

Public

# **P371 'Inclusion of non-BM Fast Reserve actions into the Imbalance Price calculation'**

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Workgroup 2

13 March 2019

# Health & Safety

## In case of an emergency

An alarm will sound to alert you. The alarm is tested for fifteen seconds every Wednesday at 9.20am

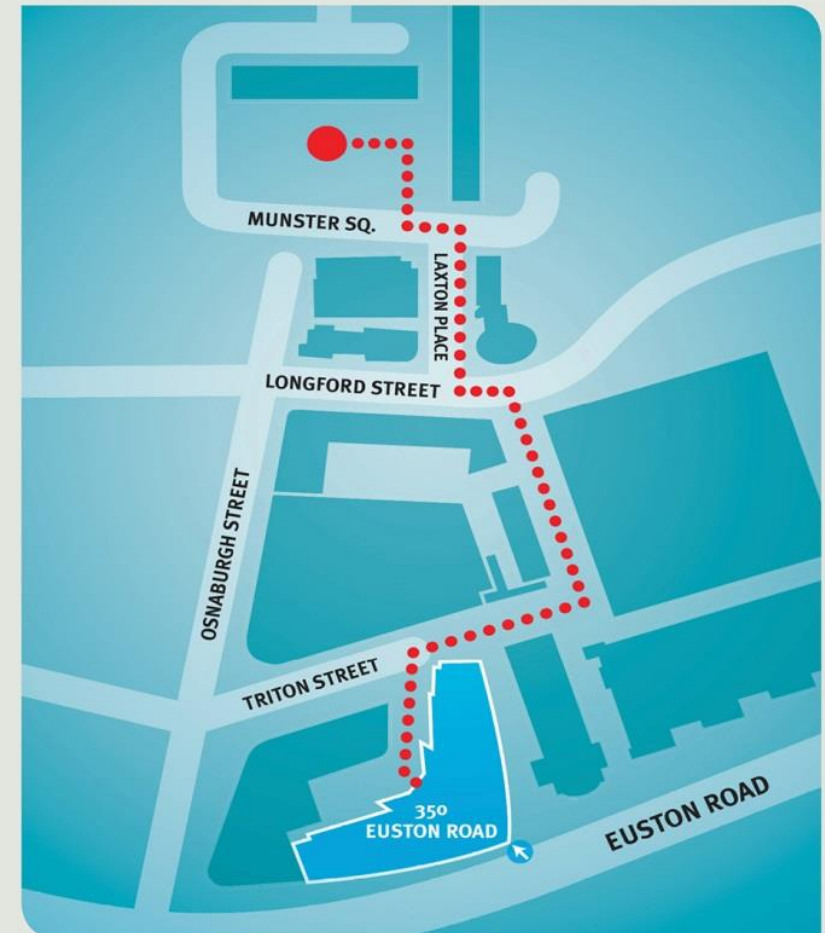
## Evacuating 350 Euston Road

- If you discover a fire, operate one of the fire alarms next to the four emergency exits.
- Please do not tackle a fire yourself.
- If you hear the alarm, please leave the building immediately.
- Evacuate by the nearest signposted fire exit and walk to the assembly point.
- Please remain with a member of ELEXON staff and await further instructions from a Fire Warden.
- For visitors unable to use stairs, a Fire Warden will guide you to a refuge point and let the fire brigade know where you are.

## When evacuating please remember

- Do not use the lifts.
- Do not re-enter the building until the all clear has been given by the Fire Warden or ground floor security.

**Our team on reception is here to help you, if you have any questions, please do ask them.**



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# Agenda

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- Welcome
- Review of detailed analysis
- Overview of potential solutions
- Defining the preferred solution
  - suitability of a stepped approach
  - correlation with EB GL
  - assessing costs against benefits
  - Suitability of applying Buy Price Adjustment
- Issuing Impact Assessments
  - Transmission Company
  - CGI
- Review of ToRs
  - Initial consideration of questions to be included in Consultation
- AOB and next steps

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# Meeting Objectives

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- To review the analysis completed by ELEXON into the impact of Non BM Fast Response actions on the Imbalance Price
- To consider potential solutions to the Modification
  - Determine whether it would be appropriate to take stepped approach
- Determine what impact assessments need to be issued



# **Review of Analysis**

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## Scope of analysis

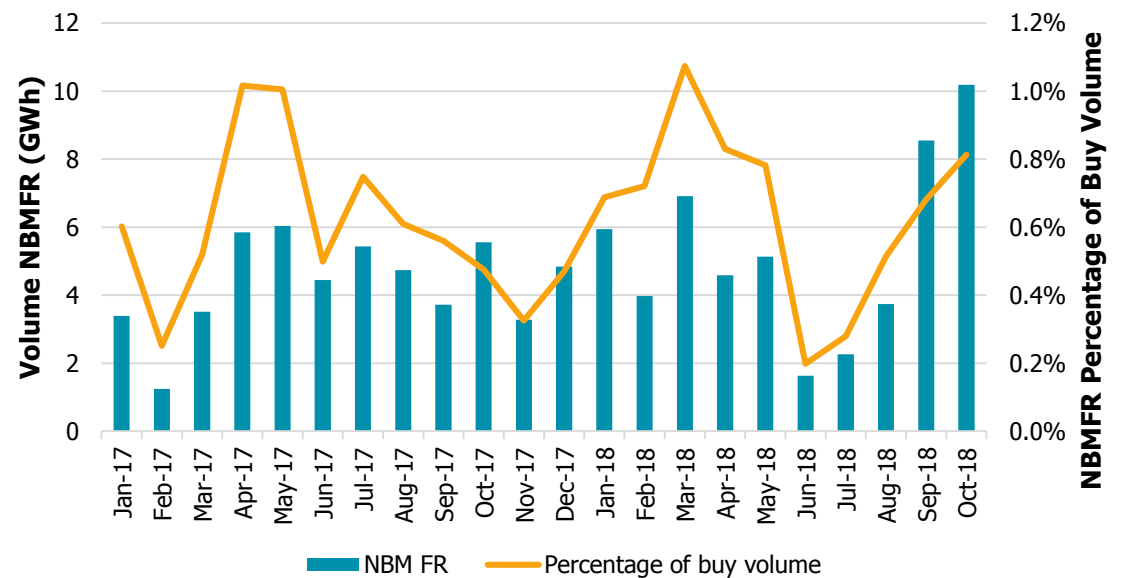
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- The P371 workgroup requested ELEXON undertake analysis to highlight the potential impact the inclusion of non-BM Fast Reserve (NBMFR) actions as Balancing Services Adjustment Actions (BSAA) could have on the Imbalance Price.
- National Grid provided ELEXON with volumes and durations of Fast Reserve actions taken outside of the Balancing Mechanism between January 2017 and October 2018.

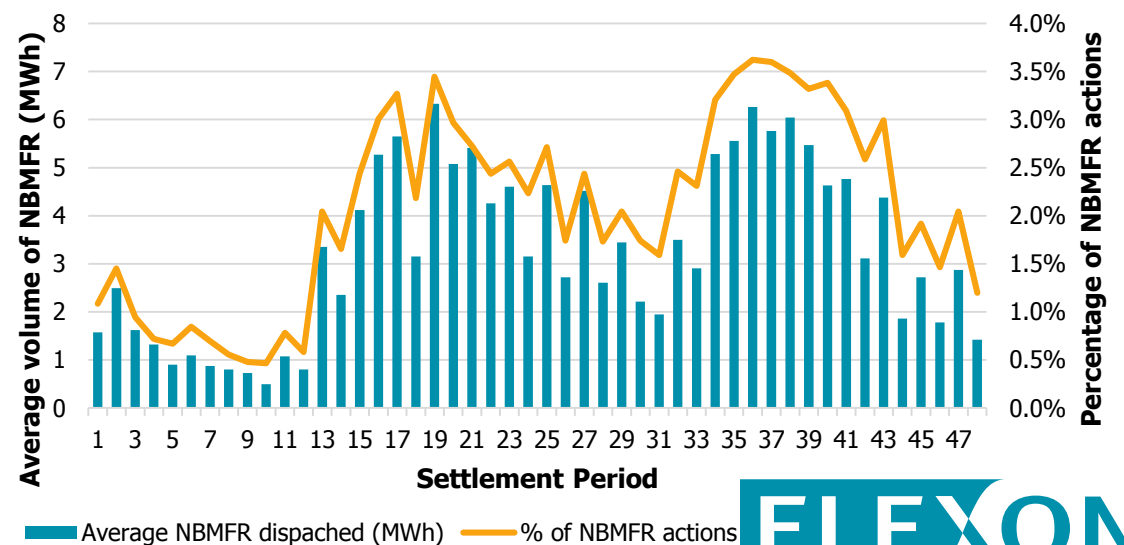
# Utilisation of NBMFR

- Low utilisation of NBMFR over the assessed period
  - Used in 14% of Settlement Periods
  - 0.6% of buy balancing volume
  
- Peaks in dispatch over morning and afternoon
  - 30% dispatched between 7:00 and 12:30
  - 33% dispatched between 16:30 and 21:30,
  - 37% dispatched outside of these Settlement Periods

NBMFR volume and percentage of buy balancing volume

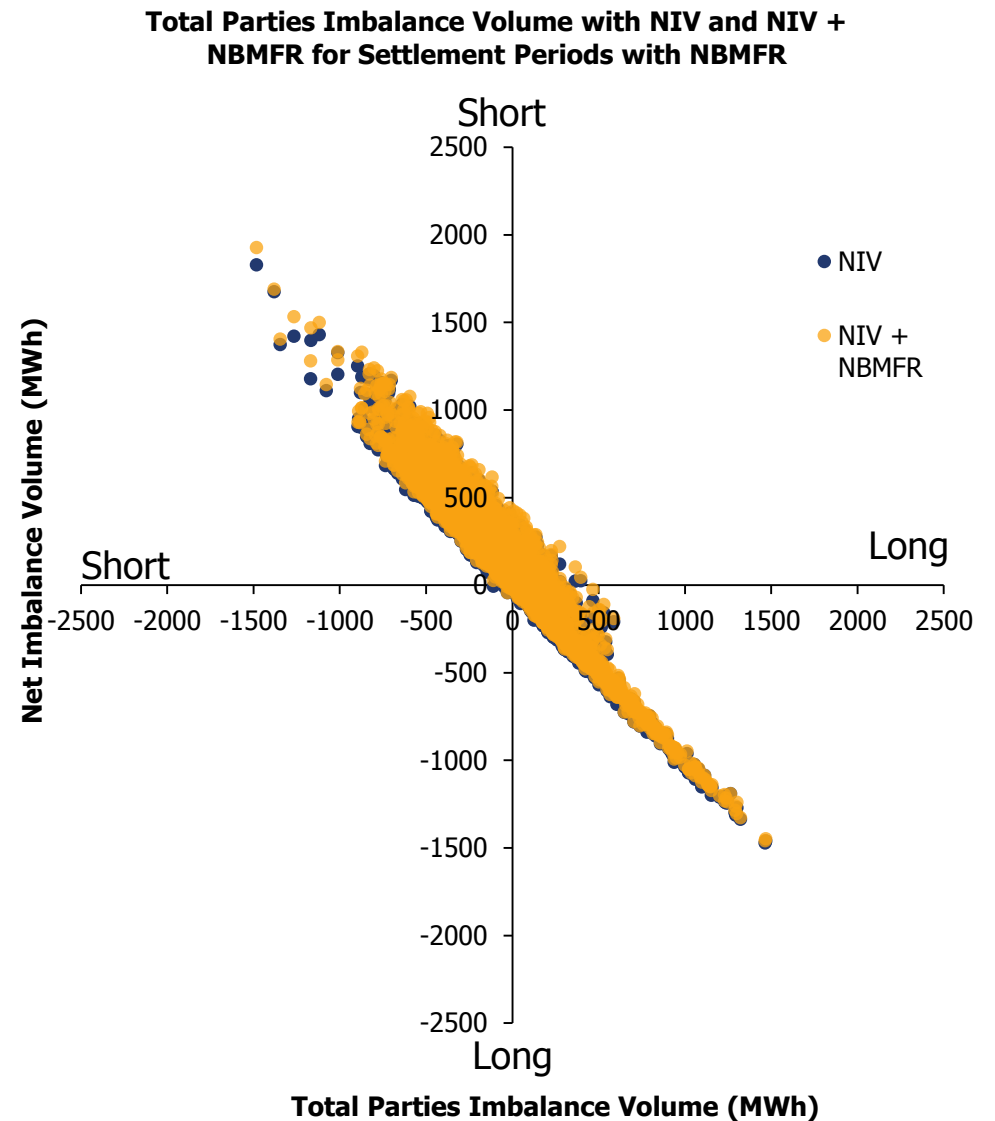


Utilisation of NBMFR over a day



# NIV correlation with NBMFR

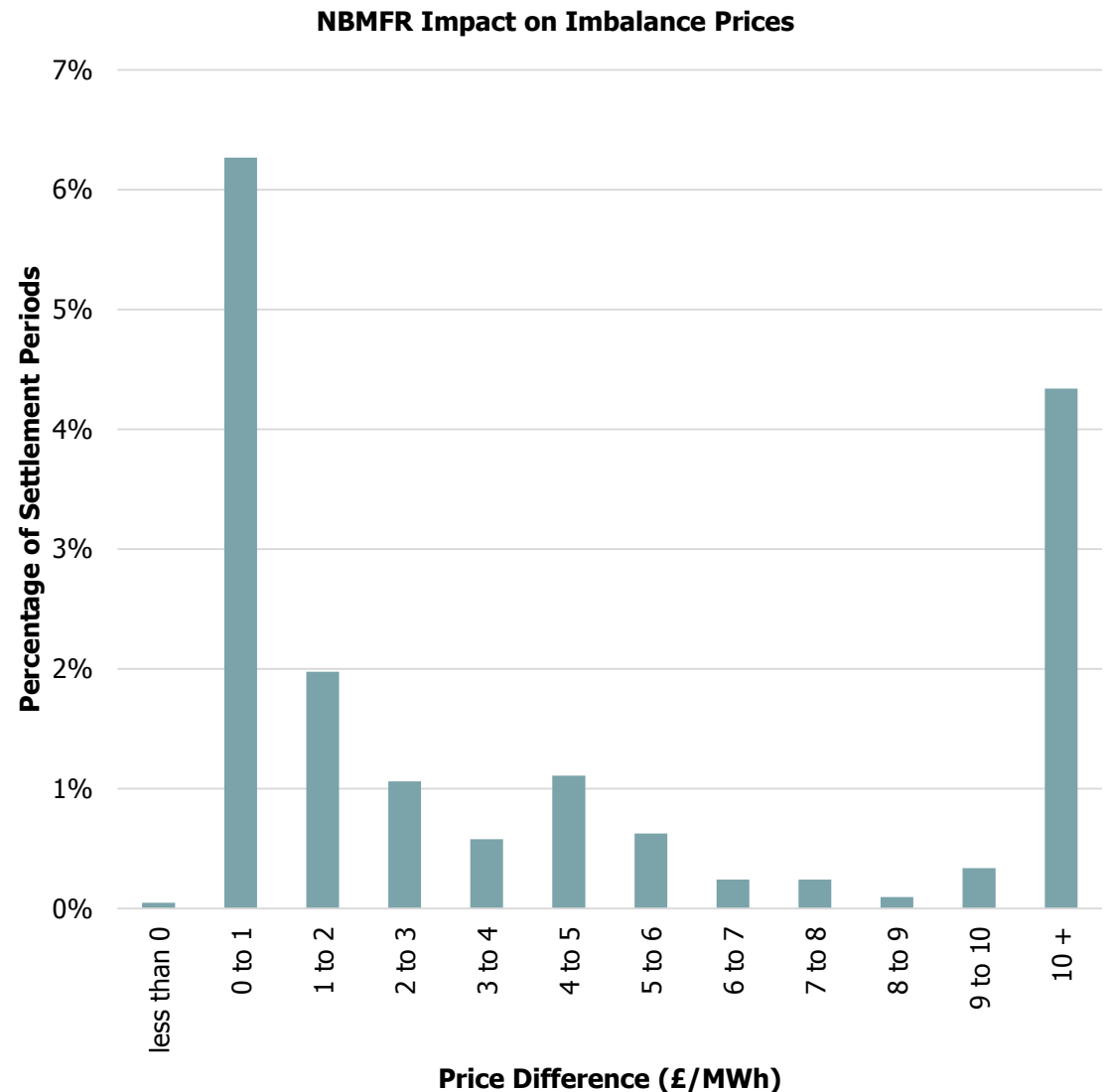
- Total Parties Imbalances drive the need for energy balancing actions. Therefor the NIV should be well correlated with Total Parties Imbalance.
- For Settlement Periods with NBMFR
  - Existing NIV correlation -0.971
  - Directions match 93% of Settlement Periods
  - NBMFR NIV correlation -0.969
  - Directions match 92% of Settlement Periods
- High correlation between NIV and Imbalances with and without NBMFR included





# Impact on prices

- Imbalance Prices increased in 17% of Settlement Periods where NBMFR was used (2% of all Settlement Periods)
- Increased by more than £10/MWh in 4.3% of Settlement Periods where NBMFR was used
- Maximum change in prices would have been £68.47/MWh





# **Potential Modification Solutions**

**ELEXON**

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## Option 1

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- Grid provide Non BM Fast Reserve Actions to ELEXON to be included in the Imbalance Price calculation
  - May not require system changes in the BSC but may require Grid to do work so these actions are included in the BSAD

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## Option 2

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- Grid provide Non BM Fast Reserve Actions
- All Fast Reserve actions both BM and Non BM are flagged as Fast Reserve
- ELEXON check actions against Fast Reserve availability windows and apply RSP for those which fall in windows
- Will involve system changes at both ends and standardised availability windows for Fast Reserve

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## Option 3

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- Grid provide Non BM Fast Reserve Actions
- All actions undertaken within an availability window receive an extra flag indicating goes through a RSP process
- Or only actions within an availability window receive a generic flag. However by doing this removes information on whether the action was Fast Reserve or STOR which removes a granularity of data which is reported on within SPAR, i.e. amount of STOR actions

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## Option 4

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- Stepped approach – may not be possible under BSC governance
  - Implement option 1 ASAP, with either option 2 or 3 at a later date
  - To achieve option 2 or 3 you will need to have the ability to do option 1. Rather than wait for the complete solution do it in stages



**Defining the  
preferred solution**

**ELEXON**

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# Benefit of Implementation approach

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- Suitability of using a stepped approach:
  - This is not the usual Modification Implementation approach
  - Modification can only have 1 Implementation date, so all legal text would 'go live' at the same time
  
- Assessing cost against potential benefit:
  - Do the impacts on market signals justify (potentially) substantial system changes?
  - Does the solution need implementing quickly or is it better to wait for a more robust solution?



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## Summary of following discussions

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- The Imbalance price should reflect the total cost of all Energy actions and costs
- EGBL is proposing removing pre-determined prices
- EGBL states that all Energy actions should be clearly reported and separated out from other actions
- Options fees for Energy actions should be included in the BPA

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# Correlation with EB GL

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## **COMMISSION REGULATION (EU) 2017/2195 of 23 November 2017**

Article 12 (Publication of information) 3(b):

- Each TSO shall publish the following information as soon as it becomes available:
  - information on all balancing energy bids from its scheduling area or scheduling areas, anonymised where necessary, no later than 30 min after the end of the relevant market time unit. The information shall include:
    - (i) type of product;
    - (ii) validity period;
    - (iii) offered volumes;
    - (iv) offered prices;
    - (v) information on whether the bid was declared as unavailable;

[https://www.entsoe.eu/network\\_codes/eb/](https://www.entsoe.eu/network_codes/eb/)

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## Correlation with EB GL

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### **COMMISSION REGULATION (EU) 2017/2195 of 23 November 2017**

Article 16 (Role of balancing service providers) 6:

- The price of the balancing energy bids or integrated scheduling process bids from standard and specific products pursuant to paragraph 4 shall not be predetermined in a contract for balancing capacity. A TSO may propose an exemption to this rule in the proposal for the terms and conditions related to balancing set-up pursuant to Article 18. Such an exemption shall only apply to specific products pursuant to Article 26(3)(b) and be accompanied with a justification demonstrating higher economic efficiency.

[https://www.entsoe.eu/network\\_codes/eb/](https://www.entsoe.eu/network_codes/eb/)



# Questions

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- Does Article 12 indicate that all Energy actions and products need to be listed independently from each other?
  - i.e. can you roll Non BM FR Energy actions into a STOR product as indicated by the interim solution
- Are availability fees allowed as per article 16?
  - If products are purchased in real time is RSP required?
  - Have NGESO applied for derogation?
- If RSP is rarely applied, is it inefficient to develop a solution that used RSP given the uncertainty?

<https://www.nationalgrideso.com/codes/european-network-codes/meetings/consultation-amended-proposal-ebgl-article-18-terms-and>

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# Inclusion of Option Fees

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- P371 is looking to include Non BM Fast Reserve actions into the Imbalance Price
- Part of the cost of an action is Options Fees
- April 2001 Correction of price spikes in the Balancing Mechanism Decision Document

<https://www.elexon.co.uk/wp-content/uploads/2012/02/p3decision.pdf>

- BSAD Methodology Rationale for Including Options Fees in the Calculation of Imbalance Prices
- Throughout the development of NETA, Ofgem has sought to establish the principle that energy imbalance prices should reflect all costs to NGC of participants being out of energy balance. Ofgem has sought to establish the principle that “all the costs of energy balancing should be targeted on participants who are out of energy balance whilst the costs of system balancing should be recovered from all participants”. In terms of balancing services contracts (option fees and utilisation or difference payments) should be targeted on participants who are out of energy balance”. Specifically, with respect to option fees, we have argued that since the holding of reserve enables the System Operator (SO) to call upon additional energy at short notice, it is appropriate to provide a signal to those participants who are out of balance as to the costs of ensuring reserve capacity is available

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# Use of BPA in solution

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- Listed within the BSAD statement
  - Price Adjusters With the exception of STOR services, where National Grid pays option fees to either, facilitate access to MW capacity within the Balancing Mechanism or to facilitate the withdrawal of MW capacity from the Balancing Mechanism, such fees will be represented through the Price Adjusters. Specifically, fees paid to facilitate additional MW capacity will be represented through the Buy Price Adjuster and fees paid to facilitate the withdrawal of MW capacity through the Sell Price Adjuster
  - **Regulating Reserve** For firm provision of this service National Grid will pay option fees with any utilisation fees being fixed via agreement of BM Offers. Firm Regulating Reserve option payments for increasing generation or reducing demand will feed into the calculation of the BPA. This will be calculated by dividing the total option fee in any settlement period by the **total contracted capability**. Similarly any option payments for reducing generation or increasing demand (negative reserve) will feed into the calculation of the SPA

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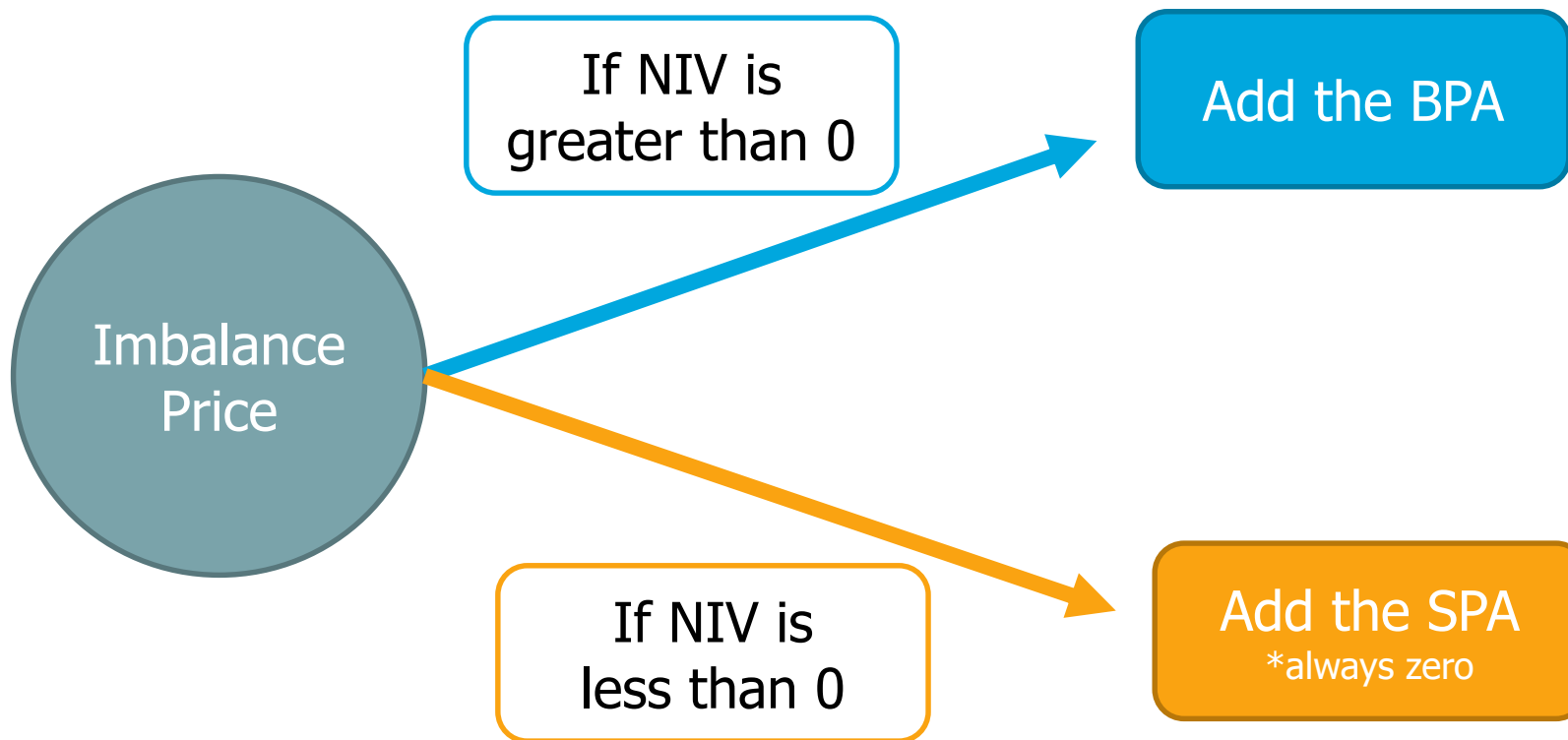
# Overview of BPA

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- $RC_j$  = cost of purchases of firm regulating reserve option fees (£)
- $FC_j$  = cost of purchases of Forward Contract option fees (£)
- $cR_j$  = capability of firm regulating reserve contracts for the relevant settlement period (MWh)
- $cF_j$  = capability of Forward contracts for the relevant settlement period (MWh)
- $BC$  = cost of BM StartUp instructions to minute  $t$  (£)  $cB$  = volume capability of BM StartUp instructions over the defined BPA period to minute  $t$  (MWh)
  
- How does the process happen currently?
- Do we have any examples of the calculations, size of the BPA?

## Additional components

- At the end of Imbalance Price calculation the Buy Price Price Adjuster (BPA) or the Sell Price Price Adjuster (SPA) are added to the Imbalance Price





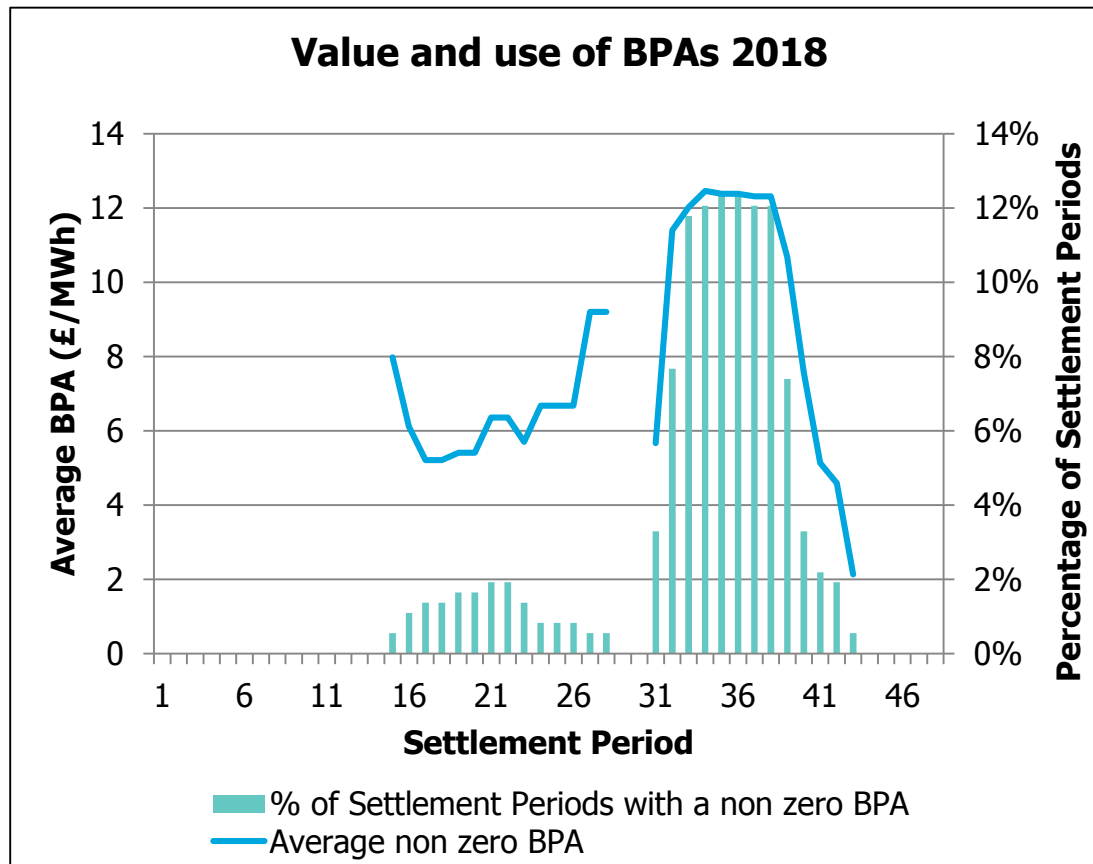
# Buy Price Price Adjustment

BPA is an additive adjustment to the Imbalance Price used to reflect additional costs

- Calculated by the SO, method is detailed in BSAD Methodology Statement

$$BPA = \frac{(\sum RC + \sum FC)}{(cR + cF)} + \sum \frac{BC}{cB}$$

- RC = cost of purchases of firm regulating reserve option fees (£)
- FC = cost of purchases of Forward Contract option fees (£)
- cR = capability of firm regulating reserve contracts for the relevant settlement period (MWh)
- cF = capability of Forward contracts for the relevant settlement period (MWh)
- BC = cost of BM StartUp instructions to minute t (£)
- cB = volume capability of BM StartUp instructions over the defined BPA period to minute t (MWh)
- BMStartUp Time = all minutes associated with BM StartUp instruction



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# Questions on Option Fees

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- The BSAD indicates that Option Fees for availability should feed through into the BPA.
- What Balancing Services payments currently feed through into the BPA?
- What Balancing Services payments should feed through into the BPA?
  - Services used for Energy Balancing only?
  - If fees for Services used predominately for System actions, actions which are CADL flagged, or for Balancing changes which are designed to deal with demand within a Settlement period are included this will impact on the Imbalance Price
    - Is this correct?
  - What about those Balancing Services which are used for both Energy/System i.e. Fast Reserve?
  - Should all availability fees for those services feed into the BPA or a % and if so what %?

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## Further Questions on BPA

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- STOR availability fees were removed from the BPA because of RSP in 2015
  - If RSP is applied to Fast Reserve should the same theory apply
  - If RSP is not applied then should availability fees feed through into BPA
  - Even if a % of those actions utilised are classed as System?
- Without RSP or availability fees feeding into the BPA does the cost of the Fast Reserve action feeding into the Imbalance cost reflect the true cost of that action, thus the true cost of Balancing the Energy?
- Does the BSAD need amending to make it more clear what is and what isn't included?



# **Impact Assessment requirements**

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# Impact Assessments

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- Transmission Company
  - Any changes to NGESO systems that will be needed to feed data into Settlement Systems
  
- CGI
  - Any required changes to the BSC Systems to amend the calculation of Imbalance Price or publish data
  
- Will likely influence how complex any solution is and when it can be delivered



# **Review of ToRs and Assessment Consultation**

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# Terms of Reference (1 of 2)

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- a) Has the compliance with current Code obligations and EU Regulation been considered?
- b) Which Balancing Actions should be classed as System Balancing Actions?
- c) Have the impacts and changes to System Prices (Energy Imbalance Price) Parameters been investigated?
- d) What checks can be done to ensure that relevant actions have been correctly flagged?
- e) How will the Balancing Services affected by this Modification change as part of National Grid's SNAPS work?
- f) Is it possible to future proof any solution for P371 against possible changes in name of existing Balancing Services as well as the potential creation of new Balancing Services and their associated Actions?
- g) What changes are needed to BSC documents, systems and processes to support P371 and what are the related costs and lead times?

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## Terms of Reference (2 of 2)

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- h) Are there any Alternative Modifications?
  - i) Should P371 be progressed as a Self-Governance Modification?
  - j) Does P371 better facilitate the Applicable BSC Objectives than the current baseline?
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- Are there any questions to provisionally include in the Assessment Consultation?





## Next Steps

Event	Date
Workgroup meeting	13 March 2019
Prepare Business Requirements	By 29 March 2019
Impact Assessments	4 April 2019 - 18 April 2019 (10WD)
Review IAs and prepare Workgroup materials	23 April 2019 – 3 May 2019
Workgroup to review IAs and define solutions for consultation	w/c 6 May 2019

