

Public

Annual BSC Meeting and ELEXON Seminar

11 July 2019

ELEXON

Health & Safety

In case of an emergency

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

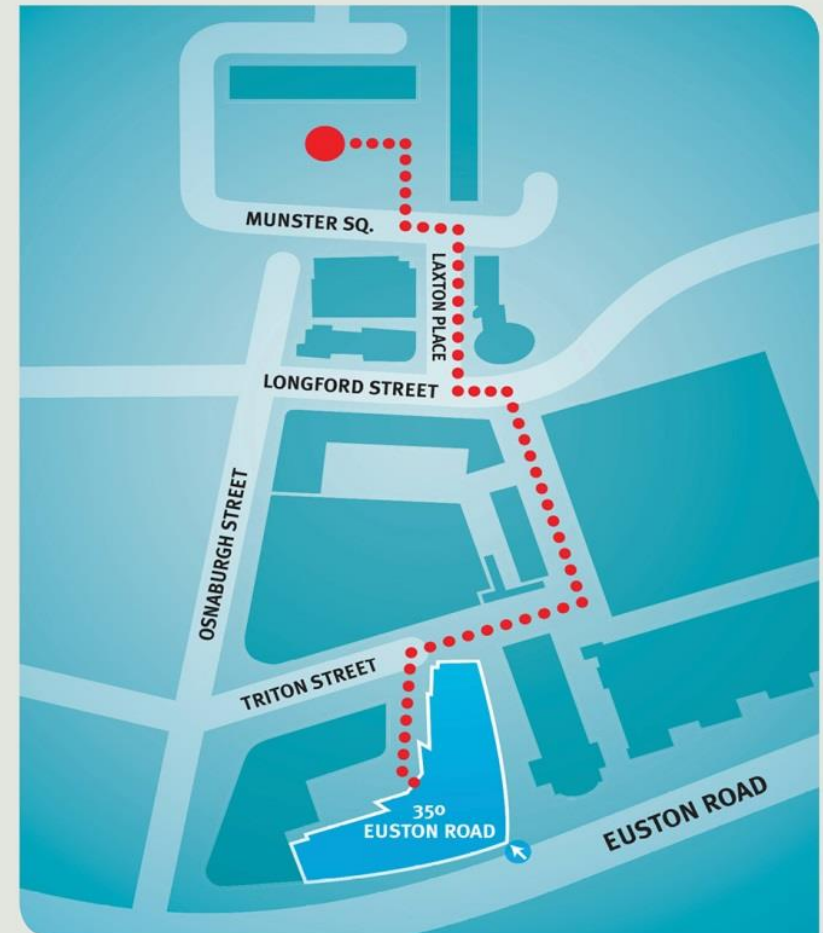
Evacuating 350 Euston Road

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

When evacuating please remember

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

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



Voting on non-executive directors



David Titterton
Industry non-executive director



Sara Vaughan
Industry non-executive director



**Keynote address by
Joanna Whittington,
Director General,
Energy & Security,
BEIS**



**Keynote address by
Mary Starks,
Executive Director,
Consumers &
Markets, Ofgem**

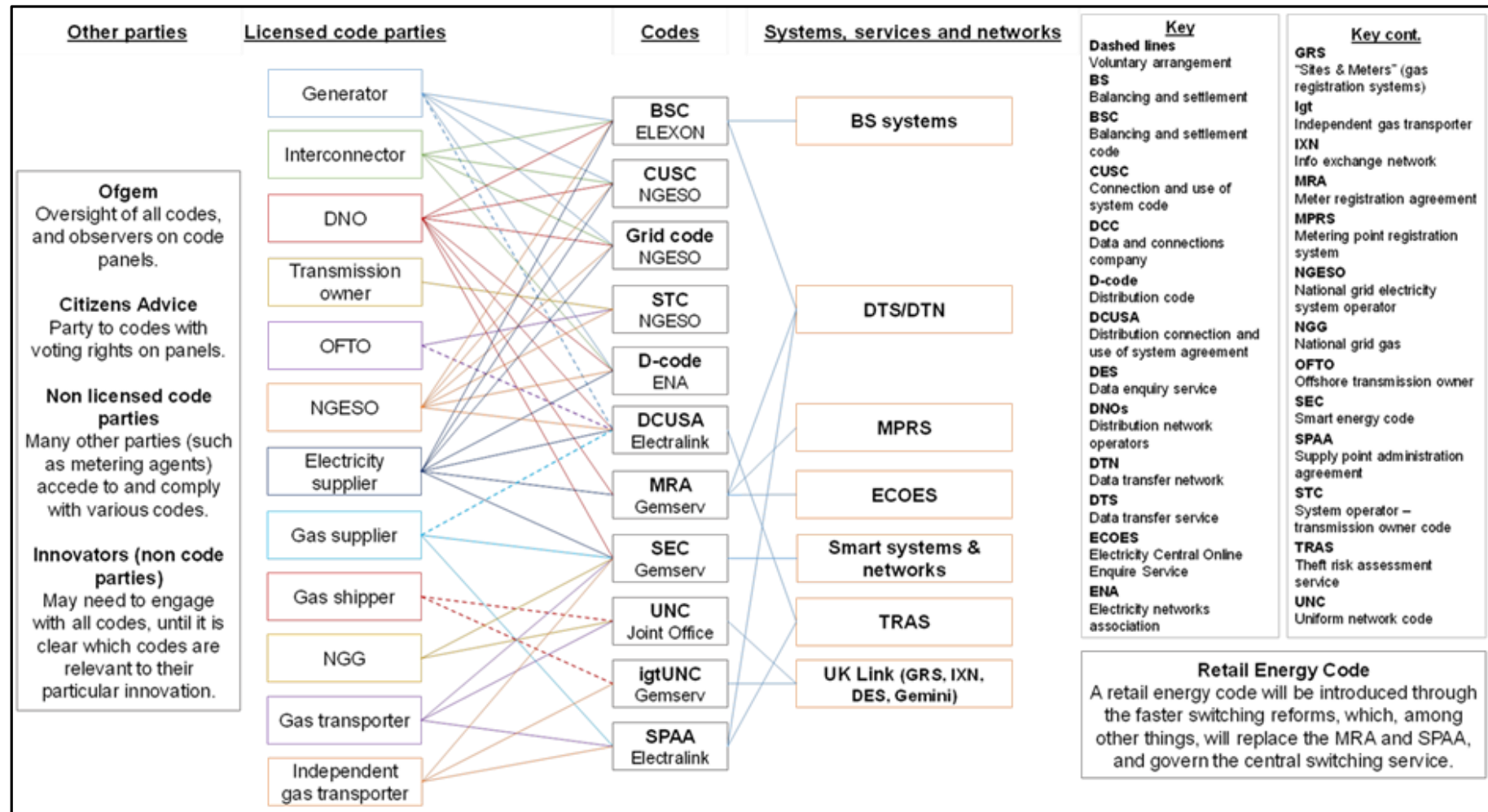
Elexon Annual BSC meeting and seminar 2019

11 July 2019

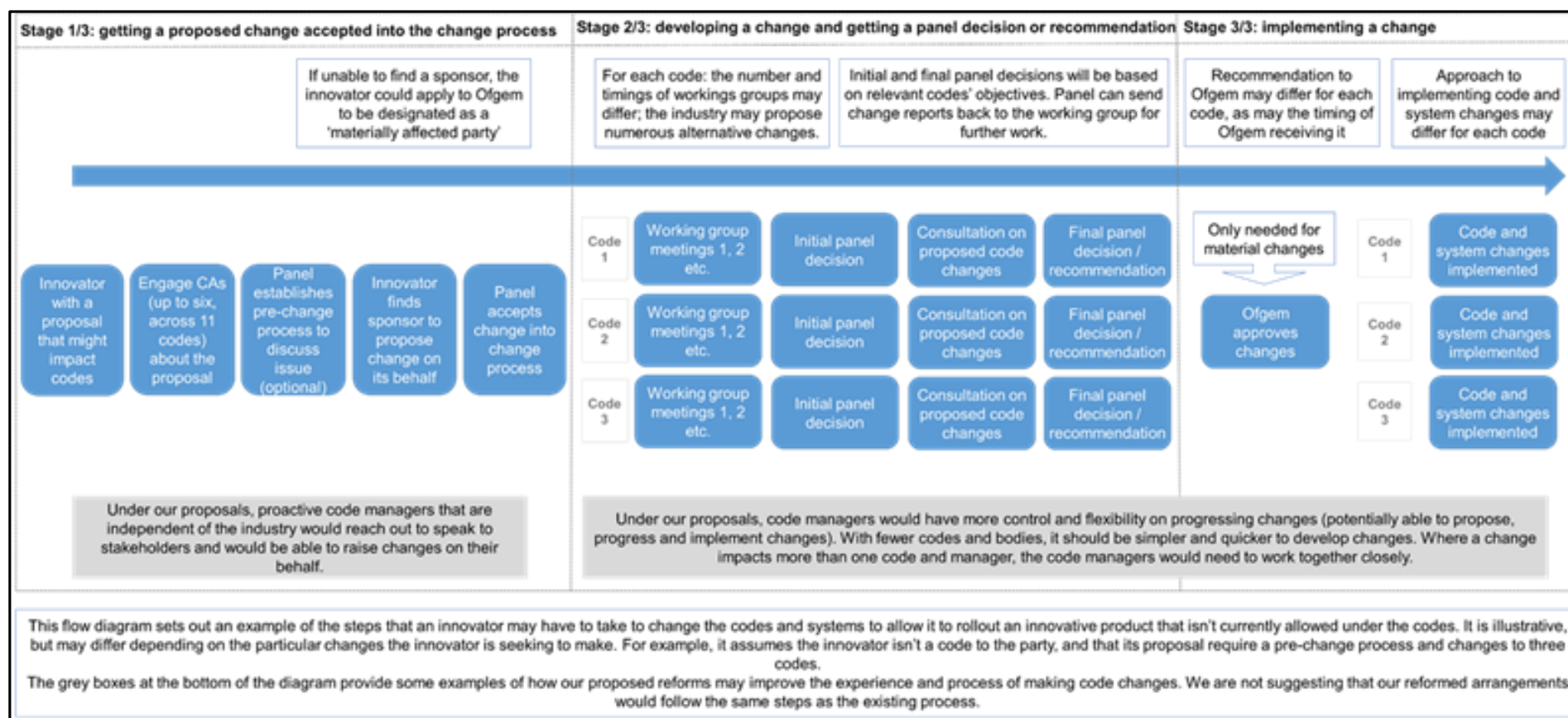
Keynote Speaker: Mary Starks – Executive Director, Ofgem



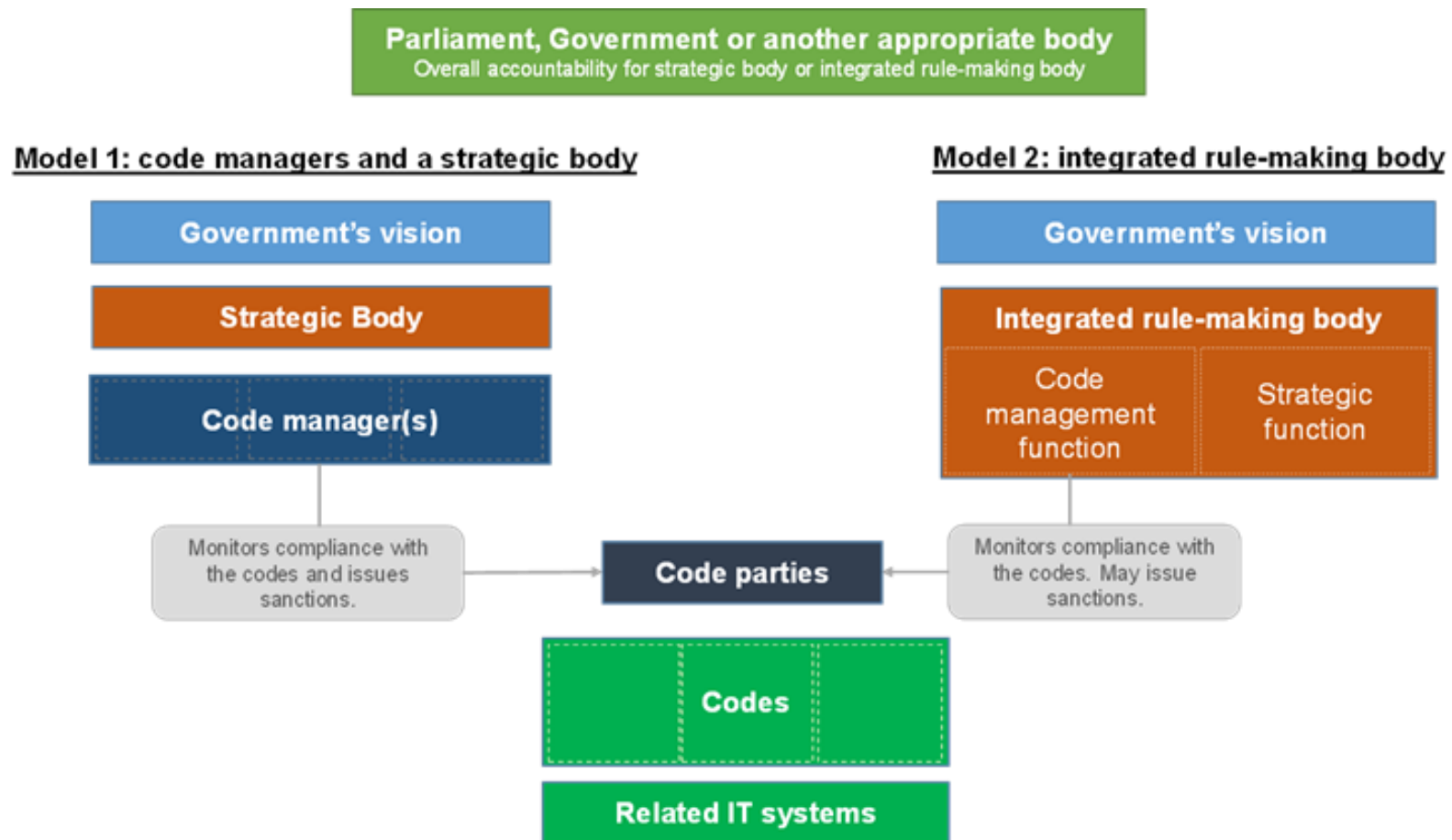
Complexity of codes (1 of 2)



Complexity of codes (2 of 2)



Two new potential framework models (Model 1 and Model 2):



Our core purpose is to ensure that all consumers can get good value and service from the energy market. In support of this we favour market solutions where practical, incentive regulation for monopolies and an approach that seeks to enable innovation and beneficial change whilst protecting consumers.

We will ensure that Ofgem will operate as an efficient organisation, driven by skilled and empowered staff, that will act quickly, predictably and effectively in the consumer interest, based on independent and transparent insight into consumers' experiences and the operation of energy systems and markets.



Questions and Answers

Public

ELEXON's 2018/19 Operational and Financial Performance

11 July 2019

Mark Bygraves, CEO and
Nigel Smith, CFO



Industry in flux: A time of significant change

All parts of the industry have changed...



- ✓ Net zero commitment (June 2019)
- ✓ Increases in embedded generation
- ✓ Growth in the number of suppliers
- ✓ Government intervention and price caps
- ✓ BREXIT, European standardisation
- ✓ Smart meter roll-out, faster switching
- ✓ New role for DNO transforming into DSO
- ✓ Expanding range of market participants
- ✓ Value assigned to flexibility
- ✓ Behind the meter
- ✓ New technologies and solutions (e.g. EVs, storage, V2G, peer-to-peer trading, etc.)

... and will continue changing.

Policy and regulation focus

The Clean Growth Strategy

Leading the way to a low carbon future

Building our Industrial Strategy

ofgem



Department for
Business, Energy
& Industrial Strategy

**Smart Systems and
Flexibility Plan**

ofgem



Department for
Business, Energy
& Industrial Strategy

**Retail Energy
Market Review**



Department for
Business, Energy
& Industrial Strategy

**Energy Data
Taskforce**

ofgem



Department for
Business, Energy
& Industrial Strategy

**Review of Codes and
Code Governance**



Department for
Business, Energy
& Industrial Strategy

**Energy White Paper
(exp. summer 2019)**

ELEXON – a quick refresher

- We provide essential market services that ensure smooth operation of the GB electricity market
- We manage the Balancing and Settlement Code (BSC) – rules governing the 'meter to bank' process, including imbalance prices calculation every half hour. Market volumes and charges are derived from our data
- ELEXON is highly transparent, not-for-profit, independent

Code Manager/Market Operator
providing key energy market infrastructure



Code Administration

- Industry rules management
- Trusted critical friend
- Dedicated customer support /training



Code Operation

- 24/7 settlement
- Design/change implementation
- Assurance services
- Dedicated customer support/training



Policy Delivery Support

- Impartial, expert advice/guidance
- Market scanning
- Providing support to deliver policy outcomes

ELEXON – trusted, reliable independent market experts

We serve
470 **Market Participants**

26 Distributors

94 Non-physical Traders

128 Generators

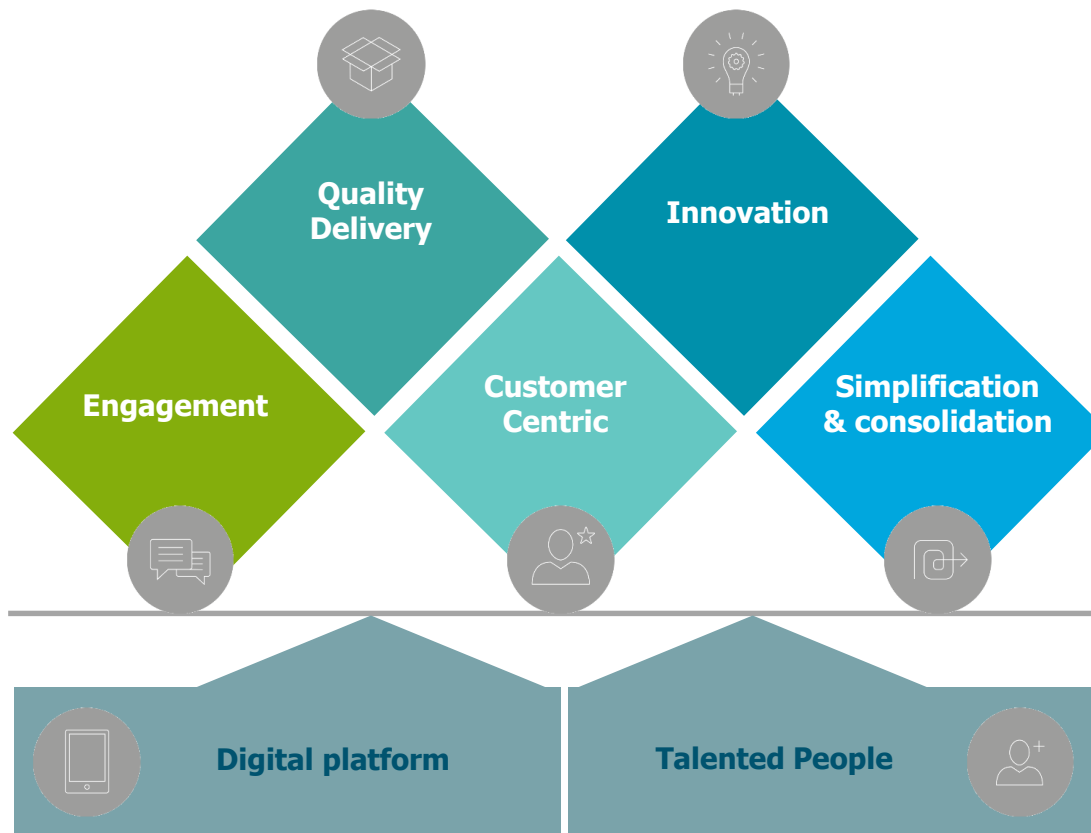
177 Suppliers

We also calculate, collect & distribute payments to CFD generators and Capacity Market providers

Note: Number of market participants as of June 2019.

Our Corporate Strategy and priorities

'With the support of our stakeholders and partners, simplify and consolidate complex and fragmented services, develop new market solutions and actively facilitate innovation for the benefit of GB energy markets.'



Business as Usual -
Continued focus and priority
on effective and efficient
delivery of existing
operations



Proactive contribution to the
core BEIS/Ofgem initiatives
on future market design



Customer focused efforts to
support innovation and new
business models

Pages 26-27
of the draft
Business
Plan



Operational highlights 2018/19

Quality Delivery



- **86% are satisfied with ELEXON's service, nearly 50% are very satisfied** (Ofgem's Code administrators' performance survey, 2018)
- **92% said our services had improved or stayed the same** (ELEXON's customer survey results, 2018)

Innovation



- **BSC Electricity Market Sandbox**
- **Multiple energy provider white paper**
- **Digital market management**
- **PAF Review**
- **MHHS**



Simplification & Consolidation



- **Energy Codes Review**
- **proactive engagement, offering solutions;**
- **socialised our immediate improvements and longer term substantial reforms**

Energy Codes Review

Customer centric



- **Helping BSC Parties operate efficiently**
- **Regular communication touchpoints**
- **Guiding BSC Parties through market change**
- **Market entry support**
- **Capacity Market Modification:** created solution, consulted and submitted to Ofgem in 6 weeks

Engagement



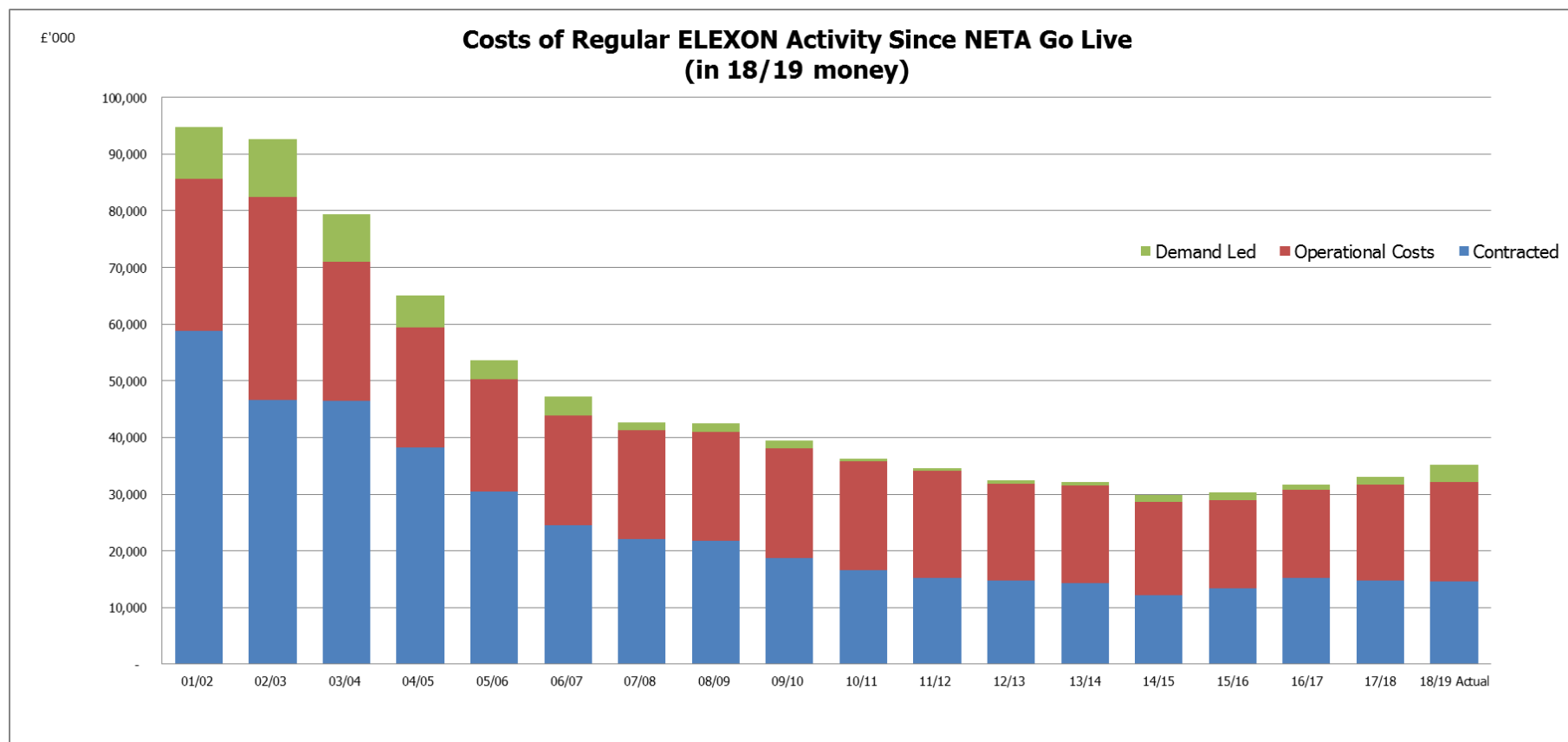
- **Proactive contribution** to BEIS' Energy Data Taskforce, ENA's Open Networks, ESO's Power Responsive
- **Thought leadership:** more thought pieces and analyses

Financial results for 2018/19

- Final report and accounts for the year show cost of sales of **£45.4m**
- After netting out revenue of **£4.9m** in relation to EMR and pass through costs of **£0.7m**, the cost to BSC parties for the year was **£39.8m**
- This compares to a budget for the year of **£43.6m**
- Key areas of underspend:
 - £1.3m unutilised budget on Demand Led
 - £0.9m unutilised budget re System Strategy work
 - £0.3m unutilised budget re Market Development
 - **Savings of £0.6m** against budgeted operational costs
 - **Savings of £0.7m** against our budgeted contracted costs
- Other points to note:
 - Defraying (off-setting) **£726k** of BSC cost due to EMR activity
 - Clean Audit and no controls deficiencies identified by auditor for 8th year running

BSC Parties benefitted immediately from cost reductions

- The table below shows the change in costs over time
 - These exclude New Electricity Trading Arrangements (NETA) set up cost
 - The increase is driven by our need to invest in the central systems
 - RPI has been applied to prior years to re-state these in 'today's money'





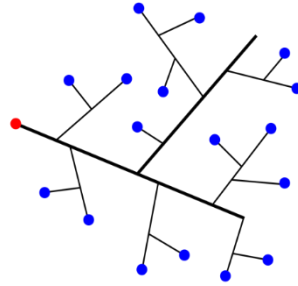
ELEXON's leadership and driving change



ELEXON's leadership and expertise in the industry transformation



**Opening up
Balancing
Mechanism**



**Contributing to
DNO to DSO
transition**



**Proposing solutions
to the simplification
of the BSC**



**Opening up
Supplier
Hub**



**Unlocking the benefits of
Smart Meters
via MHHS TOM Design**



**Bidding for
REC
Manager**



**Building up Digital
Platform to serve
new needs**

Market-wide Half-Hourly Settlement

Market-wide HHS

ofgem

ELEXON

- Part of Ofgem's Significant Code Review on Settlement Reform
- We have delivered preferred Target Operating Model to Ofgem
- We have identified and consulted on Transition approach
- Business Case and decision-making sit with Ofgem

MHHS – a key enabler

1

Innovation for the smart and flexible energy system
Storage, EV, multiple suppliers, ToU tariffs, Peer2Peer, export, technology

2

Faster by a factor of 3:
First financial run: from 15 to 5-7 days
Final Settlement: from 14 to 4 months

3

More accurate:
Use actual HH smart meter data

ELEXON's expertise and industry leadership have designed the Target Operating Model.

Multiple Providers Model - Greater choice for consumers: P379



Multiple Providers Model

Current situation

- **Supplier Hub principle**
- **Customers only have one Supplier**



Department for
Business, Energy
& Industrial Strategy

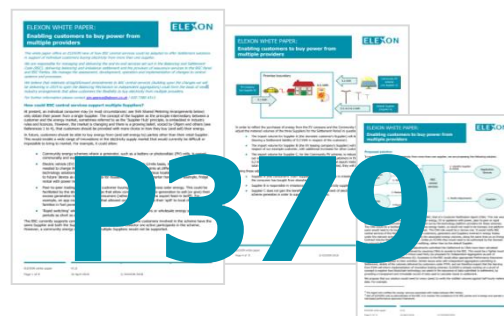
ofgem

**Future energy retail
market review**

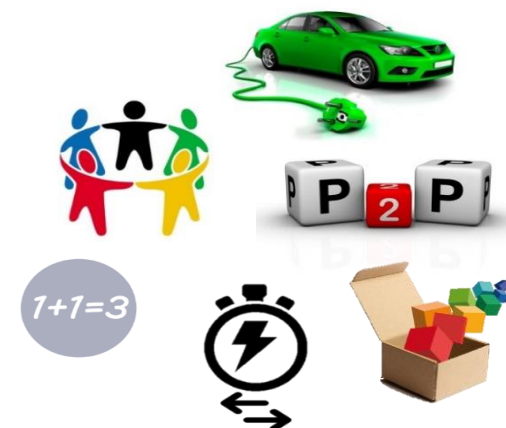
Practical solution

ELEXON

**Modification: Enabling
customers to buy power
from multiple providers**



New business models




P379 Modification underway: leading on practical solutions to enable innovation and give our customers and the end consumer greater flexibility.


Retail Energy Code Manager

 **REC to be model for future codes**

 **Code Manager role - not 'code administrator'**

 **Code Manager to have wide powers to drive change**

 **Wide Performance Assurance role**

 **Manager of service providers**

Immediate opportunity to simplify and streamline the codes landscape

Opportunity to align retail and wholesale markets

We believe ELEXON is well placed to be the REC Code Manager

Consumer- facing business models and innovative services rely on changes to wholesale and network market arrangements (codes and systems).

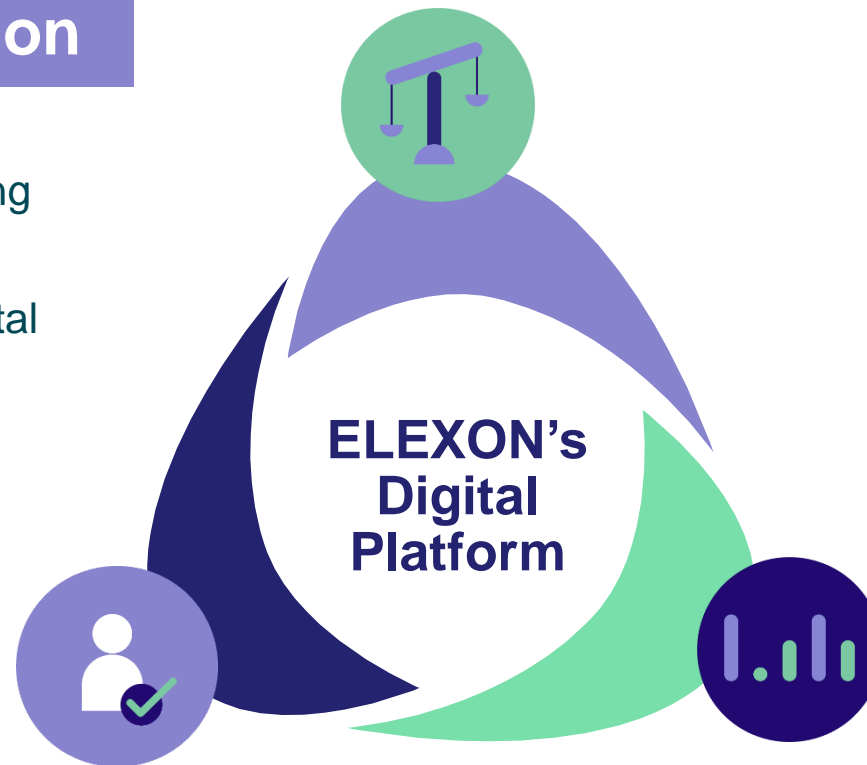
Digital Platform - Technology will play a key role



Digital platform

Customer solution

- ✓ simplifying and automating processes,
- ✓ providing an intuitive digital front end,
- ✓ aiding market entry and registration for new and existing entrants.



Settlement solution

- ✓ to perform scalable, flexible and modular settlement operations.

Insights solution

- ✓ using open cloud services to receive, process and publish data for the industry.

Digitalising our services, creating a customer-centric digital platform delivering a smart and flexible central solution for the industry, which will be delivered through a number of releases over the next two years.

ELEXON leadership on solutions and enabling change/benefits



1

We support the move to a smarter, more flexible energy system and market

2

We provide solutions, insights, market design, data, systems and processes

3

We believe all need to simplify, consolidate and work together



Public

ELEXON's views on Cornwall Insight's assessment of the code consolidation options

11 July 2019

Angela Love, Director of Strategy
and Communications



Elexon – Code Consolidation Insight Study

11 July 2019

Report by Adam Boorman and
Tom Edwards, Cornwall Energy
Consulting

Presented by Angela Love,
ELEXON



Contents

- Project context
- Current situation and focus of the Codes Review
- Cornwall study - Code modules
- Potential Code structures
- Assessment of Code models
- Key findings and next steps

KEY POINTS AND ELEXON OBSERVATIONS NOTED IN RED

Project context



Ofgem/ BEIS Code Review

- Ofgem and BEIS launched a review of the current industry governance arrangements – the Energy Codes Review
- The aim of the review is to consider options for improving the existing arrangements, including scope for fundamental reform
- It identifies a number of limitations with the current Code structure, including that they are:
 - **Slow to implement decisions**, with even simple decisions often taking many years
 - **Reactive to existing problems**, rather than forward-looking in preparing the energy system for future changes
 - **Overly complex**, with the entirety of the Codes estimated to run to over 10,000 pages
 - **Resource-intensive**, leading to a lack of engagement from smaller and newer parties
 - **Lacking coordination** between the different Code bodies
 - **Fragmented**, with a large number of Code panels and bodies

Impact of industry Codes in the GB market

- The importance of the industry Codes to the energy industry can be seen in the domestic customer bill, where **Cornwall Insight estimates that 80-90% of the energy bill is contained within, linked to, or influenced by the industry Codes**

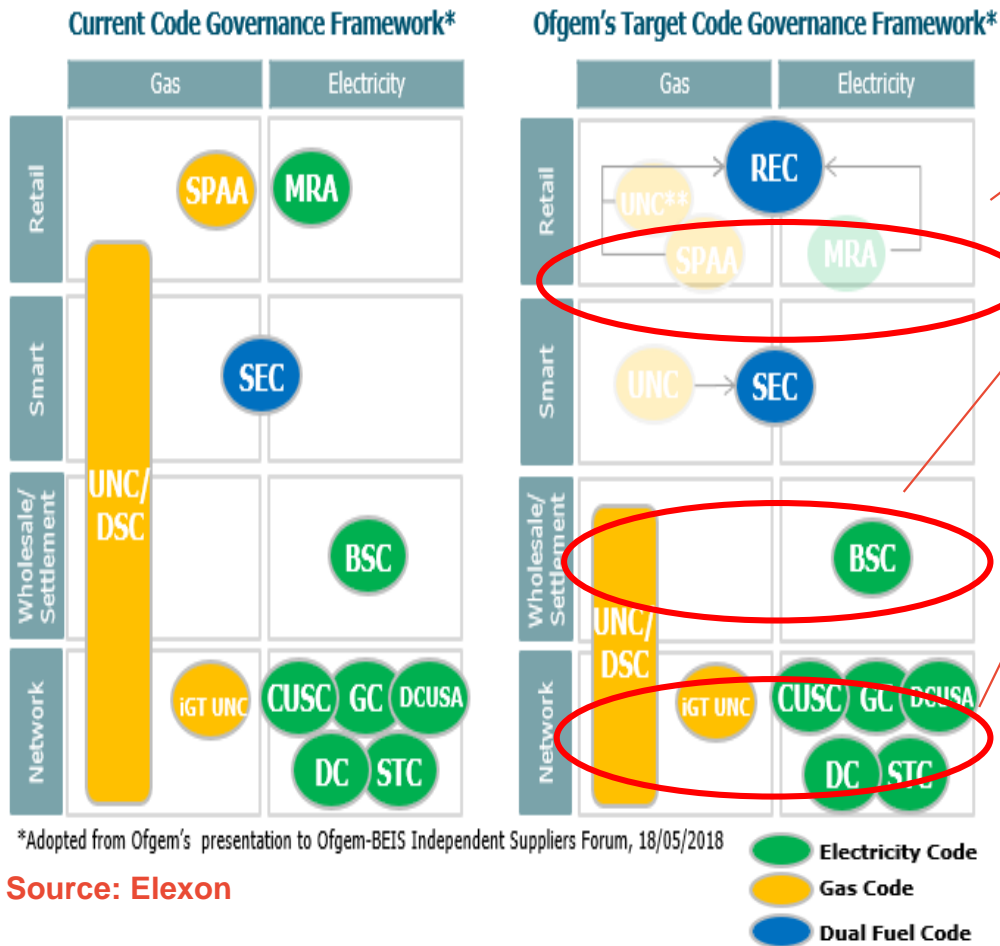
BSC <i>Wholesale power settlement, BSUoS</i>	CUSC <i>TNUoS, Connections, Losses</i>	DCUSA <i>DUoS, Connections, Losses</i>	BSC <i>Capacity Market, CfD, FiT, RO</i>		SEC/ REC/ MRA <i>DCC charges, Switching systems, Metering</i>
35%-45%	5%-10%	15%-20%	20%-25%	5%-25%	1%-10%
Wholesale	Transmission	Distribution	Government schemes	Tax	Operating
50%-60%	1%-3%	15%-20%	0%-5%	5%-25%	1%-10%
UNC <i>Wholesale gas settlement, UIG</i>	UNC <i>Transmission charging, Losses, Connections</i>	UNC <i>Distribution charging, Losses, Connections</i>			SEC/ REC/ SPAA <i>DCC charges, Switching systems, Metering</i>

Current situation and focus of the Codes Review



Current Code governance situation

Three Codes horizontal model proposed by ELEXON



- Introduction of the SEC created the first cross fuel Code for the energy industry
 - Recognised that smart meters are an issue for both gas and electricity parties
 - Entirely new Code for a new industry area
- Under the Faster Switching Programme, another new dual fuel industry Code is being created – the REC
 - Designed to deliver the requirements for faster switching, but also encompassing other aspects of the retail market
 - Unlike the SEC, the REC impacts areas which are already covered by existing industry Codes – the SPAA, MRA, and elements of the UNC
 - Phased introduction that will eventually result in the consolidation of the other Codes into the REC

Cornwall Study - Code modules



Code Modules – Standard Arrangements

Module	Purpose	Categories	Example signatories	Existing Codes
User Module	Module to cover the functions for users to accede to the Code, exit arrangements, qualifications for Code parties, and the definitions of Code terms	<ol style="list-style-type: none"> 1. Accession 2. Qualifications 3. Definitions 4. Exit 	The standard arrangements are likely to capture all market participants as they are intended to cover basic functions	1. All Codes
Governance Module	Module to deliver Code governance arrangements, including Panels, change management, voting, dispute management, and Code Administration functions	<ol style="list-style-type: none"> 1. Governance Arrangements 2. Change Management 3. Dispute Resolution 	<ol style="list-style-type: none"> 1. Suppliers 2. Generators 3. Networks 4. Aggregators 5. Administrators 6. Agents 7. Non physical traders 8. System operators 	1. All Codes
Data and Communications Module	Module for data and communications arrangements, including, data requirements, processing, submission and communication specifications and usage	<ol style="list-style-type: none"> 1. Data 2. Communications 		1. All Codes
Cost Recovery Module	Module for cost recovery functions, including charging methodologies, credit and collateral arrangements, arrangements for defaults against the charges, and risk management in relation to cost recovery	<ol style="list-style-type: none"> 1. Funding and Charging Arrangements 2. Credit Provision 3. Arrangements for Party Default 4. Risk Management 		<ol style="list-style-type: none"> 1. CUSC 2. DCUSA 3. UNC 4. BSC 5. SEC <p><i>Note – Codes are those with charging functions, not admin cost recovery</i></p>

Code Modules – Technical Ops

Module	Purpose	Categories	Example signatories	Existing Codes
System Operation Module	Module for the operation of the GB system and networks. Including system balancing and operational considerations, technical specification for equipment in relation to this, safety and security obligations of system arrangements, and planning and risk management functions	<ol style="list-style-type: none"> 1. Safety and Security 2. Planning 3. Processes and Functions <ol style="list-style-type: none"> a) System Operation 4. Technical specifications 5. Risk Management 6. Agreements 	<ol style="list-style-type: none"> 1. Generators 2. Networks 3. Agents 4. Aggregators 5. System operators 	<ol style="list-style-type: none"> 1. Grid Code 2. Distribution Code 3. STC
Connection Module	Module covering connections to the GB system, including physical metering requirements	<ol style="list-style-type: none"> 1. Connection to the GB network 2. Technical Specifications 3. Agreements 	<ol style="list-style-type: none"> 1. Generators 2. Networks 3. Agents 	<ol style="list-style-type: none"> 1. CUSC 2. DCUSA 3. UNC
Engineering Module	Module for the engineering and technical requirements for physical assets associated with the GB energy system	<ol style="list-style-type: none"> 1. Technical Specifications 2. Safety and Security 3. Risk management 	<ol style="list-style-type: none"> 1. Networks 2. Generators 3. Agents 	<ol style="list-style-type: none"> 1. Grid Code 2. Distribution Code
Market Module	Module for all activities related with the delivery of the competitive wholesale market, including trading, settlement, metering data and reading, and imbalance	<ol style="list-style-type: none"> 1. Processes and Functions <ol style="list-style-type: none"> a) Trading b) Settlement c) Metering d) Imbalance e) Unidentified Gas 	<ol style="list-style-type: none"> 1. Networks 2. Generators 3. Agents 4. Non physical traders 5. Suppliers 	<ol style="list-style-type: none"> 1. BSC 2. UNC
Retail Module	Module to deliver the competitive retail market and functions, predominantly customer switching, meter ownership and operations, and managing the risks relating to energy theft	<ol style="list-style-type: none"> 1. Processes and Functions <ol style="list-style-type: none"> a) Switching b) Meter ownership and operations c) Risk management in relation to theft 	<ol style="list-style-type: none"> 1. Suppliers 	<ol style="list-style-type: none"> 1. REC 2. MRA 3. SPAA 4. SEC

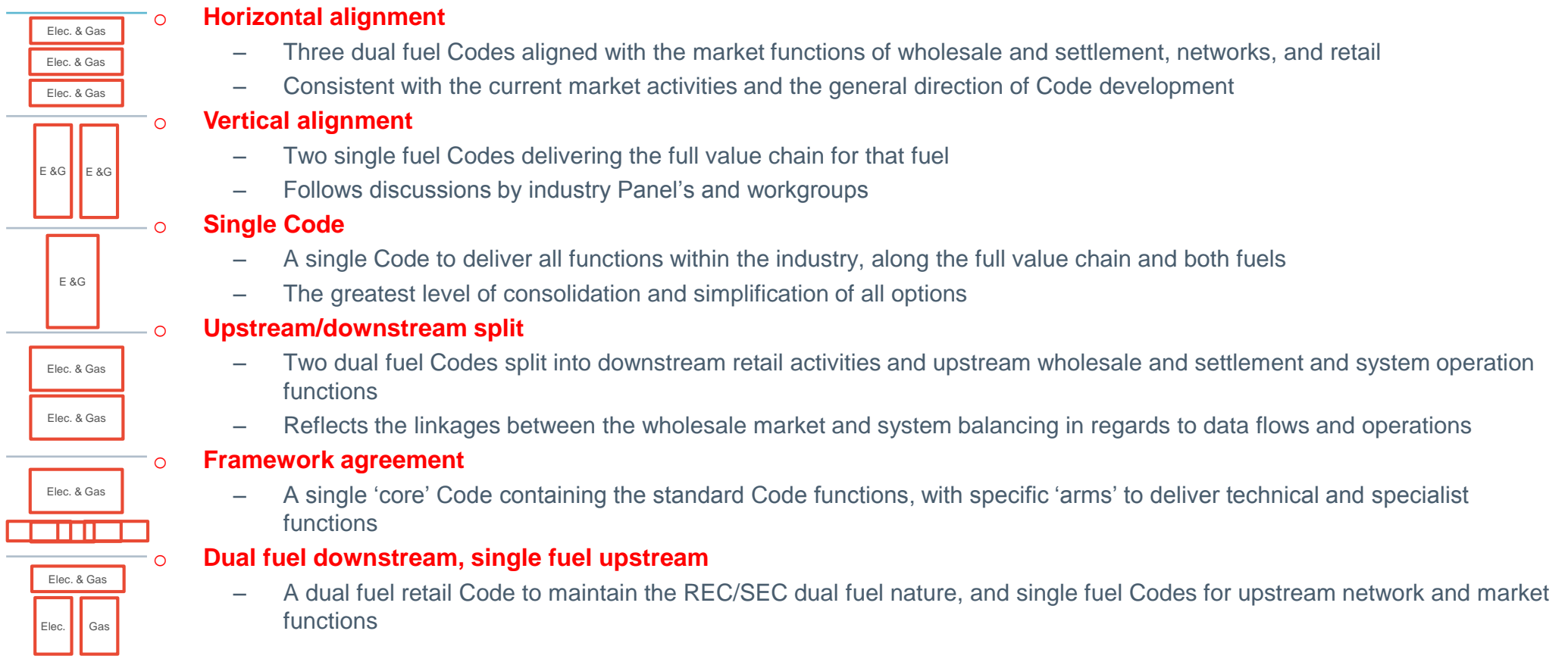
Potential Code structures



Potential Code Structures

Six potential Code models

- Six potential Code models have been considered as part of this work
- The models were chosen following discussions between Elexon and Cornwall Insight



Assessment of Code models



Assessment criteria

- **The six potential Code models have been assessed against the current baseline** (as delivered by the current 11 Codes)
 - Objective is not to determine the 'best' option, but to assess the strengths and weaknesses of the different structures and how current arrangements would map across
- The assessment criteria have been taken from the **Ofgem/ BEIS statements regarding what the future of Code governance and structure needs to deliver**
 - These have been chosen as they concisely define the key criteria for a future Code structure
 - For any change to Code structure, BEIS and Ofgem are the key decision makers, so alignment with their assessment framework is key
- **Structures have been assessed against the baseline as either:**
 - **Positive** – the structure would deliver this key criteria noticeably better than the current situation
 - **Neutral** – the structure would not have a notable impact on this criteria compared to the current baseline, or the positive and negative impacts are expected to balance
 - **Negative** – the structure would be materially less suitable to deliver this criteria than the current situation
- This assessment has not taken into account the potential impact of a single Code manager
 - This allows the assessment of the “core” functionality of the different potential Code structures
 - The impact a single Code manager may have on the arrangements is considered separately later in the report
- Cost and time to implement are considered to be outcomes as opposed to assessment criteria

Assessment criteria – Ofgem/BEIS approach

Criteria	Definition
1. Rules are clear and accessible	It should be easy for any market participant to understand which rules apply to them and what the rules mean for them
2. Regulatory framework facilitates timely change – both ad-hoc and systemic, and enables innovation	<p>Energy sector rules are important and complex, and change must be carefully considered. However, in order to support the ongoing changes to the market, the regulatory framework should be:</p> <ul style="list-style-type: none">• Forward-looking and in line with wider industry/government strategic direction• Agile and responsive to change• Streamlined and coordinated, to enable transition to a clean, smart, and consumer led energy system
3. Right expertise driving rule design and change process	<p>The regulatory framework needs to accommodate:</p> <ul style="list-style-type: none">• A larger and growing number of market participants• An increasingly diverse mix of market participants
4. Robust compliance monitoring and enforcement	With more and more diverse market participants joining an extremely inter - dependent system, compliance becomes increasingly important

Assessment summary

Code model	Clear and accessible rules	Facilitates timely change	Expertise driven	Robust compliance	Overall
Horizontal alignment	Positive	Positive	Positive	Neutral	Positive
Vertical alignment	Negative	Positive	Negative	Neutral	Negative*
Single Code	Neutral	Neutral	Neutral	Positive	Neutral
Upstream/ Downstream Code	Positive	Positive	Positive	Neutral	Positive
Framework Code	Positive	Positive	Positive	Positive	Positive
Dual fuel retail, single fuel upstream	Positive	Neutral	Positive	Neutral	Neutral

+ Current situation **Negative** **Negative** **Negative#** **Negative#** **Negative**

* Cornwall assessed that the vertical alignment model turns overall neutral under a single code manager

+ This is ELEXON's assessment of current situation, noting that those assessment criteria denoted # are not negative across all codes, but are over some

Key findings and next steps



Key project findings – Code models

- Based on the review of the different potential Code structures, the following conclusions can be drawn:
 - The majority of Code structures examined would deliver industry wide benefits over the current baseline
 - This is a result of the reduced complexity of arrangements, clearer and more transparent rules for market parties, and increased Code coordination
 - However, a vertical Code structure does not appear to provide benefits over a horizontal or framework arrangement
 - Separation into separate fuels negatively impacts retail market delivery by separating the dual fuel REC and SEC
 - The potential size of whole value chain Codes, even for a single fuel, are likely to be unwieldy and difficult to manage
 - In addition to the Code consolidation, **a single Code manager would also deliver benefits as a result of**
 - Improved cross-Code/ fuel/ party coordination
 - Alignment and simplification of common functions across Codes
 - Improved risk management and compliance functions
 - Transparency and data usage improvements

Next steps and future deliverables

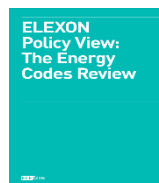
- This project has considered the initial structure and mapping of Code elements onto the potential simplification arrangements
 - This is to support Elexon, BEIS, and Ofgem in identifying a preferred option and analysing the different routes forwards
- Following the choice of preferred option(s) **a second research phase** should be undertaken to develop the detailed considerations of the chosen model, including:
 - **Governance structure** – preferred Code Administrator and Panel membership and operating arrangements
 - **Voting and signatories** – how are the voting arrangements determined for significantly wider Codes
 - **Code administrator funding model** – to what level will the Code be funded in order to provide support and administration functions, and how will this be recovered from parties
 - **Change management** – how will the change control process be delivered, are there limits on alternatives, what level of support will be provided by Code Administrators
 - Examples/scoping of simplification within current Code sections to demonstrate approach
- Additional research also needed to quantify the potential costs of implementation against cost savings – from simplified systems and reduced resource requirements

ELEXON observations/takeaways

- The **consolidation exercise is achievable**, when considered against other governance projects that have been undertaken:
 - The introduction of the Retail Energy Codes (consolidating the MRA, SPAA and retails parts of the UNC)
 - The creation of the gas Data Services Contract (DSC) and changes to the UNC, Agency Services Agreement and associated agreements (18 months)
- **Code and code body consolidation is a first step to simplification** and coupled with the ELEXON proposed user portal*, could make a significant difference to market participants
- All of the models analysed by Cornwall have **benefits over the baseline**, when considered against the outcomes that Ofgem and BEIS are looking for from the Codes Review
- There is a real opportunity for Ofgem/BEIS and the industry to **transform the energy market management** and operation, using **consolidation and simplification** of the codes as a firm foundation to **future proof arrangements** for the benefit of the market and consumer

ELEXON believes that we have a once in a generation opportunity to change the way the industry is governed, creating flexibility to incorporate future energy solutions and business models

** As set out in the ELEXON Policy View: The Energy Codes Review document, published May 2019*





Questions and Answers



Thank you for coming

Refreshments will be served in
reception

ELEXON