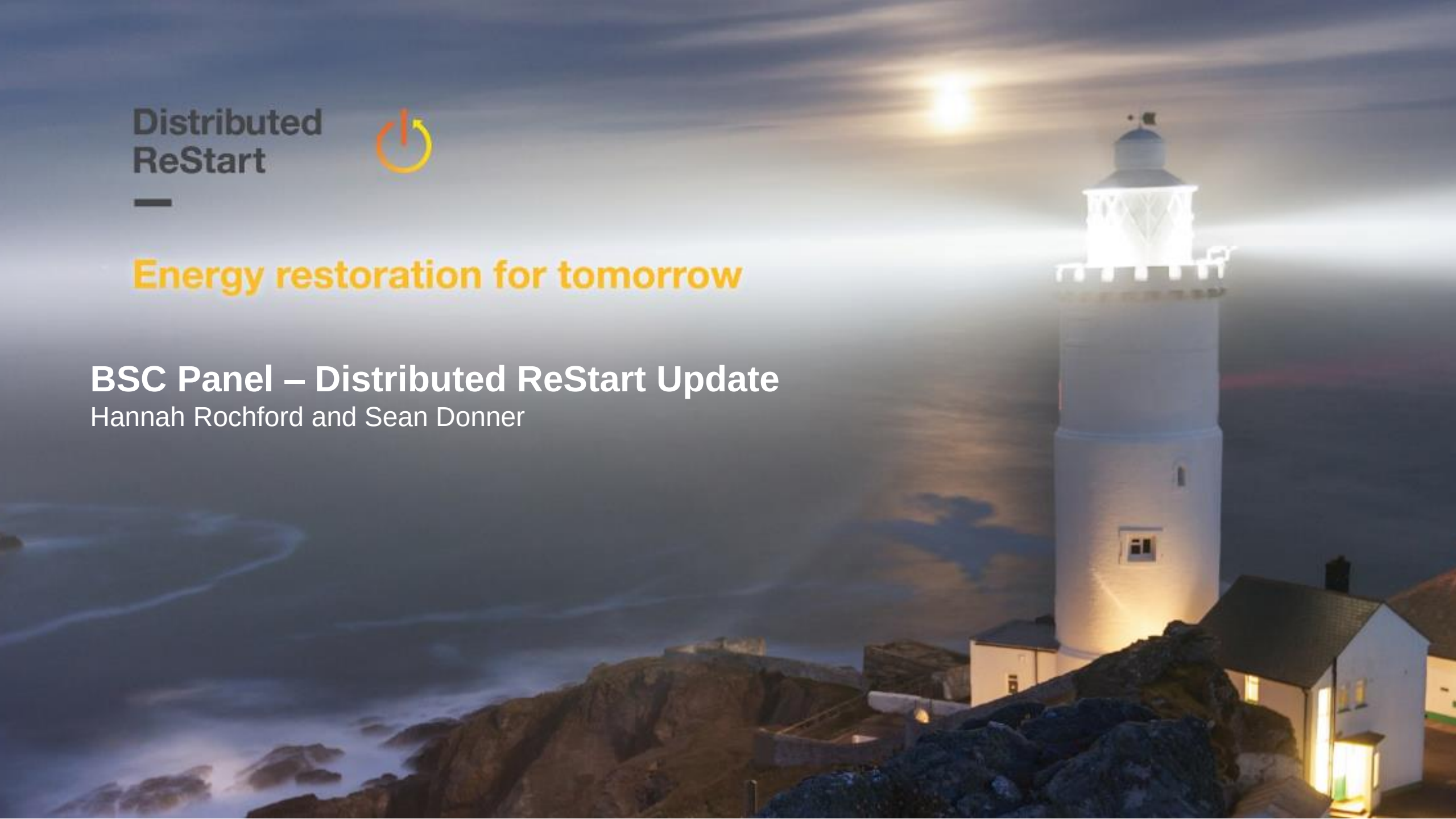
# BSC Panel 318

Public

9 September 2021

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




# BSC Panel – Distributed ReStart Update

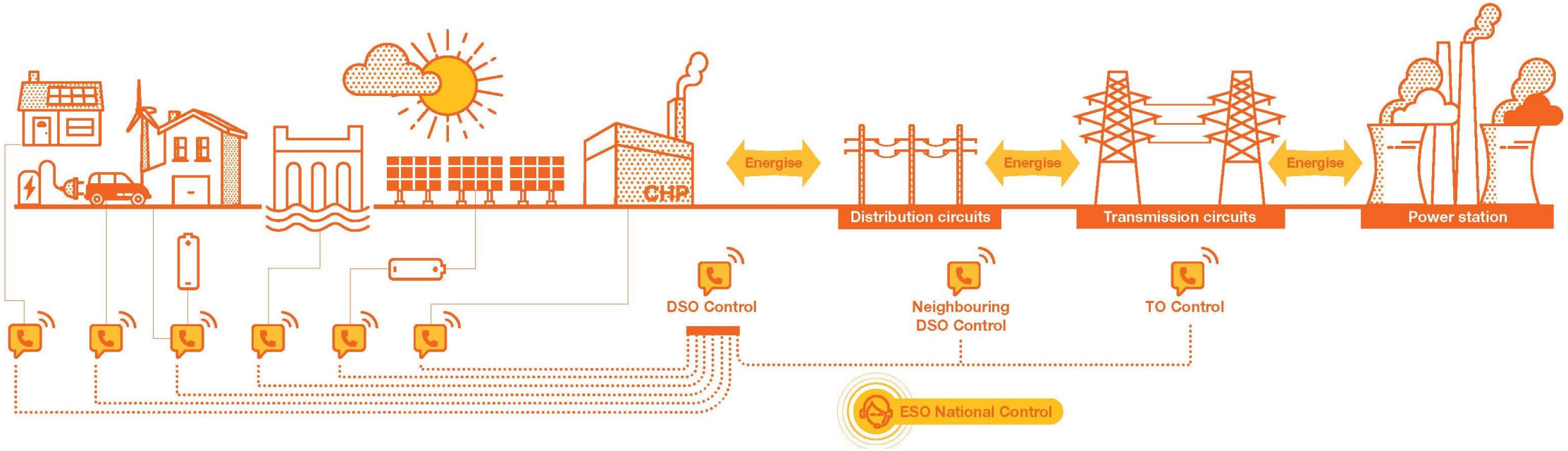
Hannah Rochford and Sean Donner

# Why Distributed ReStart?

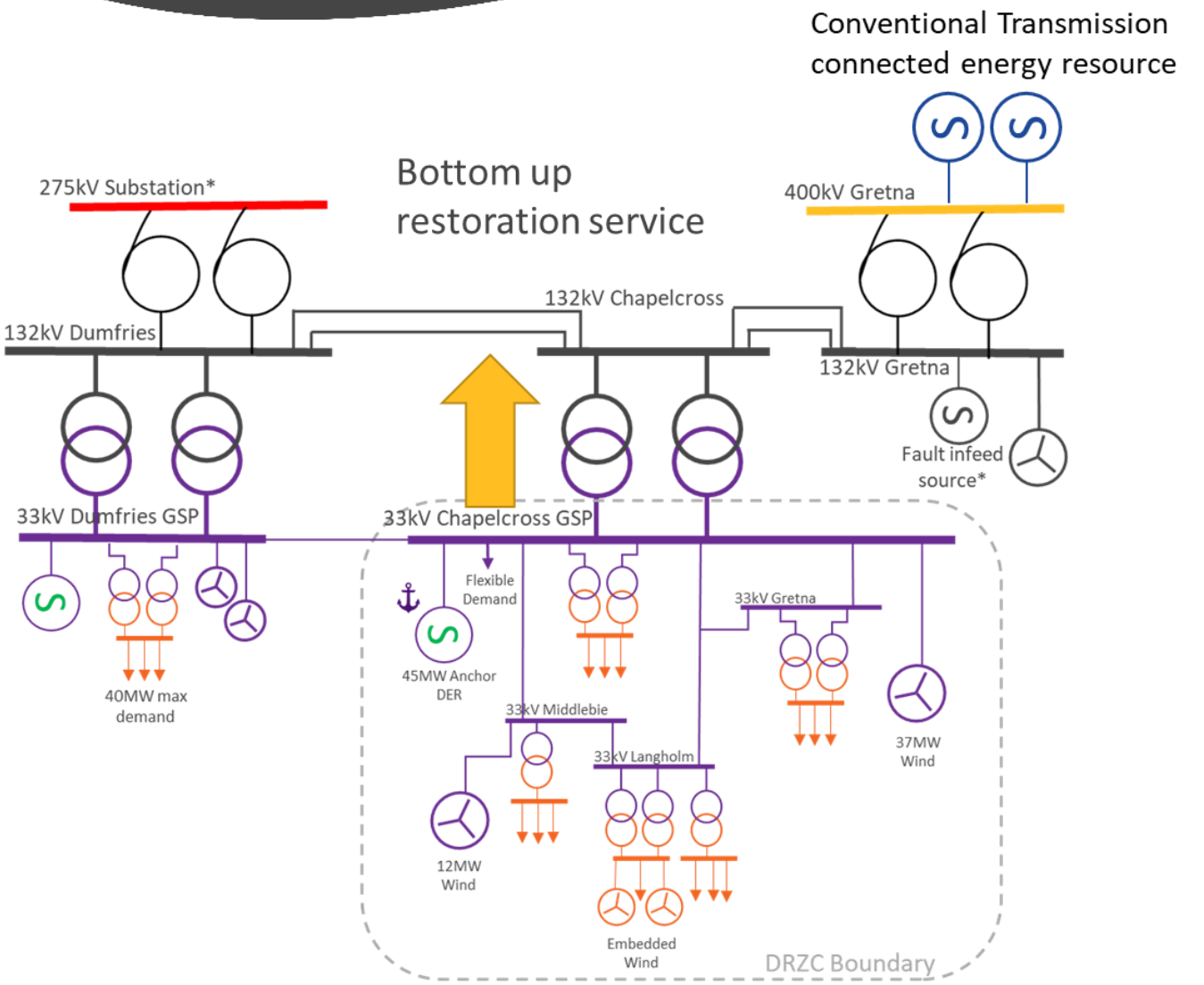
A ‘Bottom up’ approach for Black Start restoration from Distribution to Transmission using Distributed Energy Resources will:

- Reduce cost to consumers by introducing competition
- Decrease carbon footprint
- Future proof our networks
- Accelerate regional restoration timescales

**energy.**
with **renewable**
to prove **it’s possible**
approach to **black start,**
This project uses a **bottom up**



# Distributed Restart Procedure




A distribution connected energy resource (Anchor DER) will start without external energy supplies

This will be used to energise other distribution connected energy resources which will collectively be used to energise the transmission system and restore local demands

The collective capability of the demand and DERs will be used to provide outward transmission energisation and restore supplies to transmission connected energy resources

This process is repeated until the power system is restored with multiple power islands being grown in parallel across GB

# Automation of Restoration Process

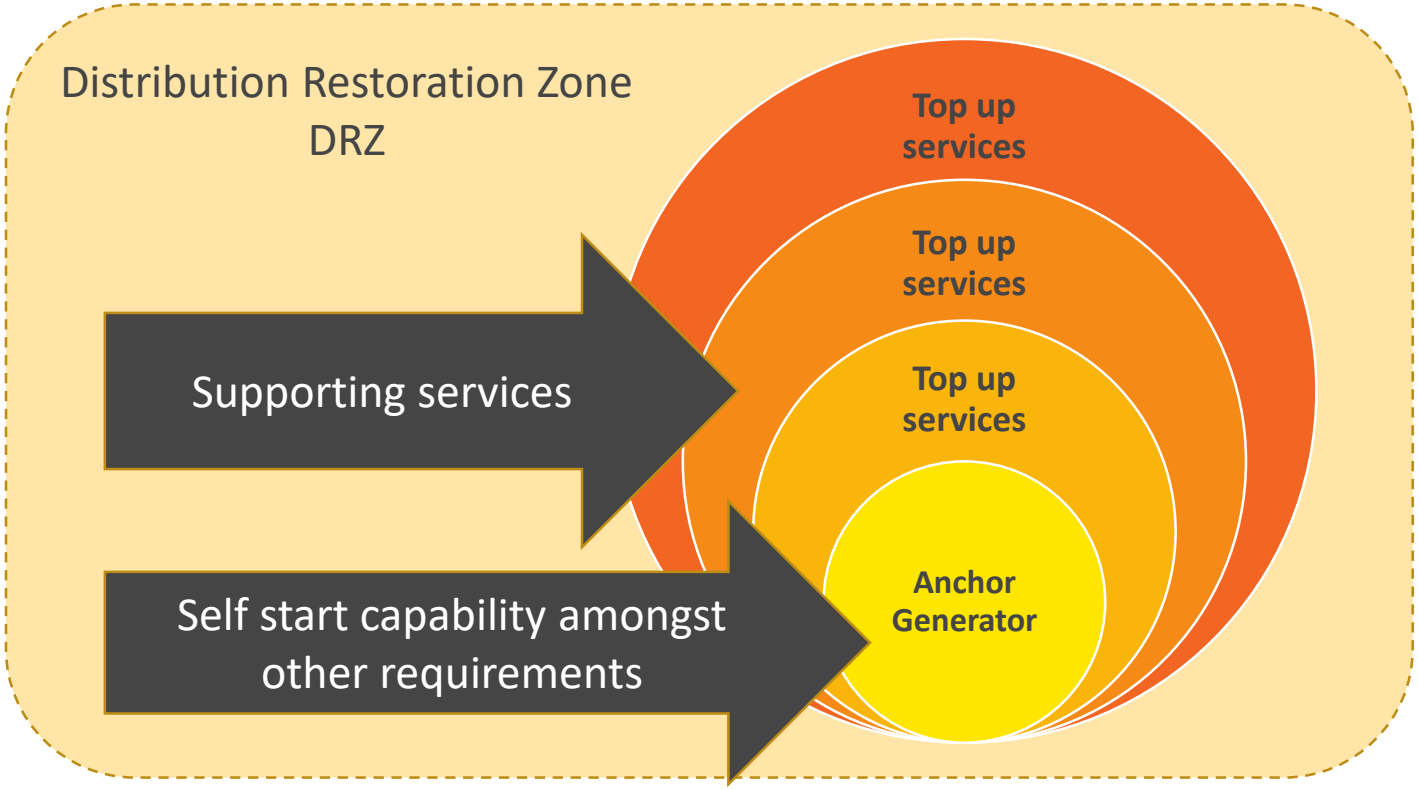
## Restoration Stages

- **Stage 1: Network Preparation and Initialisation –** Reconfigure network, change protection, confirm readiness to DER
- **Stage 2: Anchor generator start up and initial network energisation –** Energise skeleton network, instruct and supervise anchor self-start
- **Stage 3: Power island expansion –** Block Loading, energise and dispatch supporting DER, maintain all DER within limits
- **Stage 4: Maintaining a stable power island –** Maintain frequency and stability awaiting further expansion
- **Stage 5: Transmission network energisation –** Manage DER to prepare for transient conditions on energisation of the T network
- **Stage 6: Power island resynchronisation –** Co-ordinate anchor generator and DER to perform the synchronisation process
- **Stage 7: DRZ termination –** Manage transition to recover to normal grid connected operation.

- The restoration process will require a level of automation to overcome technical challenge and resource constraints.

- The concept of a Distributed ReStart Zone Controller (DRZ Controller or DRZ-C) has been developed to describe the system(s) that will enable monitoring, control and coordination of a range of DER and network resources to provide Black Start services.

# Procurement Services for One Distribution Restoration Zone



# Lead procurement entity options

- ESO Leads
- DNO / DSO Leads
- Third Party

# Options for settlements and funding structure

## Close to the ‘as-is’ process

- ESO leads the procurement
- Remuneration via RIIO-2

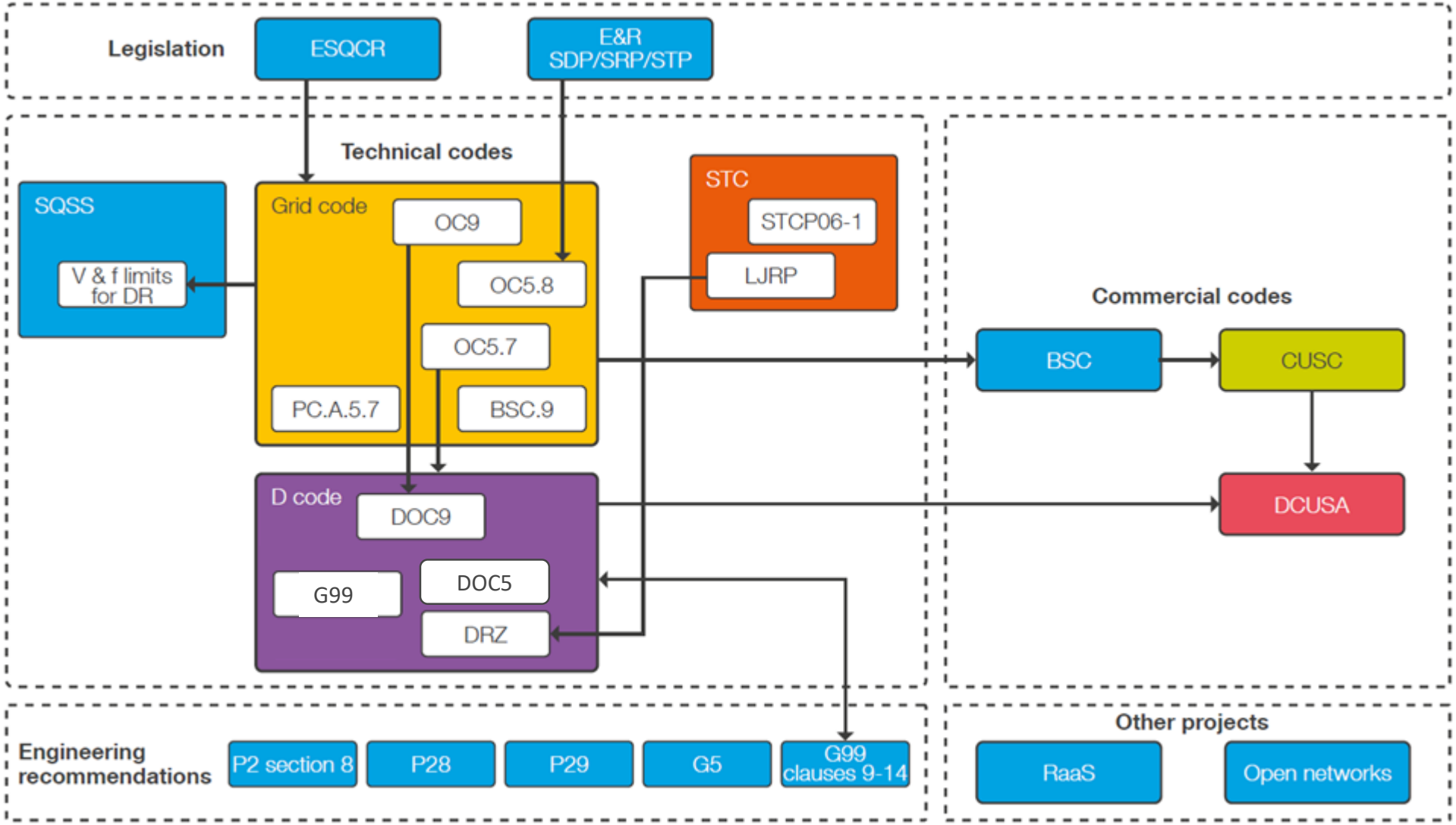
## DNO/DSO cover all costs

- DNO/DSO lead the procurement
- Remuneration via ED2

## ESO covers all costs

- ESO or DNO/DSO lead the procurement
- Remuneration via RIIO-2

# Detailed Code Interdependencies Map



# Industry Code Modification

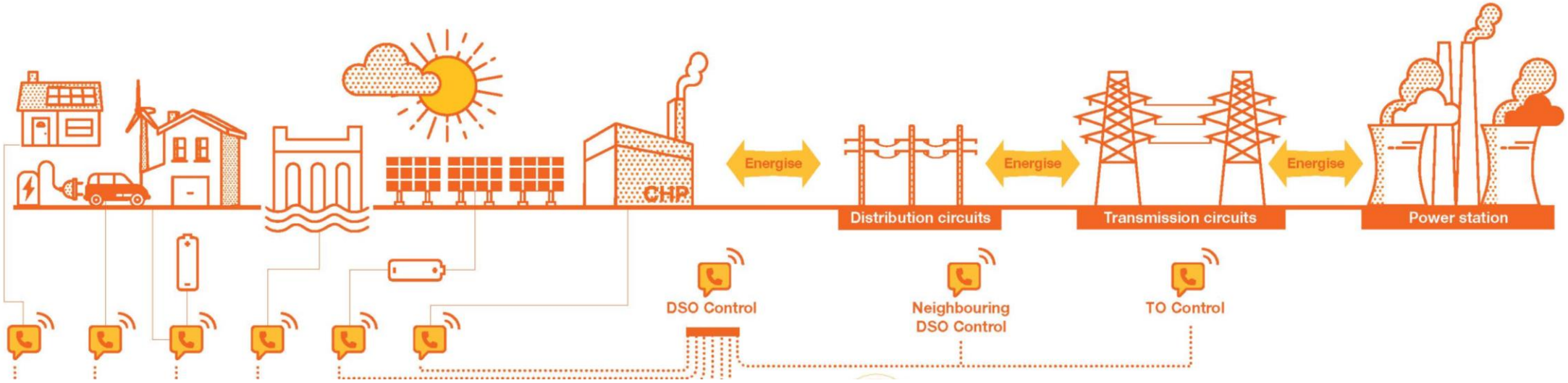
- Progressing on Grid Code and Distribution Code modifications
- Grid Code and Distribution Code require significantly more change than BSC, CUSC or DCUSA
- Aiming to propose BSC, CUSC and DCUSA modifications in coming months
- A joined up approach is being taken to ensure all codes are changed in such a way they continue to align
- Also cognisant of potential Licence changes and those tie-ins to Codes, including the BSC
- There has been a focus on industry engagement throughout the Distributed ReStart project

# BSC Code Modification

- Main focus would be on BSC Section G: Contingencies, which includes a section on Black Start
- This would be a simple Modification to account for the rights and responsibilities which DNOs/DSOs would pick up to enable Distributed ReStart
- Would look to weave these changes into the existing processes laid out in the BSC
- The exact detail of how this looks is dependent on who is the lead procuring entity
- There aren’t any anticipated changes to NETSO rights and responsibilities, as traditional Black Start will continue to operate in the same way as now
- Will also make any updates required to Grid Code references in line with those changes
- No fundamental changes to processes, just updates to add in extra responsible parties
- There are also potential changes needed to BSCP201 to align with BSC updates

# What to look out for in final project year…

- Live Trials at 3 case studies will test our findings – October 2020 – Early 2022
- Functional specifications for controller published - 4th December 2020
- Functional specifications for resilient & cyber secure telecoms & control published - 11th December 2020
- Build & testing of a prototype controller – Summer / Autumn 2021
- Desktop Exercises used to refine industry organisational processes – Spring 2021
- Trial Procurement event – Summer 2021
- Industry code drafting will be progressed through industry working groups
- Roadmap for implementation in BAU – Winter 2020 onwards



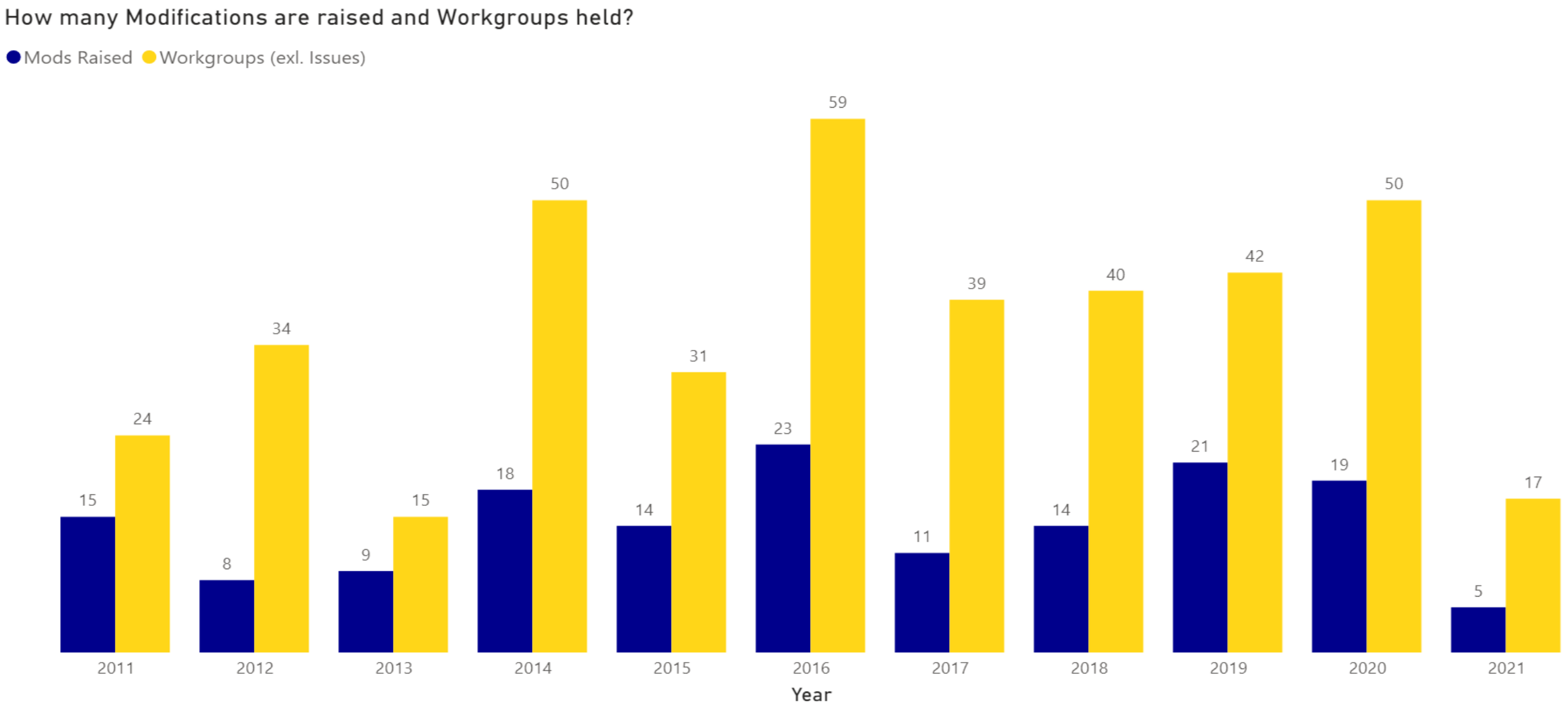
# PART III: MODIFICATION AND CHANGE BUSINESS (OPEN SESSION)

# Change Report and Progress of Modification Proposals

318/02 – Lawrence Jones

9 September 2021

# BSC Modifications raised by year and Workgroups held






ELEXON

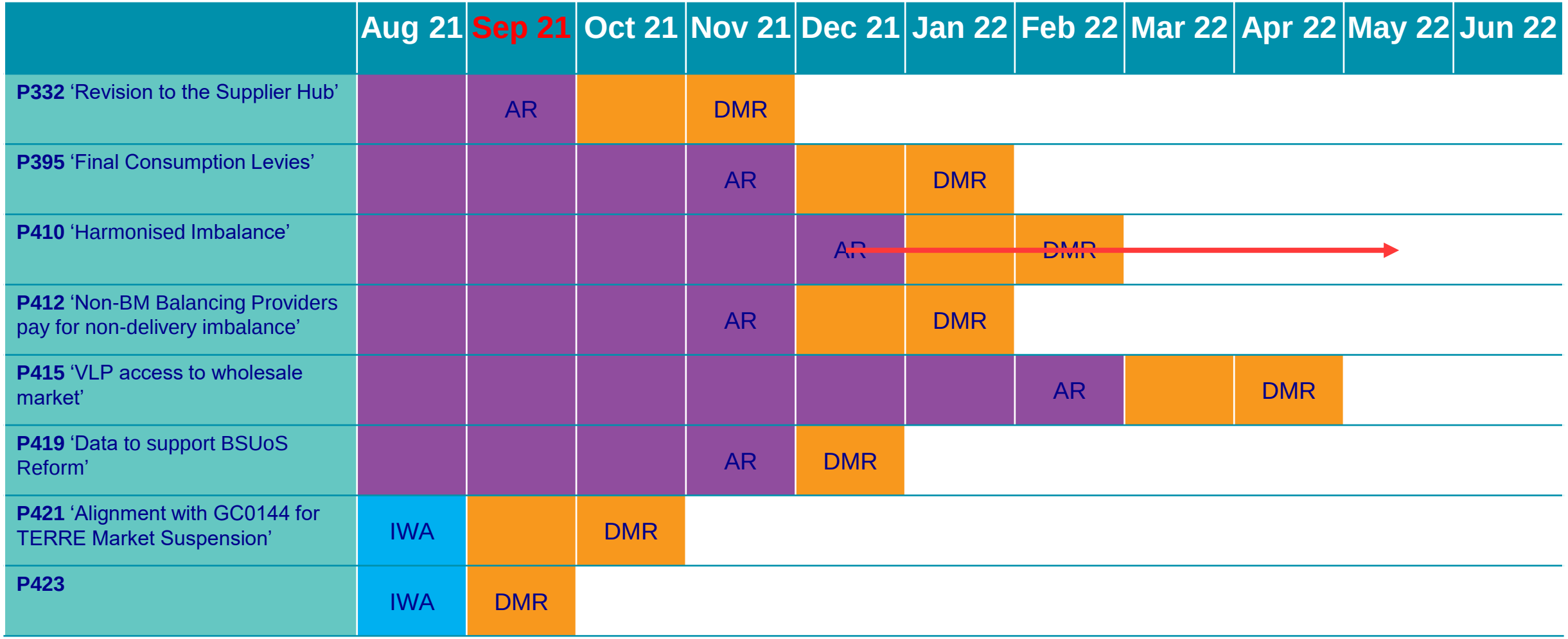
## BSC Modifications overview

| | |
|---|---|
| Initial Written Assessment | - |
| Assessment Procedure | **P332, P395, P410, P412, P415, P419** |
| Report Phase | **P421, P423** |
| Urgent | - |
| With Authority (decision cut-off) | **P416** |

| | |
|---|---|
| Authority Determined (implementation date) | - |
| Self-Gov. Determined | **P422** |
| Fast Track Determined | - |
| Withdrawn | - |

| | |
|---|---|
| Open Issues | **Issue 91, Issue 92, Issue 93, Issue 94, Issue 95, Issue 96, Issue 97** |

# BSC Modifications approved timelines






ELEXON

# Modification Release Roadmap

| 2021 | | 2022 | | | 2023 | | | Un-allocated |
|---|---|---|---|---|---|---|---|---|
| Nov | Ad-hoc | Feb | Jun | Nov | Feb | Jun | Nov | |
| P399 – Balancing Service Providers in BSAD | P332 – Revisions to Supplier Hub principle | P402 – TCR SCR | P375 – Asset Meters | | P376 – Baselining Methodology | | | P395 – Final consumption levies |
| P421 – TEREE Market Suspension | P416 – Route of Appeal for Annual BSC Budget | | | | P419 – BSUoS data | | | P410 – Harmonised Imbalance |
| | | | | | | | | P412 – Non-BM balancing service providers pay non-delivery |
| | | | | | | | | P415 – VLP access to wholesale market |

**Key**
Approved
With Authority
Report Phase
Assessment Phase



ELEXON

# Cross Code Steering Group

- First CCSG meeting on 13 September

| Change | Originated From | Cross Code Impact | Status |
|---|---|---|---|
| Amend the timescales for measurement transformer commissioning | Northern Power Grid | REC Metering Schedule | Raise at CCSG |
| CP1532 - Reduce Half Hourly Change of Supplier timelines to meet the Initial Settlement Run | Issue 86 | REC Metering Schedule | Pending implementation for Feb 22 Release. Needs to be raised at CCSG. Requires CP1532 timeline to be aligned with REC CP e.g. Jun 22 Release. |

Note: Only showing changes requiring a REC CP. Not showing changes requiring changes to data flows held in Energy Market Architecture Repository (EMAR) (6 in backlog) or other code impacts e.g. consequential changes from CUSC/Grid Code



ELEXON

## Modification update: P410

‘Changing imbalance price calculations to comply with the Imbalance Settlement Harmonisation regulations’

- NGESO has withdrawn is revised Imbalance Harmonisation Proposal submission to Ofgem
  - To avoid it timing out, as minor changes are required to the proposal
- NGESO still intend to submit a revised proposal, which if approved would result in P410 withdrawal
- Therefore we request a five month extension to the P410 Assessment Procedure, returning with the Assessment Report by May 2022 (if still required)



ELEXON

## Recommendations

We invite the Panel to:

a) **APPROVE** a five month extension to the P410 Assessment Procedure; and
b) **NOTE** the contents of the September Change Report.

ELEXON

**P332 ‘Revisions to the Supplier Hub Principle’**

318/04 - Paul Wheeler

9 September 2021

# P332: Issue

- The Balancing and Settlement Code (BSC) when originally created was designed to support the Supplier hub principle, under which the Supplier selects and appoints the Agent with whom it has a contractual relationship and to this end is silent on the practice of 'Customer appointed Agents'

- It is the view of the Proposer that the 'appointment' of Agents by Customers, outside of the Supplier hub principle, makes the Supplier management of Agent performance and delivery of obligations within the BSC more difficult than managing Agents with whom it has a contract

- This can result in a reduction in a Supplier's ability to manage performance against industry targets and risking non-delivery of specific obligations

# P332: Proposed Solution (1 of 2)

- All existing Supplier Volume Allocation (SVA) Half Hourly (HH) & Non Half Hourly (NHH) Data Collectors (DCs) will be required to sign a side letter to the BSC within 6 months of the P332 Implementation Date, or be subject to the SVA Removal of Qualification process

- Any Agents that wish to Qualify in these roles will be required to sign the side letter as a condition of gaining Qualified status to operate in the market

- The side letter will be between the DC and Elexon and will enable a Supplier who does not have a direct contract with the DC to enforce, as a last resort, the side letter as a proxy contract under the terms of the Contracts (Rights of Third Parties) Act 1999

# P332: Proposed Solution (2 of 2)

- The side letter allows the Supplier to enforce all applicable obligations of SVA Data Collectors specified in the BSC and relevant Code Subsidiary Documents (CSDs)

- Under the terms of the side letter, the Supplier would be able to seek to recover losses it had suffered through the courts as a result of the breach of the proxy contract

- Elexon does not have any liabilities or obligations under the side letter and will be under no obligation to enforce the side letter. No compensation will be payable by Elexon under this side letter

# P332: Impacts & Costs

## Implementation Costs

| Organisation | Item | Proposed Modification (£) |
|---|---|---|
| Elexon | Systems | 0 |
| | Documents | < 1k |
| | Other | 0 |
| Industry | Systems and processes | Low |
| | Total | Low |

### Ongoing Costs

This a document only change. The ongoing costs for Elexon are expected to be immaterial and for industry are expected to be low. Responses to the Assessment Procedure Consultation confirmed that the majority of respondents would require no changes to their documents, systems and processes. Agents reported that they may need to make changes to contractual arrangements

### Impacts

- Suppliers
- SVA HH DCs
- SVA NHH DCs

# P332: Customer and Environmental Impacts

| 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<br><br>The Proposer contends that this Consumer Benefit Area would be better facilitated because the Modification would ensure Customers would receive comparable levels of service regardless of whether their Agent is Customer preferred or Supplier preferred. In addition, the Proposer contends that P332 would mean that Suppliers are not disadvantaged commercially by the 'appointment' of Agents by Customers | Positive |
| 5) Benefits for society as a whole | Neutral |

# P332: Implementation approach

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

- **5 WDs** after Ofgem approval

- All existing Qualified SVA HH & NHH Data Collectors will be required to sign the side letter within 6 months of the P332 Implementation Date or be subject to the SVA Removal of Qualification process

- Any new SVA HH & NHH Data Collectors seeking Qualification will be required to sign the side letter as a condition of gaining Qualified status

# P332: Assessment Consultation Responses (1 of 3)

| Question | Yes | No | Neutral | Other |
|---|---|---|---|---|
| Do you agree with the Workgroup's initial view that P332 **does not** better facilitate the Applicable BSC Objectives than the current baseline? | 6 | 3 | 0 | 0 |
| Do you agree with the Workgroup that the draft legal text in Attachment A delivers the intention of P332? | 7 | 2 | 0 | 0 |
| Do you agree with the Workgroup's recommended Implementation Date? | 9 | 0 | 0 | 0 |
| Do you agree with the Workgroup that there are no other potential Alternative Modifications within the scope of P332 which would better facilitate the Applicable BSC Objectives? | 8 | 0 | 1 | 0 |
| Do you agree with the Workgroup's assessment of the impact on the BSC Settlement Risks? | 4 | 4 | 0 | 1 |

- The majority of respondents believe there are already mechanisms and processes within the BSC for dealing with any non-compliances, however, others agree with the Proposer that P332 will better facilitate the Applicable BSC Objectives
- There was a mixed view from respondents on the Workgroup's assessment of the impact on the BSC Settlement Risks

# P332: Assessment Consultation Responses (2 of 3)

| Question | Yes | No | Neutral | Other |
|---|---|---|---|---|
| Do you agree with the Workgroup's assessment that P332 **does** impact the European Electricity Balancing Guideline (EBGL) Article 18 terms and conditions held within the BSC? | 6 | 0 | 3 | 0 |
| Do you have any comments on the impact of P332 on the EBGL objectives? | 0 | 6 | 3 | 0 |
| Will P332 impact your organisation? | 4 | 5 | 0 | 0 |
| Will your organisation incur any costs in implementing P332? | 1 | 7 | 0 | 1 |
| How long (from the point of approval) would you need to implement P332? | N/A | N/A | N/A | N/A |

- Agents responded that the impact would be minimal, they would need to sign the side letter and potentially review and amend contracting processes and arrangements
- Other respondents would not need to amend any systems, documents or processes, or not impacted
- Implementation – respondents were either in agreement with the proposed Implementation approach, or not impacted

# P332: Assessment Consultation Responses (3 of 3)

| Question | Yes | No | Neutral | Other |
|---|---|---|---|---|
| Do you agree with the Workgroup that the solution should apply to all SVA HH & NHH DCs? | 5 | 4 | 0 | 0 |
| Do you agree with the obligations that the Workgroup are placing on SVA HH & NHH DCs in the side letter? | 4 | 5 | 0 | 0 |
| Do you agree with the Workgroup that the draft side letter in Attachment B delivers the intention of P332? | 5 | 4 | 0 | 0 |

- Respondents either agree that the solution should apply to all SVA DCs, or agree with the Workgroup's recommendation that P332 should be rejected
- Respondents were split on whether the solution adds to the processes which already exist for dealing with non-compliance
- Others agree with the obligations being placed on SVA DCs in the side letter and believed that it would ensure that Customers receive comparable levels of service whether their Agent is Customer or Supplier preferred

# P332: Workgroup Views

| Applicable BSC Objective | Majority | Minority (including Proposer) |
|---|---|---|
| (c) competition | Neutral | Positive |
| (d) efficient operation and implementation of the BSC arrangements | Neutral or Detrimental | Positive |

- The majority of the Workgroup believes that P332 will not be better than the current baseline and should therefore be rejected
- The majority of Workgroup Members felt that the proposed solution was not adding anything to the obligations and provisions that already exist in the BSC
- A minority of Workgroup Members believed that P332 would help to reduce barriers to entry for existing small Suppliers and those entering the market
- A minority of Workgroup Members noted that P332 would be another tool for Suppliers to use to ensure that provisions and obligations within the BSC are adhered to

# Recommendations

We invite the Panel to:

**a)** **AGREE** that P332:

  **i.** **DOES NOT** better facilitate Applicable BSC Objective (c); and

  **ii.** **DOES NOT** better facilitate Applicable BSC Objective (d);

**b)** **AGREE** an initial recommendation that P332 should be **rejected**;

**c)** **AGREE** that P332 **DOES** impact the EBGL Article 18 terms and conditions held within the BSC and is consistent with the EBGL Objectives;

**d)** **AGREE** an initial Implementation Date of:

  **i.** **5 WDs** after Authority's decision;

**e)** **AGREE** the draft legal text;

**f)** **AGREE** an initial view that P332 should not be treated as a Self-Governance Modification;

**g)** **AGREE** that P332 is submitted to the Report Phase; and

**h)** **NOTE** that Elexon will issue the P332 Draft Modification Report (including the draft BSC legal text) for a one month consultation and will present the results to the Panel at its meeting on 11 November 2021.

ELEXON

**P415 ‘Facilitating access to wholesale markets for flexibility dispatched by Virtual Lead Parties’**

318/05 – Ivar Macsween (Elexon) & Lewis Heather (CEPA)

9 September 2021

# P415: Overview

- Currently customers who are able to be flexible about their consumption cannot currently obtain any value from that flexibility from the Wholesale Energy Market, except if they work with their Supplier to do so.

- P415 seeks to allow Virtual Lead Parties (VLP) to participate in the GB wholesale market, removing a barrier to customers offering flexibility, and is expected to increase participation and the level of effective competition in the wholesale market.

- P415 Initial Written Assessment (8 October 2020 - 307/05) - the BSC Panel agreed that P415 could be a profound and fundamental change to the market arrangements and recommended that a cost-benefit analysis exercise be undertaken, with the Workgroup agreeing that further detailed analysis would be helpful to understand the impacts it may have in the market.

- Elexon engaged with CEPA in June/July 2021 to produce a cost-benefit analysis options paper, detailing five options differing in analytical sophistication, cost and impact, for Workgroup and Panel consideration.

- Following the BSC Panel's consideration of these options, the expectation is that Elexon will then begin procurement activities for the Cost Benefit Analysis, undertaking a Request for Proposal process to ensure an appropriate provider is selected through a fair and competitive evaluation before a contract is awarded,

# P415 CBA Options

## Presentation to the P415 Workgroup


Elexon

9 September 2021

# Important information

This document was prepared by CEPA LLP (trading as CEPA) for the exclusive use of the recipient(s) named herein.

The information contained in this document has been compiled by CEPA and may include material from other sources, which is believed to be reliable but has not been verified or audited. Public information, industry and statistical data are from sources we deem to be reliable; however, no reliance may be placed for any purposes whatsoever on the contents of this document or on its completeness. No representation or warranty, express or implied, is given and no responsibility or liability is or will be accepted by or on behalf of CEPA or by any of its directors, members, employees, agents or any other person as to the accuracy, completeness or correctness of the information contained in this document and any such liability is expressly disclaimed.

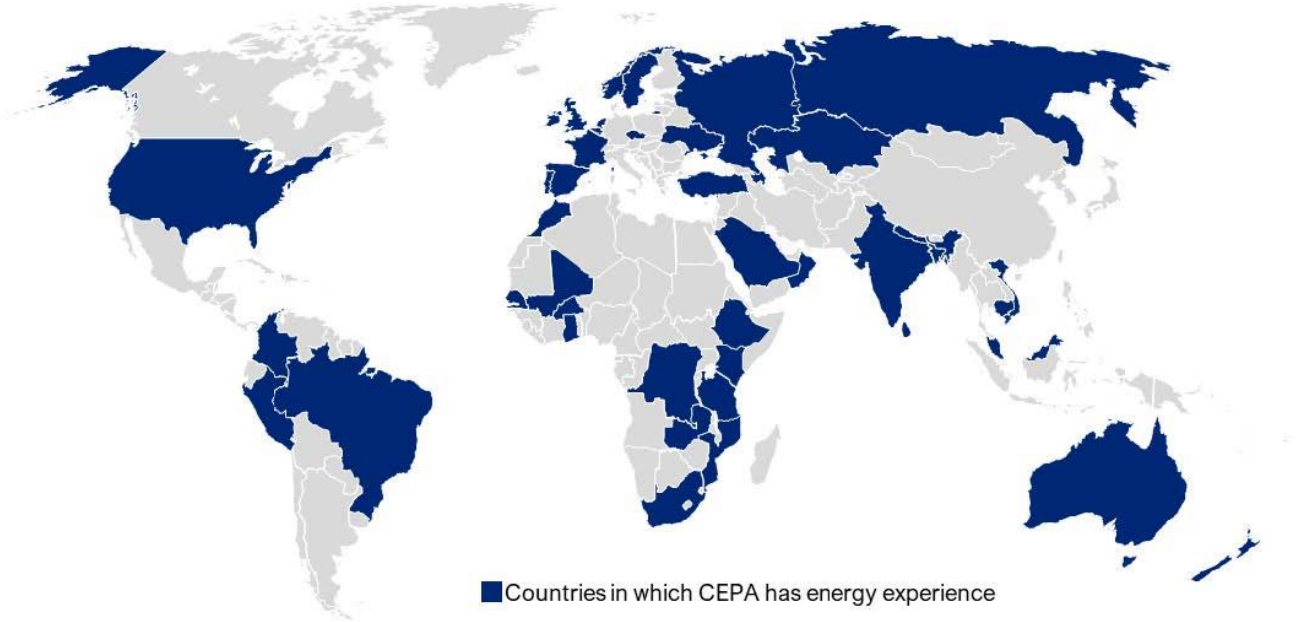
The findings enclosed in this document may contain predictions based on current data and historical trends. Any such predictions are subject to inherent risks and uncertainties.

The opinions expressed in this document are valid only for the purpose stated herein and as of the date stated. No obligation is assumed to revise this document to reflect changes, events or conditions, which occur subsequent to the date hereof.

CEPA does not accept or assume any responsibility in respect of the document to any readers of it (third parties), other than the recipient(s) named herein. To the fullest extent permitted by law, CEPA will accept no liability in respect of the document to any third parties. Should any third parties choose to rely on the document, then they do so at their own risk.

# About us

- CEPA is an economics consultancy based in London, with an office in Sydney, Australia.
- We advise private and public-sector clients worldwide about matters where economics, finance and public policy overlap.
- Our energy sector experience spans the globe and features projects from across the supply chain.




- Price control reviews (inc. incentives, cost assessment and cost of capital)
- Market design and competition issues
- Renewable energy support schemes
- Tariff design and charging methodologies
- Economic and financial modelling
- Retail policy and consumer issues
- Cost-benefit analysis and impact assessment
- Flexibility and the energy transition

- We have extensive experience in undertaking cost benefit analyses (CBAs) for clients across the energy, transport, and water sectors.
- We recently supported Elexon with a CBA of modification P379 (meter splitting).

# Agenda

1. Introduction
2. Costs and benefits of P415
3. Choosing between CBA options
4. Q&A
5. Panel options

# 1. Introduction

# Introduction

- We have been engaged to prepare a paper covering CBA options for P415, addressing:
  - Scope;
  - Methodology;
  - Outputs (including extent of quantification);
  - Cost;
  - Timeframe; and
  - Pros/cons of each option
- Elexon requested a spectrum of options and that one should represent a 'minimum viable product' (MVP)
- We identified five options which vary with regard to their level of sophistication, budget and time frame.
- We note that greater sophistication does not necessarily correspond with a more robust result – if key inputs are uncertain, more complex analysis can produce spurious accuracy and undue confidence in the outcomes.

# 2. Costs and benefits of P415

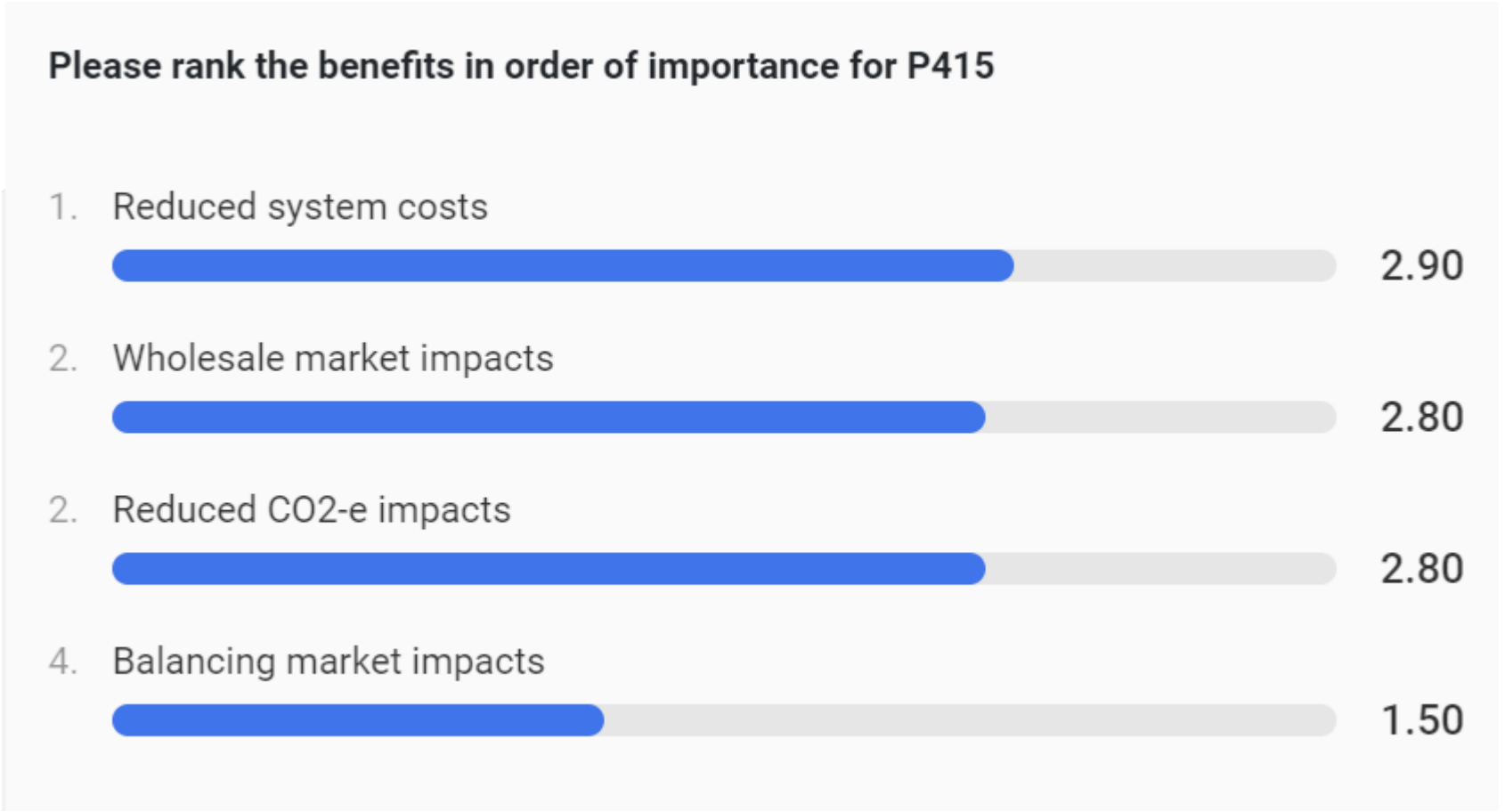
# Benefits identified so far

- We have made some amendments to the benefits identified by Elexon to reflect ultimate welfare impacts
- We have omitted one benefit initially included by Elexon. We consider that the potential for reductions in the cost of DSR represents an intermediate mechanism for benefit rather than a benefit in and of itself

| Key benefit | Hypothesis | Analytical challenges and key assumptions |
|---|---|---|
| Wholesale market impacts - driven by increased competition in the wholesale market | Greater volumes of DSR, leading to lower peak demand and lower wholesale market spot prices. Could be partially offset by increased consumption during low/negative price periods | • Assessing volume of additional DSR, its availability and offer price. |
| Balancing market impacts - driven by increased liquidity and ability for self-balancing | Increased market liquidity allowing participants to manage their imbalance portfolios more effectively. Reduced need for and cost of TSO balancing actions | • Assessing volume and cost of self-balancing with and without P415<br>• Quantification may require separate model/module |
| Reduced costs for total system infrastructure operation/maintenance | Greater volumes of price-responsive load, leading to lower peak demand and a reduced need for spending on new generation capacity and network assets. | • Network modelling would require assumptions around impacts of DSR on network capacity requirements |
| Reduced carbon emissions | The increased use of flexible assets in the wholesale market (and possibly the reduced need for balancing actions) will reduce the need to activate conventional generation and so reduce CO2-e emissions. | • Emissions savings would be an output of analysis in other areas (e.g. reduced peak demand) |

# Workgroup ranking of benefits

- Each Workgroup member ranked each benefit from most to least important (4 = most important, 1 = least important).
- The average score for each benefit was as follows:



# Additional benefits suggested by Workgroup members

- Workgroup members suggested the following potential benefits:
  - Consequential benefits of additional DSR availability for CM prices and DNO procured flexibility
  - Security of supply and resilience
  - Benefits in the supply chain for demand side response services and products
  - Supporting distributed energy and renewables integration
  - Enhanced ability to support electrification of heat and transport

We agree that these represent potential additional benefits that should be considered.

We consider that it would be suitable and proportionate to assess these potential benefits qualitatively.

# Costs identified so far

- We will also consider financial costs, unintended consequences and distributional impacts of P415.
- Our assessment of financial costs will start with those outlined by Elexon and will be dependent on cost submissions from the industry.

| Cost | Hypothesis | Analytical challenges |
|---|---|---|
| Supplier compensation | • Suppliers may incur mutualised costs to compensate those impacted by independent aggregators<br>• Depends on the policy decision on who should pay for suppliers' 'out of pocket' expenses | • General uncertainty, especially if cost estimates collected before final design is known<br>• Potential for optimism or pessimism bias in cost submissions<br>• Assessing the distributional impacts of these costs on market participants and on consumers<br>• Extrapolating cost estimates from a sub-set of market participants to estimate 'whole industry' impact |
| BSCCo costs | • Some costs to operate the calculations necessary to facilitate P415 | |
| NGESO costs | • Some costs as system operator | |
| Other costs | • Costs to other market participants, or other costs to suppliers, may be identified as the modification progresses | |

# Discussion of financial costs with Workgroup members

- Workgroup members suggested the following potential financial costs:
  - Relative risk premia attached to aggregator participation in wholesale market
  - Relative transaction costs associated with the costs of security

- A key discussion point was whether compensation arrangements represented an absolute financial cost or only a distributional impact between market participants.
- Workgroup members also highlighted the importance of differentiating between one-off and ongoing costs.

We also believe that these financial costs would best be assessed using qualitative analysis.

We agree with the distinction between one-off and ongoing costs.

# 3. Choosing between the CBA options

# Summary of the options

| Option | Description | Outputs | Time |
|---|---|---|---|
| 1. High-Level CBA | An 'order of magnitude' assessment of indicative costs and benefits | Concise note, around 20 pages long | 1-2 months |
| 2. Case studies | Case studies of CBAs for similar proposals in other jurisdictions | 40-50 page report | 1.5-3 months |
| 3. Non-Modelled CBA | Mixed qualitative and quantitative analyses chosen depending on the feasibility of quantification | 40-50 page report | 4-6 months |
| 4. Market Modelling – Wholesale Impacts only | Market modelling to capture wholesale market dynamics | • Assumptions log, methodology paper<br>• Slide deck and presentation of interim results<br>• 50-80 page report | 4.5 – 7.5 months |
| 5. Market Modelling – Wholesale + Network Impacts | Market modelling to capture wholesale market dynamics and network expansion | • Assumptions log, methodology paper<br>• Slide deck and presentation of interim results<br>• 50-80 page report | 6-9 months |

# Summary of the options

| Option | Pros | Cons | Analytical challenges |
|---|---|---|---|
| 1. High-Level CBA | • Simple to undertake<br>• Easy to understand<br>• MVP? | • High-level assumptions<br>• Wide uncertainty band<br>• Targeted quantification | • Identifying suitable data sources<br>• Simplifying benefit calculations |
| 2. Case studies | • Leverages existing analysis<br>• MVP? | • Does not directly assess GB benefits<br>• Relies on having sufficient precedent elsewhere | • Identifying suitable case studies<br>• Finding and interpreting information<br>• Assessing applicability to GB electricity industry |
| 3. Non-Modelled CBA | • Flexible to availability of evidence<br>• Allows for less certainty of assumptions<br>• Single framework for qual and quant | • Subjectivity<br>• Accepted band of uncertainty | • Capturing disparate and abstract benefits in a consistent framework<br>• Combining quantified and qualitative analysis |
| 4. Market Modelling – Wholesale Impacts only | • More tangible outputs<br>• More in line with Green Book | • Spurious accuracy risk<br>• Fewer service providers<br>• Doesn't capture all benefits | • Identifying suitable inputs and assumptions |
| 5. Market Modelling – Wholesale + Network Impacts | • More tangible outputs<br>• More in line with Green book<br>• Most comprehensive | • Spurious accuracy risk<br>• Additional complexity<br>• Even fewer service providers | • Identifying suitable inputs and assumptions<br>• Setting up internally consistent modelling framework |

# Costs, distributional effects and unintended consequences

- We expect a broadly similar financial cost assessment approach across all options
- It would involve identifying relevant costs and the mechanisms through which these costs arise. This would inform:
  - targeted consultation to gather cost estimates (assumed under Options 1 and 2), or
  - a public request for information (possible under Options 3, 4 and 5)
- A process would be introduced to assess the costs for reasonableness by Elexon and the service provider
- Some costs could be extrapolated to derive an indicative 'whole industry' cost (e.g., supplier costs)
- Under Options 3, 4 and 5, analysis of distributional impacts would identify the industry participants or consumer groups who would benefit from or pay for the policy change.
- These options would also consider the potential for unintended consequences such as perverse incentives or 'gaming' opportunities

# Indicative extent of quantification

- This table provides an indicative summary of the level of quantification which could be expected for costs and benefits under each option
- A more complete circle indicates the potential extent and precision of quantification.
- An empty circle represents qualitatively assessed benefits.
- Lighter-shading reflects greater uncertainty regarding the ability to quantify

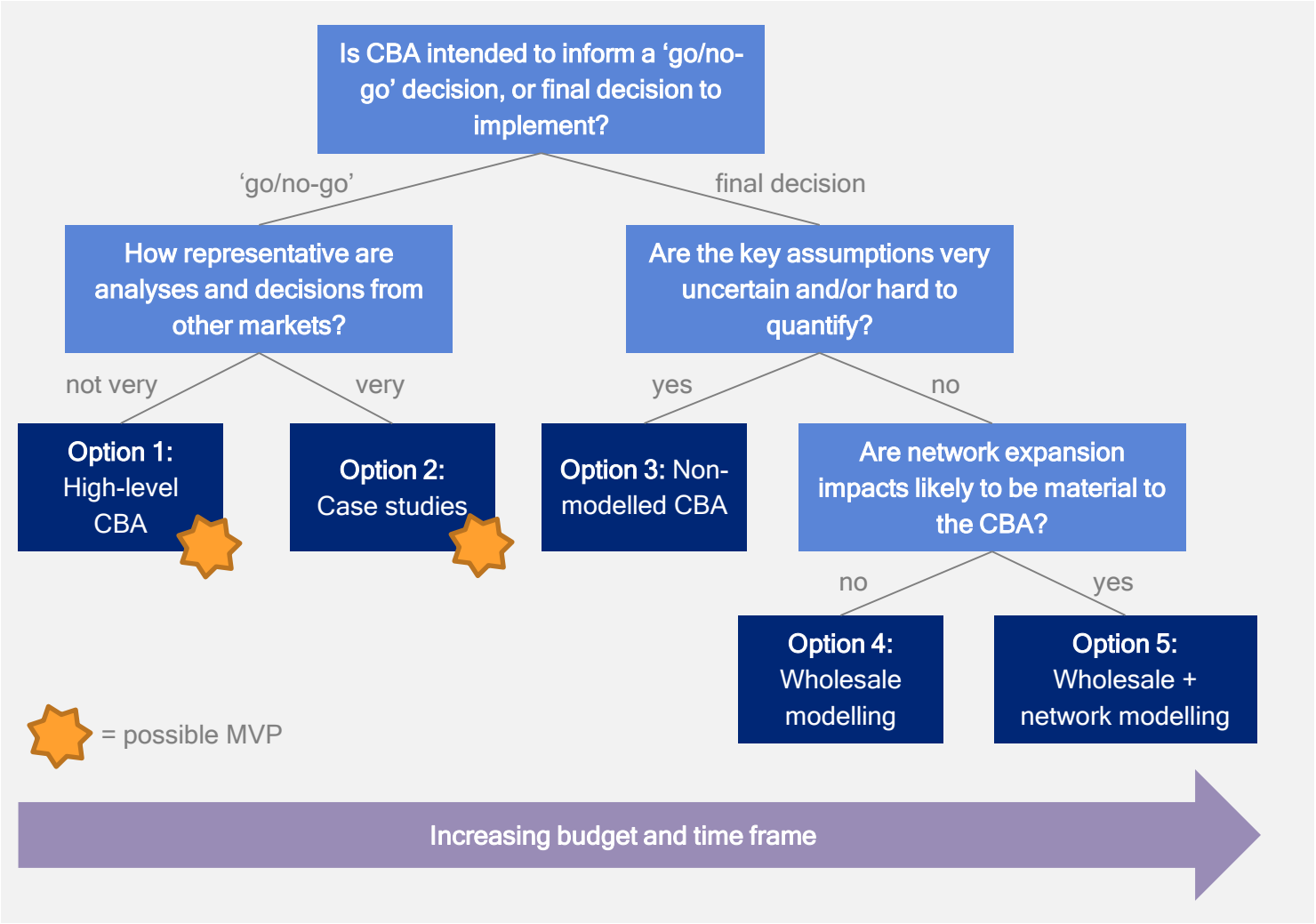
| Option | Wholesale market impacts | Balancing market impacts | Reduced system costs | Reduced CO2-e emissions | Industry costs of P415 |
|---|---|---|---|---|---|
| 1. High-level CBA | ◑ | ◔ | ◑ | ◑ | ◕ |
| 2. Case studies | ○ | ○ | ○ | ○ | ◕ |
| 3. Non-modelled CBA | ◕ | ◑ | ◕ | ◕ | ● |
| 4. Market modelling – wholesale impacts | ● | ◕ | ◑ | ● | ● |
| 5. Market modelling – wholesale and network impacts | ● | ◕ | ● | ● | ● |

# Choosing between the options

Key issues for deciding:

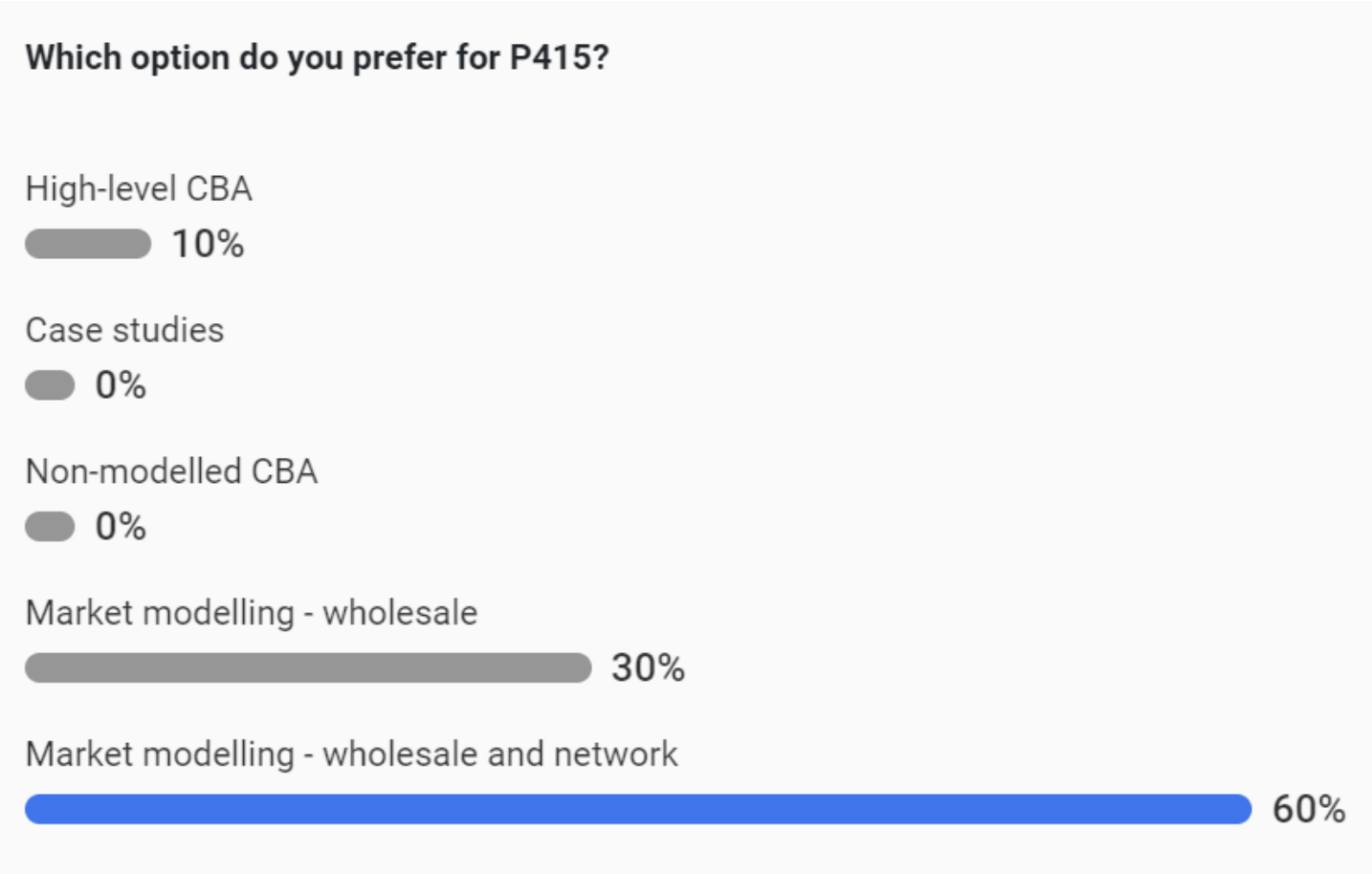
1. Purpose of the CBA
2. Applicability of similar decisions in other markets
3. Uncertainty around key assumptions and ability to quantify impacts
4. Budget and time frame

Options 1 or 2 represent possible MVPs, depending on the CBA's purpose and availability of relevant data



# Workgroup member voting

- The majority of Workgroup members indicated a clear preference for a modelled CBA option during the meeting.
- Formal voting by the 10 Workgroup members on the call was as follows:



# Developing assumptions for DSR volumes

- Workgroup highlighted the challenges of developing assumptions under Options 4 and 5 regarding the additional volume of DSR that may come to market as a result of P415.
- They also emphasized the importance of these assumptions for analysing the two compensation options that are being developed.
- Analysis of the additionality of aggregator capacity based on the P415 modification design is not a standard feature of wholesale or network modelling. Instead, this additionality would form an input into the wholesale and network model framework.

# Developing assumptions for DSR volumes

- We identify two option variants (A and B) for developing these inputs under modelled options 4 and 5:
  A. **Bottom-up assessment using an investment model**: This may also require industry members to provide a suitable evidence base for developing investment analysis of the impacts of P415 on aggregation. The incorporation of an additional investment model would also add up to 25% additional budget under Options 4 and 5.
  B. **Scenario based assumptions**: In place of an investment model, a simpler approach would be to draw on industry input, intuition and high-level analysis to develop a range of scenarios for the potential additional aggregation capacity (e.g. under 'high', 'medium' and 'low' scenarios). This approach would not result in additional cost

The Workgroup recognised the additional analytical challenges involved in the 'bottom-up' assessment approach and the possible implications for time and budget.
Nevertheless, Workgroup members generally felt that this approach was necessary to support analysis of aggregation investment and assess the impacts of the compensation variants.

This preference would apply under Options 4 and 5 (i.e. Workgroup preference for 4A or 5A)

# 4. Q&A

# 5. Panel options

# Panel options

- Including the two option variants under Options 4 and 5, there are seven options to vote on:
  - 1: High-level CBA
  - 2: Case studies
  - 3: Non-modelled CBA
  - 4A: Wholesale market modelling only with **'bottom-up'** assessment of aggregation investment
  - 4B: Wholesale market modelling only with **scenario based** DSR additionality
  - 5A: Wholesale and network modelling with **'bottom-up'** assessment of aggregation investment
  - 5B: Wholesale and network modelling with **scenario based** DSR additionality

## Recommendations

We invite the Panel to:

**a)** **AGREE** that Elexon submits a competitive tender for a cost-benefit analysis of P415 with Option 5 'Market Modelling – Wholesale and Network Impacts'; and

**b)** **AGREE** a bottom-up assessment methodology for the CBA.

# Appendix: Further description of options

# Option 1: High-level CBA

| An 'order of magnitude' assessment to identify the indicative costs and benefits of the proposal. The CBA would leverage publicly available data and existing studies to inform simple calculations for each benefit. Cost estimates would be collected directly from Elexon workgroup members. | |
|---|---|
| Scope | • *Partial quantification*: wholesale market impacts; reduced CO2-e emissions; reduced system cost<br>• Costs provided by BSCCo and P415 working group members for system changes only. Excludes consideration of supplier compensation on basis that this is largely a distributional impact. |
| Outputs | Concise note, around 20 pages long |
| Estimated project duration | 1-2 months |
| Analytical challenges | • Identifying suitable data sources for benefit assumptions<br>• Finding suitable ways to simplify benefit calculations |

| Pros | Cons |
|---|---|
| • Simple to undertake<br>• Easy to understand | • High-level assumptions<br>• Wide uncertainty band<br>• Targeted quantification |

| | |
|---|---|
| **When to choose this option** | 1. To make a 'go/no go' decision to undertake further detailed analysis work (as opposed to a final decision to approve/implement)<br>2. When data for assumptions is readily available<br>3. If Ofgem will carry out detailed CBA following recommendation |

# Option 2: Case studies

| Case studies of CBAs or other forms of economic appraisal conducted for similar proposals in other jurisdictions. | |
|---|---|
| Scope | • Up to five case studies from other jurisdictions, ***depending on availability***<br>• Commentary on the applicability of the CBAs to proposed modifications under P415 and to the GB electricity industry<br>• Costs provided by BSCCo and P415 working group members for system changes only. Excludes consideration of supplier compensation on basis that this is largely a distributional impact. |
| Outputs | 40-50 page report |
| Estimated project duration | 1.5-3 months |
| Analytical challenges | • Identifying suitable case studies<br>• Finding and interpreting the information necessary to compare jurisdictions<br>• Assessing applicability to GB electricity industry and P415 modifications |

| Pros | Cons |
|---|---|
| • Leverages existing analyses | • Does not directly assess benefits to GB electricity industry and GB consumers<br>• Depends on existence of sufficient evidence base |

| | |
|---|---|
| **When to choose this option** | 1. When reforms in other markets that can be translated into the GB context<br>2. To make a decision to undertake further work (as opposed to a final decision to approve/implement) |

# Option 3: Non-modelled CBA

| Benefits assessed through a mix of qualitative and quantitative analyses chosen depending on the feasibility of quantification. Costs would be collected via an industry request for information. | |
|---|---|
| Scope | • Key benefits assessed in terms of order of magnitude (e.g., high/medium/low) and probability<br>• Costs of system changes and supplier compensation<br>• Distributional impacts, risks and unintended consequences considered |
| Outputs | 40-50 page report |
| Estimated project duration | 1.5-3 months |
| Analytical challenges | • Capturing disparate and abstract benefits in a consistent framework<br>• Combining quantified and qualitative analysis into common assessment |

| Pros | Cons |
|---|---|
| • Flexible to evidence base<br>• Allows for less certainty of assumptions<br>• Single framework for qualitative and quantitative factors | • Degree of subjectivity<br>• Acceptance depends on comprehensive and transparent process |

| | |
|---|---|
| **When to choose this option** | 1. When important benefits are highly uncertain and/or difficult to quantify<br>2. When more sophisticated analysis than the 'high-level CBA' or case study approach is desired<br>3. To inform a final decision to approve/implement reform |

# Option 4: Market modelling of wholesale impacts

**Market modelling to capture wholesale market dynamics, (e.g., prices, CO2-e emissions, and generation capacity utilisation. Costs collected via an industry request for information.**

| | |
|---|---|
| Scope | • Modelling to quantify wholesale market impacts, reduced CO2-e, and generation infrastructure impacts (not network expansion impacts)<br>• Balancing market impacts *may or may not be* quantifiable depending on methodology and assumptions<br>• Costs of system changes and supplier compensation |
| Outputs | • Assumptions log, methodology paper<br>• Slide deck and presentation of interim results<br>• 50-80 page report |
| Estimated project duration | 4.5-7.5 months |
| Analytical challenges | • Identifying suitable inputs and assumptions<br>• Balancing focus on quantified and non-quantified impacts |

| Pros | Cons |
|---|---|
| • More tangible<br>• More in line with Green Book | • Risk of spurious accuracy<br>• Fewer service providers<br>• Doesn't capture all benefits |

| | |
|---|---|
| **When to choose this option** | 1. When robust evidence exists for necessary assumptions and anticipated change is closely linked to wholesale market dynamics to be modelled<br>2. When market impacts are likely to be more material than network impacts<br>3. To inform a final decision to approve/implement reform |

# Option 5: Market modelling of wholesale and network impacts

| Market modelling to capture wholesale market dynamics AND network expansion. Costs collected via an industry request for information. | |
|---|---|
| Scope | • Modelling to quantify wholesale market impacts, reduced CO2-e, generation infrastructure impacts **and** network expansion impacts<br>• Balancing market impacts ***may or may not be*** quantifiable depending on methodology and assumptions<br>• Costs of system changes and supplier compensation |
| Outputs | • Assumptions log, methodology paper<br>• Slide deck and presentation of interim results<br>• 50-80 page report |
| Estimated project duration | 6-9 months |
| Analytical challenges | • Identifying suitable inputs and assumptions<br>• Setting up internally consistent modelling framework for wholesale and network modelling<br>• Balancing focus on quantified and non-quantified impacts |

| Pros | Cons |
|---|---|
| • More tangible<br>• More in line with Green book<br>• Most comprehensive | • Risk of spurious accuracy<br>• Additional complexity<br>• Even fewer service providers |

| | |
|---|---|
| **When to choose this option** | 1. When robust evidence exists for necessary assumptions and anticipated change is closely linked to wholesale market and network dynamics to be modelled<br>2. When network investment impacts are expected to be central to the benefits case.<br>3. To inform a final decision to approve/implement reform |

# Approval of P375 Configurable Item changes for the June 2022 Standard BSC Release

318/06 – Craig Murray

9 September 2021

# P375 - Summary

- Approved by Ofgem on 24 February 2021 for implementation on 30 June 2022 as part of the June 2022 Standard BSC Release

- Amends the BSC to allow Asset Meters installed between the Boundary and the asset to provide balancing services to be used for Settlement

- Following Code Subsidiary Documents (CSDs) require amendment to reflect the P375 solution:

  - BSCP01
  - BSCP15
  - BSCP27
  - BSCP32
  - BSCP38
  - BSCP502
  - BSCP503
  - BSCP507
  - BSCP508
  - BSCP514
  - BSCP537
  - BSCP602
  - Self-Assessment Document (SAD)
  - SVA Data Catalogue Volume 1 – Data Interfaces
  - SVA Data Catalogue Volume 2 – Data Items

# P375 – CSD and Data Flow Industry Review

- Configurable Items and corresponding new/amended data flows were developed via an Industry Expert Group (IEG). The IEG had two meetings in 2021 and the CSDs were circulated for industry review between 5 July 2021 – 16 August 2021

- Four responses were received to the industry review from respondents representing HHDCs, HHDAs, and MOAs. Two of these responses had material comments. A summary of actions taken in relation to the comments can be found in Appendix A of the paper.

# P375 - Summary of CSD Changes

A summary of the changes to the CSDs to detail the processes that will underpin the P375 solution:

- The changes to BSCP602 set out the new processes by which Qualified AMVLPs may:
  - Register Assets and related Asset Metering Systems;
  - Receive Asset Metering System Identifier (AMSID) Pairs; and
  - Allocate AMSID Pairs to Secondary BM Units
- The changes to BSCP502 set out the new processes for Half Hourly Data Collectors;
- The changes to BSCP514 set out the new processes and data estimation techniques for Meter Operator Agents;
- The SVA Data Catalogue Volume 1 sets out all new and amended data flows for P375 and SVA Data Catalogue Volume 2 sets out all new data items used by the new and amended data flows.

**Please note:** BSCP502 and BSCP514 are **not** being presented for approval. The relevant changes will be transferred to a newly drafted BSCP that was circulated for industry review in September, for approval at the October 2021 Panel meeting.

# Change Process for New and Amended “DTC” Data Flows and Data Items

When the Retail Energy Code (REC) went live on 1 September 2021, the Data Transfer Catalogue (DTC) was replaced by the Energy Market Architecture Repository (EMAR) and a new REC change process for the EMAR was introduced (that is different to the MRASCo process for DTC changes). At a high level, the REC change process is:

- EMAR will be comprised of ‘Market Messages’, instead of the Data Flows described in the DTC, and ‘Data Items’;
- Each Market Message will have an owner (e.g. REC or BSC, among other Code Bodies);
- For new or amended BSC-owned Market Messages, the changes should be approved under BSC Processes and logged via the REC Portal for implementation;
- For new or amended non BSC-owned Market Messages, the proposed changes should be recommended by the relevant BSC committee (the Panel or Panel Committee(s), and an EMAR Change Proposal logged via the REC Portal; and
- The Cross Code Steering Group will consider the EMAR Change Proposal and make a decision on whether the Change Proposal should be approved for implementation in the EMAR and on whether the proposed implementation date is acceptable.

# P375 – Summary of Data Flow Changes

- There is one new BSC-owned Market Message (labelled “Dxxxx” until the formal Message Number is assigned under REC governance) and new instances of 20 existing Market Messages, two of which are BSC-owned, required for the solution to P375.
- The new Market Message and 19 of the 20 new instances of existing Market Messages were included in the documentation issued for industry review.
- One new instance of an existing Market Message (“D0302 Notification of Customer Details”) required amendment as the result of a comment received in the industry review

# P375 – Next Steps

- Draft new BSCP based on new processes outlined in BSCP502 and BSCP514
- Circulate new BSCP for 10WD industry review in September 2021
- Present NETA IDD Part 1 (spreadsheet and document) and new BSCP to ISG for approval in October 2021

- Outstanding CSDs with no impact on market participants to be amended for P375 to be progressed in Q1 2022:
  - SVAA URS
  - SVAA SD

- P375/P420 Alignment Modification to be raised no earlier than the November Panel meeting

# Recommendations

We invite the Panel to:

**a)** **APPROVE** the amendments made to the Configurable Items to reflect the P375 solution (with the exception of BSCP502 and BSCP514), to be implemented on 30 June 2022 as part of the June 2022 Standard BSC Release;

**b)** **APPROVE** as "BSC-owned data flows" for implementation in the June 2022 Release of the EMAR:

i. The new 'Dxxxx' data flow; and

ii. The new instances of the D0383 and D0384 data flows;

**c)** **RECOMMEND** the new instances of "REC-owned data flows" for approval by the CCSG for implementation in the June 2022 Release of the EMAR:

i. D0001, D0002, D0005, D0008, D0010, D0011, D0022, D0134, D0139, D0142, D0148, D0151, D0155, D0170, D0221, D0261, D0268 and D0302; and

**d)** **NOTE** that the changes made to BSCP502 and BSCP514 will be incorporated into a new document that will be presented to the Panel for approval at its meeting in October 2021

# Code Administration Code of Practice (CACoP) – Quarterly Update

Verbal – Claire Kerr

9 September 2021

## Recommendation

We invite the Panel to:

**a)** **NOTE** the update.

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

ELEXON

# Minutes of previous meetings and Actions arising

Claire Kerr

# Chair's Report

Michael Gibbons

ELEXON

# Elexon Report

318/01 - Mark Bygraves

ELEXON

# Distribution Report

Fungai Madzivadondo

ELEXON

# National Grid Report

Jon Wisdom

ELEXON

# Ofgem Report

Colin Down

# Panel Committee Reports

318/01A-F

# Improvement to SVG Interim Process for Exempt Supply Applications

318/07 - Lorna Lewin

9 September 2021

# Background

- The SVG has delegated authority from the BSC Panel to agree which SVA Metering Systems Elexon should treat as exempt supply (when reporting volumes of licensed supply to EMRS)
- This is an interim process, until an enduring solution can be established
- At the August 2021 SVG meeting, members decided not to agree any further applications until the BSC Panel has provided clarity on:
  - Permitted use of profiled (rather than actual) metered data in applications;
  - Required standards for source and reliability of metered data;
  - Need for monitoring after an approval to identify a change or cancellation of contract or company difficulties; and
  - Timescales for enduring process
- We have continued to receive enquiries from potential applicants, and advised them that it will not be possible to consider applications until October at the earliest

# Update on Enduring Solution

- The SVG considered potential enduring solutions in April (SVG242/03) and suggested that they be progressed through a BSC Issue
- Issue 96 has now been raised to consider the potential solutions
  - First Workgroup meeting will be held on 10 September 2021

# Our proposal to address the SVG concerns

- We propose that the SVG should continue to operate the interim process until an enduring solution removes the need, but with the application process tightened up to address SVG concerns:
  - Metered data (for Import and Export) to be provided in a standardised spreadsheet format (for the same period)
  - Only actual metered data will be accepted (no profiled data), and Suppliers must confirm that it is sourced from the HHDC system
  - We will apply a standardised validation process to ‘match’ Import and Export (and hence verify that the relevant Metering System would have recorded exempt supply only); and
  - We will require a declaration that the exempt supplier will notify us of changes to contractual arrangements

## Recommendations

We invite the Panel to:

**a)** **AGREE** that applications for Exempt Supply to include actual data in a standardised spreadsheet format, with confirmation provided by the Licensed Supplier that this data is sourced from the appointed HHDC(s);

**b)** **AGREE** that Elexon should clearly explain what analysis they have done on the data provided in each application and ensure data is collated on one spreadsheet; and

**c)** **AGREE** that the director's declaration will include confirmation that any material changes to the sites provided in the application will be notified to Elexon as soon as reasonably practicable and Elexon will inform EMRS;

**d)** **NOTE** that Issue 96 has been raised to develop the enduring solutions for exempt supply; and

**e)** **AGREE** that the SVG should resume processing applications that meet the above criteria from October.

# MEETING CLOSE

ELEXON

# THANK YOU