

ELEXION

BSC Panel 327

Public Slides

9 June 2022



PART I:
MODIFICATION
AND CHANGE
BUSINESS
(OPEN SESSION)

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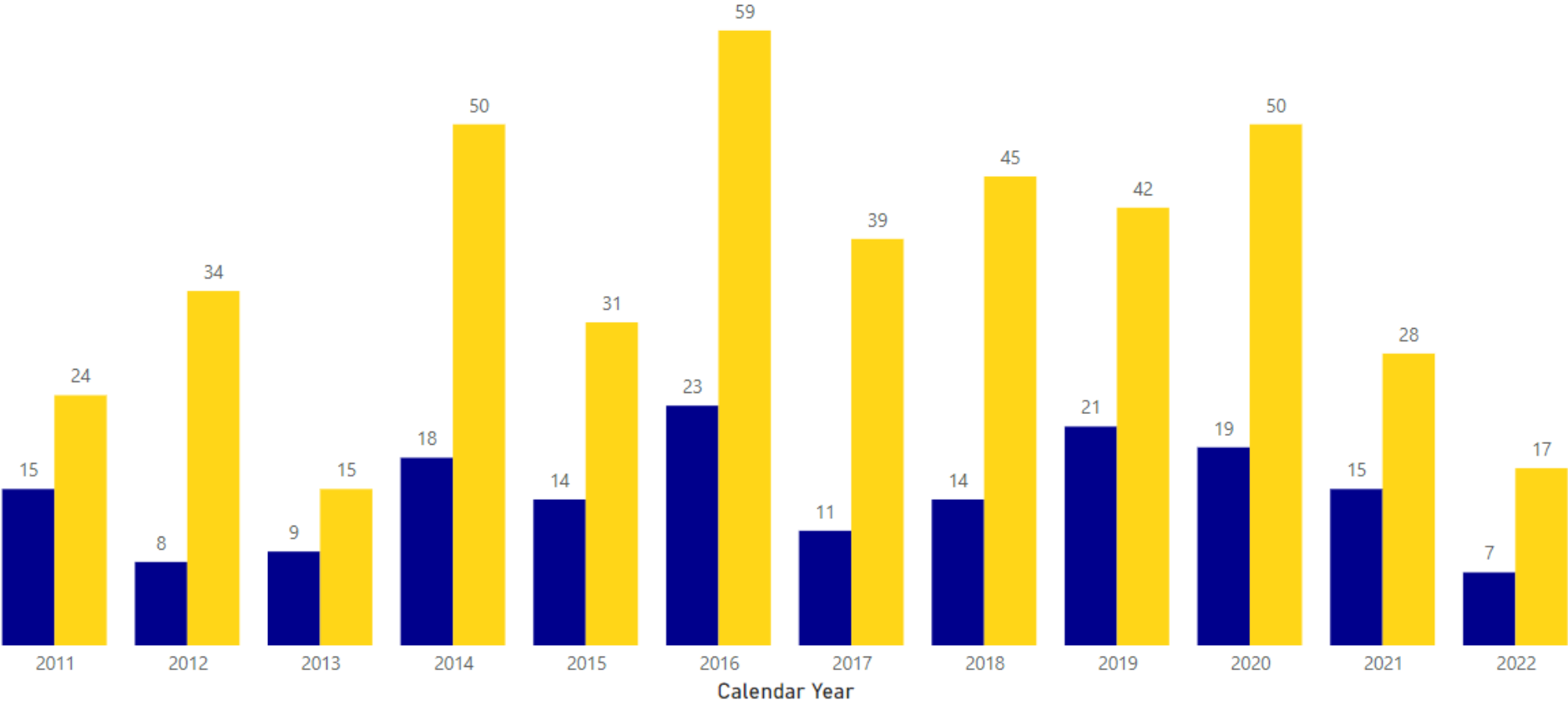
**Change Report and Progress of
Modification Proposals**

327/02 – Lawrence Jones

BSC Modifications raised by year and Workgroups held

How many Modifications raised and Workgroups held?

● Mods raised ● Workgroups (excl. Issues)



BSC Modifications overview

Initial Written Assessment	-
Assessment Procedure	P395, P412, P415, P425, P426, P427, P430, P432, P434
Report Phase	P440
Urgent	-
With Authority (decision cut-off)	P438 (urgent)
Authority Determined (implementation date)	P439 (approved) P436 (approved)
Self-Gov. Determined	-
Fast Track Determined	-
Withdrawn	-
Open Issues	Issue 91, Issue 93, Issue 95, Issue 96, Issue 98, Issue 99, Issue 100

BSC Modifications approved timelines

	Feb 22	Mar 22	Apr 22	May 22	Jun 22	Jul 22	Aug 22	Sep 22	Oct 22	Nov 22	Dec 22
P395 'Final Consumption Levies'			AR		DMR						
P412 'Non-BM Balancing Providers pay for non-delivery imbalance'							AR		DMR		
P415 'VLP access to wholesale market'											AR
P425 'Amend Shared SVA Metering Arrangement definition'						AR	DMR				
P426 'Combining Credit Cover for groups of related Parties'							AR	DMR			
P427 'Publish Parties impacts on Settlement Risks'						AR	DMR				
P430 'Extend P375 solution to Suppliers'							AR	DMR			
P432 'HH Settlement for CT Advanced Meters'						AR	DMR				
P434 'Mandate Half Hourly Settlement for NHH UMS'	IWA						AR	DMR			
P437 'Allowing non-Parties to request Metering Dispensations'		IWA					AR	DMR			
P440 'Enabling Elexon to administer the CMAG'				IWA	DMR						

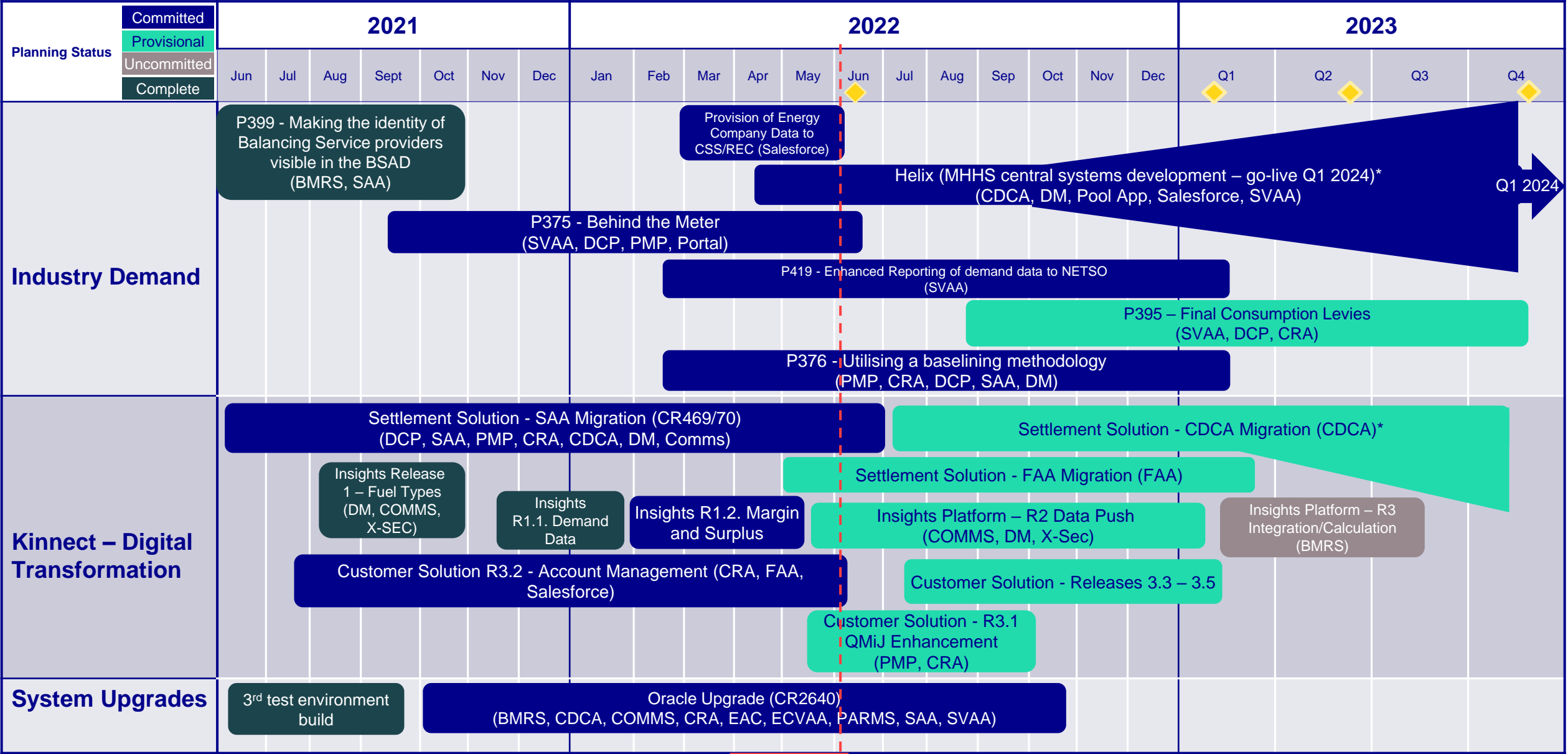
BSC Change Release Roadmap

2022	2022		2023		Un-allocated
Ad-hoc	Jun	Nov	Feb	Nov	
P425 'Shared SVA Metering Arrangements' (+5WDs)	P375 'Asset Meters'	P427 'Publish Parties impact on Settlement Risks'	P376 'Baselining Methodology'	P395 'Final consumption levies'	P412 'Non-BM BS providers pay non-delivery'
P432 'HH Settlement for CT Adv. Meters' (+5WDs)	P431 'Brexit Mod'		P419 'BSUoS data'		P415 'VLP access to wholesale market'
P434 'HH Settlement for NHH UMS' (+5WDs)	P433 'Fix P375 legal text issues caused by P420'		P428 'Correct P376 drafting error'		P426 'Combining Credit Cover for groups of related Parties'
P436 'REC V3.0' (CSS go-live)	CP1527 'Increase meter storage capacity'				P430 'P375 extension to Suppliers'
P437 'Non-Parties to request Metering Dispensations' (+5WDs)	CP1532 'Reduce HH CoS to meet SF' & CP1557 'CP1532 HK CP'				MHHS
P438 'Sanctions Mod' (+1WD)	CP1546 'Use DTS for UMS summary inventories'				
P440 'CMAG' (1 Sep 22)	CP1550 'Voltage failure alarms'				
	CP1552 'Updating BSCP520 timescales'				
	CP1553 'Meters and CT min. accuracy classes'				
	CP1554 'Updating meas. transformer standards'				
	CP1556 'CVA Qualification improvement for VLPs'				<div>Key</div> <div>Approved</div> <div>With Authority</div> <div>Report Phase</div> <div>Assessment Phase</div> <div>Direction</div>
	CP1561 'SVA Data Catalogue update for CP1546'				
	CP1562 'IDD Changes for P375'				
	CP1564 'IDD updates for P399'				

Portfolio Pipeline and Plan

Denotes Industry release

*Helix & Kinnect increase in Resource and systems demand heading into 2023 reflected in the activity bars below



Current Position

‘Publication of Performance Assurance Parties’ impact on Settlement Risk’

- Assessment Consultation closes 10 June 2022
- Workgroup meeting likely to be held on 14 June 2022
- We expect to bring the Assessment Report to the July Panel meeting, as planned
- However, there is a risk that consultation responses require further work to the solution or further Workgroup meetings
- We therefore think it sensible to ask for a one month contingency extension, which would have us present the Assessment Report at the August Panel meeting
- We therefore request a one month extension, returning with the P427 Assessment Report by the August 2022 Panel meeting, or sooner if possible

Recommendations

We invite the Panel to:

- a) **APPROVE** a one month extension to the P427 Assessment Procedure; and
- b) **NOTE** the contents of the June Change Report.

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P395 'Aligning BSC Reporting with EMR Regulations – an enduring solution'

327/03 – Paul Wheeler

9 June 2022

P395: Background

- ‘BM Unit Gross Demand’ volumes provided to EMRS are based upon the same import volumes that are used in the Settlement calculations. The BM Unit Gross Demand Report attributes to Suppliers electricity they have provided to Generators which falls outside the definition of ‘supply’ in the Electricity Act and is inconsistent with BEIS and Ofgem’s “Upgrading our energy system: smart systems and flexibility plan”, which clarified that Final Consumption Levies (FCLs) should not be charged in relation to such imports
- As a result, many Suppliers and CVA Registrants have been subject to artificially high FCLs because it is not currently possible for EMRS to accurately identify the correct volume of import used to determine the FCLs

P395: Solution

- P395 introduces new and amended processes so that the BM Unit Demand volumes - provided by BSC systems to EMRS in the SAA-I042 “BM Unit Gross Demand” - only includes electricity ‘supplied’ to premises by Suppliers, correctly excluding electricity imported by Generators and Storage Facilities operated by a generation licensee (as these volumes fall outside the definition of supply in the BEIS regulations)
- To facilitate this, P395 will migrate the responsibility for operating the EMRS interim solution to BSCCo and will introduce new mechanisms for BSC Systems to calculate the appropriate adjustments to Demand Volumes for SVA sites where Final Demand is present and for CVA sites

Market Participant Impacts

- **Suppliers and CVA Registrants**
 - The impacts below only apply to those Suppliers and CVA Registrants that wish to submit P395 declarations in order to have their FCLs calculated accurately
 - Suppliers and CVA Registrants will need to be able to submit P395 Declarations to Kinnect and process the responses
 - Suppliers wishing to submit EMR AMSID Declarations will need to:
 - i. be able to register Assets with Kinnect and to receive and process response files; and
 - ii. appoint Asset Metering Party Agents.
- **Half Hourly Data Collectors and Meter Operator Agents**
 - Suppliers will be required to appoint Asset Metering Party Agents to Asset Metering Systems, so Asset Metering Party Agents will need to be able to exchange Asset Metering Hub data flows with Suppliers as well as AMVLPs. Existing BSC processes will apply to collection and aggregation of Boundary Point Metered Volumes

Document Impacts

BSC Sections:

- Section J
- Section K
- Section L
- Section S & Annex S-2
- Section T
- Section V
- Section X-1
- Section X-2

BSCPs:

- BSCP507 - Supplier Volume Allocation Standing Data Changes
- BSCP508 - Supplier Volume Allocation Agent
- BSCP602 - SVA Metering System Register
- BSCP603 - Meter Operations and Data Collection for Asset Metering

Other CSDs:

- SVA Data Catalogue, Service Description and User Requirement Specification
- New Category 3 BSC Configurable Item 'On-Site Energy Allocation Methodology'

Note: Changes to CSDs to be updated and approved during the implementation period

P395: Report Phase Consultation responses

- The Report Phase Consultation ran for one calendar month from 19 April 2022 to 19 May 2022
- No responses were received to the consultation

P395: Recommendations

We invite the Panel to:

- a) **AGREE** that P395:
 - i. **DOES** better facilitate Applicable BSC Objective (f);
- b) **AGREE** that P395 does impact the EBGL Article 18 terms and conditions held within the BSC;
- c) **AGREE** that P395 is neutral and consistent with the EBGL objectives;
- d) **AGREE** a recommendation that P395 should be **approved**;
- e) **AGREE** an Implementation Date of:
 - i. **2 November 2023** if an Authority decision is received on or before 6 October 2022;
- f) **APPROVE** the draft legal text; and
- g) **APPROVE** the P395 Modification Report.

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**P432 'Half Hourly Settlement for CT
Advanced Metering Systems'**

327/04 – Aylin Ocak

9 June 2022

P432: Background

- Market-wide Half-Hourly Settlement (MHHS) requires that all Metering System Identifiers (MSIDs) are settled on a Half Hourly (HH) basis. The Code Change and Development Group (CCDG) has recommended moving all Current Transformer (CT) Advanced Meters (~ 50k) to settle HH by October 2023, ahead of the migration to MHHS
- If this recommendation is not implemented, the risk that there will be insufficient time for Customers, Suppliers and their Agents to address issues that may arise will be increased especially against the backdrop of the larger MHHS migration activities
- This Modification seeks to address the following issues related to CT Advanced Meters:
 - Inconsistent definitions of Advanced Meter in the BSC versus Electricity Supply Standard Licence Conditions (SLC) ; and
 - The risk of not meeting MHHS Transition Timetable

P432: Proposed

Proposed solution

- This Modification seeks to align the BSC definition of an Advanced Meter with that in the SLC and to set explicit HH Settlement obligations for CT Advanced Meters ahead of the migration to the MHHS TOM
- Existing CT Advanced Meters settling NHH are required to move using the Change of Measurement Class (CoMC) process to settle HH by October 2023 and all new connections for CT Advanced Meters will be required to settle HH from October 2022
- Any opt-out/in rights for customers under the SLC are reflected in the P432 solution

P432: Impacts

Impacted Parties:

- Suppliers
- SVA Meter Operator Agents (MOAs)
- Non-Half Hourly Data Collectors (NHHDCs)
- Half Hourly Data Collectors (HHDCs)
- Generators
- Distributors
- Non-Half Hourly Data Aggregators (NHHDAs)
- Half Hourly Data Aggregators (HHDAs)

Impacted Documents:

- BSC Section L 'Metering'
- BSC Section S 'Supplier Volume Allocation'
- BSC Section X, Annex X-1 'Glossary'
- BSC Section Z 'Performance Assurance'

Implementation Costs:

Organisation	Item	Costs (£k)
Elexon	Systems	0
	Documents	< £1k
	Other	0
Industry	Systems and processes	Low (100k) to medium (100k – 1000)
Total		Low to medium

Ongoing Costs:

- **Elexon:** 0.25 to 0.5 FTE until CoMC activity is complete (~2k to 4k per month)
- **Industry:** Low (<100k)

P432: Benefits

- The primary benefit of P432 is to de-risk the migration to the MHHS TOM
 - P432 will maximise the time to resolve 'problem' sites where issues would otherwise delay migration, and allow for extra time to correctly identify CT Advanced sites.
 - CT Advanced sites are larger consuming sites, so early HH Settlement will provide benefits to Settlement accuracy.
- P434 is an enabling step that forms part of the move to MHHS
 - The Ofgem full business case set out the benefits of implementing MHHS. Ofgem estimates MHHS will save consumers about £300m per year, with anticipated £4bn-£5bn consumer savings in total over the period to 2040.

P432: Consumer and environment impacts

Impact of the Modification on the environment and consumer benefit areas:	
Consumer 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	Positive
5) Benefits for society as a whole	Neutral

P432: Implementation approach

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

- **5 WDs** after the Authority's decision is received if the Authority's decision is received by **26 August 2022**.

A decision from Ofgem is required by 26 August 2022, so this Modification can be implemented before 1 October 2022 to give industry enough time to prepare for the obligation to settle all new CT Advanced Meter connections HH from 1 October 2022.

P432: Workgroup views

The Workgroup and Proposer were in agreement:

- With the Proposed Solution
- There are no Alternative Solutions
- P432 **does not impact** EBGL Article 18 balancing terms and conditions
- P432 should be submitted to Ofgem for decision (not self-governance)

P432: Assessment consultation responses

Question	Yes	No	Neutral	Other
Do you agree with the Workgroup’s initial view that P432 does better facilitate the Applicable BSC Objectives than the current baseline?	4	5	0	0
Do you agree with the Workgroup that the draft legal text delivers the intention of P432?	7	2	0	0
Do you agree with the Workgroup that the amendments to the Code Subsidiary Documents in Attachment A delivers the intention of P432?	5	3	0	0
Do you agree with the Workgroup’s recommended Implementation Date?	4	5	0	0

- Majority of the respondents did not agree with the Workgroup’s view that P432 better facilitates the Applicable BSC Objectives than the current baseline
- Majority agreed with the legal text and CSDs, one respondent stated the mandate for new connections isn’t clear in BSCP516 so it was amended to clarify this
- The majority of the respondents did not agree with the Implementation Date. These respondents were made up of Suppliers, except one. The respondents that did agree were mostly DCs/DAs and SVA MOAs

P432: Assessment consultation responses

Question	Yes	No	Neutral	Other
Do you agree with the Workgroup that there are no other potential Alternative Modifications within the scope of P432 which would better facilitate the Applicable BSC Objectives?	8	1	0	0
Do you agree with the Workgroup’s assessment of the impact on the BSC Settlement Risks?	6	3	0	0
Do you agree with the Workgroup’s assessment that P432 does not impact the European Electricity Balancing Guideline (EBGL) Article 18 terms and conditions held within the BSC?	8	0	1	0
Will P432 impact your organisation?	8	1	0	0

Question	High	Medium	Low	None	Other
How much will it cost your organisation to implement P432?	1	3	3	1	0
What will the ongoing cost of P432 be to your organisation?	0	1	5	1	1

- Majority of the respondents stated they will be impacted, noting that there will be increased customer engagement, and they will need to update their systems, documents and processes
- Majority stated the implementation costs will be medium or low, some respondents noted that there will be costs for system development. Ongoing costs are expected to be low

P432: Assessment consultation responses

Question	0-6 months	6-12 months	>12 months	Other
How long (from the point of approval) would you need to implement P432?	2	3	1	3
Question	Yes	No	Neutral	Other
Do you agree that P432 will decrease the risks associated with transition to the MHHS TOM and to what extent will it decrease the risks?	4	5	0	0
Will your organisation incur additional costs as a result of P432 that you would not have incurred under MHHS? Alternatively, would there be any cost savings from moving CT Advanced Meters before MHHS migration?	4	4	1	0
Do you agree with the Workgroup's assessment of the impact on the consumer benefit areas?	4	4	1	0
Do you envisage P432 requiring Meters to be exchanged? If so please provide rationale, noting the SLC requirements and provide an indication of the number of likely meter exchanges required.	5	3	1	0

- Majority stated that they will need <1 year for the implementation, with two noting that the proposed timelines are sufficient
- Majority stated that they did not agree P432 significantly reduced the risks associated with the transition to the MHHS TOM
- P432 would tie up resources on HH Settlement implementation for a longer period and impact their other projects. However, If sites migrate early and to an agreed plan with Suppliers, then there should be fewer issues

P432: Assessment consultation responses

Question
What is the impact of P432 on the customer's end to end journey?

Question	Yes	No	Neutral	Other
Will customers (of electricity supply) be exposed to higher charges if P432 is approved?	6	0	3	0
Do you believe that a related change should be raised under the REC to allow retrospective CoMCs?	5	1	3	0

- Respondents highlighted that there will be a lack of competition in the HH supply market until the transition to MHHS is completed, and more effort will be required by customers in procuring contracts
- Customers will be exposed to higher metering/data collection costs 18 months earlier than necessary
- Majority stated they expected customers to be exposed to higher charges as there is a higher cost to serve HH Settlement than NHH. However, there are existing DUoS ToU benefits that some consumers may be able to benefit from that could either offset or overall benefit the consumer bill changes.
- Majority of the respondents supported a related change being raised under REC to allow retrospective CoMCs

P432: Workgroup views against BSC Objectives

Does the P432 Proposed Solution better facilitate the Applicable BSC Objectives?		
Applicable BSC Objective	(c)	(d)
Proposer Views	Positive	Positive
Workgroup Views	Majority positive (two detrimental, one neutral)	Majority positive (one detrimental, one neutral)

Objective (c)

This Modification will promote effective competition in the generation and supply of electricity because the data will be more accurate and granular which will enable innovation and competition.

Objective (d)

The majority of the Workgroup believes P432 will simplify and clarify the BSC arrangements and consequently better facilitates efficiency in the implementation and operation of the BSC. P432 will align the definitions between the SLC and the BSC. It will also remove references to the ‘P272 go live date’ as well as P272 monitoring, reporting and Supplier Migration Plan requirements as these references are obsolete.

P432: Recommendations

We invite the Panel to:

- a) **AGREE** that P432:
 - i. **DOES** better facilitate Applicable BSC Objective (c); and
 - ii. **DOES** better facilitate Applicable BSC Objective (d);
- b) **AGREE** an initial recommendation that P432 should be **approved**;
- c) **AGREE** that P432 **DOES NOT** impact the EBGL Article 18 terms and conditions held within the BSC;
- d) **AGREE** an initial Implementation Date of:
 - i. **5WDs** after Authority decision if decision is received by 26 August 2022;
- e) **AGREE** the draft legal text;
- f) **AGREE** the amendments to the Code Subsidiary Documents;
- g) **AGREE** an initial view that P432 should not be treated as a Self-Governance Modification;
- h) **AGREE** that P432 is submitted to the Report Phase; and
- i) **NOTE** that Elexon will issue the P432 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 14 July 2022.

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**P440 'Enabling Elexon to administer the
Capacity Market Advisory Group'**

327/06 – Chris Arnold

9 June 2022

Issue

- The BSC does not currently allow Elexon to undertake administrative activities that would support the Capacity Market Advisory Group (CMAG). This does not align to Ofgem's decision (on 9 May) to appoint Elexon to undertake the CMAG administrative activities on its behalf

Proposed solution

- This Modification shall enable Elexon as the BSCCo to conduct the independent administrative work for the CMAG, on a not for profit basis, that Ofgem is awarding to Elexon (subject to this Modification). Elexon shall:
 - be required by the BSC to create, maintain and operate the CMAG processes in support of the Change Process for the Capacity Market Rules guidance, that Ofgem publishes
 - be accountable to Ofgem rather than the BSC Panel for operating and maintaining (including changing) the CMAG processes
 - recover its costs for the administrative work from BSC Parties in proportion to their market share through the main funding share

P440: Report phase consultation responses

- P440 was approved to progress to the report phase by the BSC Panel on 12 May 2022. The consultation for P440 was issued on 16 May 2022 and responses were invited until 27 May 2022
 - No responses were received to the report phase consultation.
 - Elexon note that the lack of responses is not unexpected as Ofgem has already consulted on the merits of Elexon conducting the administrative work for the CMAG and the Authority call for input received a relatively large response rate (18 responses in total).

P440: Recommendations

We invite the Panel to:

- a) **AGREE** that P440:
 - i. **DOES** better facilitate Applicable BSC Objective (f);
 - ii. **DOES** better facilitate Applicable BSC Objective (c); and
 - iii. **DOES** better facilitate Applicable BSC Objective (b);
- b) **AGREE** that P440 **DOES NOT** impact the EBGL Article 18 terms and conditions held within the BSC;
- c) **AGREE** a recommendation that P440 should be **Approved**.
- d) **APPROVE** an Implementation Date of:
 - i. **1 September 2022** if an Authority decision is received on or before 25 August 2022;
- e) **APPROVE** the draft legal text;
- f) **APPROVE** the P440 Modification Report.

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Issue 98 Issue Report

Tabled – George Crabtree

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PART II: NON-MODIFICATION BUSINESS (OPEN SESSION)



ESO Net Zero Market Reform programme

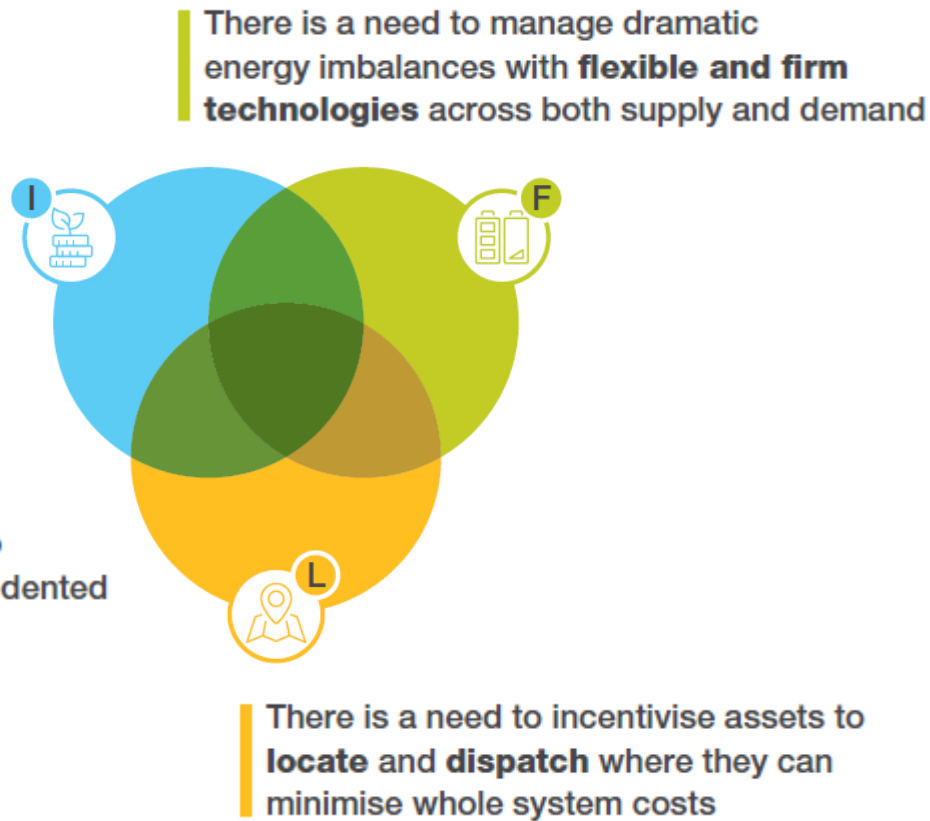
BSC Panel 327 meeting,
9th June 2022

Cian McLeavey-Reville
Sarah Keay-Bright

Net Zero Market Reform - case for change

ESO's Net Zero Market Reform programme is exploring holistically the changes to current GB electricity market design that will be required to achieve net zero

Case for Change: The Key Challenges



Case for change: Key emerging issues

The limitations of operating a high-renewables, flexible system under the current market arrangements have already emerged, leading to rising costs and operational issues. We have identified four key issues below:

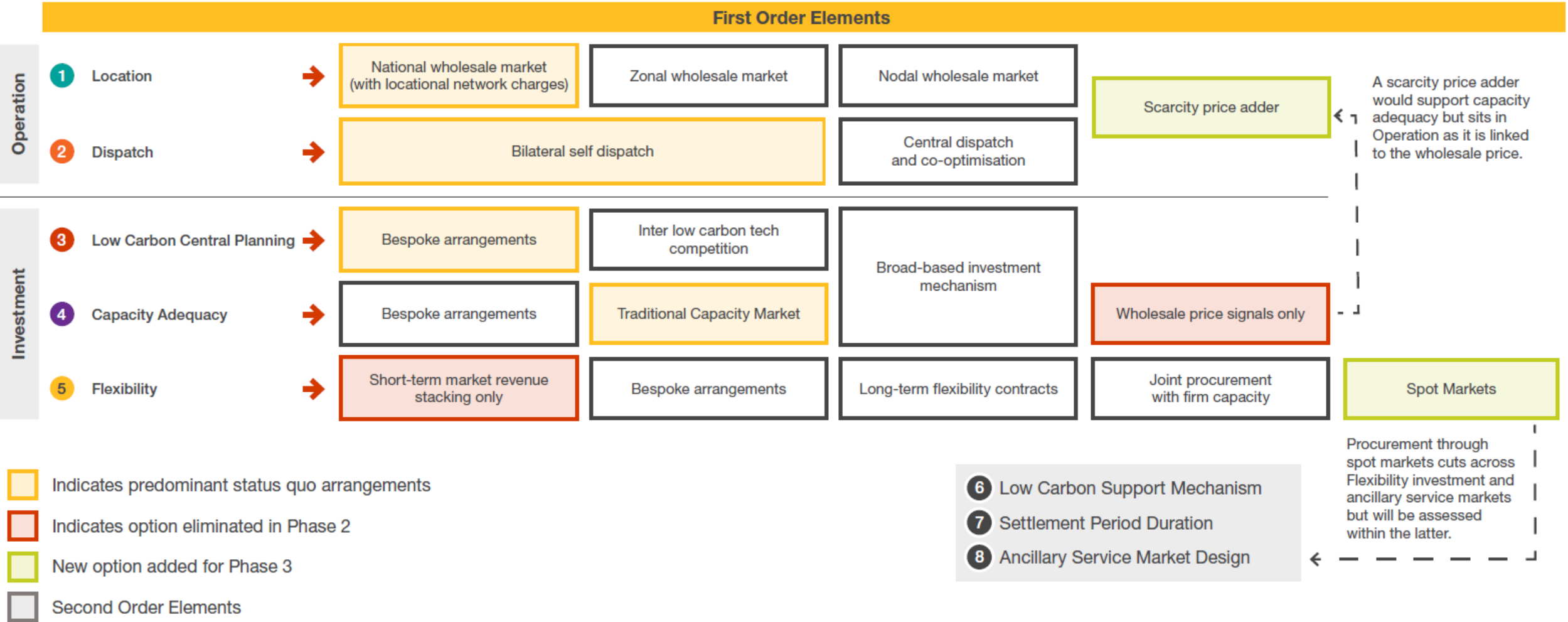
1. **Constraint costs are rising at a dramatic rate**
2. **Balancing the network is becoming more challenging and requires increasing levels of inefficient redispatch**
3. **National pricing can sometimes send perverse incentives to flexible assets, that worsen constraints**
4. **Current market design does not unlock the full potential of flexibility from both supply and demand.**

Net Zero Market Reform as part of the bigger picture

We aim to ensure our proposals for market reforms would provide an **enduring foundation for long-term net zero market design**



Updated Assessment Framework



Approach and assessment criteria

- In **Phase 3**, taking into account stakeholder feedback, we updated and refined our **Assessment Criteria** relating to Investor Confidence and Whole System. We also added a 10th Assessment Criteria - Full Chain Flexibility.
- In **Phase 4**, there may also be a need to further refine or elaborate some of the Assessment Criteria.

Assessment Criteria:

Decarbonisation	Provides confidence that carbon targets will be met
Security of Supply	Ensures that adequacy and operability challenges can be met
Value for Money	Ensures that the electricity system (network build, short-run dispatch and long-run investment) is being delivered efficiently
Investor Confidence	Investors are exposed to appropriate risks (e.g. risks they can manage) and finance costs are minimised subject to appropriate risk allocation
Deliverability	Transition from current market design to target design is deliverable in an appropriate timeframe
Whole System	Facilitates decarbonisation across other energy vectors
Consumer Fairness	The costs of the system are fairly shared across all consumers
Competition	Facilitates competition within and across technologies, between generation and demand and across connection voltages
Adaptability	A market design that can adapt to changes in technology or circumstances with limited disruption within a reasonable time frame
Full Chain Flexibility	Market design enables the flexibility from all assets at all levels of the electricity system to contribute































Summary assessment of Location design elements

	National wholesale market	Zonal wholesale market	Nodal wholesale market	
1 Decarbonisation				The level of decarbonisation is driven primarily by the amount of low carbon support. However, a nodal or zonal market design may help to foster greater “fiscal credibility” and curtailment reduction which will enhance the effectiveness of decarbonisation investments.
2 Security of Supply				The level of security is driven primarily by (1) the reliability standard; and (2) policies / regulations to deliver that standard -not by locational market designs. However, a nodal or zonal market design may provide greater value for money with capacity adequacy investments.
3 Value for Money				Consideration of transmission limits results in more efficient dispatch, while more granular locational price signals are likely to lead to more efficient long-run investment outcomes. Transfers from consumers to generators of constrained-off payments are removed.
4 Investor Confidence				More granular locational price signals allocate greater locational risks to investors –this is more efficient as generators now have to consider their impact on the grid. Financial instruments allow hedging of this risk and there is limited evidence that investors are exposed to risks they cannot manage.
5 Deliverability				Case studies on the cost of transitioning to nodal markets show significant (gross) costs associated with locational market reform. However studies show that costs are likely be far lower than the benefits. Transition to new market design can be implemented relatively quickly with a streamlined and effective stakeholder engagement process.
6 Whole System				Greater locational price signals could reduce the cost of decarbonisation in other energy vectors by incentivising more efficient siting decisions.
7 Consumer Fairness	/	/	/	A nodal market could enable bill reduction for consumers in aggregate and provides policymakers with more policy levers when compared with national market (e.g. consumers can be exposed to the national, nodal or blended price).
8 Competition				All designs help support competition in wholesale electricity markets, including in terms of liquidity. Market power issues, which arise under all designs, can be mitigated.
9 Adaptability				Nodal designs (and zonal markets to a lesser extent, through a manual boundary update process) are able to adapt to changes in demand/generation/network conditions automatically, whereas national design cannot since they are ‘blind’ to the transmission network configuration.
10 Full-chain Flexibility				Nodal market design (and zonal markets to an extent) would allow more market participants, including DER and DSR, to respond to more granular locational signals more easily.

Key: contribution towards a net zero market



Summary assessment of Dispatch design elements

	Central dispatch: Centralised commitment	Central dispatch: Self-commitment	Self-dispatch	
1 Decarbonisation				Level of decarbonisation driven primarily by the amount of low carbon support, and not by dispatch market designs per se.
2 Security of Supply				Level of security is driven primarily by the (1) reliability standard and (2) policies / regulations to deliver that standard, and not by dispatch market designs per se.
3 Value for Money				A central dispatch market design could provide greater value for money to consumers as it enables the system operator to manage high volumes of intermittency on a system-wide basis.
4 Investor Confidence				Both dispatch market design options would have a positive impact on investor confidence towards net zero, due to ability to hedge their risk appropriately.
5 Deliverability				Moving to a central dispatch model would require a full market reform, which could potentially be costly. Long term sustainability of maintaining self-dispatch market design towards net zero is currently unclear.
6 Whole System				Both dispatch market design options would have a negligible impact on other energy vectors.
7 Consumer Fairness				Both dispatch market design options would have a negligible impact on consumer fairness.
8 Competition				A central dispatch model presents limited upfront costs for prospective new entrants (these costs would be similar across all market participants including incumbents), meaning lower barriers to entry and greater market transparency.
9 Adaptability				A central dispatch model is more adaptable to changes in technology and real-time market conditions as it can (1) enable delivery of all locational market design elements; and (2) better facilitate co-optimisation between energy and ancillary services (e.g. reserves).
10 Full-chain Flexibility				Self-commitment central dispatch is likely to more efficiently accommodate the flexibility potential of all assets in the energy system.

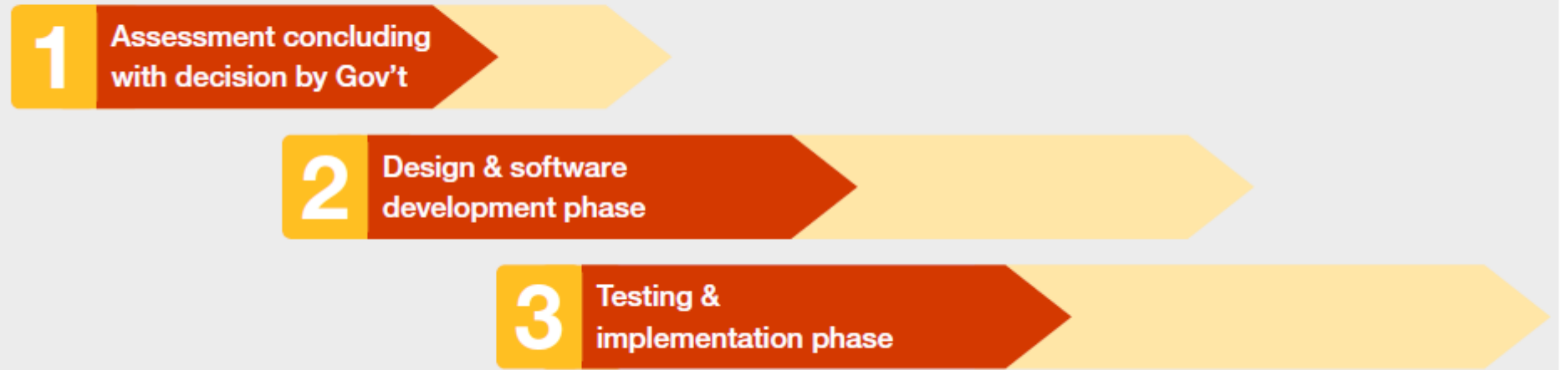
Key: contribution towards a net zero market



Implementation



Implementations in other jurisdictions indicate 3 key phases of work, and an overall delivery period of around 5 years

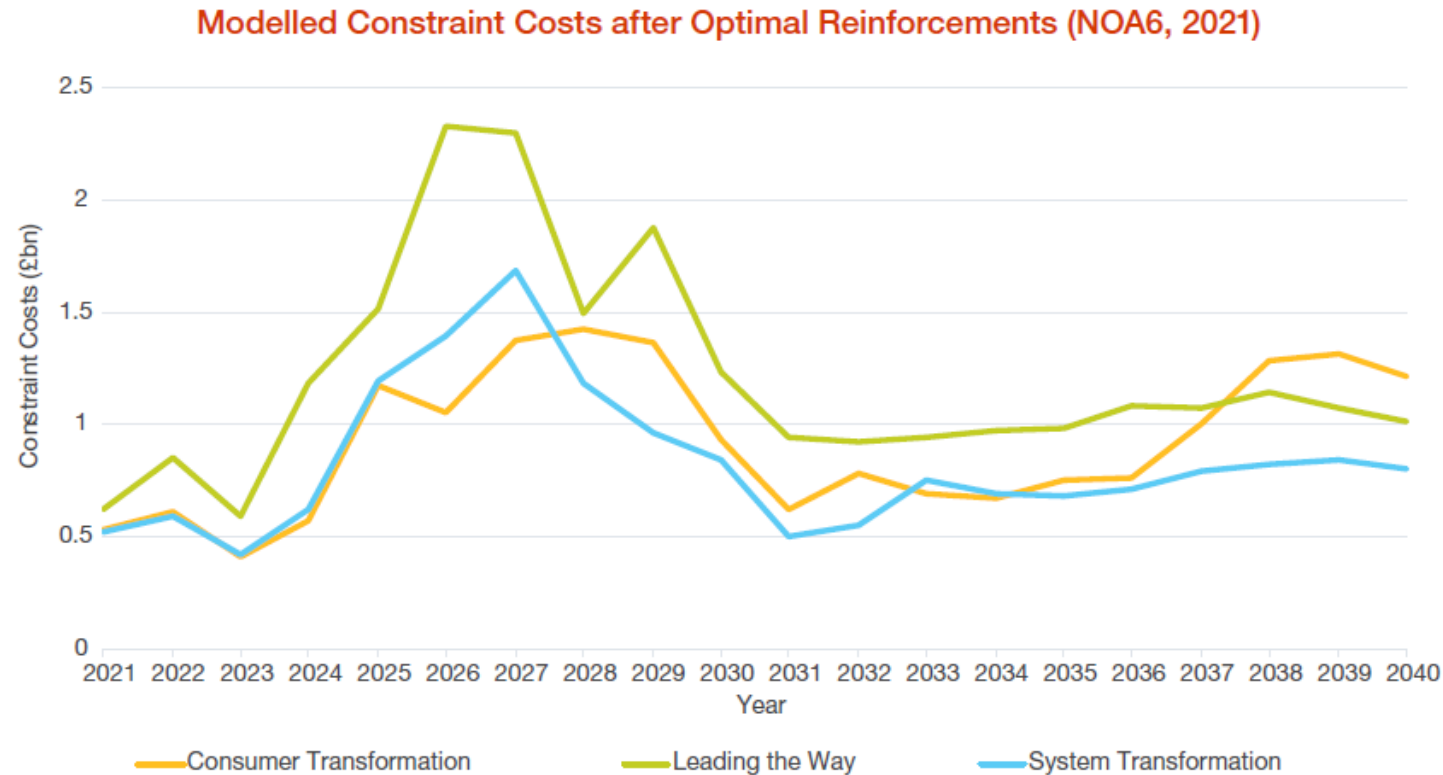


NZMR next steps - phase 4 (June - October 2022)

1. Assessment of Investment and other 2nd order market design elements under a nodal pricing and central dispatch model
2. Detailed assessment of nodal pricing and central dispatch implementation considerations, including impact on stakeholders
3. Support Ofgem's technical assessment of locational pricing options
4. Interaction with BEIS' REMA programme
5. Continued stakeholder engagement

ANNEX

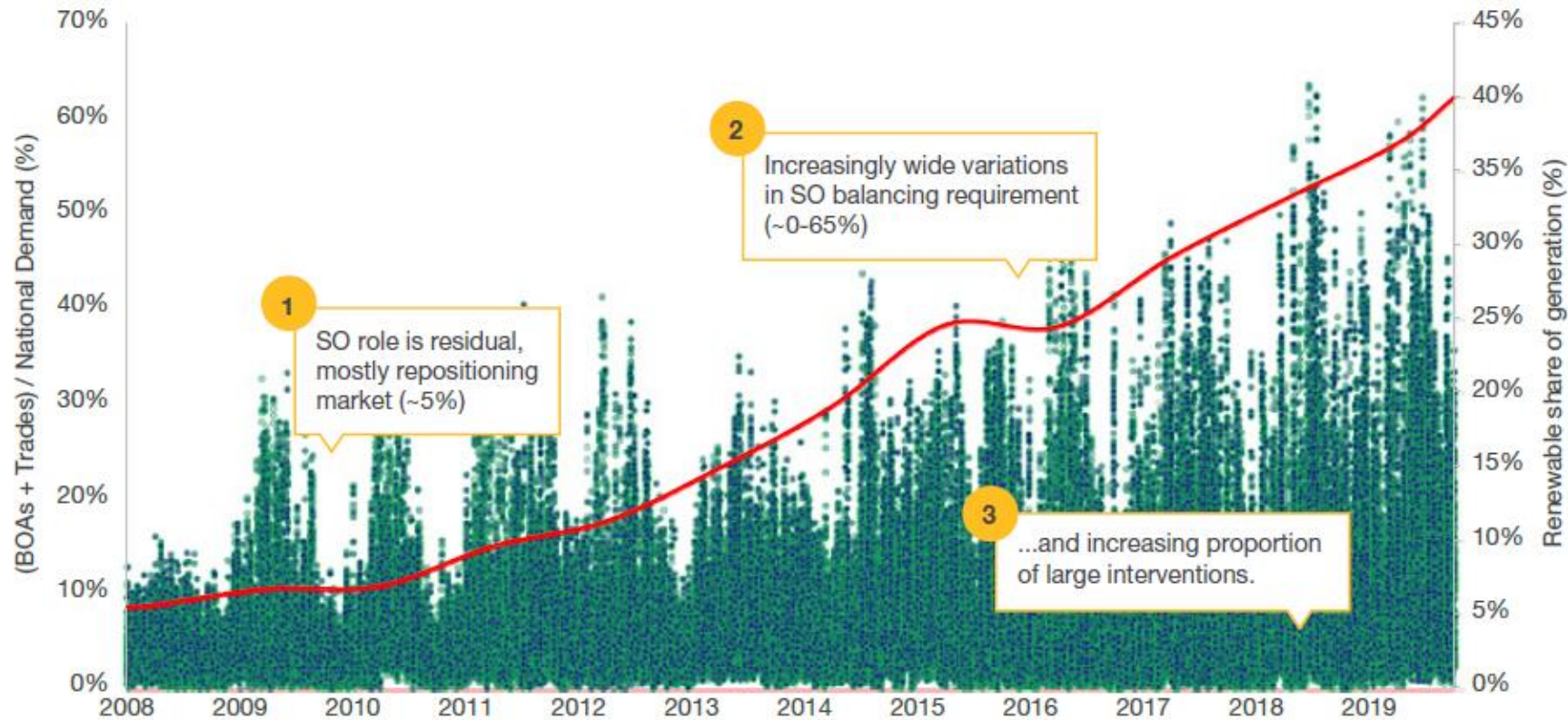
ESO projections indicate continued dramatic growth in constraint costs after optimal reinforcement



Looking forward, ESO projections indicate that transmission congestion costs will rise steeply in the first half of this decade and could reach an annual cost of £2.3bn per year by 2026. Costs reduce in the late 2020s when investments in the transmission network will facilitate the transfer of more renewable generation to southern demand centres, but remain substantially higher than historic levels.

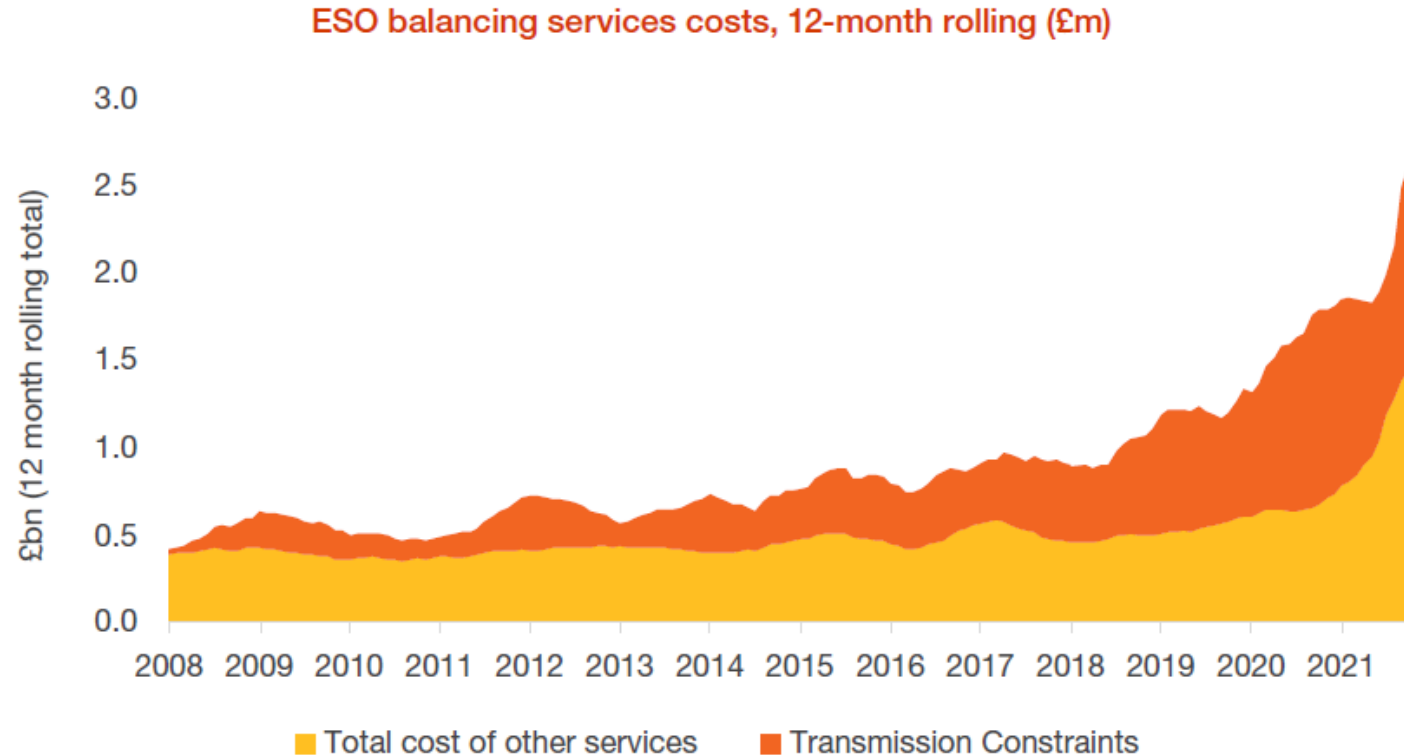
Balancing the network is becoming more challenging requiring increasing levels of inefficient redispatch

System Operator balancing as proportion of national demand (%) vs renewable share of generation



A rapid change in how and where electricity is generated has meant the ESO now frequently redispatches more than 50% of demand, up from around only 10% in 2008. Much of this is to solve the locational constraints arising from renewable energy being transported to demand centres. The ESO is effectively at times acting as central dispatcher but under very condensed gate closure timescales. This undermines the light-touch balancing role envisaged for ESO when the current market design was introduced.

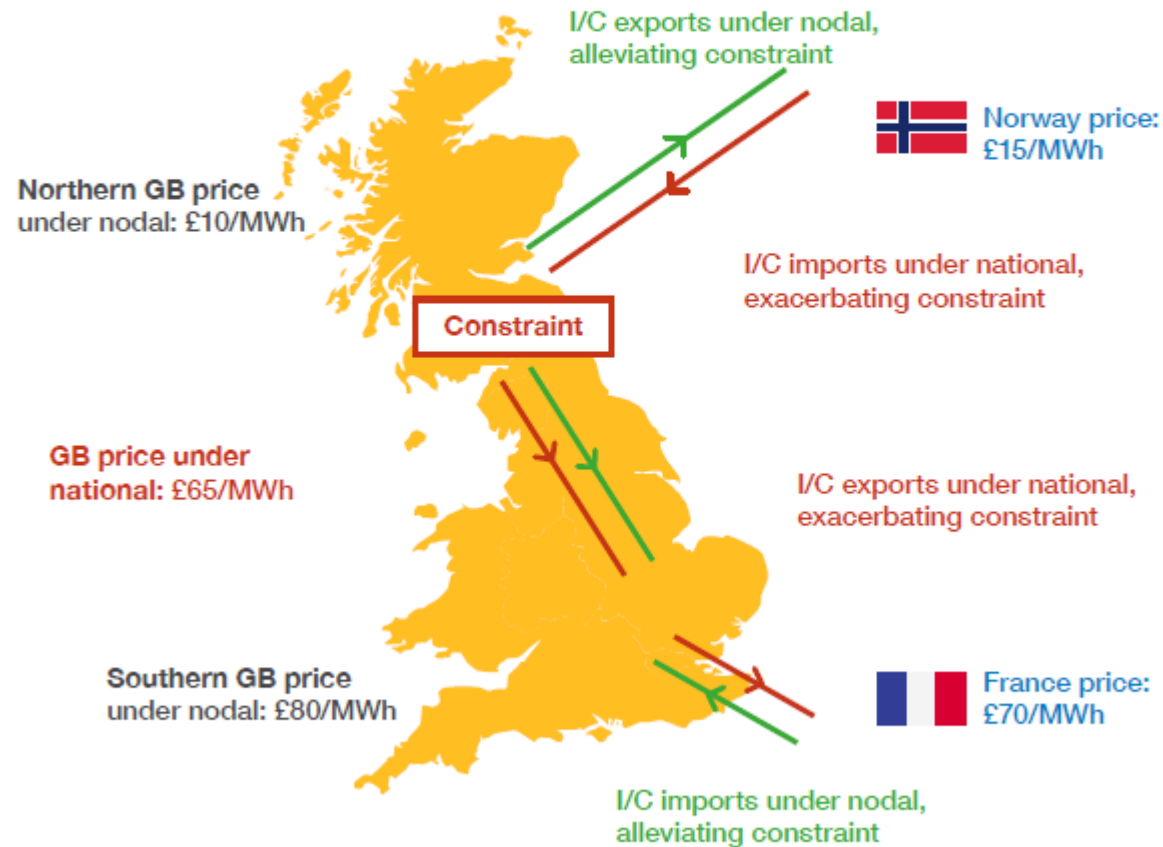
Despite significant transmission investment, constraint costs have already increased 8-fold since 2010



The cost of managing congestion on the transmission network has increased significantly: annual transmission constraint costs increased 8-fold from £170 million in January 2010 to £1.3bn in January 2022. (Congestion costs in 2021 were ultimately considerably higher than the NOA 6 forecast of £0.6bn). The premise of the current design, that any generator can serve load at any location, does not reflect the physical reality of the transmission system as, increasingly, at certain times and in certain locations, generation output exceeds network capacity.

The status quo national price is sometimes providing inaccurate incentives for key technologies

Illustrative comparison of interconnector flows under national and nodal pricing



An aerial photograph of a rural landscape. In the center, a white wind turbine stands in a green field. To the bottom left, there is a small, light-colored farm building with a grey roof. The surrounding area is divided into green fields by dark, hedged boundaries. A dirt road leads towards the farm building. The overall scene represents a blend of traditional agriculture and modern renewable energy.

PART III: MODIFICATION AND CHANGE BUSINESS (OPEN SESSION)

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Summary of Change Process Review Survey & Next Steps

Chris Arnold - Public

9 June 2022

BSC Change Process Summary Survey Response Overview (1 of 8)

- Ran from 24 January 2022 till 7 February 2022 for 10 Working Days
- 11 Respondents in Total
- A wide variety of different roles represented including:
 - DNO, Generators, Suppliers, Non-Physical Traders, ECVNA, MVRNA, Interconnector Users, Meter Operators, Virtual Lead Parties, HHDCs, Independent respondents.

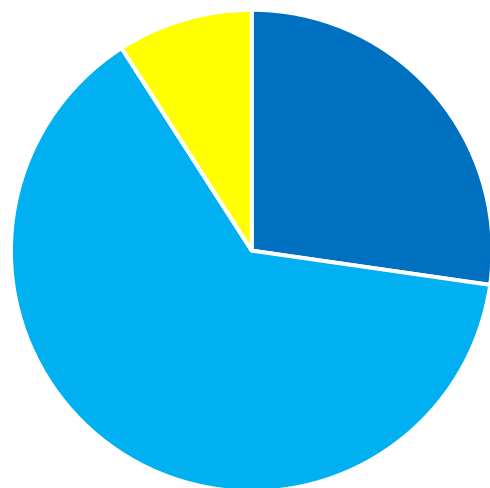
Key Themes

- All respondents agreed that a review would be valuable in 2022
- A mix of responses as to when the review should be conducted from now to every two years
- Respondents highlighted broad support for speeding up the BSC change process, simplification and encouraging greater participation in the process with smaller parties
- Respondents indicated that they were more supportive of progressive rather than fundamental change to the process
- Keen to see a simpler and more efficient code change process
- Keen to see prioritisation of change pipeline

BSC Change Process Summary Survey Overview Summary of Responses (2 of 8)

- All 11 respondents agreed that a review of the BSC Change process would be valuable in 2022

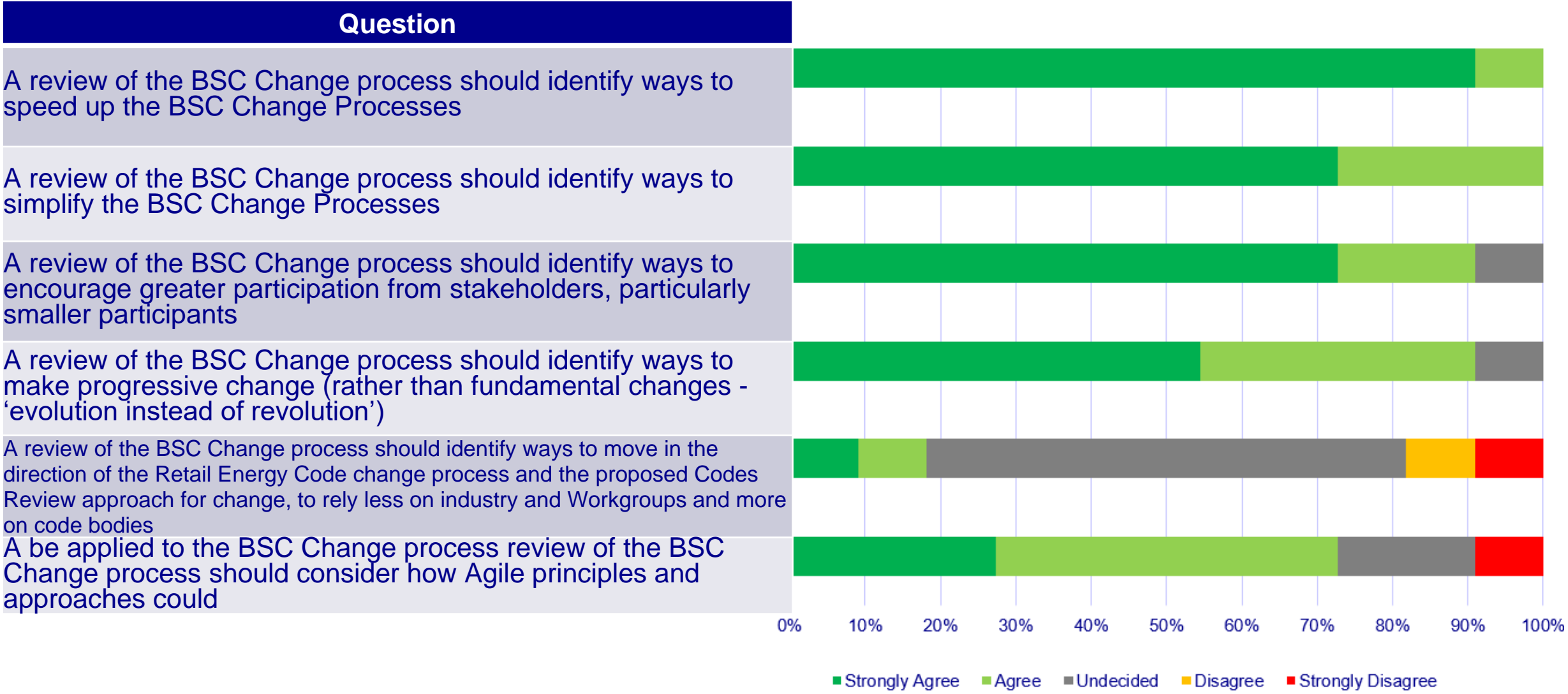
How valuable is a review of the BSC Change process in 2022 to you and your organisation?



■ Very Valuable ■ Valuable ■ Moderately Valuable

Response	Frequency
Very Valuable	3
Valuable	7
Moderately Valuable	1
Slightly Valuable	0
Not Valuable	0

BSC Change Process Summary Survey Overview Summary of Responses (3 of 8)

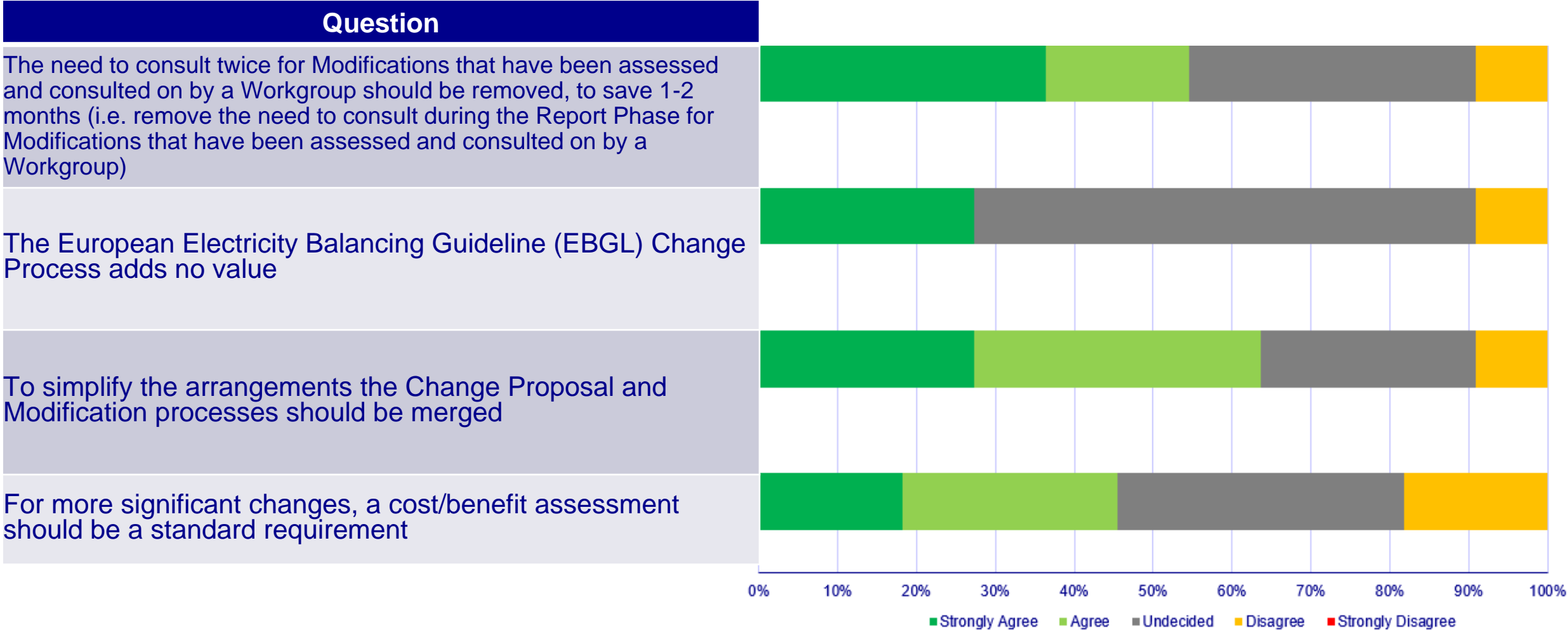


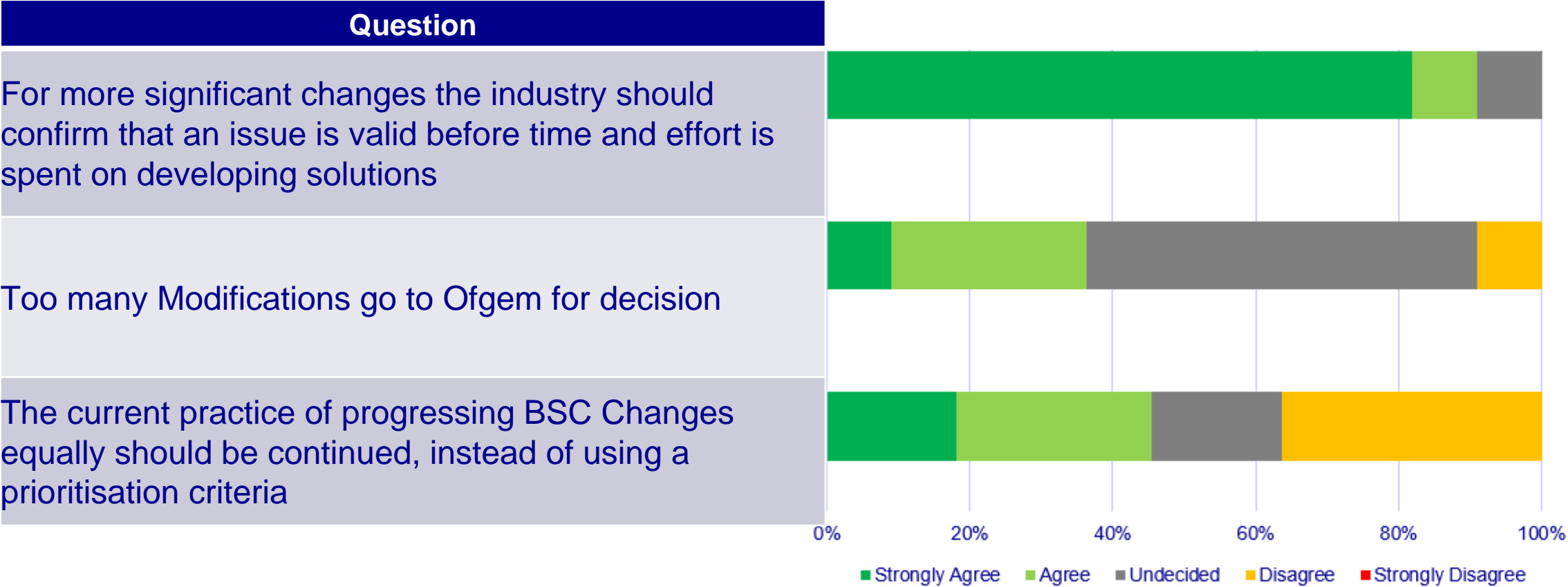
What do you think the scope of any review of the BSC Change process should cover and what other items or objectives would you like to see included?

Key Themes

- Easier to understand/simpler
- Improve efficiency and timeliness
- The importance of flexibility
- Improve engagement from a broad spectrum of stakeholders in particular smaller parties
- Allow Party Agents, Non-Supplier agents and non-BSC Parties to be able to submit change proposals themselves
- More timely Ofgem decisions
- Scope of work should include Net Zero compliance and support
- Include ability to prioritise change pipeline

BSC Change Process Summary Survey Overview Summary of Responses (5 of 8)

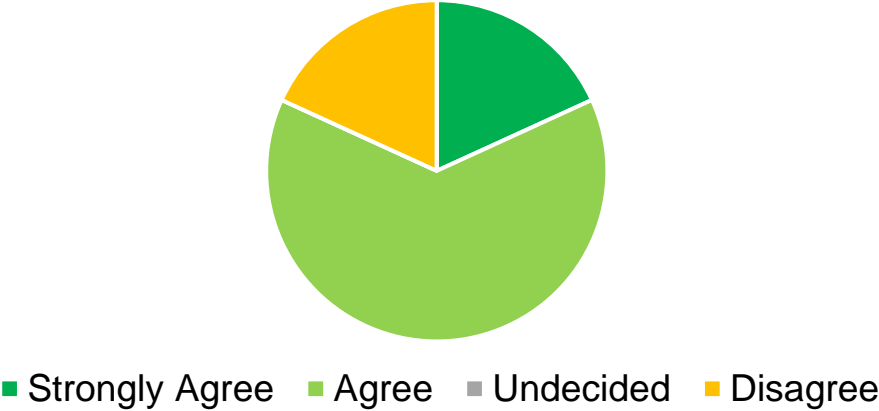




BSC Change Process Summary Survey Overview Summary of Responses (7 of 8)

- Most respondents (but not all) agreed that the BSC Change process should make better use of digital tools and platforms.

I would like to see the BSC Change process make better use of digital tools and platforms



Response	Frequency
Strongly Agree	2
Agree	7
Undecided	0
Disagree	2
Strongly Disagree	0

Any other comments, including ideas for quick wins?

Key Themes

- Make Change Pipeline more visible
- Shorter and more to the point impact analysis within Workgroups
- Principle over prescriptive governance
- Encourage wider participation in Workgroups to help minimise the rates of rejected Mods and CPs
- Requirement for Ofgem to engage more
- Merge CUSC and BSC
- Time between Workgroups is sometimes too long
- Risks need to be designated earlier in the process rather than waiting until after go-live for the PAB to pick up



NEXT STEPS

Recommended Next Steps

- Considering the feedback from stakeholders we believe that there is industry demand to review the BSC Change process this year (10 out of 11 survey respondents believe that a BSC Change process review would be valuable or very valuable in 2022).
- We propose that an Issue Group is formed to consider possible improvements to the BSC Change process. A draft issues, outcome and scope summary is detailed on the next slide which we would use as the basis for drafting an Issue form.
- If the Panel agree to progress using this approach, we intend to come back to Panel on 14 July 2022 with:
 - A draft Issue form; and
 - A draft terms of reference for review.
- Following the July Panel meeting we would expect to commence Issue groups in support of this work in September 2022 (to avoid summer holidays).

Draft Issues, Outcome and Scope

- Below is the draft Issues, Outcomes and Scope that we intend to use as the basis for the BSC Change process Issue group discussions.

Issues	There is a perception that the BSC Change process, like other codes' change processes, is slow and that the benefits associated with BSC Changes could be realised more quickly.
	The BSC Change process is considered complex and it can be difficult for those participating in the process to understand what will be required from them in the various stages in the development of a change. This may dissuade parties from engaging in the BSC Change process and limit stakeholder participation.
	Not all categories of stakeholder are consistently represented in the development of BSC Changes. Smaller organizations in particular tend to be underrepresented.
Desired Outcomes	Speed up the BSC Change Process
	Simplify the BSC Change Process
	Maintain or improve quality of BSC Change solutions and reports
Scope	Alterations, merging and removal of elements of the existing BSC Change process
	Code review recommendations not in scope

Recommendations

We invite the Panel to:

- a) **COMMENT** on the responses to the survey; and
- b) **AGREE** the next steps.

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THANK YOU



PART III: NON-MODIFICATION BUSINESS (OPEN SESSION)

E L E X O N

**Minutes of previous meetings
and Actions arising**

Fionnghuala Malone

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Chair's Report

Michael Gibbons

ELEXON

Elexon Report

327/01 – Simon McCalla

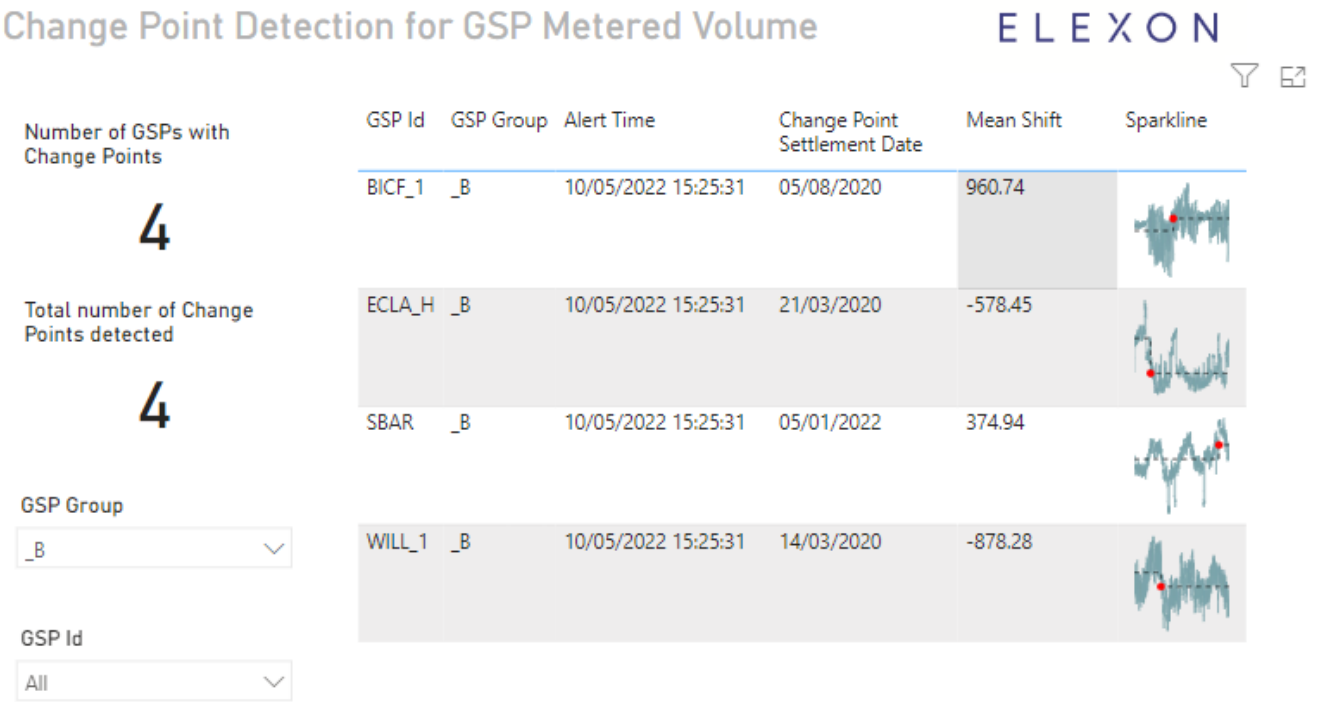
Panel election – Review of Trading Party Groups

In support of the 2022 BSC Panel Elections, Trading Parties have until 20 June to confirm the accuracy of their Trading Party Groups as part of the Voting Shares Register. The Panel Member elections take place from June to August and elected members will serve from 1 October 2022 to 30 September 2024. The Voting Shares are also important for the voting on Elexon Directors as part of the next Annual BSC Meeting and Seminar on 14 July 2022. Please refer to the [Elexon website](#) for further details.

Machine learning tool: Spotting Settlement Errors sooner

As part of our work following the identification and correction of some significant Grid Supply Point (GSP) Metering errors, we have developed a machine learning based model to detect and alert unusual consumption patterns or step changes (referred to as “change-points”) at individual GSP Metering Systems. These change-points may equate to the introduction of metering issues as seen in recent years.

The model provides alerts on unusual consumption patterns at individual GSP Metering Systems. We’ve published a beta version of the model on our website and we’re keen for customer feedback on it. Find out more on the [Elexon website](#).





Exelon to partner with Icebreaker One to provide Net Zero data

Exelon will be joining forces with industry not-for-profit Icebreaker One as part of its government-supported Open Energy programme, which seeks to revolutionise the way data is shared across the energy sector to make sure the UK achieves its Net Zero goals.

A proof of concept project between the two organisations has already been completed, which has integrated ten data sets from the new Exelon Kinnect Insights Solution with Icebreaker's Open Energy service. The available data initially includes open data sets that provide a forward view of electricity availability from generation and interconnector capacity and historic views of the electricity generation fuel mix. Data consumers can build a picture of where GB electricity has (and will be) coming from using the data sets exposed on the platform.

Now that the integration has been established, Exelon plans to make more data available on the Open Energy platform as development of the Kinnect Insights Solution progresses. This will potentially include some shared data sets, which Exelon will manage through the Icebreaker One Trust Framework that enables secure access control.

Elxon Kinnect: SAA on track to go live in September and Insights goes live to industry in June

Settlement Solution

The go-live date for the Settlement Solution remains on target for September 2022. Factory Acceptance Testing (FAT) has now been successfully completed. Security Penetration testing has also been successfully completed, and Operational Acceptance Testing (OAT) has begun and is progressing well. A period of parallel runs is due to start in early July, in order to provide maximum assurance to industry before SAA goes live on Kinnect.

Once live, the Settlement Solution will deliver significant reductions in operation time with faster calculation and removal of manual operation. It will track input files to enable the live identification of any missing data or erroneous files.

Insights Solution

Iteration 1.2 for the Insights Solution, which delivers Demand and Wind Forecast Data, was successfully released to the Data and Reporting User Group on 18 May. Level 3 members of the Data and Reporting Group and the BMRS Change Board carried out specific testing for a period of one week, reporting feedback to the project team. The final release on 31 May delivered some final minor improvements bringing this iteration to a close, on time and on budget. On 6 June the Insights Solution will be launched to the wider industry. Discovery phase for Iteration 1.3 which will deliver Balancing Mechanism Data is in progress.

Customer Solution

The Participant Management team continue to progress Release 3.2, Drop 1 of Elxon Kinnect establishing a pipeline of continuous delivery for the Customer Solution, which will include enhanced functionality and other customer-led service improvements. The go live date for Release 3.2 is being delayed by a couple of weeks due to a minor issue caused by Salesforce patching. The go-live date is being re-scheduled for mid-June.

A roadmap of the current, next and future developments planned for the Customer Solution is now available on the [Kinnect Customer Solution ongoing development and planning](#) page of the Elxon website.

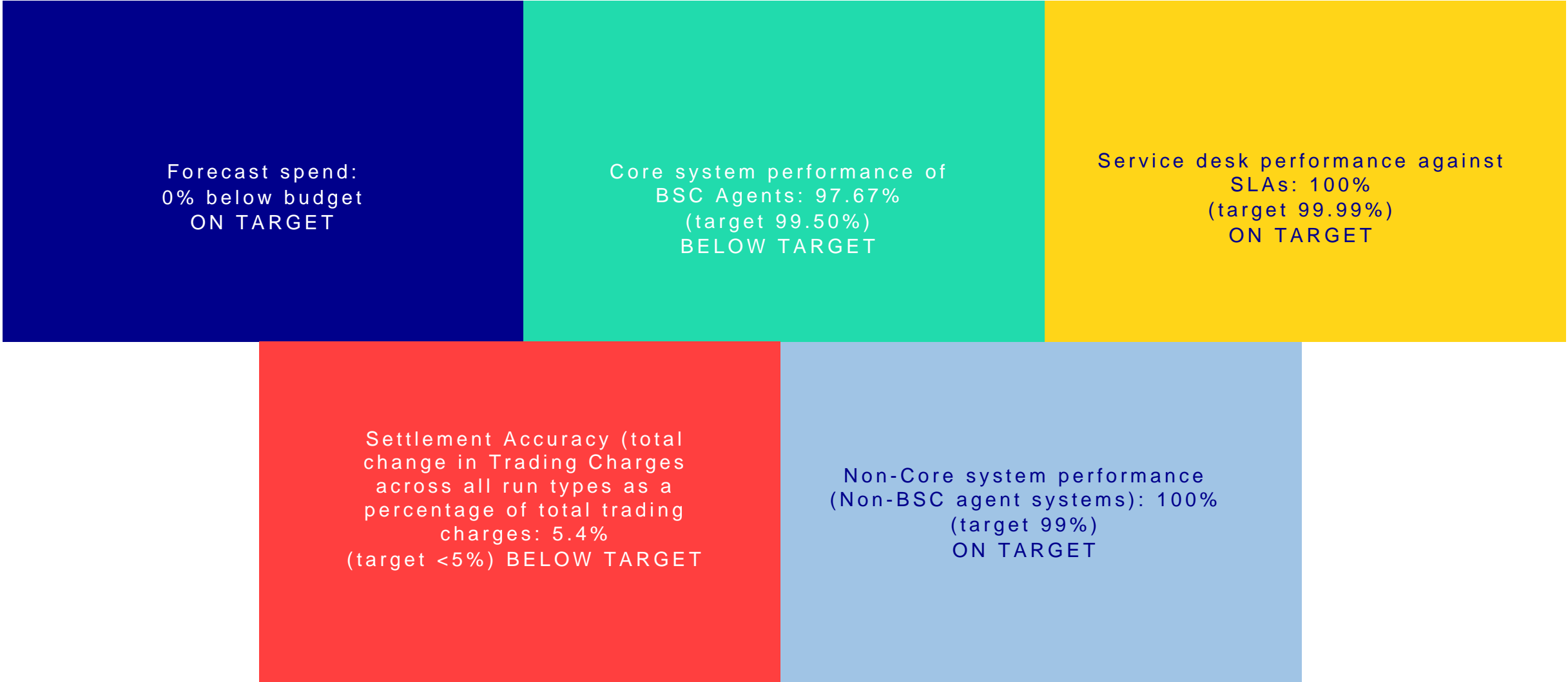
Elexon Kinnect: Budget update

Overall, the Kinnect Programme remains on budget with £28.2m of investment in progress, of which £25.3m has been spent to date. The remaining £19.3m is forecast for future work to conclude migration of the legacy systems to the digital platform in 2023 and we have £6.4m remaining contingency, which is held by the transformation committee.

These figures are also demonstrated in the table below:

CTD (£m)	Committed	FTC	Contingency	Forecast Outturn	Budget	Variance
25.3	2.9	19.3	6.4	53.9	53.9	0

Key KPIs: March 2022



Appendices

Elexon monthly KPIs and summaries of papers considered and decisions made by the Panel Committees since the last Panel meeting can be found in their headline reports, included as attachments to this paper:

Attachment A – Elexon monthly KPIs

Attachment B – Report from the ISG

Attachment C – Report from the SVG (public)

Attachment D1 – Report from the PAB (public)

Attachment D2 – Report from the PAB (confidential)

Attachment E – Report from the TDC

Note: due to the short month and the committee meetings falling after Panel paper day, the reports from the ISG, SVG and TDC will be late papers

Recommendation



We invite the Panel to:

- **NOTE** the contents of this paper.

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Distribution Report

Fungai Madzivadondo

ELEXION

National Grid Report

Rob Wilson

ELEXION

Ofgem Report

Colin Down

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BSC Audit Opinion - Verbal

Victoria Moxham

Click to type document status e.g. Confidential

ELEXION

ISG Committee Update - Verbal

Iain Nicoll

Click to type document status e.g. Confidential

MEETING CLOSE

ELEXON

THANK YOU
