

# ELEXION

---

**BSC Panel 311**

---

Public

11 February 2021



# PART I: NON- MODIFICATION BUSINESS (OPEN SESSION)

# ELEXION

---

**Update on progress of IS solution for P408  
'Simplifying the Output Usable Data  
Process as a consequence of GC0130'**

---

Verbal – James Daniels, Phil Smith & Will  
Jones (NGESO)

11 February 2021





# P408

February 2021 update on progress of IS solution for P408

National Grid **ESO**

# Ofgem have approved a new implementation date for P408 and associated Grid Code modification GC0130

02 February 2021	Previous implementation date
21 January 2021	ESO request to extend implementation date
22 January 2021	BSC Panel request to extend implementation date
29 January 2021	Ofgem approve extension
<b>18 March 2021</b>	<b>New implementation date</b>

# Progress since previous extension

What have we done since November to meet 02 February 2021 deadline?

- Project / Programme leadership changes
- Increased technical resources and capability within the team
- Deferred Christmas furlough for third party resources
- Joint daily stand ups introduced across all deliver towers (previously ran separately)

Why was the extension to 18 March 2021 required?

Activity	Progress and Challenges	Cause	RAG Status	Impact if not ready
Complete ESO User Acceptance Testing	<ul style="list-style-type: none"><li>• Testing at a component level on track</li><li>• Data inconsistencies between internal systems prevented a successful integrated test</li></ul>	<ul style="list-style-type: none"><li>• Complex legacy system evolved over time</li><li>• Use of static data in previous test phases – different results now dynamic data applied</li></ul>		<ul style="list-style-type: none"><li>• Significant manual steps needed to ensure process could be undertaken whilst completing testing of new solution</li><li>• Significant risk of data integrity issues</li></ul>
End to End Integration with Elexon	<ul style="list-style-type: none"><li>• File based testing conducted with positive results</li><li>• Changes needed to connect systems delayed and not yet started. Insufficient time in plan to complete testing to an acceptable level of quality</li></ul>	<ul style="list-style-type: none"><li>• Complexity of firewall changes</li><li>• Need for changes by Elexon not understood until detailed design work undertaken</li></ul>		<ul style="list-style-type: none"><li>• Unable to fulfil GC0130 / P408 commitments</li><li>• Likelihood of not getting security or Service Management approval to deploy solution not fully tested</li></ul>



# Revised plan for 18 March 2021

The new go-live date will allow more time to complete a successful E2E test cycle and establish readiness of our BI solution.

Milestone	Target Date	Status	Notes
System Testing Defects Resolution	22nd Jan	Completed on time	No outstanding defects
System Integration Test Completion	05th Feb	Completed on time	No outstanding defects
User Acceptance Test Completion	12th Feb	In-progress	On track for target date
End to End Integration Testing with Elexon - Completion	12th Feb	In-progress	On track for target date
Non Functional Testing Completion	19th Feb	In-progress	On track for target date
Technical go-live	11th Mar	Planned	On track to start on time
Industry Go Live	18th Mar	Planned	On track to start on time

## Additional Controls to assure delivery

- Extended test windows to allow full second pass of scripts that are unsuccessful with additional contingency for defect resolution
- Delivery partners - escalations in place at UK director level, additional senior technical resources have joined the project
- Escalation routes open with ESO CIO (Norma Dove Edwin) and Kayte O'Neill (ESO Head of Markets)

## Lessons Learnt to be carried forward for other projects

- Delivery Models being adapted to a more product centric / continuous agile delivery approach, to de-risk large system replacement projects
- Integrated plans and roadmaps developed for RIIO-2 to ensure delivery across our IT delivery towers and partners
- Increased visibility of regulatory commitments associated with projects across our IT delivery towers



# PART II: MODIFICATION AND CHANGE BUSINESS (OPEN SESSION)



# ELEXION

---

## **Interim update on the P379 Cost Benefit Analysis Report**

---

Verbal – Lewis Heather, Ben Noone, Shafiq Pandor, and Gary Keane (CEPA)

11 February 2021

## BSC Panel

### P379 CBA: Emerging conclusions



11/02/2021

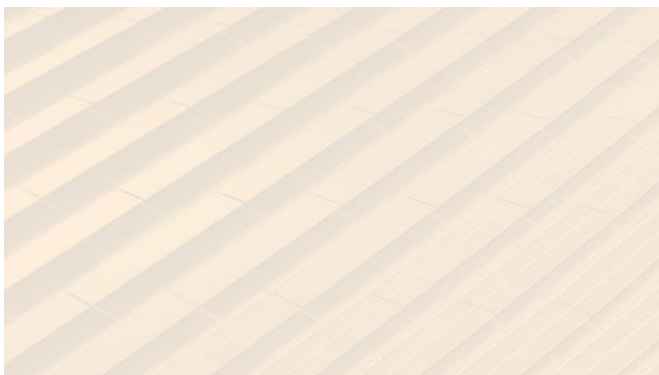
# Agenda

- Context
  - Emerging conclusions
  - Next steps
- 
- *Annex 1: Recap on approach*
  - *Annex 2: Evidence gathering approaches*
  - *Annex 3: Summary of costs, risks and unintended consequences*
  - *Annex 4: Summary of stakeholder workshop responses*



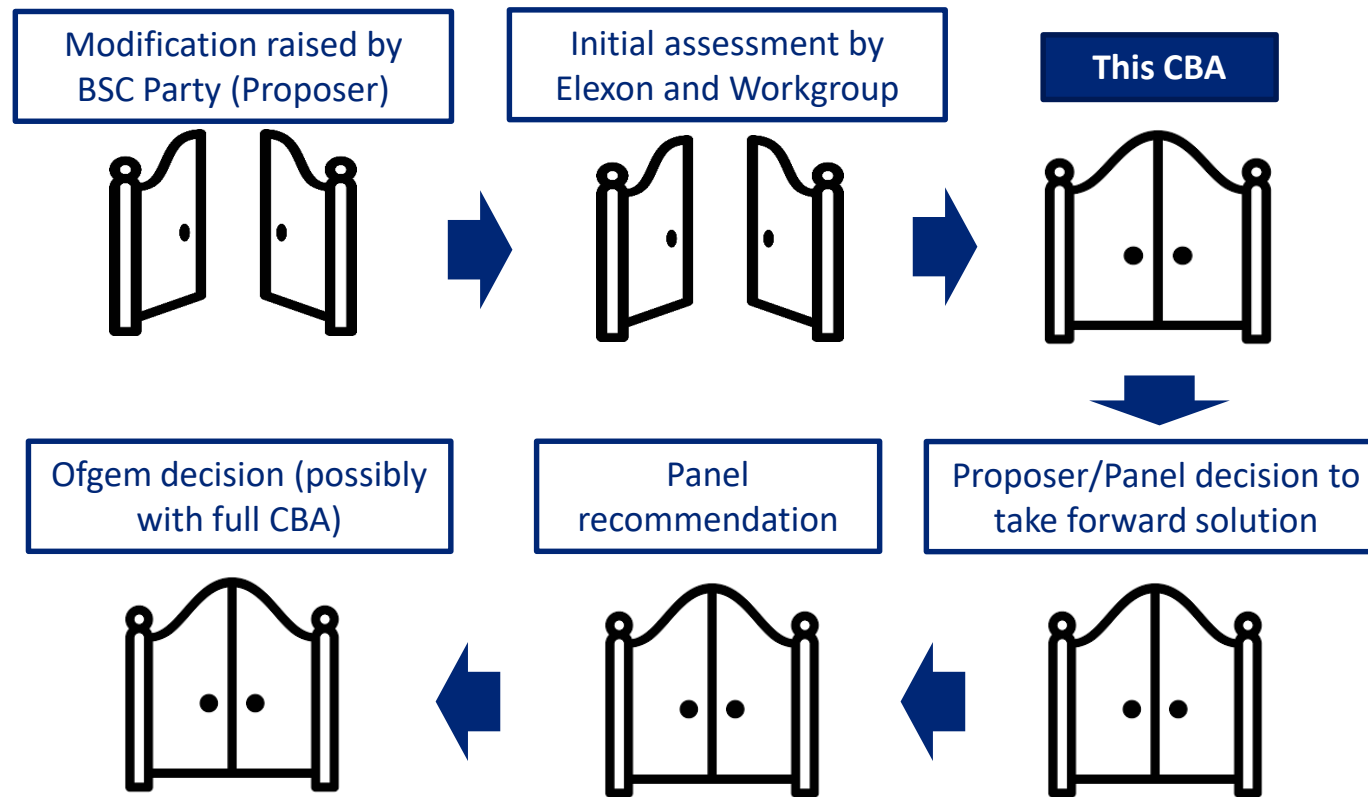


## Context



# Context: P379 Gateways

- The CBA is intended to feed into a decision for the modification proposer and the BSC Panel regarding whether to take forward P379 for further development
- *The CBA may also feed into the Panel's view on a recommendation to Ofgem regarding whether to approve P379*

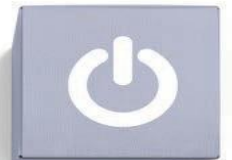
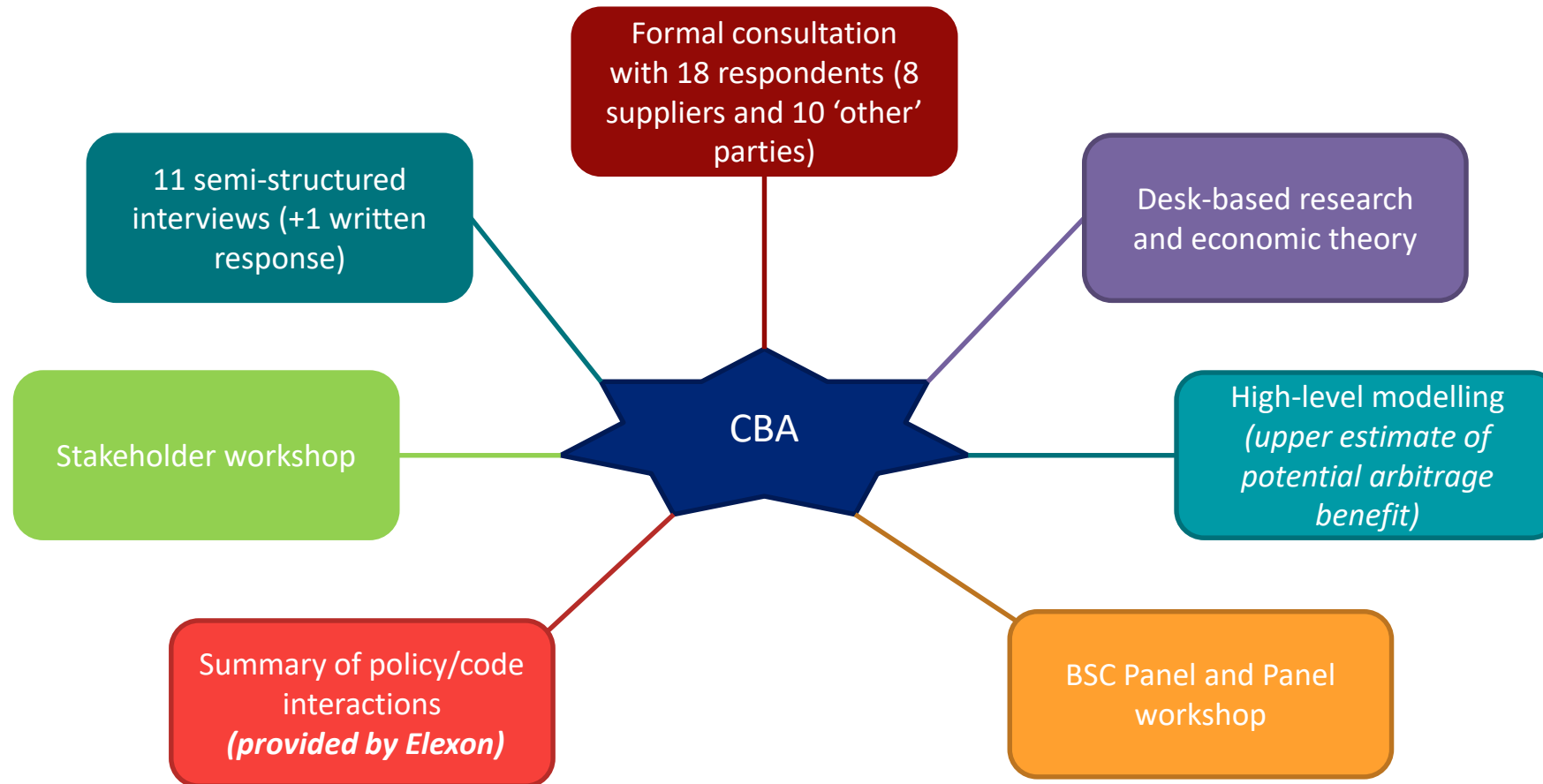


The CBA is taking place at a relatively early stage in the mod process.

Several of the costs and benefits are subject to a wide range of uncertainty and dependencies.

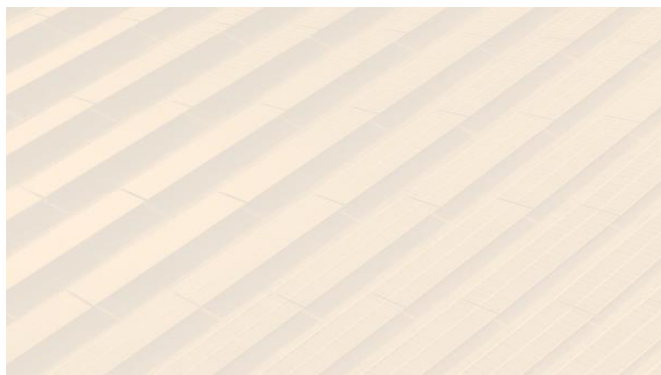


# Approaches for evidence gathering





## Emerging conclusions



# Use case benefits

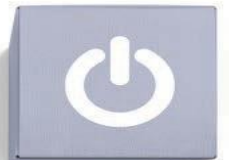
Use case	Likelihood of (some) benefit	Maximum scale of possible benefit	Timescale of benefit
Specialist suppliers and bundling	???	???	???
Supplier arbitrage and competition	???	???	???
Community energy	???	???	???
P2P trading	???	???	???



# Emerging Conclusions: Use case benefits

## *Use cases*

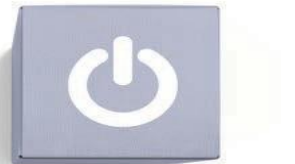
- The clearest use case for P379 is in relation to separable, ‘lumpy’ load (in particular EVs and heat pumps). This may provide a route to market for:
  - specialist suppliers; and
  - potential entrants to the market from ‘non-energy’ parallel markets
- We gathered very provisional (but not fully informed) interest from ‘heat as a service’ and EV business models
- However, it isn’t clear that P379 would deliver a significant step change in opportunities to enter the market relative to existing alternatives:
  - Partnering with existing suppliers
  - Project TERRE and P375
  - Exempt supplier status





# Emerging Conclusions: Use case benefits

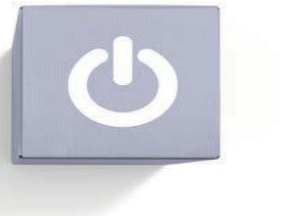
Use case	Likelihood of (some) benefit	Maximum scale of possible benefit	Timescale of benefit
Specialist suppliers and bundling	Medium-High	Medium	Medium-term
Supplier arbitrage and competition	Low-medium	Low-medium ( <i>of real welfare benefit</i> )	Medium-term
Community energy	Low-medium	Low-medium	Short-term
P2P trading	Low	Low	Long-term



# Emerging Conclusion: Costs

## *Costs*

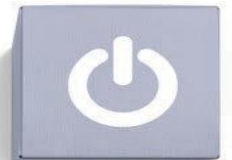
- P379 would undoubtedly constitute large and complex industry change:
  - Interactions across codes and licences - many suggest a need for an SCR if taken forwards
  - There are remaining design questions and several benefits depend on decisions taken by other parties (e.g. regulatory arrangements for secondary suppliers)
  - Presence of several risks and potential for unintended consequences



# Emerging Conclusion: Costs

## *Sequencing*

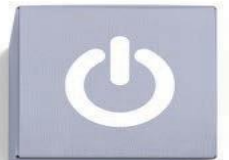
- Even some stakeholders who were supportive of P379 pointed towards higher priority elements of market design for facilitating emergence of the use cases discussed. They saw P379 as part of a wider programme of encouraging innovation.
- This supported a narrative of sequencing and prioritisation:
  - The benefits which P379 could deliver are dependent on the direction of wider market design and consumer behaviour changes
  - P379 could be at risk of ‘getting in the way of itself’ if it is seen as a substitute for wider change



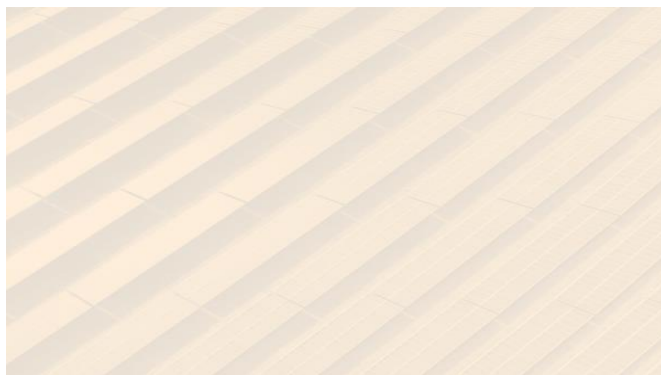
# Emerging Conclusion: CBA

*The magnitude of benefit (and uncertainty of this benefit) appears insufficient to outweigh a more certain magnitude of costs*

- But, it may be necessary to re-visit costs and benefits in the medium term, dependent on evidence of:
  - *Broader market design and regulatory arrangements*
    - There is also a link with implementation costs here: Some respondents identified potential for significant decreases in implementation costs, and greater certainty of those costs, if P379 was implemented after MWHHS had been embedded
  - *The appetite of potential entrants and use of alternative routes to market*
    - The EV & HaaS companies we contacted don't appear to see P379 to be an urgent need or to remove an existing/imminent barrier
  - *Consumer trends and behaviours*
    - Is there appetite for bespoke, separable EV/heat pump products?
- Some stakeholders have also suggested that P379 arrangements should be **trialled** to develop more practical evidence of use cases, and the potential for risks/unintended consequences



## Next steps





# Next steps

## CEPA

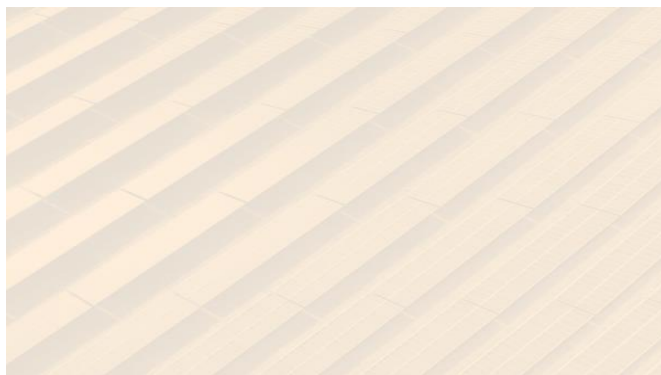
- **Early March:** Submit report to Elexon
- **April:** Attend final Panel session to present final report

## Elexon and P379 process

- **February:** Meet with Proposer
- **March:** P379 Workgroup to discuss CBA findings
- **April:** Present CBA report to BSC Panel
- Elexon will also present a revised P379 progression plan at April meeting, subject to Proposer, WG and Panel discussions and recommendations.



## Annex 1: Recap on approach

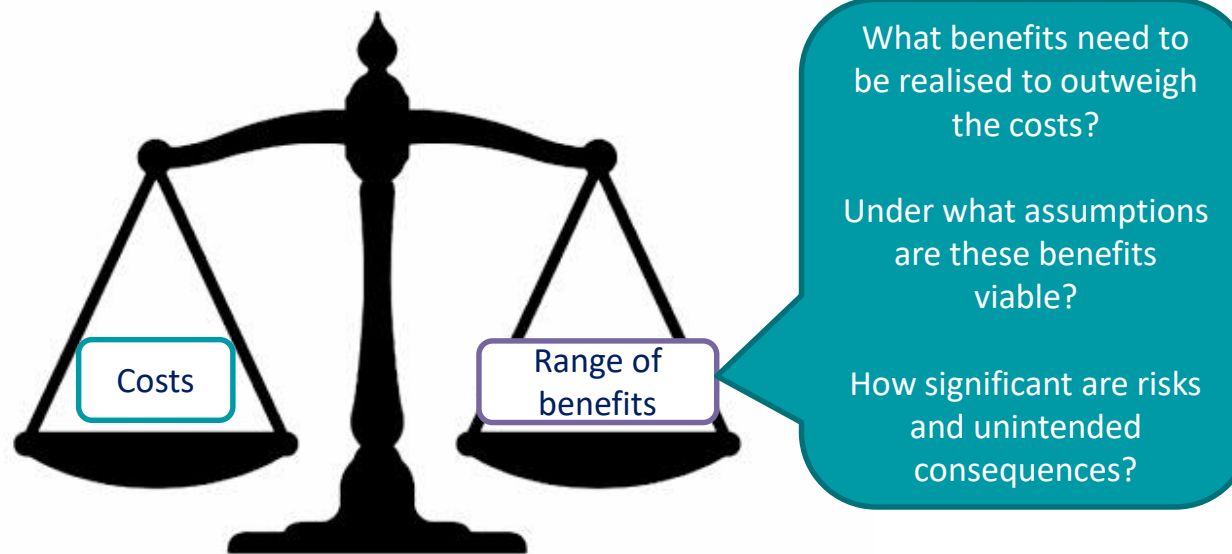


# Recap: Break-even analysis

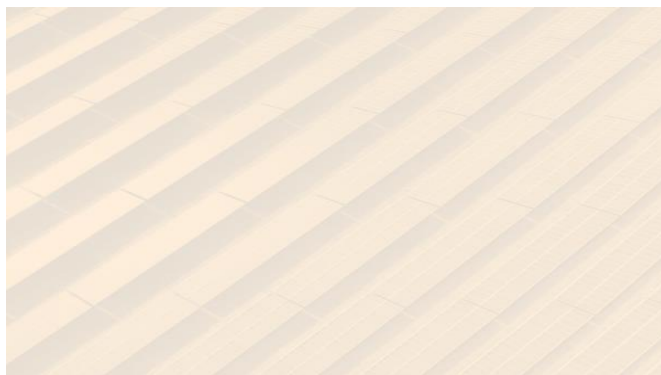
- The objective is not to provide a perfect estimate of the costs and benefits...
- But to answer the question *'Is sufficient benefit achievable to warrant developing the solution further?'*

## *Break-even analysis*

- To answer that we should consider whether there are realistic scenarios in which **'benefits > costs'** and under what conditions/assumptions this is the case
- The costs and benefits need to be evaluated in the presence of substantial uncertainty, noting risks and unintended consequences

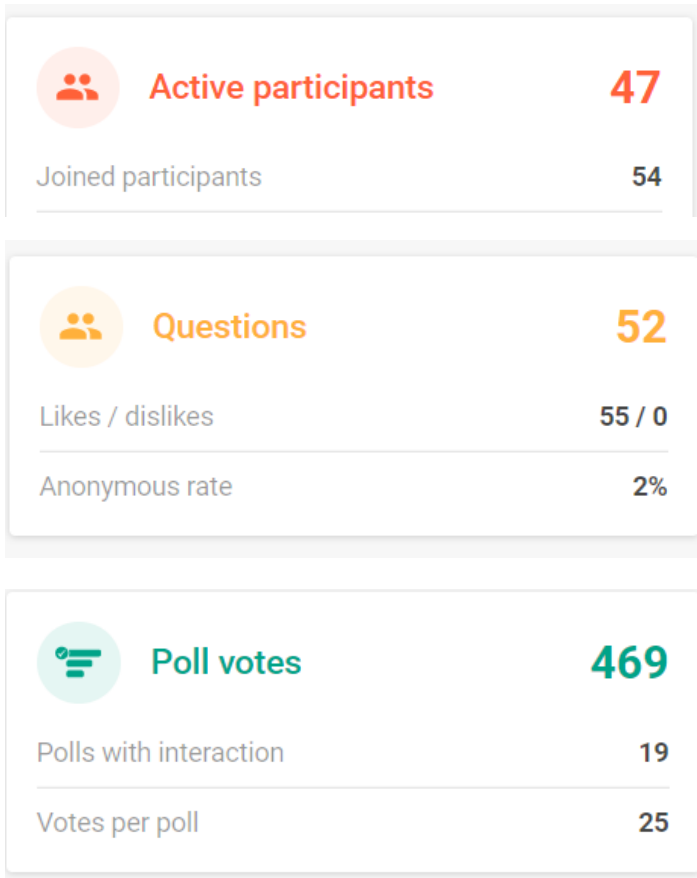


## Annex 2: Evidence gathering approaches



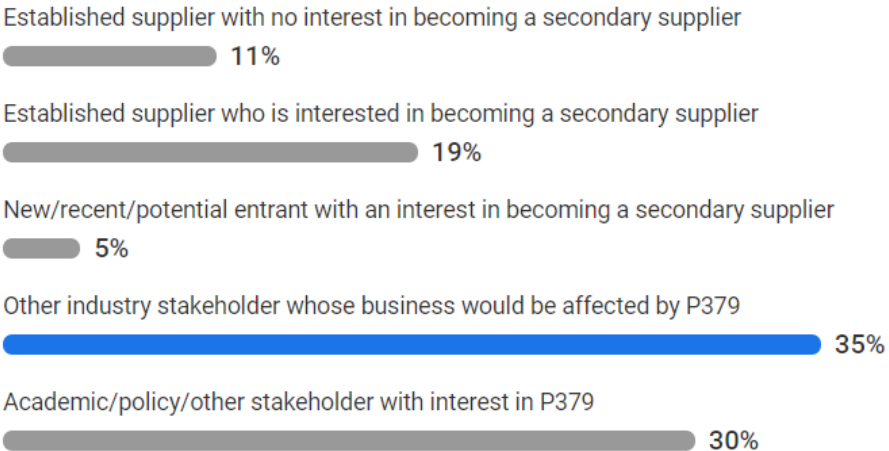
# Stakeholder workshop

- We gathered input from stakeholders using sli.do



Which of the following options best describes you as a stakeholder?

0 3 7



**We provide a summary of responses to polls in the annex**





# Bilateral meetings

- We supplemented our workshop and consultation with a series of 12 semi-structured interviews with a broad range of stakeholders

<b>1 large supplier</b>	Exploration of use cases, risks and unintended consequences
<b>2 mid-tier suppliers</b>	Exploration of use cases, risks and unintended consequences
<b>1 very small supplier</b>	Exploration of potential routes to market, risks and unintended consequences
<b>1 large non-domestic supplier</b>	Focus on specific impacts for non-domestic consumers and supply
<b>3 Community Energy/P2P stakeholders</b>	Focus on routes to market for community energy providers
<b>1 boiler manufacturer/HaaS</b>	Focus on routes to market for Heat as a Service (HaaS) – service opportunities and bundling
<b>1 EV car manufacturer (written response)</b>	Focus on routes to market for EV manufacturers – service opportunities and bundling
<b>1 innovation hub</b>	Focus on potential innovation that could benefit from secondary supply
<b>Ofgem</b>	Discussion of innovation link projects and implications for regulation



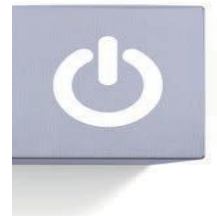
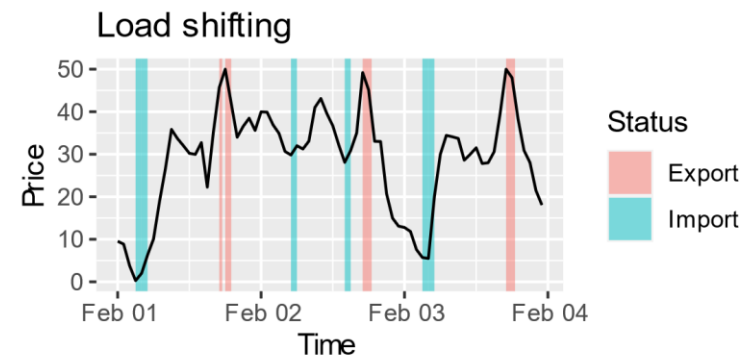
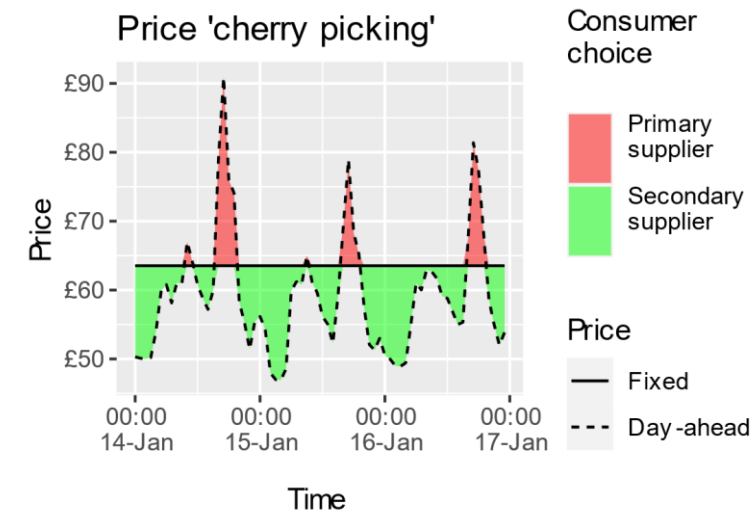
# Increased competition for supplier volumes: Analytical approach

We developed some high level modelling to provide indicative 'upper estimates' for the magnitude of benefit from price arbitrage opportunities available to consumers of secondary supply.

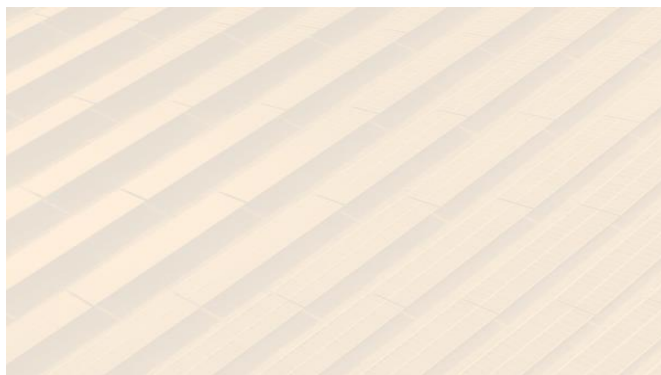
**Premise:** Secondary suppliers will provide access to wholesale prices, opening arbitrage opportunities for consumers with dynamic loads.

Three interacting benefits:

1. **Price 'cherry picking'** – consumer switches between the day ahead and fixed price.  
***Distributional impact*** where benefits to secondary supplier customers may push up prices for other primary supply customers (and themselves).
2. **Risk premium avoidance** – consumers accepting wholesale prices take on risk from primary supplier. Potential for ***genuine welfare benefits*** from re-allocating risk.
3. **Load shifting** – **NOT FULLY MODELLED**. Using dynamic technologies to shift load in response to wholesale prices. ***Consumer and system benefit*** from peak shaving leading to lower wholesale prices and reduced network stress.

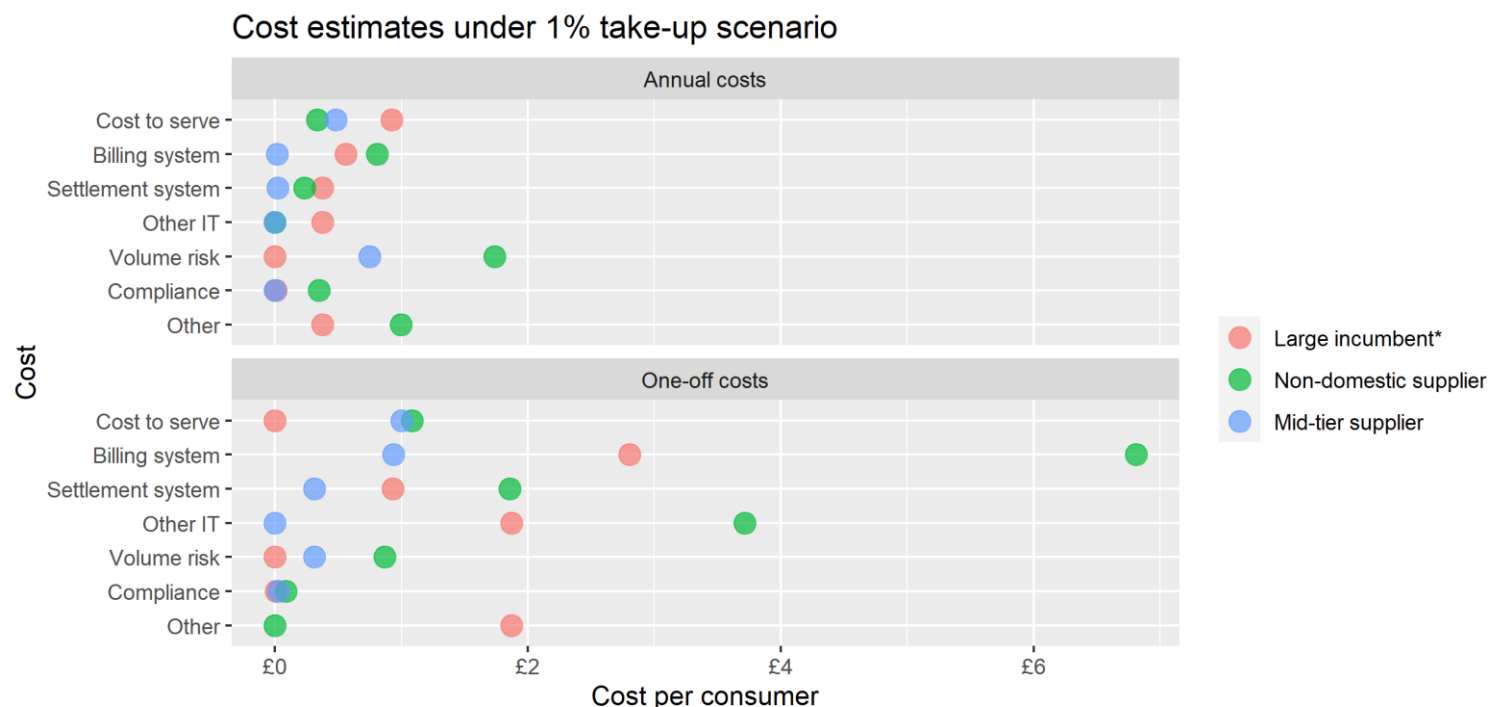


## Annex 3: Summary of costs, risks and unintended consequences



# Assessment of costs

- We only received three supplier responses with well justified cost estimates – i.e. independent cost estimates, with a reasonable level of qualitative justification.
- Many respondents noted the challenges of estimating costs at current time
- Qualitative responses generally suggest material costs of implementation across a range of stakeholders (not just suppliers)



\*Noted significant potential for reduction in implementation costs if P379 implemented after MWHHS



# Risks and unintended consequences

## *Market/supplier/competition impacts*

### Free-riding

- Potentially different costs, risks and compliance liabilities between primary and secondary
- Secondary suppliers could pick and choose customers. This may disproportionately affect suppliers who have rolled out smart meters to a greater extent (given greater propensity for secondary supply)
- Suggestion that this could distort competition, creating a ‘two-tier’ market, and/or lead to primary suppliers exiting the market? – *this assumes relatively high take-up levels*

### Complexity

- Supplier obligations could become more challenging, e.g. ‘ability to pay’ discussions, GSOPs, GDPR and information provision, sign-on processes and informed consent

### Supplier disputes

- Potential for misunderstandings and disputes between primary and secondary suppliers in relation to metering, switching, disconnections, theft, tenancy changes
- Allocation of costs/resources between primary and secondary suppliers

### Supplier failure

- Secondary suppliers likely to be small and more susceptible to failure
- Secondary supply may concentrate SoLR risk with individual suppliers, creating a “SoLR-by-default” arrangement that risks a domino effect of supplier failures
- Would secondary supplier remain if primary supplier fails? What implication for incoming supplier?



# Risks and unintended consequences (cont)

## *Consumer experience*

### Complexity

- More business models and tariff options may confuse customers, making it harder for them to determine whether contracts and prices are in their best interests
- How would business models (including price comparison websites) evolve to deal with this?
- Contextual challenges – e.g. switching, home movers, disconnections

### Smart meters

- Suggestion that P379 may reverse/complicate some of the desired benefits of the smart meter rollout
- E.g. better information for consumers regarding energy use, billing, etc

### Supplier disputes

- How might consumers be caught up in supplier disputes?

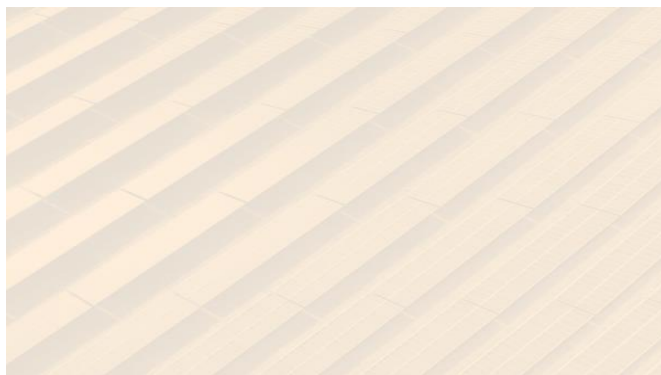
### Bundling

- Bundling/after-sales can have negative as well as positive competition impacts
- Competition and regulatory policy would need to be live to new business models that could enter
- Risk that proliferation of small, bespoke suppliers may be difficult for regulators to actively monitor

### Consumer comms

- May eliminate/complicate 'one stop shop' for consumer communications with suppliers

## Annex 4: Summary of stakeholder workshop responses



# Industry workshop Use Cases: Price arbitrage

What level of savings do you think consumers using a secondary supplier could make from price arbitrage?

Negligible (£0 to £1 customer saving per year)



Small (£1 to £5 customer saving per year)



Medium (£5 to £15 customer saving per year)



Large (£15 to £50 customer saving per year)



Very large (>£50 customer saving per year)



# Industry workshop Use Cases: Specialist suppliers and bundling

By 2030, how many residential customers might choose specialist suppliers and/or bundled products using secondary suppliers if P379 is implemented?

Negligible (<10,000 customers)



Small (10,000 – 100,000 customers)



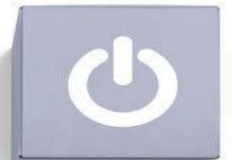
Medium (100,000 – 250,000 customers)



Large (250,000 – 1m customers)



Very large (>1m customers)



# Industry workshop Use Cases: Community Energy

As of 2018, there was an estimated 250 MW installed capacity of community energy scheme projects. What increase in the percentage of customers who take up community energy do you think P379 could drive?

Negligible (0% to 10% increase in community energy uptake)



Small (10% - 25% increase in community energy uptake)



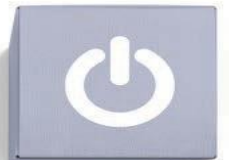
Medium (25% - 50% increase in community energy uptake)



Large (50% - 150% increase in community energy uptake)



Very large (>150% increase in community energy uptake)



# Industry workshop Use Cases: P2P trading

Assume that 1m customers would consume some of their energy through P2P trading by 2030 without P379 being implemented. How many additional customers might take up P2P if P379 is introduced?

Negligible (<10,000 additional consumers consuming through P2P)



Small (10,000 – 100,000 additional consumers consuming through P2P)



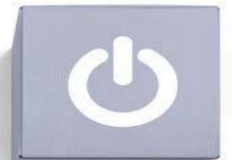
Medium (100,000 – 250,000 additional consumers consuming through P2P)



Large (250,000 – 1m additional consumers consuming through P2P)



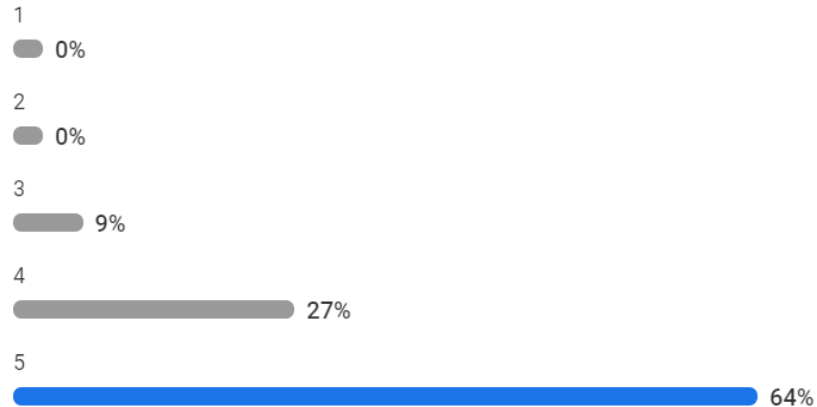
Very large (>1m additional consumers consuming through P2P)



# Industry workshop Costs: Costs to serve

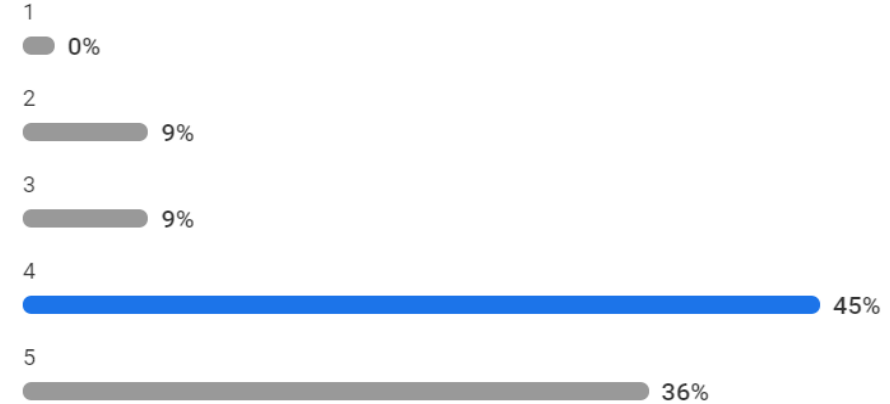
## *Hypothetical large incumbent*

With 1 being no/negligible increase in costs and 5 being significant costs driven by potential overhaul of business, how significant would you expect the increase in costs to serve to be for Primary Supplier A?



## *Hypothetical mid-tier supplier*

With 1 being no/negligible increase in costs and 5 being significant costs driven by potential overhaul of business, how significant would you expect the increase in costs to serve to be for Primary Supplier B?



*NB: The session on cost estimates was optional and attendance was lower. Attendees were predominantly existing suppliers*

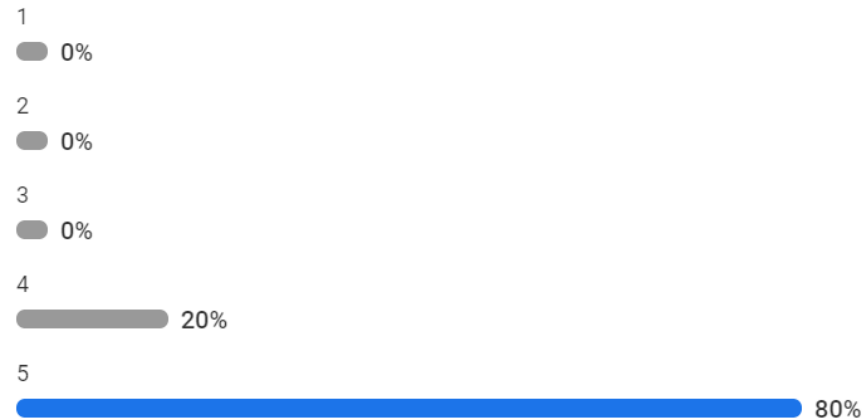




# Industry workshop Costs: Billing systems

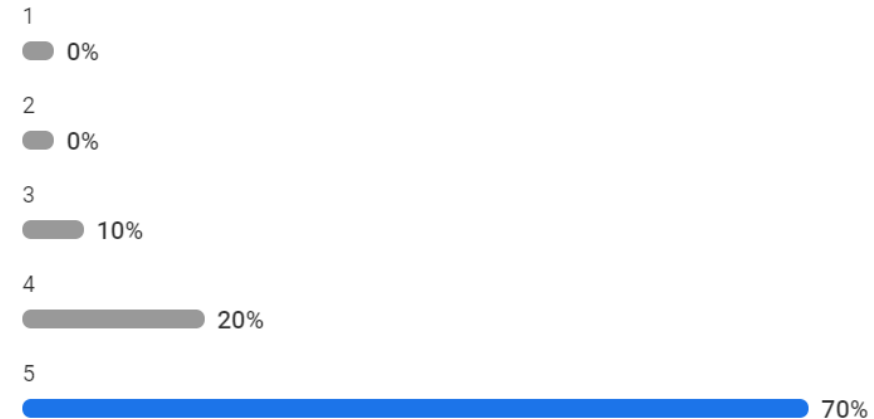
## *Hypothetical large incumbent*

With 1 being no/negligible increase in costs and 5 being significant costs driven by potential overhaul of business, how significant would you expect the increase in billing systems costs to be for Primary Supplier A?

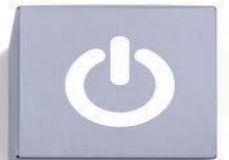


## *Hypothetical mid-tier supplier*

With 1 being no/negligible increase in costs and 5 being significant costs driven by potential overhaul of business, how significant would you expect the increase in billing systems costs to be for Primary Supplier B?



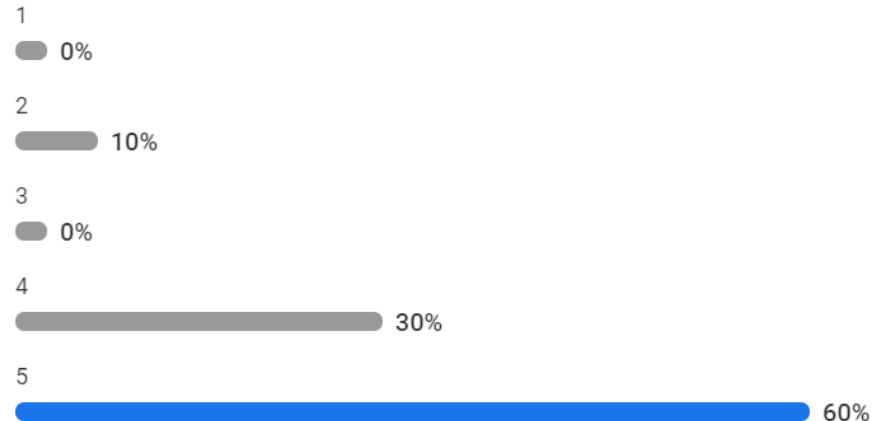
*NB: The session on cost estimates was optional and attendance was lower. Attendees were predominantly existing suppliers*



# Industry workshop Costs: Settlement systems

## *Hypothetical large incumbent*

With 1 being no/negligible increase in costs and 5 being major costs driven by potential overhaul of business, how significant would you expect the increase in costs of settlement systems to be for Primary Supplier A?

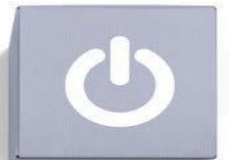


## *Hypothetical mid-tier supplier*

With 1 being no/negligible increase in costs and 5 being major costs driven by potential overhaul of business, how significant would you expect the increase in costs of settlement systems to be for Primary Supplier B?



*NB: The session on cost estimates was optional and attendance was lower. Attendees were predominantly existing suppliers*

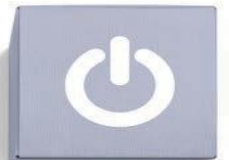


# Industry workshop Costs: Supplier failures

On a score of 1-5 with 1 indicating little to no change in risk of supplier failure and 5 indicating an increase in supplier failure risk of the order of 100%, please state how significant you consider the increase in risk to be.



*NB: The session on cost estimates was optional and attendance was lower. Attendees were predominantly existing suppliers*



# Industry workshop Costs: Estimating costs

Where are we on the time horizon of the cone of uncertainty?

Initial product definition



Approved product definition



Requirements specification



Product design specification



Detailed design specification



Final design



How significant is change under P379 in comparison to previous industry change?

Very small - no more than multiple code mods that happen each year



Small - similar to code mods that happen a few times each year



Medium - once/twice per year level of change



Large - comparable with changes normally undertaken through an Ofgem Significant Code Review



Very large - not far off changes needed for privatisation



*NB: The session on cost estimates was optional and attendance was lower. Attendees were predominantly existing suppliers*





#### UK

Queens House  
55-56 Lincoln's Inn Fields London  
WC2A 3LJ UK

T. +44 (0)20 7269 0210

E. [info@cepa.co.uk](mailto:info@cepa.co.uk)

[www.cepa.co.uk](http://www.cepa.co.uk)



cepa-ltd



@cepaltd

#### Australia

Level 20, Tower 2 Darling Park 201  
Sussex St  
Sydney NSW2000

T. +61 2 9006 1307

E. [info@cepa.net.au](mailto:info@cepa.net.au)

[www.cepa.net.au](http://www.cepa.net.au)



# ELEXION

---

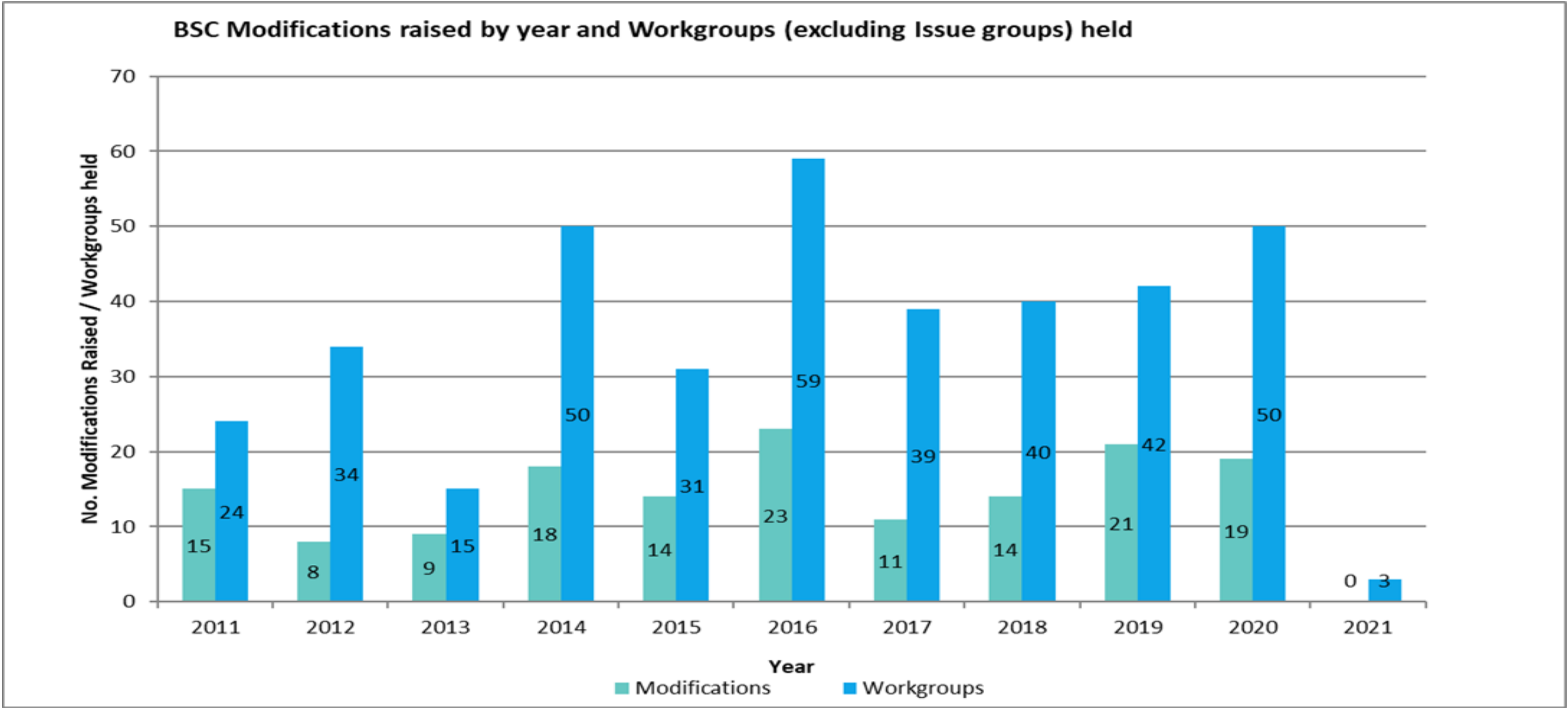
## **Change Report and Progress of Modification Proposals**

---

311/03 - Lawrence Jones

11 February 2021

# BSC Modifications raised by year and Workgroups held





## BSC Modifications overview

Initial Written Assessment	-
Assessment Procedure	P332, P376, P379, P395, P402, P407, P410, P412, P413, P415, P416
Report Phase	P417
Urgent	-
With Authority	P375, P390, P399
Authority Determined	P398, P414
Self-Gov. Determined	P418
Fast Track Determined	-
Withdrawn	-
Open Issues	Issue 69, Issue 83, Issue 86, Issue 87, Issue 88, Issue 89, Issue 91, Issue 92, Issue 93

## BSC Modifications approved timelines

	Oct 20	Nov 20	Dec 20	Jan 21	Feb 21	Mar 21	Apr 21	May 21	Jun 21	Jul 21	Aug 21
<b>P332</b> 'Revision to the Supplier Hub'							AR		DMR		
<b>P376</b> 'Baselining methodology'						AR		DMR			
<b>P379</b> 'Multiple Suppliers'							AR		DMR		
<b>P395</b> 'Final Consumption Levies'									AR		DMR
<b>P402</b> 'BSC Data for targeted Charging Review'					AR	DMR					
<b>P407</b> 'MARI'							AR		DMR		
<b>P410</b> 'Harmonised Imbalance'								AR		DMR	
<b>P412</b> 'Non-BM Balancing Providers pay for non-delivery imbalance'								AR		DMR	
<b>P413</b> 'MHHS Programme Manager'					AR	DMR					
<b>P415</b> 'VLP access to wholesale market'	IWA										
<b>P416</b> 'Include Appeals mechanism for Annual Budget'		IWA					AR	DMR			
<b>P417</b> 'Move Letters of Credit to Website'			IWA		DMR						

### ‘Project MARI’

- The Proposer, National Grid ESO (NGESO), has notified Elexon that it wishes to withdraw P407 from the Modification process
- P407 will officially close at 12:00 on Thursday, 18 February 2021, unless adopted by another BSC Party
- P417 was raised to comply with EBGL Article 20
- However, GB no longer required to comply with Article 20 following end of the Brexit transition period on 1 January 2021
  - Removed from UK Statutory Instruments
- Following discussion with Ofgem, NGESO has therefore withdrawn support of P407
- There may be a requirement for MARI (or a similar product) in the future – this could be a regulatory or operational requirement. If this is the case, a new Modification(s) will be raised and the work that has been completed to date can be repurposed

- Following the Panel's discussion on the CACoP website business case at its January meeting, the CACoP Forum has discussed next steps for the central website. Panel requested:
  1. Whether there would be value in short survey to confirm demand, value and requirements
  2. More information on the governance for future developments
  3. A more formal structured agreement for ongoing maintenance, including service levels and a cap
- All of the Panels that have been asked to endorse the business case have agreed with the planned progression
  - Where Panels have not been consulted, the relevant CAs intend to approve the funds for the CACoP website
- The CACoP Forum disagrees with the Panel suggestion that a short industry survey would be beneficial to provide an up to date quantifiable business need
  - It does not intend to undertake a survey, but is happy for Elexon to consult BSC Parties
- To provide governance structure around future website developments, the CACoP Forum believed these would only be done where unanimous support was agreed
- The Chair noted that the CACoP Terms of Reference did not provide for the agreement of costs, but commented that the ToRs were due to be reviewed in 2021 and so this could be included in any update

- Elexon's legal team suggested that a simple maintenance contract be used for the ongoing annual cost instead of an MoU. This would allow high level service obligations, liability caps and GDPR
  - We maintain that this is different to the annual cross code survey in nature and a formal agreement would be preferable
  - However, as the expected cost is low and the risk of any GDPR breach or legal challenge is low, we are willing to proceed with an MoU
- CACoP forum members maintained that a MoU was sufficient and commented that this was the process used to fund the annual cross code survey
- We believe it is important to understand how success will be measured and a review conducted to decide whether to persevere, amend or terminate the CACoP website e.g. based on website hits from market participants in 3 and 6 months time from go-live

### Questions

- Has the Panel position changed based on the CACoP responses?
- Should Elexon conduct its own survey and should a benefits review be conducted?
- Any other comments or requests to allow the Panel to endorse the business case?

## Recommendations

---

We invite the Panel to:

- a) **DETERMINE** whether to endorse the funding of the CACoP website; and
- b) **NOTE** the contents of the February Change Report.

# ELEXION

---

**P402 'Enabling reform of residual network charging as directed by the Targeted Charging Review'**

---

311/04 – Ivar Macsween

11 February 2021



## P402 Issue

---

- Following the Targeted Charging Review SCR, Ofgem directed National Grid and certain LDSOs to make changes to how residual revenues are recovered through Distribution Use of System (DUoS) and Transmission Network Use of System (TNUoS) demand charges.
- The BSC currently provides aggregated Metered Data and Metering System counts that the NETSO and LDSOs use to calculate TNUoS, Balancing Services Use of System (BSUoS) and DUoS charges.
- National Grid does not have access to the relevant data necessary to implement the demand residual charging element of the TCR SCR changes. This is the P402 defect.
- The Proposer believes the BSC must be amended in order that it ensures the provision of data that enables NETSO to set and recover TNUoS demand residual charges, in accordance with the TCR SCR decision.

# P402 Development Timeline

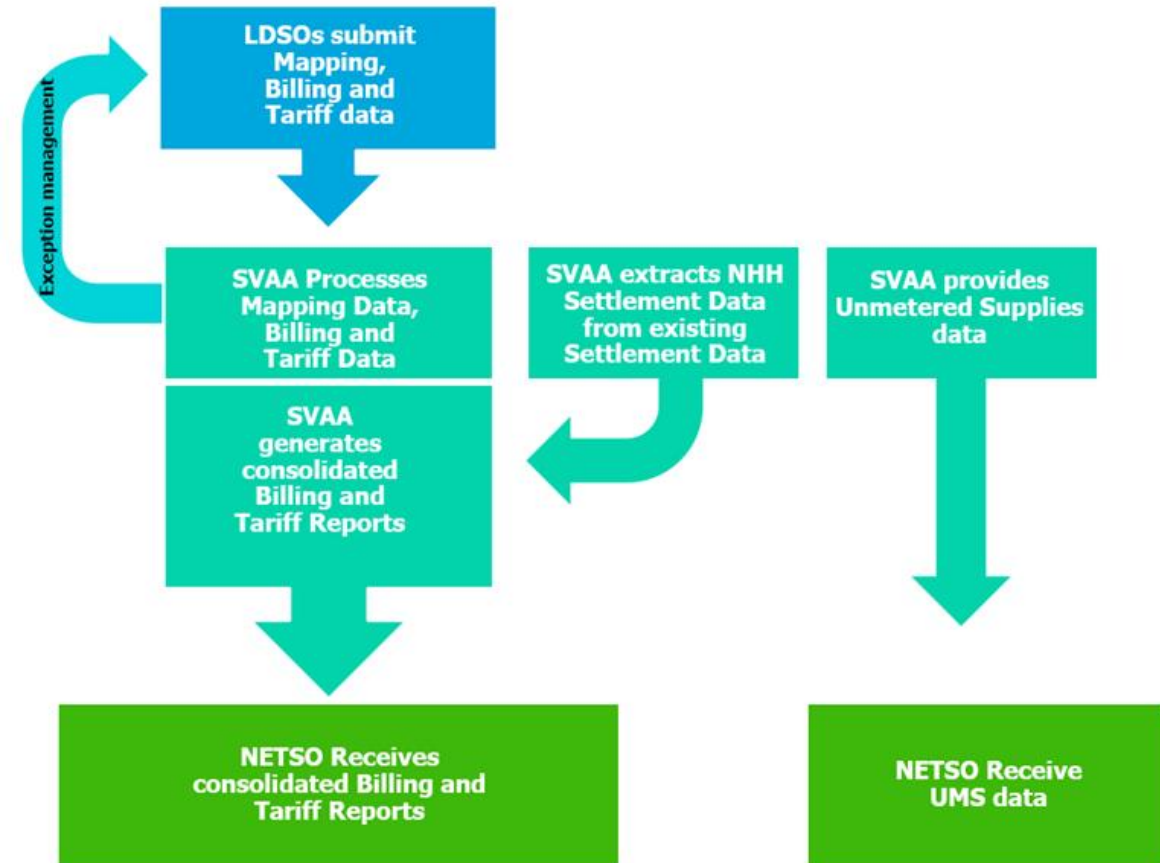
---

- **21 November 2019** - Ofgem directs NETSO and the DNOs to raise industry code modifications to give effect to the TCR SCR decision to go live in April 2021.
- **5 March 2020** - National Grid raises P402 and Panel approve 3 month Assessment period.
- **April 2020** – Ofgem provide a new delivery date of 1 April 2022; one year later than previously required.
- **April 2020 to November 2020** – P402 Workgroup develop, assess and consult on solution that relies on BSC Central Systems for delivery in February 2022.
- **2 November 2020** – Workgroup vote to raise an Alternative Solution, recognising need to develop, assess and consult will blow out timelines for the Proposed.
- **17 December 2020** - Final Workgroup meeting confirms solution requirements. At this point, quickest handover to Ofgem in March 2021.

# Proposed Solution

The P402 Proposed Solution would introduce new reporting requirements on LDSOs and BSCCo that will ensure the provision of data to enable NETSO to set TNUoS demand residual tariffs and enable accurate billing of subsequent charges.

- Provision, consolidation and validation of three types of data to NETSO (Monthly Billing data, Annual Tariff Setting data and Unmetered Supplies (UMS) data)
- Creation of two new reports to NETSO and an update to the P0210 'TNUoS Report'
- Requirements for providing, maintaining and publishing how Line Loss Factor Classes (LLFCs) are mapped to Residual Charging Bands.



# Proposed Solution

## Benefits:

- Greater transparency and visibility to industry by publishing output data.
- A level of validation (not comparable to the level of validation and assurance of Settlement data).
- Builds on existing BSC-based arrangements that support network charging.

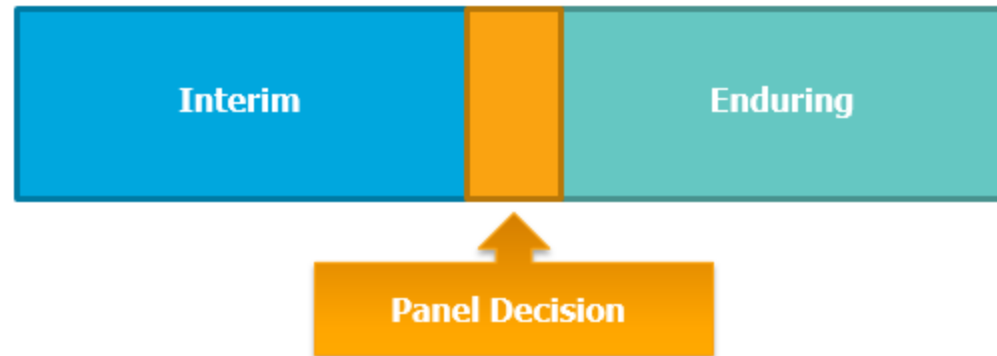
Organisation	Implementation	On-going	Impacts
Elexon	£1.5 – 2 Million	£1k-£2k [per month]	Systems, documents and processes. 12 month lead time
NGESO	Approx. £530k	Understood to be minimal	Systems and processes. 5 -6 month lead time.
Industry (LDSOs)	£20k – £35k in total (£3k - £6k each)	Understood to be minimal (manual administration)	Systems and processes. 3 – 6 month lead time
Industry (IDNOs)	£Minimal - £20K each	Understood to be minimal (manual administration)	Systems and processes. 3 – 6 month lead time
<b>Total</b>	<b>£2.1 – £2.6 Million</b>	<b>&gt;£5k</b>	

# Proposed Solution Interim Solution

---

An interim solution will be needed to cover the period between February 2022 and the full BSC central systems solution go-live, should the Proposed Solution be approved.

- National Grid have indicated that scope of certain P402 provisions can be reduced for this interim period.
- To accommodate a staggered implementation the Panel will be asked (at a later date) to determine when it wishes the enduring solution to occur.

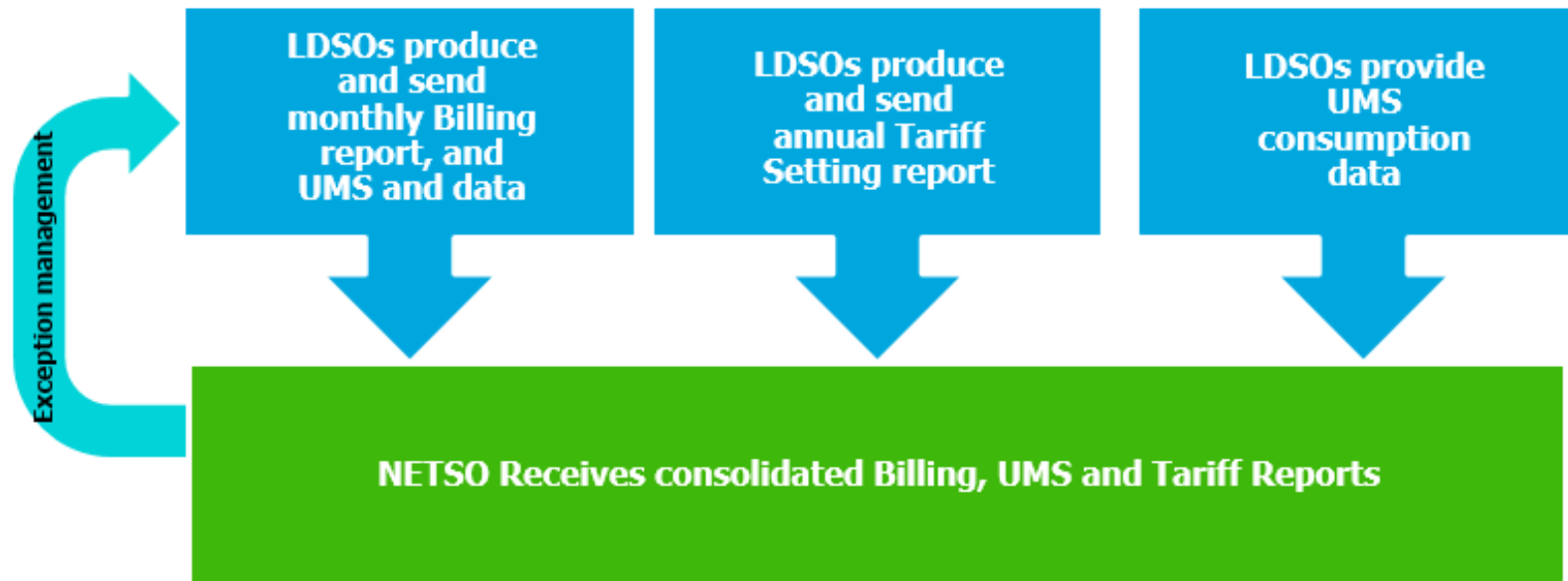


It has not been possible to gather costs in time for the Assessment Report. We aim to present these at the 11 March Panel meeting alongside the P402 Draft Modification Report.

# Alternative Solution

The P402 Alternative sees LDSOs compiling this data themselves, sending it directly to National Grid and so not to relying on BSCCo or BSC Systems and Agents for these purposes.

- Requires LDSOs to provide Billing and Tariff Setting data, including UMS data, to NETSO.
- Elexon will support LDSOs in the identification of CVA Registrants.



# Alternative Solution

Benefits:

- The Workgroup (by majority) believe that the Alternative offers cost benefits by delivering a cheaper, simpler and more timely option than the Proposed.
- Improves on the baseline by capturing obligations in the BSC.

Organisation	Implementation	On-going	Impacts
Elexon	£2k-£4k	£1k-£2k [per month]	Documents and processes. 1 month lead time.
NGESO	Approx. £795k	NGESO anticipate 2 additional FTEs needed.	Systems and processes. 6 -7 month lead time. NGESO believe the Alternative has greater risk of taking longer than expected
Industry (LDSOs)	£50k – £90k in total (£10k - £25k each)	Understood to be minimal (manual administration)	Systems and processes. 4 – 7 month lead time
Industry (IDNOs)	£Minimal - £20K each	Understood to be minimal (manual administration)	Systems and processes. 4 – 6 month lead time
Total	£800-910K	>£5k	



# Solution for initial Tariff Setting Reports

---

- In order to set new TDR charges to take effect from 1 April 2022, NETSO will require Tariff Setting Data in October 2021
- Consequently, P402 proposes that, for both the Proposed and Alternative Solutions, LDSOs provide a one-off set of Tariff Setting Reports directly to NETSO in October 2021 and October 2022, as P402 will not have been implemented by this point
  - LDSOs must provide data in October 2022 because even though P402 will have been implemented, a full 12-months of Import data using the correct TCR LLFCs will not be available
- Workgroup agreed that this will be handled bi-laterally between NETSO and LDSOs, falling outside the scope of this Modification's change to the BSC
- BSCCo will provide its first Tariff Setting Report to NETSO in October 2023 and its first Billing Report to NETSO in March 2022

# Assessment Consultation responses

Question	Yes	No	Neutral	Other
Do you agree with the Workgroup’s initial majority view that the P402 Proposed solution does better facilitate the Applicable BSC Objectives compared with the current baseline?	7	2	0	0
Do you agree with the Workgroup’s initial majority view that the P402 Alternative solution does better facilitate the Applicable BSC Objectives compared with the current baseline?	9	0	0	0
Do you agree with the Workgroup’s initial majority view that the P402 Alternative solution does better facilitate the Applicable BSC Objectives compared with the P402 Proposed solution and so should be approved?	8	1	0	0

# Assessment Consultation responses

## Question

Do you have any further comments on P402?

- LDSO: “These requirements are to assist NGESO in delivering their Licence obligations and they should bear the cost”
- IDNO: “implementing P402 in April 2022 overlaps with a number of other significant industry changes e.g. Faster Switching and MHHS. This may impose additional constraints on resources to meet each programme’s implementation date”
- NGESO: “we are strongly of the preference to receive data as soon as possible. The P402 Proposed solution provides longer-term benefits to industry compared to the Alternative solution - the ‘outputs’ of P402 are centrally captured so that future industry changes (e.g. Access & Forward Looking Charges, Faster Switching, MHH settlement etc) can be considered if/when the P402 ‘inputs’ change. Under the Alternative solution, this interface is combined and so will need to be fully redone if there are any changes

# Workgroup Conclusions

Does the P402 Proposed Solution better facilitate the Applicable BSC Objectives?	(a)	(d)
Proposer Views	Positive	Positive
Workgroup Views	Positive (unanimous)	Neutral (Majority)

Does the P402 Alternative Solution better facilitate the Applicable BSC Objectives?	(a)	(d)
Proposer Views	Positive	Positive
Workgroup Views	Positive (unanimous)	Positive (unanimous)

- The majority of Workgroup (all except the Proposer) believe that the **P402 Alternative Modification** is better and should be approved
- Workgroup unanimously agree that P402 should not be treated as a Self-Governance Modification Proposal.  
Material impact on operation of the national electricity transmission system

# Implementation Approach

---

The Workgroup recommends an Implementation Date for P402 Proposed and Alternative of **24 February 2022** as part of the February 2022 BSC Release

This approach will allow implementation of P402 in alignment with Ofgem's direction for TCR changes to be implemented by 1 April 2022

- In order to support the Proposed Solution, a decision to approve it must be reached by **27 May 2021**
- In order to support the Alternative Solution, a decision to approve it must be reached by **24 June 2021**

Workgroup agreed that all associated Code Subsidiary Document changes will be completed as part of the implementation process

# Recommendations

---

We invite the Panel to:

- a) **AGREE** that P402 should progress to the Report Phase:
- b) **AGREE** that the P402 Proposed Modification:
  - i. **DOES** better facilitate Applicable BSC Objective (a);
- c) **AGREE** that the P402 Proposed Modification:
  - i. **DOES** better facilitate Applicable BSC Objective (a); and
  - ii. **DOES** better facilitate Applicable BSC Objective (d);
- d) **AGREE** that the P402 Alternative Modification is better than the P402 Proposed Modification;
- e) **AGREE** an initial recommendation that the P402 Alternative Modification should be approved and that the P402 Proposed Modification should be rejected;

# Recommendations

---

- f) **AGREE** initially that P402 **DOES NOT** impact the EBGL Article 18 terms and conditions held within the BSC;
- g) **AGREE** an initial Implementation Date of:
  - i. **24 February 2022** if an Authority decision is received on or before 27 May 2021 (noting that the enduring system changes will be implemented at a later date);
  - ii. **24 February 2022** if an Authority decision is received on or before 24 June 2021;
- h) **AGREE** the draft legal text for the Proposed Modification;
- i) **AGREE** the draft legal text for the Alternative Modification;
- j) **AGREE** an initial view that P402 should not be treated as a Self-Governance Modification; and
- k) **NOTE** that Elexon will issue the P402 draft Modification Report (including the draft BSC legal text) for a 10 Working Day consultation and will present the results to the Panel at its meeting on 11 March 2021.

# ELEXON

---

**P413 'Enable Elexon to be the Programme Manager for the implementation of Market-wide Half Hourly Settlement'**

---

311/05 - Chris Arnold

11 February 2021



## P413: Background

---

- P413 will enable Elexon to provide Market-wide Half Hourly Settlement (MHHS) Implementation Management services under the BSC, as the BSC Company (BSCCo), where Ofgem determines that Elexon shall provide some or all of these services
- These MHHS Implementation Management services could include any or all of the following roles (or any parts of these roles), depending on Ofgem's determination:
  - **Programme management** - including responsibility for managing the delivery of the MHHS Implementation including mobilisation, design, build, test, integration and go-live
  - **System integration** - including supporting the programme's system design and build phases, and planning, co-ordinating and managing programme parties' activities and resources during the programme's system test and integration phases
  - **Programme party coordination** - Including assessing programme party readiness during the build, and before each test and integration milestone to ensure programme parties are ready to meet programme milestones; and/or
  - Other roles as may be necessary for or reasonably ancillary to the delivery of MHHS Implementation Management,
- P413 is needed to facilitate Elexon's provision of any/all of these services under the BSC, if Ofgem determines that Elexon should provide some or all of these services
- Without P413, the Proposer believes that there is a risk of longer MHHS implementation timescales, higher costs for the industry and a longer period to see the benefits of MHHS
- The Proposer and Workgroup believe that P413 is sufficiently flexible to cater for Ofgem's latest proposals in its December 2020 Consultation.

# P413: Proposed and Alternative Solutions

---

## Proposed Solution

- Requires Elexon to provide any MHHS Implementation Management services that Ofgem decides it should provide
- Expands Elexon's functions as the BSCCo to include provision of these services under the BSC
- Enables Elexon to sub-contract any element of these services
- Makes Elexon accountable to Ofgem for performing these services, if and to the extent Ofgem decides that it should be
- Enables Elexon to appoint a MHHS Implementation Assurance Provider, if this is Ofgem's preference
- Enables Elexon to recover its costs in providing MHHS Implementation Management services from BSC Trading Parties by market share through the BSC's existing Main Funding Share mechanism
- Enables Elexon to participate in any competitive tender exercise used to appoint the provider(s) of MHHS Implementation Management services, with bid costs recovered through the Main Funding Share but subject to a cap of £100k

## Alternative Solution

- As above except Elexon's costs in providing MHHS Implementation Management services will be recovered solely from Suppliers by market share through a new Specified BSC Charge (requires changes to Elexon's Funding Share System)

# P413: Impacts & Costs

Organisation	Item	Proposed Modification	Alternative Modification
Elexon	Systems	0	£45k - £55k
	Documents	<£1k	£2k - £3k
	Other	0	£4k - £5k
Industry	Systems and processes	0	0
Total		<£1k	£51k - £63k

- Costs for Proposed Modification are from the development of legal drafting
- Costs for Alternative Modification are from the development of legal drafting and system changes.

# P413: Customer and Environmental Impacts

Customer Benefit Area	Identified Impact
1) Improved safety and reliability	Neutral
2) Lower bills than would otherwise be the case	Neutral
3) Reduced environmental damage	Neutral
4) Improved quality of service	Neutral
5) Benefits for society as a whole  Ofgem’s Draft Impact Assessment Consultation identifies total net benefits for consumers of £1.6bn to £4.6bn as a result of implementation of MHHS.  While this Modification Proposal has no direct impact in these areas, the Proposer argues that enabling Elexon to undertake MHHS Implementation Management services will be the best chance of realising these consumer benefits as early as possible and through an efficient not-for-profit service.	Positive

# P413: Implementation approach

---

## Proposed Solution

If the Proposed Modification is approved, the Workgroup recommends an Implementation Date of:

- **5 WDs** after Ofgem approval

This will ensure that there is no undue delay in establishing and commencing MHHS Implementation Management services, and therefore to the implementation (and benefits) of MHHS

## Alternative Solution

If the Alternative Modification is approved, the Workgroup also recommends an Implementation Date of:

- **5 WDs** after Ofgem approval

Implementing the Alternative Modification legal text as soon as possible gives the same benefits as for the Proposed Modification above

The BSC system changes will be deployed as soon as practicable after the Implementation Date

## P413: Assessment Consultation responses (1 of 2)

Question	Yes	No	Neutral	Other
Do you agree with the Workgroup's initial view that P413 does better facilitate the Applicable BSC Objective than the current baseline?	4	1	0	0
Do you believe the potential Alternative Modification better facilitates the Applicable BSC Objectives than the Proposed Modification:	1	3	1	0
a) Without adjustment to the General Funding Shares (Requirement 14a)				
b) With adjustment to the General Funding Shares (Requirement 14b)				
If yes to both, please state which of a) and b) you believe is best and why.				
Do you agree with the Workgroup that the draft legal text in Attachment A delivers the intention of P413?	4	0	1	0
Do you agree with the Workgroup's recommended Implementation Date?	4	1	0	0
Do you agree with the Workgroup's assessment of the impact on the BSC Settlement Risks?	4	1	0	0
Do you agree with the Workgroup's assessment that this does not impact the EBGL Article 18 terms and conditions held within the BSC?	4	0	1	0

## P413: Assessment Consultation responses (2 of 2)

Question	Yes	No	Neutral	Other
Will P413 impact your organisation?	2	3	0	0
How much will it cost your organisation to implement P413? What will the ongoing cost of P413 be to your organisation?	N/A	N/A	N/A	N/A
How long (from the point of approval) would you need to implement P413?	N/A	N/A	N/A	N/A
Do you have any further comments on P413?	2	3	0	0

- On the basis of the impacts detailed in the Assessment Consultation Report, no respondents provided any specific costs
- Two respondents stated that they would be impacted by P413 in the sense that their BSCCo Charges would increase. No respondents identified any other significant/direct costs as a result of implementing P413

## P413: Workgroup Views

---

A majority of Members believe the Proposed Modification better facilitates Applicable BSC Objective d) than the baseline, by enabling Elexon to provide MHHS Implementation Management services if Ofgem determines that it should

Proposer believes that P413 will allow:

- The entity with the greatest subject-matter expertise to provide MHHS Implementation Management services
- MHHS Implementation Management services to be delivered on a not-for-profit basis;
- MHHS Implementation Management services to be provided by an entity whose sole purpose is to provide services for the benefit of BSC Parties and the energy market; and
- Industry delivery costs and timescales to be minimised

A majority of Members believe the Alternative Modification better facilitates the Applicable BSC Objectives when compared to the Proposed Modification

- These Members believed that the costs of MHHS Implementation Management services should be recovered from Suppliers as the primary beneficiaries of these services and/or MHHS.

A minority of Members believe that the Proposed Modification does better facilitate the Applicable BSC Objectives compared to the Alternative Modification

- These members expressed the view that recovery through the Main Funding Share is more appropriate and/or in keeping with Ofgem's intention to use existing BSC funding structures.

A minority of voting Workgroup Members believed that the Proposed Modification would have a neutral impact on the Applicable BSC Objectives overall.

Members agreed to recommend the Alternative Modification



## P413: Workgroup Views

---

Workgroup agreed that P413 **does not** impact EBGL Article 18 terms and conditions

Workgroup **do not** think the P413 should be progressed as Self-Governance

- Material impacts on the Code's Governance procedures

Workgroup Members **do not** expect there to be any impact to BSC Settlement Risks

Workgroup Members **agreed** that it is outside the scope of P413 to introduce a BSC cost-recovery mechanism for any non-Elexon provider of MHHS Implementation Management services, noting that Ofgem could direct the necessary BSC changes in this scenario using its SCR/Smart Meters Act powers

Workgroup Members by majority **agreed** that a new Supplier-only charge with adjustment to the calculation of General/Annual/Default/Voting shares should be introduced and these shares should be held neutral to the new charge

The Workgroup **agreed** that Ofgem can terminate Elexon's provision of MHHS Implementation Management services outside of the BSC and that the P413 provisions only apply for the duration of the period approved by Ofgem. It therefore agreed that no de-appointment process needed to be included in P413's enabling changes to the BSC

The Workgroup **noted** uncertainty over whether Ofgem might want to appoint the Independent Assurance provider itself. It therefore agreed to include provisions in P413 to cater for different possible Ofgem preferences

The Workgroup **agreed** that P413 will 'enable' Elexon to provide MHHS Implementation Management services, in the sense that the BSC will only 'require' it to do so if Ofgem determines that Elexon should provide some or all of these services. P413 is also an enabling Modification in that it contains provisions that seek to enable Elexon's participation in any formal tender process

## P413: Recommendations (1 of 2)

---

We invite the Panel to:

- a) **AGREE** that the P413 Proposed Modification:
  - i. **DOES** better facilitate Applicable BSC Objective (d);
- b) **AGREE** that the P413 Alternative Modification:
  - ii. **DOES** better facilitate Applicable BSC Objective (d);
- c) **AGREE** that the P413 Alternative Modification is better than the P413 Proposed Modification;
- d) **AGREE** an initial recommendation that the P413 Alternative Modification should be **Approved** and that the P413 Proposed Modification should be **Rejected**;
- e) **AGREE** that P413 **DOES NOT** impact the EBGL Article 18 terms and conditions held within the BSC;
- f) **APPROVE** an initial Implementation Date for the Proposed Modification of:
  - i. **5WD** after Ofgem approval
- g) **APPROVE** an initial Implementation Date for the Alternative Modification of:
  - ii. **5WD** after Ofgem approval

## P413: Recommendations (2 of 2)

---

We invite the Panel to:

- h) APPROVE** the draft legal text for the Proposed Modification;
- i) APPROVE** the draft legal text for the Alternative Modification;
- j) AGREE** an initial view that the P413 Proposed and Alternative Modifications should not be treated as a Self-Governance Modification;
- k) AGREE** that P413 is submitted to the Report Phase, with a Draft Modification Report to be presented to the Panel at its meeting on 11 March 2021; and
- l) NOTE** that Elexon will issue the P413 Draft Modification Report (including the draft BSC legal text) for a 10 Working Day consultation and will present the results to the Panel at its meeting on 11 March 2021



# PART III: NON-MODIFICATION BUSINESS (OPEN SESSION)

# ELEXION

---

**Minutes of previous meetings  
and Actions arising**

---

Claire Kerr

# ELEXION

---

## Chairman's Report

---

Michael Gibbons

# ELEXON

---

## Elexon Report

---

311/01 - Mark Bygraves

# ELEXION

---

## Distribution Report

---

Fungai Madzivadondo



# ELEXION

---

**National Grid Report**

---

Jon Wisdom

# ELEXION

---

**Ofgem Report**

---

Colin Down

# E L E X O N

---

**Panel Committee Reports**

---

311/01A-E

# ELEXON

---

**Responding to feedback on the 2021/22  
Elexon Business Plan**

---

311/07 – Mark Bygraves

11 February 2021

## Recommendation

---

We invite the Panel to:

- a) **NOTE** the responses received to the 2021/22 Elexon Business Plan.

# ELEXION

---

**Annual Demand Ratio (ADR) Update**

---

Verbal – Ryan Dale & Nick Groves

11 February 2021

## Introduction

---

- At Panel Meeting 310, Elexon provided an update concerning GSP \_A and issues it had identified within the Annual Demand Ratio (ADR) reporting within this area.
- The ADR Response team is an internal group of representatives from across Elexon, tasked with investigating, managing and resolving fluctuations or changes in the ADR
- The ADR Group has continued investigations and can confirm:-
  - The investigation initially focussed on 4 Meters. Elexon is now assured that the error identified within ADR resides within 2 Meters in particular.
  - Materiality has been estimated. Methodology for Estimation has been agreed by parties involved
  - Technical Assurance Audit (TAA) Visits have taken place and are still scheduled for all 4 meters, despite the error being identified
  - Investigations into other noted GSPs identified within ADR Reporting include GSP \_K, \_M and \_P
  - The Performance Assurance Board have endorsed a Lessons Learned activity to identify root causes and further potential controls

## Overview

Towards end of 2019, we observed Annual Demand Ratio (ADR) in GSP Group \_A decline

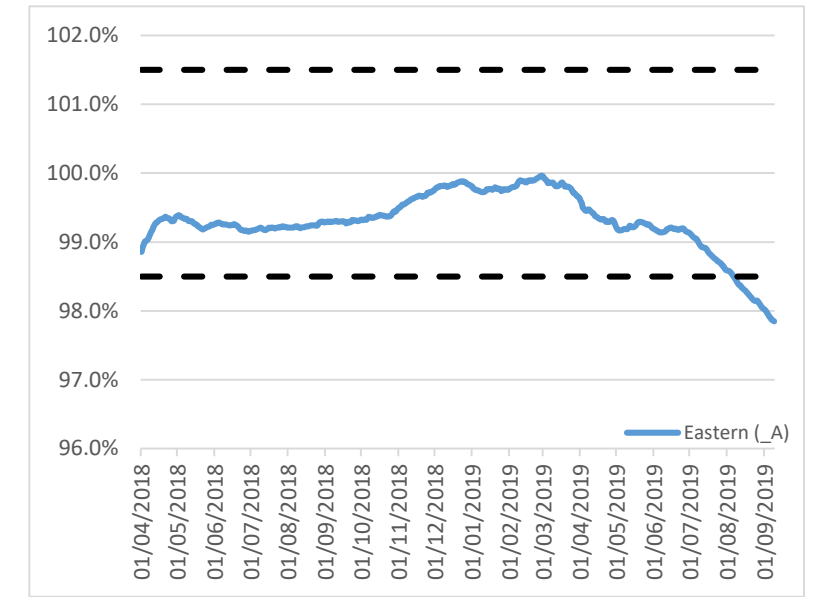
### Initial issue identified

- Investigations identified a GSP metering issue impacting Settlement from May-19
- Equated to ~£19.2m gross error
- Issue resolved through normal Reconciliation Runs
- Findings reported to PAB in Jun-20 (PAB233/03)

However, following correction ADR was still tracking below monitoring threshold

### Second issue identified

- Suspicious consumption identified at a different unrelated GSP
- Emergency TAA inspection undertaken at GSP on 21<sup>st</sup> Dec
- Confirmed that 1 of the 3 Meters at the GSP was not recording consumption
- This has resulted in the GSP under-recording by one third since Jul-19



ADR from Trading Ops report Dec-19



# Resolution activities

Since issue identified we have:

- Alerted industry via Newscast
- Engaged with the Registrant to confirm how data should be estimated
- Following confirmation from Registrant, estimated consumption for impacted Settlement Days back to RF
- Engaged with participants to have metering corrected (completed on 3<sup>rd</sup> Feb)

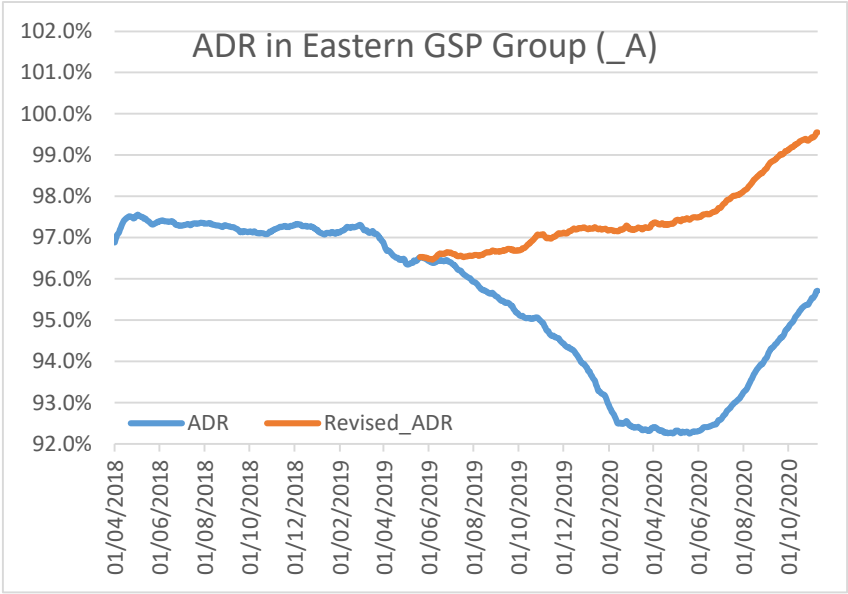
Estimated **gross** error is as follows

Period	From	To	Gross error
Trading Dispute	03/07/2019	10/12/2019	~£11.2m
Normal reconciliaton	11/12/2019	31/12/2020	~£16.5m
Estimated at SF	01/01/2021	02/02/2021	
Metering reconnected	03/02/2021		
Total			~£27.7m

Upcoming activities:

- Communicating net impact to each Party (in progress)
- Take the Trading Dispute to the TDC for determination

When ADR is recalculated minus the two GSP errors, it returns to normal levels



**Note:** ADR view at Initial Settlement (SF)

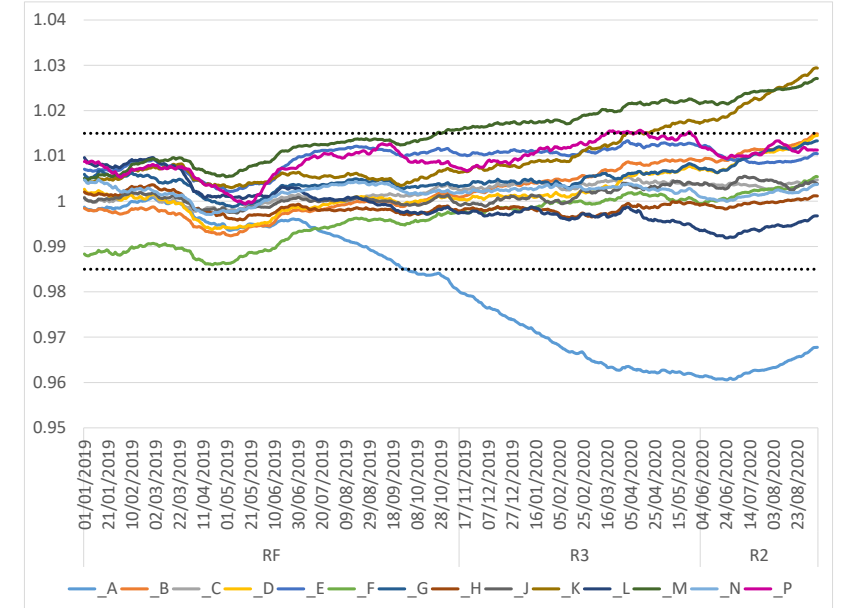
# Root cause and other investigations

Findings from preliminary investigations:

- Three Super Grid Transformers (SGTs) at GSP
- During work onsite to replace one SGT, the metering was damaged for another SGT causing 0s to be recorded
- Meter was not programmed to report a phase failure in this circumstance as would be expected
- We are not aware of the issue onsite being raised with the Registrant or CDCA
- Further investigations into the root cause to be undertaken

## Other ADR investigations

- We continue to investigate rising ADRs in \_K (South Wales) and \_M (Yorkshire)
- We are also investigating sharp drop in ADR in \_P (North Scotland) at earlier runs
- No Settlement Errors have been identified as of yet
- Updates will be provided to PAB on the outcomes of these investigations



## Lessons to be learned

---

Due to the significant impact, PAB endorsed a full lessons learned exercise to be undertaken

This lessons learned will:

- Assess root cause(s) in detail
- Consider whether any remedial actions are warranted
- Investigate revisions to how we monitor and/or deploy techniques to manage risk to Settlement
- Report back to PAB and industry on the findings

## Recommendation

---

We invite the Panel to:

**a) NOTE** the update.

MEETING CLOSE

# ELEXON

THANK YOU

---

---