payment mechanism is best for new products. Please see the PM for full detail, which is available here.

* This assessment is to be submitted as part of the EBR Article 18 submission.
* This submission is to be revisited within the first two years of a product going live, then every 3years, as outlined in the PM, subject to the market assessment outcome.

**Each new product that is put forwards must complete this assessment against the outlined criteria:**

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| --- | --- | --- |
| Criteria  | Definition  | Measures  |
| Homogenous  | The product cannot be distinguished from same product offered by different providers by the consumer (TSO)  | The range of offerings from providers may be determined by:  I. Degree of allowable variation of parameters (including but not limited to): * Location
* Speed of delivery
* Duration of service
* Recovery Periods

 ii. Range of Prices submitted by different technology types  |
| Full Information  | As much information as possible for the market in which the product is available is correct, transparent and available to all parties.  | Types of information available to market prior to price being set.  This should (can include as a minimum: but not limited to * volumetric information
* timescales
* operational impacts
* (prices of other participants)

  The information should be available in a suitable timescale.  |
| Competition  | The market in which the product is in has competition and is not distorted by a single or dominant participant.  | Herfindahl-Hirschman Index  I. Percentage of time that one unit/company/technology type (select where applicable) sets a marginal price based on modelling and projections ii. If the market scores above 1500 as per the index, it will be deemed as competitive.  |

**Please provide your assessment of each criterion in the blow pro-forma:**

|  |  |
| --- | --- |
| **Product Name**  |  |
| **Product Description**  |  |
| **NESO Business Lead**  |  |
| **RAPID Complete (Please provide hyperlink)**  |  |
| **RACI Complete (Please provide hyperlink)**  |  |
| **Product Description**  |  |
| **Planned Go-Live Date**  |  |

|  |  |
| --- | --- |
| **Criteria**  | **Assessment**  |
| **Homogeneity**  | *Please insert your assessment against the criteria highlighted in figure 1. Please provide as much detail as necessary to support your decision on payment mechanisms.*  |
| **Full Information**  | *Please insert your assessment against the criteria highlighted in figure 1. Please provide as much detail as necessary to support your decision on payment mechanisms.* |
| **Competition**  | *Please insert your assessment against the criteria highlighted in figure 1. Please provide as much detail as necessary to support your decision on payment mechanisms.* |

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| --- | --- |
| **Conclusion**  | Please insert your conclusion. Detail key points in support of this submission.  |

**If Pay as Cleared is not the outcome, further detail is required.**

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| Overall Assessment  | Marginal Pricing/Alternative method – provide details (Delete where applicable) |
| Description of measure proposed to minimise the use of the specific product subject to economic efficiency  |   |
| A demonstration that the specific balancing product does not create significant inefficiencies and distortions in the balancing market inside the scheduling area  |   |
| A demonstration that the specific balancing product does not create significant inefficiencies and distortions in the balancing market outside the scheduling area  |   |
| Where applicable, the rules and information for the process for converting the balancing energy bids from the specific balancing product into balancing energy bids from standard balancing products. EU Regulation 2019/943 |   |

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| Date of scheduled review (Insert date 2 years from Go-Live date, to be followed by periodic review every 3 years) |  |

**Appendix B – Product List**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Product Type**  | **Art18 Consultation/Pricing Proposal** | **Enduring/Phasing Out**  | **Phased Out**  | **In Scope of Regulation (EU Regulation 1029/943 A6(4)**  | **In Scope of PP**  | **Current or Planned Payment Mechanism (Availability). Not Covered by Methodology**  | **Current or Planned Payment Mechanism.** **(Utilisation)Covered by Methodology** | **Subject to reassessment (Utilisation Only)**  |
| STOR  | N/A  | Phasing Out  | Ending 2025   |  Yes  |  No  |  Pay as Clear  |  Pay as Bid  | No  |
| Fast Reserve  | N/A  | Phasing Out  | Ending 2025   |  Yes  |  No  |  Pay as Bid  |  Pay as Bid  | No  |
| Auction Trial  | N/A  | Phased out  | Phased out   | No -No longer Procuring  | N/A  | N/A  | N/A  | No  |
| Firm Frequency Response (Primary Secondary and High)  | N/A  | Phased out  | Phased out   | No  | No  |  Pay as Bid  | Index Linked Payment  | No  |
| Enhanced Frequency Response  | N/A  | Phased out  | Phased out   | No  | No  |  N/A  | N/A  | No  |
| Super SEL  | N/A  | No longer Procuring  | No Longer Procuring  | YES – Instructed by BM  | No  | Pay as Bid  | Pay as Bid  |  No  |
| BM BOA  | Under Review  | N/A  | N/A  |  Yes  | No  |  N/A  |  Pay as Bid  |  No  |
| Mandatory Frequency Response (Primary, Secondary and High  | Under Review  | N/A  |  N/A  |  No  | No- FFR    | Pay as bid  | Index Linked Payment   |  No  |
| Static Firm Frequency Response | N/A | Enduring | N/A  |  YES | No- No energy bids are submitted/no energy settlement takes place) | Pay as Clear | No utilisation payment |  No |
| Dynamic Containment  | N/A | Enduring |  N/A |  YES | No -No energy bids are submitted/no energy settlement takes place) | Pay as Clear (Availability) | No Utilisation payment | No |
| Dynamic Moderation  | N/A | Enduring |  N/A |  YES | No - No energy bids are submitted/no energy settlement takes place. | Pay as Clear (Availability) | No utilisation payment – therefore meets criteria of Pay as Clear  |  No |
| Dynamic Regulation  | N/A | Enduring |  N/A |  YES | No- No energy bids are submitted/no energy settlement takes place. | Pay as Clear (Availability) | No utilisation payment  |  No |
| Balancing Reserve | March 2023 | Enduring | N/A | YES | YES | Pay as Bid | Pay as Bid | Yes |
| Negative Quick Reserve (NQR)  | March 2024 | Enduring | N/A  | YES  | YES  | Pay as Clear  | Pay as Bid | Yes  |
| Positive Quick Reserve (PQR)  | March 2024 | Enduring | N/A  |  YES | YES | Pay as Clear  | Pay as Bid | Yes  |
| Demand Flexibility Service (DFS)  | July 2024 | Enduring |  N/A |  YES |  YES |  N/A | Pay as Bid | Yes  |
| Fast Start  | N/A | Enduring | N/A |  No | No – Not balancing energy service | Bilateral Availability payment | Bilateral Start Payment |  No |
| Pathfinder (Voltage, Stability, Constraint Management)  | N/A |  N/A | N/A  | No  | No – not a balancing energy service  | N/A  | N/A | N/A  |
| BM Start UP  | N/A |  N/A | N/A |  No | No – Not balancing energy service | Bilateral start payment and holding availability payment | Bilateral start payment and holding availability payment |  No |
| Emergency System Restoration (ESR) | N/A |  N/A | N/A |  No -(Non-Frequency Ancillary Service) | No – Not balancing energy service | Bilateral start payment and holding availability payment |  N/A | N/A  |
| Inertia Services  | N/A |  N/A | N/A |  No - (Non-Frequency Ancillary Service) | No - Not balancing energy service |  N/A | N/A | N/A  |
| SO, to SO trades  | N/A |  N/A |  N/A | No- Pre- Gate Closure, therefore not balancing | No - Not balancing energy service | N/A  | N/A | N/A  |
| SO, to SO Misc  | N/A |  N/A | N/A | No- Pre- Gate Closure, therefore not balancing | No Not balancing energy service  | N/A  | N/A | N/A  |
| Capacity Market  | N/A | N/A | N/A | No – Capacity Mechanism | No- Not balancing energy service | N/A  | N/A | N/A |

1. Retained EU Regulation 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity [↑](#footnote-ref-2)
2. Retained Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation [↑](#footnote-ref-3)
3. The HHI is calculated by squaring the market share of each provider competing in the market and then summing the resulting numbers. For example, for a market consisting of four providers with shares of 30, 30, 20, and 20 percent, the HHI is 2,600 (302 + 302 + 202 + 202 = 2,600). HHI below 100 indicates a highly competitive industry, HHI between 100 and 1,500 indicates an industry with a low degree of concentration, HHI between 1,500 to 2,500 indicates moderate market concentration, HHI above 2,500 indicates high market concentration. [↑](#footnote-ref-4)
4. REGULATION (EU) 2019/2195 of 23 November 2017 as retained and amended in UK Law by Statutory Instruments 2019 No.532 [↑](#footnote-ref-5)