

The Electricity RIIO-  
2 Stakeholder  
Group's (ERSG)  
Report on National  
Grid ESO's Business  
Plan

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## Executive Summary

The energy industry is currently undergoing considerable upheaval as it responds to the climate change emergency and the government's priority of moving to net zero carbon by 2050. All parties are also trying to adapt to the rapid rate of change in technological developments which are re-shaping Great Britain's energy mix and the way in which users and consumers are interfacing with the energy system. For these reasons, National Grid Electricity System Operator ("**ESO**") needs to become more agile, innovative and ambitious than ever. The Electricity RIIO-2 Stakeholder Group ("**ERSG**"), made up of consumers, customers, industry participants, academics, have challenged and scrutinised the ESO Business Plan to assess whether its proposals will meet the priorities and expectations of consumers and users of electricity system at this crucial time.

The ERSG was formed to ensure that consumers and stakeholders have a credible voice as the Business Plan is developed for the next RIIO regulatory price control period. Over the past 12 months the group have provided independent and robust challenge on the ESO's proposals, ensuring that they reflect consumer and stakeholder priorities, and is compatible with the UK's legally binding targets of delivering net zero carbon emissions by 2050. As a result of our constructive challenge the ESO has indeed become more ambitious, particularly with respect to its contribution to both climate change imperatives as well as seeking to drive better value for consumers and users of the system through structural changes and innovation.

ESO is a newly independent business, separated from the wider National Grid transmission owner business since April 2019. The decision to separate the electricity system operator from the transmission owner business was taken because government and regulators concluded that an independent ESO would provide enhanced levels of transparency in decision making, be better incentivised to evaluate network and non-network solutions without any intrinsic conflicts of interest and allow the ESO to foster competition more effectively for the benefit of consumers. This new business, previously part of the much larger National Grid Electricity transmission ("**NGET**") company is undergoing a programme of change and ongoing adjustment to become a more effective system operator. The ESO has a very different structure in comparison to other regulated transmission and distribution companies as a result of its central role in planning and operating the energy system. This, combined with the need for progress in the industry on technological development means that the ESO must go through great transformation during the next RIIO regulatory period and its regulatory settlement will need to be flexible to deal with both organisational, structural and dynamic change.

This report sets out the ERSG's assessment of the ESO's proposals. At a high level the ERSG have been satisfied that the ESO has risen to the challenge of producing an appropriately ambitious Business Plan, which has the capability to deliver progress in transforming the energy industry for the benefit of consumers and users. Uncertainties and challenges remain, particularly around how quickly the ESO will be able to implement the types of change and competition which will drive real value to end consumers. But the actions which the ESO is proposing to take in the next regulatory period are a promising start.

We have found that the ESO has been responsive to feedback from consumers and their stakeholders and the scrutiny of the ERSG on how they will need to transform in the future. As a result, the ESO has produced an ambitious plan which is representative of the needs and requirements of the industry.

Initially we raised concerns around the development of a consistent strategy for ensuring that all segments of the industry and consumers were appropriately reached in its consultations. We appreciate that for the ESO, who sits at the heart of the contractual and regulatory matrix of the industry, obtaining feedback directly from domestic consumers is a difficult task, but we were content that significant attempts were made to reach a wide range of stakeholders, consumer groups and academic research. The ESO has over the last year adopted a clear strategy and has, at our request, evidenced a systematic approach which targeted all relevant stakeholders. We were grateful for the detailed evidence of that engagement throughout the business case documentation as well as in the stakeholder annex of the Business Plan. It is imperative that this approach to stakeholder engagement is continued beyond the finalisation of the Business Plan and into the RIIO-2 period itself. Without a high level of engagement with Transmission Owners (“**TO**”s) and Distribution Network Operators (“**DNO**”s) it will not be possible to foster a more collaborative relationship and successfully deliver the Business Plan proposals or ultimately drive value for consumers.

It was a priority of the ERSG that the ESO achieved a high level of ambition in its Business Plan. In its position, which is so central to the electricity industry, the ESO must embrace responsibility for using their expertise to advise both policy makers and the wider industry on what must be done in order to achieve a carbon free electricity network. The newly independent ESO was initially slightly timid in its ambition in early drafts of its plans, but were highly responsive to opinions and ideas from its consultations both with consumers, the wider industry and the ERSG. The final plan represents a highly ambitious vision in which the ESO will aim to lead the electricity industry through an uncertain environment and achieve the change necessary to drive toward a net zero carbon future. This ambition is supported by proposed activities and deliverables which are clear, thorough and well justified. Our purpose in the ERSG was not to provide thorough scrutiny of the costs against these deliverables; this is Ofgem’s role. However, ERSG are hopeful that the potential benefits which could be unlocked by the proposed deliverables have the power to be exponentially larger than the proposed costs of delivering whole system benefits. It is important that the ESO’s potential to achieve real competition, reduction in overall system costs and harness innovation is not constrained by a lack of resources (both financial and in terms of personnel and systems) to deliver these ambitious changes.

The ERSG would like to thank National Grid ESO for their open and collaborative approach in the creation of their RIIO-2 Business Plan. In order to succeed in these ambitious proposals, the ESO will need to undergo a vast transformation of its organisational culture, skills and expertise and levels of collaboration with other industry parties in order to deliver the major technology developments which underpin each of the Business Plan themes. Adequate resources and guidance from policy makers where a lack of clarity still remains will be crucial in allowing the potential benefits of this plan to be fully realised on behalf of the industry and consumers.

## Chapter 1- The ERSG process

### The role of the stakeholder group

The RIIO-2 price control commences on 1 April 2021. Ofgem decided in May 2019<sup>1</sup> that the ESO should have its own independent RIIO-2 price control. As such, the ESO is required to submit a well justified Business Plan to Ofgem in December 2019 detailing the activities (and associated costs) it proposes to undertake during RIIO-2. Stakeholder engagement is an integral part of the creation of the well justified Business Plan. Ofgem required that it should be co-created with customers, service providers and stakeholders. The ESO is required to listen to stakeholders, present clearly defined options and consult on its proposals.

Ofgem's RIIO-2 Framework Decision document<sup>2</sup> (July 2018) confirmed that an enhanced engagement approach would be introduced for RIIO-2. For the ESO this included a requirement to set up a user group. The ESO established the RIIO-2 Stakeholder Group ("ERSG") to ensure that consumers and stakeholders have a significant voice as the Business Plan is developed for the next RIIO regulatory price control period. The ERSG has provided independent and robust challenge during the course of the development of the Business Plan. This includes scrutinising the approach and conclusions of the ESO, ensuring that the plan reflects consumer and stakeholders' priorities and is compatible with the UK's long-term policy goals and legally binding targets, and assessing whether it will drive value for consumers.

### Purpose of the Group

The ERSG has challenged and reviewed the development of the ESO's proposals and the process to recommend them. The Terms of Reference<sup>3</sup> for the group required the ESO to focus on the following key areas:

- The ESO's overall priorities and approach, reflecting the changing energy system
- Identifying outputs and investment requirements, and any alternatives the ESO presents to these
- The stakeholder engagement the ESO has undertaken and how it has been used
- Associated totex budgets including level of cost efficiency improvements
- The ESO's approach to innovation, including building innovation into business as usual
- The range of scenarios the ESO has considered and its approach to managing uncertainty and associated risks
- The opportunities and challenges that a more independent ESO creates for the ESO and the wider energy industry

Throughout the year, the ERSG has maintained engagement with other RIIO-2 Stakeholder groups through best practice sharing sessions facilitated by Ofgem.

Roles and Responsibilities of the ERSG were agreed as follows:

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<sup>1</sup> [RIIO-2 Sector Specific Methodology Decision and further consultation - Electricity System Operator](#)

<sup>2</sup> <https://www.ofgem.gov.uk/publications-and-updates/riio-2-framework-decision>

<sup>3</sup> <https://www.nationalgrideso.com/document/137541/download>

- To monitor, challenge and input into the ESO’s engagement programme with stakeholders.
- To scrutinise and provide expert input, challenge and recommendations to the ESO’s Business Plan.
- To submit a report to Ofgem in line with the regulator’s guidance, providing the group’s assessment of the ESOs engagement activity and Business Plan. Members of the group

The Group is an independent body, with its members drawn from a cross-section of customers, service providers and public interest groups. It includes representatives from consumer bodies, academic institutions, larger and smaller generators, network companies, energy suppliers and consumer bodies.

Group membership was selected by NGESO based on internal and external feedback, with the Chair and Ofgem inputting into the final decisions. Members were appointed to the group in their capacity as individuals rather than representing any organisation or industry sector in the group.

Sector	Representative	Organisation
Chair	Charlotte Morgan	Linklaters
Generator	Matthew Wright	Orsted
	Stuart Cotten	Drax
Large supplier	Andy Manning	Centrica
Medium Supplier	Toby Ferenczi	Ovo Energy
Small supplier	Greg Jackson <sup>4</sup>	Octopus Energy
Transmission Owner	Alan Kelly	Scottish Power Transmission
Distribution network owner	Nigel Turey	Western Power Distribution
	Peter Emery	Electricity North West
OFTO / interconnector	Chris Veal	Transmission Investment
Existing service provider	Steve Meersman	Zenobe Energy
Technology Provider	Joanna Hubbard	Electron
Consumer	Stew Horne	Citizens Advice
	Jamie Stewart	Citizens Advice Scotland
	Eddie Proffitt	Major Energy Users’ Council
Wider interest	Nina Skorupska	Renewable Energy Association
	Simon Roberts	Centre for Sustainable Energy
	Nick Molho	Aldersgate Group
Academic	Catharine Mitchell	University of Exeter
Cross-industry	Barbara Vest	Energy UK

<sup>4</sup> Greg Jackson withdrew his membership following ERSG 6 due to competing priorities.

## NGESO members

<b>Representative</b>	<b>Job Title</b>
Fintan Slye	Director, NGSO
Kayte O'Neil	Head of SO Strategy and Regulation
Angelita Bradney	Head of ESO RIIO-2
Alice Etheridge	ESO RIIO-2 Stakeholder Manager

Meetings were attended by additional representatives of the ESO as and where required (See the meeting minutes in the annex for attendees of each meeting). Ofgem were invited to nominate individuals to attend all meetings, and attended some meetings throughout the year.

## Chair

The ESO recognised that the Chair would play a critical role in the ERSG and in appointing the Chair of the ERSG, the ESO followed a rigorous process in consultation with Ofgem:

1. Role Scoping- In agreeing the enhanced engagement approach with Ofgem and stakeholders, the ESO understood Ofgem's criteria for the Chair position. Namely that the Chair must have demonstrated senior leadership, an ability to encompass a strategic vision and a background of challenge and a wide-ranging experience of regulation in the energy sector.
2. Longlisting – The ESO held internal discussions with senior colleagues and HR business partners on possible candidates, and external discussions with stakeholders seeking recommendations in order to draw up a longlist of candidates for assessment against Ofgem criteria, and testing this longlist with Ofgem and stakeholders.
3. Shortlisting – Following the drawing up of a longlist of potential candidates, the ESO held initial discussions with interested candidates including on potential conflicts of interest. A detailed assessment against a wider set of criteria was undertaken and the ESO recommended an interview shortlist, which was shared with Ofgem and other stakeholders.
4. Selection – CVs and conflict of interest declarations were provided by the candidates, who were provided with a standard briefing and interviewed following standard format conducted by the then Director of System Operator (Fintan Slye) and the ESO's Head of Energy Strategy and Policy (Roisin Quinn)<sup>5</sup>. A recommendation on the preferred candidate was then made to Ofgem.

Charlotte Morgan, a partner at Linklaters, was chosen as the Chair of the ERSG due to her longstanding expertise and experience in the energy market and in particular in respect of energy regulation. She had chaired a number of reports for the then energy minister (Claire Perry) on green finance innovation in energy projects and carbon capture and storage.

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<sup>5</sup> The position of Head of Energy Strategy and Policy was later taken over by Kayte O'Neil.

## Meetings

The ERSG has met periodically between July 2018 and December 2019. Meeting dates and key agenda items are summarised below (Further detail can be found in meeting minutes in the annex)

Meeting	Date	Key topics discussed
ERSG 1	Wednesday 25 <sup>th</sup> July 2018	Welcome, introduction of members  Legal Separation  Introduction to RIIO-2 (Ofgem)  Enhanced engagement models  Terms of Reference and ways of working  Approach to developing Business Plan  Regulatory model
ERSG 2	Wednesday 14 <sup>th</sup> November 2018	SO mission and Customer & Stakeholder priorities  Using Future Energy scenarios  ESO ambition and strategy (workshop)  Whole Electricity System (driving efficient outcomes)  Network Planning (driving value)  Industry codes
ERSG 3	Wednesday 30 <sup>th</sup> January 2019	ESO RIIO-2 Ambition  Stakeholder Engagement  Ofgem's sector specific consultation (+ session with Ofgem)
ERSG 4	Wednesday 3 <sup>rd</sup> April 2019	ESO RIIO-2 Ambition  Network Competition



		<p>Improved System Access Planning and transforming the connection process</p> <p>Innovation</p> <p>Reliable and Secure System operation</p> <p>IT Strategy and Cyber</p> <p>Open and Transparent Markets</p>
ERSG 5	Wednesday 4 <sup>th</sup> June 2019	<p>Stakeholder and Consumer Engagement</p> <p>Ofgem's sector specific strategy decision</p> <p>Business Plan overview (presentation on each section of the draft plan)</p>
ERSG 6	Wednesday 31 <sup>st</sup> July 2019	<p>Regulatory Framework</p> <p>Ofgem RIIO-2 Challenge group feedback</p> <p>Business Plan Q &amp; A</p> <p>ERSG report preparation (closed session)</p>
ERSG 7	Wednesday 12 <sup>th</sup> September 2019	<p>Regulatory Framework</p> <p>Business Plan updates since previous meeting</p> <p>ERSG Report preparation (closed session)</p>
ERSG 8	Thursday 7 <sup>th</sup> November 2019	<p>Regulatory Framework (including session with Ofgem)</p> <p>Business Plan updates since previous meeting</p> <p>Metrics</p> <p>CATO early competition plan update</p> <p>Future of ESG</p> <p>Round up and Business Plan delivery confidence</p>

## Chapter 2- Stakeholder Engagement Approach

### The ESO's Stakeholder Strategy

ERSG have spent significant amount of time understanding and assessing the ESO's stakeholder strategy. Each of the meetings has been a full day session, backed up with strategic and detailed reading material prior to those sessions taking place. The advanced reading provided by the ESO has enabled the ERSG to have informed and extensive discussions, supported by focused papers written by the ESO. Following each meeting the ESO was required to respond to outstanding issues with further information and presentations, and to provide access to individuals within the ESO at follow up meetings so that the ERSG could properly interrogate the information which was provided and suggest challenges and changes to the ESO approach.

The approach and evidence of wider stakeholder engagement, as undertaken by the ESO, was tested by the ERSG group throughout the process. The ESO explained how the introduction of it has encouraged an "enhanced stakeholder approach". The ESO had instigated a number of stakeholder engagement events, including 9 webinars, 9 workshops and 22 other forums, which have reached 360 individuals from over 180 organisations through over 600 interactions. This comprehensive engagement exercise involved members from across the industry who provided feedback, scrutiny of the plan and an assessment of how effective the stakeholder engagement strategy has been. The ERSG requested that the ESO detail all of the stakeholder interactions involved in its engagement exercise in the stakeholder annex accompanying the Business Plan. The ESO was encouraged to provide and has provided evidence of extensive stakeholder engagement events, and how the ESO has engaged with consumers and stakeholders. Together this demonstrates what the ESO has learnt from that engagement and how it has changed its plan accordingly. The ESO has also collated its stakeholder feedback in the accompanying stakeholder report.

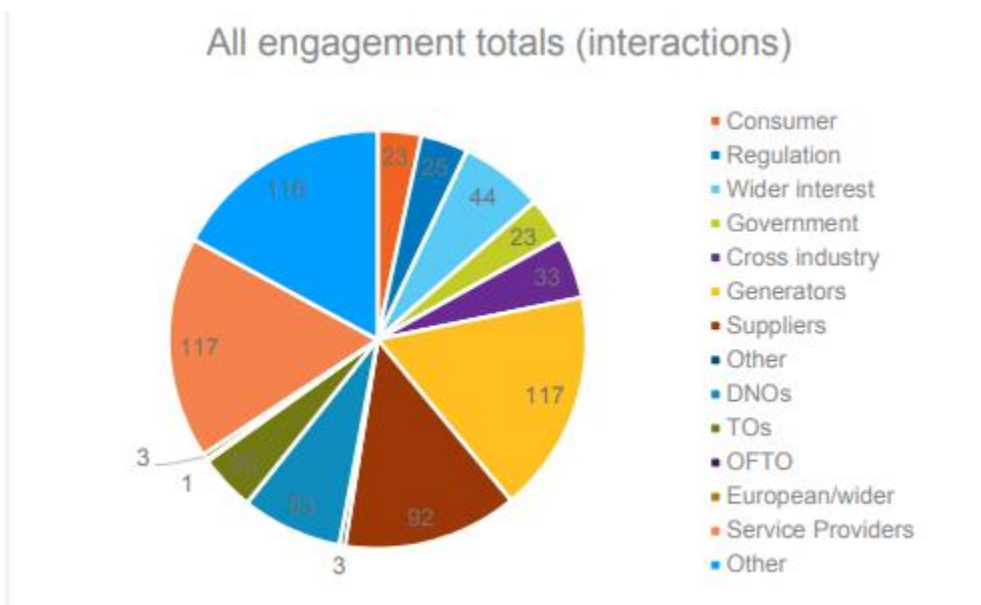


Figure 14: Stakeholder engagement by stakeholder types

From the ESO Business Plan

The ESO first subjected its stakeholder engagement strategy to challenge by the ERSG at meeting 3. The ESO explained the importance of stakeholders being at the heart of their Business Plan, and the process that they were undertaking to make sure that all feedback was adequately captured and taken into account. The ESO's team also set out some stakeholder and consumer priorities to guide their RIIO-2 engagement and Business Planning activity. These were developed through a mixture of existing and targeted engagement channels such as webinars and customer surveys. The ESO provided a summary of engagement events that had been held prior to the meeting and how many individuals they had been able to engage with through these.

### ERSG's Initial Feedback

Although the ERSG appreciated that a large amount of engagement activity had been conducted by the ESO up to this point, it seemed to have been carried out on an ad-hoc basis, without a clear underlying strategy. This lack of structure meant that it was difficult for the ERSG to assess how well the engagement had been executed, and whether the ESO had adequately and effectively reached all relevant consumer and stakeholder groups. The ERSG felt that a strong stakeholder strategy would need to have definitive evidence that a coherent process has been followed through. The ERSG challenged that the ESO should explain clearly which stakeholders had been targeted and the reasons why these stakeholders had been chosen to provide feedback. The ERSG wanted to ensure that not only had the ESO met the requirement to explain its proposals to a wide variety of consumers and industry participants, but that this had resulted in useful two-way feedback, which was then appropriately actioned by the ESO in its business plan. The ERSG wanted to understand which groups of customers, consumers and other stakeholders had provided what feedback and then what steps the ESO had made to take this feedback into account. The ERSG informed the ESO that this level of clarity around the process was needed to demonstrate that the Business Plan accurately reflects the priorities of consumers and stakeholders.

The ERSG was particularly clear that it was very important that the ESO provided clear evidence that all relevant stakeholders are being reached. Because of the huge amount of change in the industry, it can be difficult to reach small organisations and consumers, and it is extremely important that the ESO avoids bias towards larger organisations with whom the ESO may have longstanding and ongoing frequent interaction. Whilst the ERSG felt that the ESO had initially done a good job of reaching a diverse range of industry participants through a wide range of channels, the group suggested that a visual representation of who has been consulted, such as a pie chart, would help in demonstrating this (see image above). The group also asked the ESO to consider how they were consolidating this activity where possible, so that the burden on smaller organisations is appropriately calibrated, ensuring good engagement without putting an undue time commitment on parties with more limited ability to engage.

The ERSG challenged the ESO on the level of direct consumer engagement that has been executed prior to meeting 3, and whether this was sufficiently extensive. Although it is appreciated that the ESO itself has a limited ability to engage with consumers, as their contractual and regulatory matrix is targeted towards various different direct customers of its network (whether generators, transmission owners, distribution network operators and/or suppliers) the ERSG was keen to ensure that the ESO captured as much input as possible from consumers so that this could be reflected in the ambition of the Business Plan. The ESO were asked to come back in the subsequent meeting with a comprehensive strategy for considering how and to what extent consumer feedback could be more clearly sought. This provided a bedrock of inclusion in the Business Plan outcomes.

## Meeting 4

AT the subsequent meeting on on 3<sup>rd</sup> April 2019 the ERSG stressed that, in addition to having consumer input into the Business Plan itself, it would be hugely important to ensure that consumers' concerns, and their burden of paying for the energy system as a whole, should become more of a focus throughout everything that the ESO do. The ESO must demonstrate an increased interaction with consumers and an increased understanding of the consumer throughout the ESO's business. The ESO acknowledged that there was more work to be done to reach this point. The ERSG also set out their expectation that ESO should further demonstrate their understanding of the consumer needs through referencing academic work which was already available. It was acknowledged by all parties that it can be challenging for the ESO to reach consumers directly for their input on the Business Plan, but academia can provide information on the wider public and cultural setting within which the business is operating and can provide valuable research into consumer attitudes towards the energy system. One issue which was discussed was the desire of consumers in respect of meeting obligations around climate change and how we were moving into an era where operating the energy system in a carbon neutral way would need to be a key feature of the Business Plan moving forwards.

## Meeting 5

The ESO considered this feedback and responded by presenting an updated stakeholder strategy at meeting 5 on 4<sup>th</sup> June 2019. In advance of this meeting the first draft version of the complete Business Plan had been shared with ERSG members, including a stakeholder engagement annex. The ESO provided a briefing paper to the group<sup>6</sup> which outlined the updated strategy, discussions and feedback from the previous meeting, and how the ESO had responded to the feedback received. Responding to the comments which had been received from the ERSG and other stakeholder engagement, a number of changes and commitments were put in place by the ESO:

- Improved clarity on what it is trying to achieve through their engagement by having stakeholder plans for each topic area, including what they are trying to achieve and how they will achieve it
- Ensuring that stakeholder feedback is reflected in the content development and improve the ongoing data capture process.
- A review of stakeholder segmentation to ensure that there is a representative view of the industry. This includes enhancing the approach to understanding consumer views
- Learning from the Ofwat price review decision and leaders in the water sector
- A review of the approach to capturing and analyzing data

As a result of ERSG feedback received in the previous sessions, the ESO had also decided to commission an external review of their engagement strategy to give an independent view of the effectiveness of their approach. A summary of the recommendations from this engagement strategy review can be found in the annex of the Stakeholder strategy briefing paper referenced above. The ESO presented that the overall findings of this stakeholder engagement report were positive, showing that the ESO have successfully anticipated stakeholder needs and have taken steps to address them in the Business Plan. The review reported a need for a process which supports continuous story creation, as well as collaboration with other bodies to gain perspective on wider and more specialist views in the most efficient way for the ESO and stakeholders.

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<sup>6</sup> <https://www.nationalgrideso.com/document/149436/download>

The ERSG were supportive that the changes made by the ESO as a result of previous feedback were positive, and were heading in the right direction. The updated approach provided evidence of a necessary culture change towards increased transparency and inclusivity in engaging stakeholders, which must become embedded in the ESO given its fundamental role at the heart of the industry. The ERSG encouraged the ESO to ensure that stakeholders continued to be included in the conversation, both at key points during the development of its Business Plan but also as an ongoing engagement during the implementation of the Business Plan. This is important so that the company can build trust in its activities and in the ESO itself. Some members gave feedback that the evidence presented by the ESO continued to be anecdotal rather than evidence of an ongoing structured process. It was also commented that although the external review highlighted that some good engagement had been done, there were some flaws in its recommendations, and it didn't seem to take best practice principles into account.

The ERSG also challenged that, although ESO had taken positive steps to address feedback from the ERSG and to develop their approach for stakeholder and consumer engagement, further clarity was still needed on the sources of feedback. ERSG suggested that this needed to be further evidenced in the main body of the Business Plan as well as in the stakeholder annex. More evidence was required on what academic work has been consulted and informed the ESO's understanding. The ERSG was sympathetic to the point that while all feedback must be appropriately considered, it is not realistic or indeed appropriate that all feedback could or should be taken on board by the ESO. Therefore, further clarity on where the ESO had not acted upon specific feedback was also required with an understanding of why that feedback had not been incorporated.

In response to this, the ESO explained that for the next version of the Business Plan it would be furthering its engagement with academia. The ESO also confirmed that further detail on the engagement approach would be found in the annex to the main document which aims to provide further robustness to the overall strategy. The ERSG agreed to each review the stakeholder engagement annex in further detail.

## Meeting 6

At meeting 6 on 31<sup>st</sup> July 2019, ERSG spent the majority of the day scrutinising an updated version of the Business Plan in a closed session. Individual members of the ERSG had individually spent further time reviewing the stakeholder annex. Overall the consensus was that the ERSG found that the stakeholder annex was of a high quality. The information included was very detailed and helpful in providing context to the stakeholder strategy. It was clear to the group that the ESO had acted on the feedback about ensuring that different voices in the industry are listened to. The detail which had been captured was comprehensive and in addition detail on how this feedback had changed and informed the Business Plan was better indicated throughout the main Business Plan. However, the ERSG challenged that this could still be further improved in places, where it remains to be unclear exactly how much support there was from stakeholders on certain proposals. ERSG were also pleased to see how the ESO had considered and incorporated the results which had been obtained through reference to academic material rather than relying solely on activities which had been carried out by the ESO itself, particularly in relation to consumer priorities. The approach to consumer research was supported by the ERSG, as the ESO had made positive steps in summarising learnings from projects such as Sustainability Firsts New-Pin project.

## Meeting 7

The latest version of the Business Plan was provided to the ERSG in advance of meeting 7 on 12<sup>th</sup> September 2019. The ESO also provided an accompanying paper which summarized each piece of feedback received from both ERSG and the challenge group, along with how they have acted on it<sup>7</sup>. In this paper, the ESO demonstrated that they had responded to the challenges on stakeholder engagement with actions such as:

- An October stakeholder event to test the plan as a whole with stakeholders
- Further engagement and research to understand consumer views
- A more detailed view of the stakeholder strategy included in the Business Plan, to reflect efforts to engage with a wider range of stakeholders
- Description of where feedback has come from at a more granular level

The ERSG reflected that, overall, as a group they have been impressed with the ESO's responsiveness to the feedback that it has been given, and the clear and systematic way in which it has demonstrated this at each meeting. This has greatly improved the quality of the stakeholder engagement strategy set out in the Business Plan.

## ERSG feedback on final strategy

Overall, the ERSG judged that the level of feedback in the Stakeholder report indicated a high level of engagement with consumers, stakeholders and industry experts. The ERSG stressed that moving forward the ESO will need to increasingly engage with a wide range of stakeholders and ensure that the process is not biased towards larger organisations. However, the ERSG did raise a concern in respect of themes 3 and 4 that the ESO had not done enough to engage and collaborate with DNOs and TOs, particularly in respect of competition in onshore transmission and potential new entrants to that market. Also, the ERSG reflected that in some areas of the Business Plan the ESO appear to be proposing to take on new roles that currently sit with TOs or DNOs, and it is not clear to what extent these parties have been consulted. The ESO, TOs and DNOs must consider these elements collaboratively in order to avoid confusion in roles and responsibilities. Further information on the quality of stakeholder engagement for each section can be found below.

## Assessment of stakeholder engagement per theme

### The Changing Energy Landscape: Scenarios

The ESO Business Plan is based on Future Energy Scenarios (FES) 2018, which goes through a robust and collaborative stakeholder development process. The scenarios are important in ensuring that the Business Plan meets the needs of current and future consumers. The scenarios on which the Business Plan is based were tested at FES conferences and workshops, RIIO- 2 workshops and webinars, and the future networks working group.

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<sup>7</sup> <https://www.nationalgrideso.com/document/149436/download>

Feedback from stakeholders through these events was that FES are appropriate scenarios to use, but that further information was required on the areas of uncertainty. In response to this, the ESO provided a “commonality scorecard” with an eight-step approach to develop options and manage uncertainty.

General feedback received on the 2018 scenarios was that the ESO needed to better reflect the uncertainties and changing energy landscape, international pledges and national legal commitments to reduce carbon emissions. As a result, the ESO updated scenarios and modelling processes to reflect this. The ERSG felt that the FES process itself has a well-established and robust stakeholder engagement strategy, and therefore the scenarios used to base the Business Plan were robust and sufficiently challenged/ endorsed by stakeholders.

## Theme 1: Ensure reliable, secure system operation to deliver electricity when consumers need it

### *Initial feedback*

Theme 1 was first presented during ERSG meeting 4 on 3<sup>rd</sup> April 2019 in the form of a paper<sup>8</sup> which set out the ambition, stakeholder engagement, and proposal options in this area. Proposals were initially presented to industry stakeholders during an Operational Forum on 26<sup>th</sup> March 2019, where stakeholders were generally in favour of the ambitions. Although some questioned whether the ESO were being too ambitious by overstepping the boundaries of their responsibilities into areas historically undertaken by others. The ESO engaged further with network companies, consumer interest groups, service providers, academia and wider interest at various events throughout 2018 and 2019. Through this engagement, stakeholders reinforced that system restoration is a critical part of the ESO role and want them to reduce barriers to entry into restoration services, including greater participation for DNO networks.

Based on feedback received around the delivery of IT and the potential complexity of the new control system capability, the ESO recognised that management of development and implementation will be key for stakeholders, and that they will need to work closely with the industry to understand their requirements from these systems. The ESO set out two options for the development of these systems in their paper. Option 1 involved building a new control system capabilities offline with the support of the industry through a cross-industry design group. Option 2 involved continuing to replace existing capabilities on a system by system basis. Feedback received from the operational forum suggested a stakeholder preference for option 1, as new systems are needed that were developed in coping with a new and different operating environment.

The ERSG further questioned the ESO on the content of the paper. The ERSG expressed concerns that the ESO had not been clear what would be developed and how much it would cost. The ERSG was also concerned about the complexity of delivering such new IT systems and whether the ESO is properly equipped to deal with such a large and complex process. The ESO was asked for further information on how it intended to build the skills and expertise needed for succeeding with this development, particularly given how complex the system is and how it would need to cope with numerous

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<sup>8</sup> <https://www.nationalgrideso.com/document/149416/download> All other papers presented by the ESO during this meeting can also be found here <https://www.nationalgrideso.com/about-us/business-planning-riio/ESO-RIIO-2-Stakeholder-Group>

complicated interactions. The ERSG also wanted further detailed information on how stakeholders would be consulted throughout the development of the new systems, to ensure that their needs were being met. The ESO were considering establishing a cross-industry Design Authority and committed to providing further information on this for a future meeting.

### *Meeting 5*

By the following meeting (ERSG 5 on 7<sup>th</sup> June 2019) the first version of the Business Plan had been shared with the ERSG. The ESO presented their updated proposals from the plan including control centre architecture and systems, people and data capability, and restoration. The ESO had responded to the concern about their ability to deliver complex IT by explaining that it was proposing to build new capability in an agile, modular fashion offline and separately from the main control room. The ESO team outlined their plans to ensure that the company would have the necessary skills and expertise by working more closely with universities, network companies and government. The ESO also updated the ERSG that they would be developing proposals for the Design Authority in the coming months, to ensure that stakeholders are consulted through the development process. The ESO presented some initial cost and benefits associated with completing the work as well as a roll-out plan for delivery.

The ERSG members questioned the company in detail on the digital twin testing and simulation concept which had been included in this section of the Business Plan. The ESO explained that it would allow the proposal of changes that can be sandboxed in a more open and interactive environment to allow market participants to try things out. ERSG asked for further assurance that this was the most cost effective solution, as many felt that the initial costs which had been presented were high. The ESO explained that this option was 5% more expensive than alternatives, but that it carried less risk. There was a lengthy and detailed discussion as to the risks associated with working on an operational system as opposed to working in detail on a digital twin which would allow the ESO to spend time in development in a way which would not compromise the integrity of the operational system. The ESO considered that working on a digital twin would also give it greater flexibility to be innovative and to work more closely with industry participants to ensure that the system was working to deliver future energy scenarios. This would be important given the complexities of how the ESO want to improve the current system, which will drive more competition and greater transparency, with a view to further driving down costs for consumers.

On balance, whilst the ERSG was concerned to ensure that the ESO was taking into account the consideration of all of stakeholder feedback received, the proposal for a digital twin, although more expensive than other alternatives seemed to be the appropriate solution in order to manage the risks to the integrity of the operational system. The costs highlighted by the company were proportionately small in comparison to the large potential customer and security benefit. However, more detail on the digital twin concept was required.

In terms of skills and expertise, the ESO recognized the challenge they face due to scarce engineering resource. The ERSG was concerned that the ESO would face obstacles in recruiting and retaining the talent need to deliver such an ambitious programme. There are already skill shortages in the industry as a whole, as well as significant competition from other private sector entities who are working in the area of IT innovation in the energy space. It was suggested by ERSG members that the ESO should consider partnering with universities and the Electricity Networks Association (ENA), to formulate an engaging campaign to ensure that people with relevant skills are being attracted to and retained by the



ESO. The ESO proposed the creation of an academy, and the ERSG challenged on the potential costs of this as opposed to working with universities who are already doing good work in this field. It was suggested that it may be more efficient to work with and leverage what's already there in the universities, rather than requiring the ESO to be the sole driving force.

### *Meeting 6*

During the closed session at ERSG 6 on 31<sup>st</sup> July 2019, the ERSG scrutinised the updated version of theme 1 in further detail. It was concluded that the ESO still needed to provide further information on the digital twin concept, and how this is an important enabler to operating in the new world. The ERSG expected this to be included in the next version of the Business Plan during October. However, it was agreed that the justification for the digital twin over the alternative proposal in the Business Plan was strong.

The ERSG noted that evidence of how stakeholder feedback had been taken into consideration was also effective throughout theme 1, particularly throughout subsections 7.1 and 7.3. Following previous discussions, care had been taken to link the importance of training and the digital twin concept with staff wellbeing which had been an important element of stakeholder feedback.

There were also some suggestions for improvement of the section. The ERSG challenged that costs and benefits could be more clearly presented and that justifications for preferred proposals could be more detailed. For example, a bar chart showing the evolution of costs over a period provided a reasonable overview but did not provide clarity on what costs are being incurred when. Furthermore, net benefits included in section 7.1 should be expanded on with more information on the alternative options that were considered, particularly relating to the architecture where 4 options were considered and the digital twin was concluded as the best option. More information was also required on the activities for expanding control infrastructure, as the detail presented in this section was quite generic and did not focus on how results will be achieved.

### *Meeting 7*

In the "ERSG and Challenge Group feedback" paper which was shared for meeting 7 along with the updated Business Plan, the ESO set out some of the ways that it had responded to this feedback. They confirmed that they would be providing further detail on the digital twin during a future webinar to be arranged with ERSG members, and had also improved the narrative in the control systems and architecture systems by referencing reports from the National Infrastructure Commission and the Energy Data taskforce that highlight the benefits of digital twins. In order to provide further clarity on costs of the digital twin, the company have provided granular cost tables which include opex, capex and FTE per year for each activity group and costs per year for each investment in the separate IT investment papers. An updated benefit methodology had been included in the CBA report and high level calculation steps have been included in the "cost-benefit analysis" of each section for each group of activities. Optioneering had been undertaken to assess the alternatives that were being considered. ERSG asked for further information on how the control infrastructure will be expanded. To address this the ESO had included a control architecture and systems narrative and timeline, as well as further detail on the capabilities it proposed to develop and how these would fit together. Finally, where the ERSG suggested working closely with universities, BEIS, the Department of education and academics in order to attract

employees with the necessary skill sets, the ESO had updated section 5.3 with detail of their discussions with academics and how these have helped to shape the proposals.

#### *Final Feedback*

The ERSG considered that theme 1 had been greatly improved by the adoption of these measures, and that feedback had been appropriately incorporated in the Business Plan. Efficiencies from RIIO-1 were better explained, investment tables were useful and there has been good cost justification. The structure is thought to be clearer and more organized, and the ESO had better demonstrated the skills and expertise that would be required for the future. It was noted that the narrative and justification for the increased FTE in this section was detailed, but further detail was still required on the evolution of capex. The group also agreed that the addition of investment cases will be useful in supporting the proposals in theme 1.

## Theme 2: Transforming participation in smart, sustainable markets

#### *Initial Feedback*

The ESO first presented their ambitions and proposals in relation to theme 2 at meeting 4 on 3rd April 2019. The ambition was for the ESO to be able to operate a carbon free system by 2025. In order to achieve this, the ESO explained that they will need to attract significant new sources of flexibility onto the system, which in turn will require transformation of markets. It is also essential that the industry codes are able to facilitate the rapid change required to deliver this ambition, and that they are no longer perceived as a barrier to change. Proposals included delivery of a new wholesale and balancing market design which is fit for the future.

The ESO had consulted with stakeholders on these plans through bilateral meetings, the Transmission Charging Methodology Forum, code panel meetings and Power Responsive round tables. Through these forums stakeholders told the company that the ESO must be clearer on the scope of the ESO markets platform and how it will work with markets at a distribution level. Further clarity was also needed on the scope and objectives of the proposal to reform wholesale and balancing markets. Also, stakeholders were not clear why the ESO were proposing to take over the administration of capacity market rules.

The ERSG questioned the ESO on the proposals and how those proposals had been reached. For instance, ERSG sought justification on the value of 1MW as the most appropriate value for a unit, and whether the ESO has given some thought to consumer protection given that aggregators are unregulated businesses. The ERSG also queried whether the ESO would be in a position to ensure that good quality data is received from smaller market participants. The ERSG were split on whether the ESO needed to take more time to consider and justify the right answer to ensure that it is fit for the future, or whether it hadn't been ambitious enough and the ESO needed to move faster to get ahead of the curve. ERSG also questioned whether the ESO's proposals around the energy codes review were appropriate and if it was making proposals which are outside of the ESO's remit to make. It was noted that the code review is an ongoing piece of work which is being led by Ofgem and BEIS, and therefore any proposals on this in the Business Plan would be subject to external factors. On the other hand, the

ERSG recognised it is positive to have a single entity driving this work forward and an independent ESO may be well placed to do this now that it was independent from the transmission owner.

#### *Meeting 5*

At the 5<sup>th</sup> meeting of the ERSG, the ESO presented updated versions of these proposals as part of the Business Plan first draft. In response to previous feedback, the ESO provided further clarity on the market portal, explaining that it will provide access to markets administered by the ESO and will interface with other market platforms rather than replace them. It also provided further information on the objectives of the market review and how the ESO planned to engage with the industry to deliver this work. Regarding capacity market rules, the ESO provided further information on proposals and how this change will align the rules with other industry codes, allowing change to be prioritized in a more holistic and agile manner. The company also presented some estimated costs and benefits associated with these proposals.

ERSG again raised the question of whether the code reform proposals are appropriate for the ESO to deliver, or whether this needs to be more of an industry led initiative. Costs and benefits presented were felt to be too specific, and that it would be more helpful to have an indicative range at this stage. The group felt that there is a real opportunity to achieve large benefits in this area, and urged the company to focus more on these benefits to consumers, and how they can best serve as a key enabler to unlock this value. The ESO were challenged on whether this work was achievable within two years but in response confirmed that this would be possible in this timeframe because the thinking and development of these proposals is currently underway.

#### *Meeting 6*

Upon further scrutiny of an updated version of the Business Plan, the ERSG concluded that the deliverables have now been clarified and the rationale is well articulated. The ESO were asked for further narrative on the benefits as some of the figures were difficult to follow. There was further discussion on what activity was being completed now in RIIO-1 and what is a purely RIIO-2 activity, as the ESO are already doing lots of work in this area. The ERSG also continued to question whether some of the proposals in this section are in fact an ESO responsibility, particularly in respect of code reform and capacity markets. It was suggested the ESO should highlight its needs and make recommendations as to how they could facilitate these. There was some concern as to whether some of the proposal should be included in the Business Plan proposal until the review by BEIS and Ofgem had completed. Although members were generally supportive of what was proposed on code reform it was noted that new information had been released by Ofgem in this area which may require the section to be reviewed. The ERSG continued to consider that the timelines set out in this section would be extremely challenging to meet.

It was highlighted the energy white paper that was shortly expected to be published which could help to inform the ESO's plan in this area and give the ESO something to deliver against. It was advised that anticipation of this paper could be noted in the plan, along with more commentary on external developments generally and where the ESO are dependent on these things. It is noted that at the time of this report the energy white paper is yet to be published.

## *Meeting 7*

Also, the ERSG expected to see further evidence that the ESO are able to create a market and stimulate interest from market participants. In response to this feedback the ESO made several changes to theme 2, and an updated version of the Business Plan was circulated for discussion at meeting 7. A delivery roadmap was added to the plan which clarifies which activities are being undertaken as part of RIIO-1 and which are planned for the RIIO-2 period. Further narrative has been added to show the ESOs alignment with other activities, particularly in those areas where ERSG felt that the ESO were making proposals that were not within their gift. Costs and benefits in this section had also been reviewed by the ESO, along with an updated methodology which clarifies how the figures were arrived at.

## *Final Feedback*

The ERSG commented that the quality of content in theme 2 has greatly improved. The group were broadly in support of the proposals and deliverables included in this section. In terms of the proposals on code reforms, there was consensus that moving to a code manager was the right thing to do, but there were mixed feelings amongst the ERSG as to whether this should be the role of the ESO. However, it was acknowledged that this decision would be taken elsewhere and would not be a matter for the ERSG or the ESO to determine. There was strong support for the ESOs proposals on market arrangements within the group, and that markets are both critical to the ESOs role and a key determinant in driving down costs to consumers. However, the group feel that the ESO could have demonstrated more collaboration in developing these proposals, particularly with DNOs. It was acknowledged by the ERSG that the ESO are dependent on the development of governmental and regulatory policy in this area and that there is currently a lot of uncertainty making their role and priorities difficult to determine

## **Theme 3: Unlocking value through competition**

### *Initial Feedback*

The ESO first shared details of their proposals within theme 3 through a paper which was circulated in advance of meeting 4 on 3<sup>rd</sup> April 2019. Its ambition document had stated that it wanted to unlock consumer value through competition in networks. As part of this the ESO has pledged to support Ofgem and industry to deliver a model of onshore competition for transmission investment that maximizes consumer value. In terms of stakeholder engagement, the ESO first published their views on extending onshore competition in their response to Ofgem's sector specific consultation, and acknowledged the need to engage further on this topic. At previous ERSG meetings the group had challenged the ESO to provide more proactive support to Ofgem to find solutions to this issue. Off the back of this feedback the company began exploring their potential role in both the early and late model for competition in onshore transmission. The ESO noted that they had received little feedback on this work from stakeholders so far, and that they will be consulting further. They set out an engagement plan in the paper which detailed a combination of bilateral meetings targeting DNOs and TOs, and RIIO workshops with a broad range of stakeholders.

The ESO's proposals in this area identified two key questions in the area of onshore competition in transmission. One was to consider both the early and late model and ESOs role within these, and the second to explore whether an existing, independent, neutral organization would be better placed to take this role. They then set out two proposal options; one would support Ofgem in the development of

the Competitively Appointed Transmission Owner (“CATO”) regime; the alternative would be for the ESO to support Ofgem with running tenders once the regime is introduced. The ESO had received limited stakeholder feedback on each of these at this stage. The company indicated their preference for an early model, as they were concerned over the reputational impact of developing projects to be delivered by others which would be a product of the late model.

The ERSG advised the ESO that it would be difficult to reach stakeholders relevant to this theme through generic consultations, and that it would most likely need to approach interested parties directly. A good starting point would be to look at who responded to Ofgem’s consultation on CATOs. It was emphasized that the ESO must do more to reach these stakeholders. The group were somewhat divided on whether they felt that Ofgem would be better placed to run these tenders, or whether the ESO would be a good natural fit for these processes to be placed. ERSG felt that the company had set out the options at a high level, but further development of the models was needed, laying out the pros and cons of each.

The ESO collected further feedback in this area which highlighted that stakeholders wanted an expanded Network Options Assessment (“NOA”) process which seeks both network and non-network solutions. They also want increased consistency with distribution needs, modernized standards in the SQSS and greater clarity on the ESO role in the CATO regime.

In response to the above feedback the ESO confirmed that they were working on new NOA proposals and proposing additional needs where they believe consumer value could be released. They also confirmed that they were considering a targeted review of the SQSS, and working on providing more information on the CATO proposals. The ESO also shared some indicative cost and benefit figures.

The ERSG was broadly in support of the proposals including the expansion of the NOA, noting that there was still further detail that needed to be provided, such as a methodology of how build and non-build solutions could be assessed and compared. Without an agreed methodology, there could be potential impacts on commercial business cases and investment plans of regulated entities such as DNO’s and TOs.

### *Meeting 6*

The ERSG scrutinised this theme further during meeting 6 based on an updated version of the Business Plan, and challenged that the targets and deliverables remained vague. ERSG challenged whether the title was truly reflective of the content of the chapter, and whether there is really more focus on better planning than opening up competition. The group reiterated that there was still a need for further information on the CATO proposal, and how conflicts of interest would be managed. It was felt that more could be done by the ESO to collaborate with stakeholders to clarify areas of responsibility between the ESO and TOs, and also to provide a coordinated approach for planning the offshore grid, which was not mentioned at all in the plan. There was also a lack of clarity in responsibility in where the boundaries of responsibility lay for meeting delivering and NETS SQSS complaint network between the ESO and TO. The fact that the ESO are obliged under their licence to be technology agnostic, limits their ambition. With this in mind, how can a system with carbon embedded into it be avoided? The ESO were judged to have responded appropriately to previous challenges around the NOA, and the group were in favour of these proposals as it was clear that by assessing non-network solutions alongside network solution was likely to result in the delivery of greater consumer value. However, ERSG requested that the ESO provide further detail on costs and costs justification in the subsequent meeting.

## *Meeting 7*

In response to this feedback, the ESO made several updates to theme 3 in the next version of the Business Plan. Clarification was provided on how a review of the SQSS would work between the ESO and TOs, such that the ESO will lead the review but agree scope with TOs. Further narrative was provided around CATO proposals, and that detail will be included in an Early Competition Plan Ofgem has asked the ESO to provide. The ESO have also further reiterated their independent position in the CATO process in order to mitigate concerns around conflict of interest. Details on the approach for planning the offshore grid have now been included into the plan. Finally, the company have provided greater detail on cost justifications and how the associated benefits will be achieved.

## *Final Feedback*

Some members felt that the feedback around theme 3 and its title had not been adequately considered by the ESO. It was also felt that the CATO section remained weak, and felt as though there was less commitment from the ESO in this area compared to other proposals in the Business Plan. The importance of the ESO showing a commitment to delivering competition was emphasised. The group felt that the ESO had still not fully responded to previous challenges on the SQSS, specifically, as an independent system operator from the Transmission Owner, who is now responsible for ensuring security across the entirety of the system. On the whole, it was felt that further collaboration with other parties could have been demonstrated in these areas. Although the proposals were supported by the ERSG, it was stressed that more could have been done to strengthen the engagement on this section.

## **Theme 4: Driving towards a sustainable, whole energy future.**

### *Initial Feedback*

A paper summarizing theme 4 was circulated amongst ERSG members in advance of meeting 4. The paper set out the ESOs ambition to drive a whole energy system through:

- Working with stakeholders to optimize planning, development, investment and operation of GB energy networks
- Reducing friction for participants in their interactions anywhere on the electricity network thereby accelerating the efficiency and effectiveness of the energy transformation

The ESO proposed 3 activities in order to deliver this ambition:

1. Deeper outage coordination across the Transmission/ Distribution interface
2. Whole system outage notifications
3. Facilitating short term access to network assets that delivers consumer value

Stakeholders have primarily been engaged with Whole System thinking via the “Future Worlds” Open Networks project, through which the ENA have led a consultation on possible future models of system operation at both transmission and distribution level. These principles had also been discussed at previous RIIO-2 workshops. The ESO set out their engagement plan for their Whole system thinking over the following months, which included bilateral meetings, industry association committees and meetings and further RIIO-2 stakeholder workshops.

Engagement so far had demonstrated to the ESO that customers are uncertain about the requirements and benefits for connecting to transmission rather than connecting to distribution networks. Therefore, the ESO are proposing to have a standard process in place for making an application. A decision could then be made on a whole system basis on where is best to connect. The ERSG asked about the level of coordination with DNOs on these plans, and whether they were also willing to adopt the “central hub approach”. The ESO confirmed that they had begun engaging with DNOs and that so far there is willingness to engage with further to understand the challenge. Further questions from the group were around the scope of the proposal. More detail was requested on the order of magnitude of costs, and how much value the ESO were expecting to generate from this work. On the proposals relating to system access planning the group asked whether the costs and benefits were assessed across the whole system rather than just transmission. The ESO confirmed that they were looking to minimize costs from a whole system perspective. There was general support from the ERSG on this proposal although this was highlighted by some members as an area where the ESO could be overstepping the boundary of their responsibilities without effective engagement with DNOs

#### *Meeting 5*

At the following meeting the ESO responded with updated proposals. In response to challenges around how they would work with DNOs, they confirmed that it would be proposing a number of ways to develop consistent ways of working with them. The ESO took some proposals further such as proposing a connections portal as a one stop shop for connections, and a national roll out of arrangements to reduce short notice change in outages. It also provided an updated set of costs and benefits for these proposals.

The ESO felt that there was significant value to be unlocked in this section from working more closely with TOs and DNOs, particularly around the connections portal. ERSG requested further clarity between business as usual activities and transformational activities in this area. Concern was raised that TOs were putting similar proposals into their own Business Plans, and care should be taken to ensure that proposals are consistent, and that regulators incentivise this activity as a whole. It was noted that Ofgem would need to ensure that there was a coherent set of proposals across the industry as a whole and any duplication of proposals between the ESO, TOs and DNOs would need to be ironed out in the final settlements. The ESO were challenged that collaboration should be demonstrated as a key theme for this section. There was discomfort about the quantum of the costs for these proposals, and that the risk of double counting cost and benefit between TO, DNO and ESO Business Plans exists. The group felt that costs needed to be revisited in this section, and further justification for these costs was required.

#### *Meeting 6*

During meeting 6 the ERSG had opportunity to scrutinize the updated theme 4 proposals in further detail. It was highlighted by members as a section which should be given priority given the importance of setting direction for the future of energy (leading the debate) and improving relationships with TOs and DNOs.

It was felt that the stakeholder feedback had been well evidenced in this section, and it was clear where it had been acted on. However, with regard to the ESO’s role in leading the debate, the group felt there was still a lack of clarity on what the ESO saw this role to be. Whilst it will ultimately be up to the government to set direction for the industry the ESO should still focus on providing well informed

recommendations in this area. The ERSG raised a concern that there is a lack of direction from government and Ofgem and that this lack of clarity may have implications for the industry more widely. In particular, this could result in wasted costs within the various industry participants and thereby result in high costs for consumers than if there was greater policy clarity. Therefore, the Business Plan should clearly highlight where more direction or clarification is required in order to achieve targets and where without a clear policy statement the ESO, and other industry participants, should pause development work in order to protect against wasted costs.

The whole system approach had been described well, but it had not been well justified. There was a recognition from the ESO that further collaboration is required but the proposed activities seem to plan to give increased responsibility to the ESO and less to the DNO. It was acknowledged that a tension between the ESO and TO remained in this area. The ERSG were unclear on whose responsibility it should be to incentivise TO behavior in terms of outages, and it is also debatable who the value of reducing outage costs should be reported against. The ERSG also requested improvements to the structure and language used in the section in order to improve clarity. Further improvements were also required from the ESO on the detail surrounding costs.

#### *Meeting 7*

The ESO responded to this feedback and presented updates during meeting 7. It provided further detail on what it sees as its role in leading the debate. The ERSG were satisfied with the changes to the Business Plan in this respect. The ESO also set out what its resource and funding expectations of TOs and DNOs are, to allow a more coordinated delivery of relevant proposals. The ESO expanded sections on how it would coordinate its role with TOs and DNOs in respect of delivering whole electricity outcomes and in network access planning.

In response to feedback around the structure and language used in this section, the ESO applied a revised structure to improve clarity and consistency with other sections, which now set out ongoing activities before detailing the transformational proposals and their benefits. The concept of whole energy system has also been clarified and whole electricity system has been introduced as a separate term. Finally, the ESO have further elaborated on costs in the section, and have included a timeline chart which sets out key deliverables.

#### *Final Feedback*

The ERSG agreed that this section had been greatly improved by the updates made to the Business Plan, the importance of the ESOs role in leading in the debate had been well articulated and reflective of stakeholder feedback. However, concern remains that this section still lacks evidence to show the ESO will collaborate fully with TOs and DNOs/ DSOs, and that in some ways the ESO were proposing to take over responsibilities that currently belong to other entities. The ERSG would like to see the ESO acting as more of an enabler and less of a controller. More collaborative language could be used in this section to demonstrate the ESOs commitment to this.

### **Technology underpinning our ambition**

#### *Initial Feedback*



The IT strategy for achieving the Business Plan ambitions was first set out in a paper and discussed at ERSG meeting 4. Stakeholders had expressed the desire to understand the holistic approach to IT for RIIO-2 and the associated costs. The ESO recognized the need to build confidence in this area, and that transparency of proposed investment in IT is key to this. In the paper, it set out its intention to engage through a range of events, including the Electricity Operational Forum, IS Change forum, RIIO stakeholder workshops and bilateral meetings.

The ERSG expressed concern that throughout all the themes IT and development of new systems is a key dependency, yet this paper lacked detail of the dependencies and implications. This is one of the most fundamental areas that the ESO needs to be clear about, as they will become a company heavily dependent on IT. Yet, there was no clear over-arching strategy setting out how this will be done. Further detail was required here, including information on how the culture of the organization must change in order to deliver such large-scale IT transformations.

The ESO engaged bilaterally with several members of the ERSG to explore concerns in more detail which appeared them to think further about the nature and scale of the challenges. In the July version of the Business Plan, the ESO provided more detail about technology, and also showed:

- A combined technology and IT ambition
- A refined investment portfolio and benchmarking
- Target IT architecture and capabilities
- Cyber security strategy
- How they are transforming the way that they work and deliver change
- Their approach to stakeholder engagement, including details of a proposed cross-industry Design Authority

### *Meeting 6*

At meeting 6 the IT strategy section was scrutinized in detail. Group members agreed that the ESO had responded to the challenges posed at previous meetings, and that there was a more appropriate recognition of how vital IT will be to the success of their overall plans. The information on required capabilities and resourcing is clearer than previously.

However, it was still unclear to the group whether ESO fully understood the scale of the role that they are proposing to take on. This section of the plan continued to be weak on governance, and how the ESO will use the NG group Shared Services to deliver their IT projects. It is implied that ownership is with the ESO, but within the leadership structure this was not clear to the group. ERSG feel that the group IT officer needs to sit within the ESO rather than in Shared Services, as a dedicated part of the ESO leadership team. The group would like to see more detailed organization charts and further information on the strategy.

There was also a better level of focus on the modular approach to system development, which gave the ERSG confidence in the company's ability to procure externally and build internally. The ERSG challenged the detail of the recruitment strategy, and what the plans are for in house versus external recruitment. It is important to have people in house who can understand and design what is required for the

company. More information was required on how this transition to bring expertise in house will be managed.

The proposals around the Design Authority also needed to be better explained to stakeholders, to clarify how it will be resourced (including for participants), and how suitably qualified and skilled staff will be attracted from the wider industry.

### *Meeting 7*

The ESO responded to these challenges in the next version of the Business Plan. It added further detail of how they intend to retain intellectual property by establishing internal roles with key knowledge and expertise in the People, Culture and Capability chapter. It had now written proposed terms of reference for the Design Authority, which have been summarized in the Business Plan. Finally, investment cases for each investment that the ESO are proposing to make. These included further detail on why each investment is needed, stage of development reached, costs, timelines and procurement strategy.

The ERSG had not yet seen individual investment cases at this stage, and the group agreed that these would be a valuable addition to the plan, as and they need to provide clarity on costs of the projects due to the high risks associated with these. Interdependencies between projects also need to be made clear, which could be provided with a critical path of the projects. The ESO proposed to hold a webinar which focused on these investments in more detail, for interested members of the ERSG.

### *Final Feedback*

Overall, the ERSG were in favour of the proposals for IT investment that were put forward by the ESO, and that stakeholder feedback has been addressed to a high quality. They were specifically interested in further detail on the Digital Twin, which the ESO covered during the proposed webinar.

## **Innovation at all levels of our business**

### *Initial feedback*

The innovation strategy initially set out by the ESO focused on building on the success delivered in the current price control, learning from mistakes and ensuring that innovation projects are prioritized according to efficiency and benefits. How this is achieved will to an extent depend on the innovation stimulus which is included as part of the RIIO-2 arrangements. The ESO included their 2019-2020 innovation priorities, which aligned with the 2030 ambition. It also shared details of a process developed to progress ideas into full innovation projects.

Stakeholder engagement on the innovation strategy up to this point has been conducted to seek feedback on the approach, priorities, and how the ESO should work with industry parties to solve issues. The following channels were used in order to gather this feedback:

- Webinars
- Electricity network association Groups
- Bilateral conversations
- Innovation days
- Low Carbon Network Innovation conferences
- Network Innovation competition (NIC)

Upon presentation of this strategy, the ERSG felt that it was dependent on the future regulated approach to innovation, and therefore was at risk of being constrained. The strategy was also more focused on the funding mechanisms for innovation, rather than the innovation itself. The ERSG did not feel that the strategy portrayed a company driven by innovation, and requested further detail on the strategy itself.

The innovation strategy was unanimously thought to be an important area of the Business Plan, as the ESO need to demonstrate that they are innovative and creating value. The ERSG questioned the ESO on how it would ensure that “disruptive innovation” is allowed to happen. The ESO would need to have a culture that is open to change, and collaborate with external stakeholders such as academics and other industry participants. The ESO confirmed that they are building the future ESO in order to allow for this dynamic. The ERSG asked that ESO return with further information on the strategy as well as examples of innovation projects currently underway or planned.

#### *Meeting 5*

At meeting 5 the innovation team returned to ERSG to present further information on the innovation strategy, which covered the development of the ESO innovation strategy and prioritization of issues. Examples of recent innovation projects were also discussed.

The group felt that innovation had been presented in the Business Plan as a standalone element, where it needs to be shown that it is integrated into the culture of the business. The ESO confirmed that the ESO team do not run the projects and that this is built into core teams. The ERSG requested further information on the innovation and the nature and extent of projects which were intended to be undertaken in the RIIO-2 period.

#### *Meeting 6*

Upon closer scrutiny of the updated innovation chapter in meeting 6, the group felt that there was a lack of focus within the chapter. It was suggested that it would be more effective to focus on a smaller number of projects at a time to ensure timely delivery and to have greater specificity on costs. At this point, it was unclear to the ERSG what stakeholder feedback had been taken into account or how it had been reflected in the plan. The ERSG challenged the ESO to clarify this for the next version of the Business Plan.

Evidence of innovation was identified in the Business Plan, and explained in other chapters. In these chapters, presentation of timelines and delivery plans was presented in a way that was not as evident in the innovation chapter itself. ERSG suggested that the innovation chapter should reference other innovation pieces elsewhere in the document.

#### *Meeting 7*

The ESO provided an updated innovation chapter in advance of meeting 7. This provided more detail on the proposed team structure and the reason behind the central team model with embedded innovation leads. They also added more specific stakeholder views to this section along with how these views had been addressed. A large number of stakeholders have shown interest in getting involved in ESO innovation, with over 140 ideas submitted ahead of the first ever event. From this feedback, the ESO propose to hold more frequent events throughout the year, increasing the opportunity available for

collaboration. The ESO also received feedback about their lack of visibility, and the complexity of the many publications and activities which are ongoing. Although there has been effort to address this, stakeholders would still like to see further improvements in communication and engagement on innovation activities. The ESO propose to have resource focused on external communications, and continue this into RIIO-2.

Stakeholders have also said that they want the ESO to continually improve in ongoing activities as well as focus on larger more disruptive initiatives. From this, the ESO has sought to provide for ongoing innovation in the Business Plan. As a result of the central role in the electricity system, stakeholders believe that the ESO should be taking a greater lead in collaboration across the industry, using its significant convening power, as well as progressing innovation projects that solve industry problems and which it is itself championing. In particular, the ESO will need to work much more closely with other industry participants to ensure that the industry as a whole is coordinating this activity. ESO innovation will need to be supported by Ofgem and the industry as a whole to develop joint initiatives. This feedback has been addressed by committing to ensure that innovation priorities continue to reflect whole system challenges, which the ESO is ideally placed to tackle.

#### *Final Feedback*

Even though previous feedback had been acted on by the company, the ERSG felt that the innovation chapter still remains weak. The section is still lacking explanation as to how the ESO will consult with the industry and engage with academia. Particularly for plans with longer lead times, the ESO will need to collaborate and further information needs to be given on how they will be consulted.

## Chapter 3 – Assessment of Business Plan

### Strategy and vision – is it clear, thorough and relevant?

The ERSG are supportive of the ESO’s vision and find it to be clear, thorough and well justified. The group have challenged the ESO on their strategy throughout the process, in particular with respect to the granularity of the objectives and the estimated costs and benefits of the Business Plan. The company have risen to this challenge and provided an ambitious vision and strategy notwithstanding that the ESO is currently working in an uncertain environment with a range of potential new challenges as the government refocuses on the new net zero carbon targets. As a result of this iterative approach between the ERSG and the ESO, and the ESOs collaboration with stakeholders, there has been a significant improvement in the quality of the strategy and vision since the first draft. Throughout the ESO has sought the input of the ERSG by asking them to discuss, challenge and provide recommendations early in the Business Plan development process. The ESO conducted a workshop with ERSG where they tested the key enablers underlying seven principles which represent the ESO’s role:

Principle	Enablers
Principle 1: <i>Support market participants to make informed decisions by providing user friendly comprehensive and accurate information</i>	<p><i>A1 - A market place for energy data that enables innovation and unlocks value for consumers</i></p> <p><i>A2 - Operational system analysis and insights that are shared across industry to support efficient markets</i></p> <p><i>A3 - A national register for energy assets that reduces complexity and lowers barriers to entry for all markets</i></p> <p><i>A4 - A whole-energy industry strategy and pathway for innovation</i></p>
Principle 2: <i>Drive overall efficiency and transparency in balancing services, taking into account impacts of ESO actions across time horizons</i>	<p><i>B1 - Optimal allocation of balancing and operability actions on the system</i></p> <p><i>B2 - Reimagining tools for the 21st Century Electricity Control Room for a low carbon, decentralised and digital world</i></p> <p><i>B3 - Transparency in balancing and operability processes and decisions</i></p>

Principle	Enablers
Principle 3: Ensure the rules and processes for procuring balancing services maximises competition where possible and are simple, fair and transparent. Principle 4: Promote competition in the wholesale and capacity markets.	<i>C1 - short-term, liquid balancing services markets which deliver investor confidence and work with the wider set of markets.</i> <i>C2 - An agile governance model which serves large numbers of market participants, and supports a fast pace of change whilst maintaining investor confidence</i> <i>C3 - An infrastructure that supports parties to make efficient decisions across a range of markets.</i>
Principle 5: Coordinate across system boundaries to deliver efficient network planning and development Principle 6: Coordinate effectively to ensure efficient whole system operation and optimal use of resource Principle 7: Facilitate timely, efficient and competitive network investments	<i>D1 - Aligned commercial, technical and regulatory arrangements across transmission and distribution</i> <i>D2 - Provision of information and tools to enable efficient whole system decisions across operational and investment timescales</i> <i>D3 - Driving competition so that all parties can offer solutions and participate.</i>

The ERSG provided challenge to the ESO on the principles and enablers, and encouraged the ESO to continue to develop these as the role of the ESO becomes more defined. In particular, the ERSG felt that the ESO’s role in articulating, informing and implementing policy outcomes should be more prominent in the principles. As discussion continued, it was unclear to the ERSG what kind of organisation the ESO were trying to be. For example, was their aim to be an organisation which procured services or a software company? Or was it a mixture of the two. ERSG also considered that there was further work to do in defining the resourcing strategy so that it was evident how the ESO proposed to deliver IT developments, and whether this would be predominantly through outsourcing and use of contractors, or whether the aim was to build up internal capability and complete more of the work in-house. Given the importance of IT systems to the ESO’s future operation of the system and driving down of consumer cost for the electricity system, the ESO needed to be more ambitious about what it could achieve and how it could give effect to both innovation and costs in the system.

When the first draft of the Business Plan was discussed, ERSG felt that the document was not the kind of business plan which could be used to run the business as it lacked specificity and detail as to how, when and how much it would cost to implement the proposals. The ERSG was concerned that the initial draft of the Business read much more like a regulatory submission. More detail was required on how proposals would be achieved, as well as more frankness about the risks and challenges which must be addressed by the ESO. A recurring piece of feedback to the ESO was that it needed to be much clearer on how it saw its role as System Operator in order to provide a greater sense of direction for the industry, particularly with regard to informing government policy. Furthermore, the target landscape was not clear in the

IT strategy section of the document. It wasn't clear where capabilities and governance lie between the ESO and the National Grid Group. The language and style of the Business Plan also needed to be more collaborative as industry collaboration will be crucial to achieving the value and benefits outlined within the document.

The ERSG has been impressed by the way in which the ESO has taken challenges from the group on board throughout the process, and as a result the ERSG support the strategy and ambition which now underpin the Business Plan. The vision and strategy are now clearly and robustly articulated, and in line with the interests of the industry. The quality of the document as a Business Plan has much improved and high level risks are now set out clearly throughout. A key priority of the group was that the ESO challenge itself in its role as a trusted advisor to energy policy, and in contributing to the direction of the industry. The ESO have risen to this challenge and have formulated their aspiration in this regard appropriately.

### Ambition

The ERSG provided some robust challenge to the ESO on the proposals and the level of ambition that they represented. Initial proposals were somewhat timid, particularly with respect to climate change initiative, future planning for the network and driving competition. On the whole, the ESO has risen to those challenges and the end result is an appropriately ambitious plan which will move the ESO in the direction that the consumer desires and the industry requires, in order to achieve net zero carbon operation.

The ESO first shared their ambition with the ERSG in January 2019 ahead of publishing their ambition document the following April. The ambition was presented as a set of statements which will guide the activities to be proposed in the Business Plan. These statements were grouped under four themes:

- The energy transition
- Data
- Networks
- Markets

The ERSG felt that whilst this presented a good framework to begin with, much more detail and aspiration was required. One aspect which the group highlighted as a priority, and felt needed to be central to the ambition, was that the ESO should take more of a leadership role in the industry and society more widely. This is particularly true with regard to the energy transition and the changes that will be required in terms of services and consumer choices and actions in order to deliver the UK's climate targets. Given its unique expertise and understanding of the energy sector as a whole, the ESO is uniquely well placed to play a powerful role in the future and would need to be more ambitious in this respect. The statements also needed to be more measurable, and clearer on what the ESO wanted to achieve. It was noted that the tone of voice used in the ambition should be collaborative with other industry participants and reflect societal goals, whilst also being specific and ambitious.

The ERSG felt that further changes made by the ESO in reaction to this challenge captured the level of ambition which the ESO had been urged towards, but there were still improvements to be made on the detail around the ESO- DNO relationship and responsibilities. The ERSG also felt that consumer engagement should play more of a role in the ambition.

Once the appropriate level of ambition had been achieved by the ESO in these statements, the ERSG challenged them on their ability to achieve them. For example, whether transforming markets and the progress that this would require could realistically be delivered within two years. The ESO were encouraged to provide more confidence on the deliverability of these ambitious targets. This would require them to articulate the challenges it would face (e.g. skills availability and existing organizational weaknesses) and acknowledge that a high level of collaboration is required with the rest of the industry.

Overall, the ESO were able to achieve an appropriate and necessary level of ambition in their Business Plan. The ERSG felt that the ambition is clear on what will be achieved by 2025, and the group support this. Given the importance of having a carbon free power system to support economy-wide decarbonization, the ERSG particularly support the ambition that the ESO will be able to operate a carbon free system by 2025 and are pleased to see that this is a key theme throughout the Business Plan.

#### Activities and deliverables

There has been good progress in developing the activities and deliverables in the Business Plan since the first draft. Information on proposals and associated costs and counterfactuals is now much clearer. The group are supportive of the activities and deliverables outlined in the Business Plan, which are now well justified and appropriate in order to achieve the ambitions. Proposals in each theme have been scrutinized by the ERSG in detail and as a result the nature and quality of the content has continued to improve.

The ESO set out a collaborative approach to ensure that stakeholders were involved throughout the Business Plan development. Early meetings were used to present proposal options under each theme to the ERSG, which had also been tested with stakeholders. The themes and proposals have evolved over time, but below is a summary of discussions around activities and deliverables under each theme (as they can be found in the Business Plan now), as well as the ERSG's position on these proposals.

#### Theme 1: Ensuring reliable and secure system operation to deliver electricity when consumers need it

The concepts of the Digital Twin and sandboxes were introduced as a means to test and inform the development of new balancing and control capabilities. More details were required in order to fully understand how the Digital Twin would work, but there was general support for ensuring the system continued to operate safely and securely whilst new capability was delivered. It was acknowledged by the ERSG that this approach is regarded as best practice for



complex IT projects particularly in scenarios where the underlying system is delivering critical services.

Further proposals under this theme include an industry-wide Design Authority. This body would facilitate a more collaborative approach for the development of new systems, bringing together wider industry participants to ensure that the delivery of the new systems take into account its wider uses and the interplay with other parts of the electricity system. The ERSG agreed that this would be beneficial to allow stakeholders to be kept fully informed and have input into the development of ESO's systems. However, the ESRG were also keen to ensure that a wide range of stakeholders would be adequately supported to participate to avoid capture by existing market participants. This would enable innovators with more disruptive models to be involved in the system design so that real value for money savings can be made in the overall delivery of the new system.

By the final ERSG meeting, the group felt that the content of theme 1 had much improved. Efficiencies were better explained and a clear breakdown of year on year delivery had been included. The group are in support of the proposals within theme 1.

#### **Theme 2: Transforming participation in smart and sustainable markets**

Participants in the ERSG agreed unanimously that simplification of codes and improvement of the administration processes is needed to allow the industry to progress. However, it was noted by the group that ESO's proposals would have dependencies on external factors such as Ofgem's ongoing code review and the wider view of the industry on how markets should evolve. On both the industry codes and the capacity market proposals, the group asked for further demonstration that the ESO understands how to create markets, and ensure that participants turn up to these markets.

Overall, ERSG is supportive of the action needed on the codes and capacity market arrangements, although with the caveat that the ESO cannot act either in isolation of or without wider consensus building at industry level on the exact scope and extent of the ESO's role in this.

#### **Theme 3: Unlocking consumer value through competition**

The group noted that proposals within this theme had interdependencies on other network parties such as TOs and DNOs, and the intended relationship with these parties needed to be articulated in the plan by the ESO and other parties to ensure successful delivery. There was widespread support given to the proposals to expand the Network Options Assessment (NOA) process, as this is seen as having the best potential to reduce the costs of the system overall for consumers. It is further acknowledged that there is the need for greater emphasis and clarity on how the ESO will assess and adjudicate between network and non-network solutions. The ESO were asked to clarify the targets and deliverables related to the NOA expansion.

Plans for the ESO to pursue competition in onshore transmission will also be important in driving down the costs of the system. ERSG is supportive of the ESO taking a much wider role in

the development of the proposals now that it is newly independent, although its proposals on the CATO model has now been stripped out and no longer form part of the ESO Business Plan.

The ERSG feel that the activities and deliverables of theme 3 are important and worthwhile, and will steer the industry in the right direction. The ESO's role in the development of the CATO plans is no longer in scope of the Business Plan, nevertheless ESO proactivity in this area is strongly encouraged by the ERSG.

#### Driving towards a sustainable, whole energy future

More clarity was required on the scope of this theme, and whether the ESO were proposing a unified process across the industry or just a single point of contact. The ERSG also wanted to better understand the distinction between business as usual and transformational activities. Again, the ERSG noted that there is a potential overlap between the ESO and TO proposals on sustainability and it was hoped that there would be good collaboration going forward with the TOs to ensure that the various plans fit together appropriately.

ERSG challenged the ESO to provide more detail on the proposals within this theme. They asked for further information on the scope of plans to improve system access planning and transforming the connection process. The group feel strongly that the ESO have a central role to play in the energy transition, and that they must act as a trusted advisor to government and the regulator on what needs to be done to get there, rather than just presenting a range of scenarios as the ESO is currently doing. The new ambition set out in the Business Plan now picks up an enhanced role as a strategic advisor and by the final ERSG meeting, the group were happy to endorse the activities and deliverables articulated by the ESO in theme 4.

#### Technology underpinning our ambition

There was concern from the ERSG on the content of this theme. IT development is a key theme which underpins the majority of proposals throughout the Business Plan, but there was a lack of detail on these changes and the strategy for how they will be achieved. The ERSG have thus provided an extensive challenge on the IT strategy proposals, particularly on how the ESO will create a culture that can deliver such vast change, and how the required growth in resources and new types of expertise will be defined, recruited and applied in short timescales.

Of particular concern, was the fact that the majority of the resources for the IT platform and the development of the changes in the system were located in the wider National Grid group. The ERSG had four significant concerns with this approach:

1. That this approach would mean that senior management within the ESO's organisation did not have full oversight or management control of the team who would be developing the system;
2. The costs of the new IT systems would fall within the ESO's regulatory settlement which was structured more on a pass-through costs basis which could have an impact on costs as there may be a perverse incentive on the wider

- National Grid company which is subject to a more fixed cost settlement to load costs into the ESO's control;
3. The majority of the costs associated with the ESO's regulatory settlement come from the implementation of new IT systems. The ERSG were concerned that delivery of key IT projects have a long history of overspend and poor cost control, and if the majority of resources were outside of the management of the ESO then there was a significant risk of overspend on such projects.
  4. The ESO is now a very different business than when it was located in the wider National Grid group. It is far less an engineering company and much more a IT/technological company. Therefore IT/tech expertise needs to form a fundamental part of its business. Having those key resources located outside of the company, rather than within it and therefore guiding the full operation of the ESO, presented a real risk to the future growth of the company.

The ESO made multiple presentations on this point and the ERSG were encouraged by the changes, particularly relating to the proposed modular build approach which gives more confidence that the company will be able to procure externally and build internally. However, the ERSG is still concerned with the shared services approach to this element of the Business Plan. The group would encourage the ESO to have a wider conversation with the National Grid group in order to consider whether the approach of IT services being outside the company on such a key aspect of their business is the right model. The ERSG understands that business as usual IT systems such as email, invoicing systems, word processing, data management etc would have synergies across the whole group and can and should be managed at a group level. However, on key energy systems and security of the wider electricity system and how it develops should be located within and controlled by the ESO.

#### Innovation at all levels of our business

The approach to innovation as set out in the proposals was felt to be a typical "regulated approach" to innovation, and hence too constrained. Detail given during the early stages of the Business Plan focused on the funding mechanisms rather than the strategy and the projects which the ESO wished to procure to drive innovation through its business for the future. The ERSG challenged the ESO to improve this and provide detail and costings for the projects that they wished to pursue.

Whilst there was a good inclusion of innovation ideas throughout the Business Plan, the innovation chapter itself did not entirely capture this or link with other sections of the document. The ERSG provided feedback that there should be further demonstration of how innovation will be embedded into the culture of the business, rather than just a focus on bigger projects.

The ERSG acknowledge that the ESO have reacted to feedback and the content of this section has improved. However, further improvements could be made. More information is required on the consultation and engagement with academia which is an important part of innovation.

Market collaboration should also play a more prominent part in how the company are innovating.

### People, Culture and Capability

As the ESO's proposals increased in ambition, the ERSG recognised the huge amount of change that would need to be delivered by the organisation in order to be successful. The ERSG questioned whether the ESO has the capabilities and understanding to achieve these ambitions and asked that it provide detail on how the culture and capability of the organisation would be transformed to meet these challenges. There were concerns around the ESO's ability to deliver the scale of complex IT projects that would be required. The company will need to increase resource and expertise in both engineering and technology. The ERSG asked for a breakdown of the resourcing strategy. In particular, how much would be in house as opposed to outsourcing, and how the ESO would step up recruitment efforts in order to fill the positions that were indicated in its plan would be required to deliver it. In particular, it was noted that the ESO had recently undergone a period of downsizing the organization and the ERSG wanted to understand how the new recruitment plans fitted with that previous programme of reducing headcount, particularly given the short space of time in which it was intended to ramp up the size of the team relative to the regulatory period concerned.

The ERSG noted that given the significant transformation set out in the Business Plan, the ESO would need to recruit new types of expertise (particularly data experts with knowledge of power systems in engineering). In order to attract expertise, it would be necessary to partner with universities and organisations such as the Electricity Network Association (ENA). An effective campaign would be needed so that the ESO (and the future electricity system) is seen as an appealing place to work. There will be competition for the same skills from other network companies and other sectors, given the transformation the energy system is currently undergoing.

More information was required on how the ESO would be able to deliver what is proposed, and what it would need to change internally in order to deliver it. At the time, there was no demonstration of the organisational culture change that will be required and the ERSG was concerned that there appeared to be both a lack of understanding of the current condition (and therefore what changes were needed) and a lack of acknowledgement of the current transition that the company was undertaking through legal separation.

The ESO made changes in response to this feedback and as a result the people and capability requirements were much better explained. There is now a better demonstration of the skills and expertise that will be required, although the proportion of permanent staff as opposed to contractors still remained unclear. The ESO has since explained that targets to achieve 95%

permanent staff for IT development were in place, although it is thought that this will be a challenge for the company. However, it is encouraging to see that the ESO are working to build their own capability internally.

The People, Culture and Capability chapter now demonstrates the company's better understanding of current culture versus where it needs to get to, although more detail could still be added on Change Management aspects. The ERSG support the content and proposals in this chapter.

### Industry Priorities

Through engagement with stakeholders and consumers, the ESO have defined a set of consumer and stakeholder priorities which are used to guide proposals and assess how the activities will deliver value:



Figure 5: Consumer and stakeholder priorities – taken from ESO Business Plan

The ERSG provided challenge on these, including; (a) that the consumer priorities should more accurately reflect societal goals and; (b) that a priority should be added which highlights the

need to be flexible, adaptable and drive innovation. It was agreed that they were an appropriate set of priorities to inform the Business Plan.

Of the proposals set out in the Business Plan, it was difficult for the ERSG to determine which were of the highest priority for the industry. This is because the proposals must work together as a complete plan to deliver changes necessary to achieve the ambitions, most notably the ability to operate a zero-carbon network by 2025. The ERSG felt that the commitments in theme 4, relating to the ESO taking a more prominent role in setting the direction for the future of energy and improving relationships with TOs and DOs were of paramount importance. Plans for the transformation of participants in markets under theme 2 are also felt to be key in unlocking benefits elsewhere in the industry.

Some aspects which underpin the proposals in the Business Plan were also highlighted as crucial to delivering value for the industry. Innovation will be crucial to the success of the ESO's proposals. Many of the projects will be the first of their kind, and as such will be high risk. The ESO must ensure that innovation is fostered and encouraged at all levels so that the proposed developments can be achieved. The technology strategy is also crucial, as benefits will not be realised if the IT projects are not successfully delivered. Finally, it is of utmost importance that the ESO take a collaborative approach to achieving these plans, and work closely with TOs and DNOs to clarify roles and responsibilities and agree and simplify industry wide processes.

The Business Plan highlights most of these priorities appropriately, although it is felt that more needs to be done by the ESO and other network companies to ensure that relationships are improved and a collaborative approach is taken on these initiatives.

## Cost

The ERSG frequently expressed their view that, if the ESO have the ability to achieve their business plan, the potential savings to the whole electricity system costs for consumers should dwarf the implementation costs incurred by the ESO. The ESO occupies such a central role within the electricity market and its actions have the potential to drive down costs across the industry, whether through the introduction of competition, the creation of new markets, better coordination of the system or by driving the best value for money options through assessing non-network options alongside network alternatives. In this central role, the ESO can influence the level of costs across the industry and not just on their own internal costs.

Whilst there is never any justification for allowing any poorly justified costs in its proposals, there remains a risk that putting too much downwards pressure on ESO expenditure or making the ESO overly concerned around cost recovery could stifle innovation and ambition in the ESO, and therefore drive costs up in other parts of the electricity system. This is particularly relevant given the level of uncertainty and risk involved with developments and activities which are needed, many of which are pioneering and have not been attempted before.

Costs were first presented to the ERSG as part of the first version of the Business Plan. Preliminary estimates from the company showed that ESO costs would move to approximately £300 million per year. ERSG advised that the increased costs proposed will require a lot of justification along with an explanation of where efficiencies and savings were being made from the delivery of existing activities. It was not clear within the initial proposals where the cost increases were coming from. In later sessions costs against each theme were presented, and the ERSG required the ESO to present expected benefits alongside these costs, as well as for the cost-benefit cases to be strengthened and made much more granular.

The ESO responded to this challenge and brought a more detailed breakdown of costs against each theme, including Capex and Opex costs, benefits, and a Net Present Value (NPV) figure. Some narrative was also provided on how the benefit value would be generated. The ERSG felt that it was still difficult to see what the overall generated value would be from the proposals and asked for a summary table to bring it all together. Initial benefits estimations were also felt to be too subjective, and more information was required by the group on how the figures were arrived at.

Early in the process, theme 1 was highlighted as an example where improvements were needed on the cost and benefit justifications. Benefits should also be compared with alternative options, to put them into context. ERSG were unsure if the figures originally presented in theme 1 of £100 million cost versus £230 million benefit were an appropriate return or not.

More generally, further specificity and justification was required on the “*business as usual*” costs. The benchmarking that had been included by the company was thought to be useful, but overall the plan did not seem credible because the costs were not granular enough.

In response to this feedback, the ESO added further detail to the Cost-Benefit Analysis annex. This included clearer methodologies which explained how numbers were arrived at for costs and benefits, and a further breakdown of the figures in each theme and where they had come from. By the final ERSG meeting the ESO had removed £53million of expenditure from the Business Plan by looking at where platforms could be merged and leveraged across more than one investment. The updated plan also now has a smoother cost profile and a more gradual ramp up of investment costs due to further work being done on deliverability. The updates presented a more credible and achievable view of how the ESO will achieve their proposals.

Overall, further understanding of reasoning behind cost proposals is evident and the ERSG can now more clearly see the rationale behind costs and the benefits which should arise from them. However, there is still a lack of justification for the increase in BAU costs, and what is driving this increase.

## Chapter 4- Timeliness and Quality of interactions and Agreements/ disagreements with the ESO

### Timeliness and quality of interactions with the ESO

As discussed in chapter 3 of this report the ERSG consider that timeliness and quality of interactions with the ESO throughout the Business Plan process has been good. The ESO has been both receptive and responsive to the feedback given on the content of the Business Plan. This meant that steady progress was made in improving the quality of the plan from meeting to meeting. The result is a Business Plan which the ERSG feel is ambitious and representative of stakeholder and consumer priorities.

At the first ERSG meeting, members gave some feedback on what they would like to see for the form and content of the sessions. The pre-read material was of high quality and accessible, and the format of the papers worked well. Given the wealth of information provided the ERSG decided that the originally proposed length of each meeting should be increased to a full day as opposed to half, and the ESO should allow members more time to digest pre-reading. As well as this, the ESO were asked to outline key questions to be asked of the group ahead of the meetings so that these could be considered in advance to make the meetings as productive as possible. The ESO implemented all of these suggestions; The remainder of the sessions were extended to a full day, and pre-read materials were circulated at least one week ahead of time complete with questions from the ESO.

It took some time for the ESO to structure the meetings appropriately and respond to queries efficiently, but this greatly improved throughout the process, to the point that ESO became quick to respond and follow up in successive meetings. The ESO have also provided supplementary webinars, meetings and papers which strongly enhanced the quality of communications. For example, when it was clear that the group would like further information on the IT elements of the Business Plan, the ESO organized a webinar session to provide more detail in this area, outside of the more regular meetings. Another example of the strong quality of interactions is that when the group fed back that, with the updated version of the Business Plan, they would like something which clearly sets out the changes that have been made since the previous version so that they could easily assess these changes. In response to this request, the ESO provided a paper to accompany the new Business Plan which summarized each piece of feedback received from ERSG and the Challenge Group along with how this had led them to update the document. The ERSG felt that this was of a good quality and very helpful in the assessment of the plan. A more general comment from the group was that, had the ESO been able to deliver this level of quality and responsiveness at the beginning of the process as well, the ERSG may have been able to go into even more detailed analysis and scrutiny of the plan. Having said this, the group recognize that it took time in the early meetings to develop the first version of the Business Plan.



## Agreements / Disagreements with the company

The ERSG would like to highlight that, thanks to the collaborative nature of meetings and receptiveness of the ESO to the feedback referenced here and in other chapters of this report, no disagreements remain between the ERSG and the ESO. The ERSG consider that the proposals and justifications set out in the final Business Plan appropriately reflect the input from stakeholders that form part of the ERSG grouping. This section provides a summary of the main areas where the ERSG were not aligned with the ESO during the process and how an accord was reached. Many of these areas are also discussed elsewhere in this report:

- Ambition
- Collaboration with the industry and TSO-DNO/DSO relationship
- Competition in Onshore transmission
- IT Capability and the Shared Services Model

There were no substantial disagreements within the ERSG panel itself to report, although some minor differences in opinion are mentioned in the sections below.

### Ambition

As described in “chapter 3: An Assessment of the Business Plan”, the ERSG provided robust challenge to the group on their level of ambition throughout the document. This is the case for the ambition itself as well as for the level of ambition of each proposal throughout all themes in the Business Plan. During the initial workshop on the strategy, vision and ambition the ERSG explained that they would like to see further ambition from the ESO. Particularly in terms of the leading role that the ESO must play in the energy transition and advising Ofgem and the government on the future of energy.

In response to this feedback the ESO presented the following updated ambition:

1. **Deliver reliable and secure system operation:** We will be able to operate a zero-carbon electricity system by 2025
2. **Transform participation in smart and sustainable markets:** We will promote competition through creating new market platforms and lowering the barriers to market participation for all players
3. **Unlocking consumer value through competition in networks:** We will enable innovative solutions to compete to address the future energy system’s requirements.
4. **Driving towards a sustainable whole energy future:** We will ensure decisions are taken that optimize outcomes for consumers across transmission and distribution electricity networks

The ERSG felt that this appropriately captured the level of ambition that the ESO has been urged towards. However, the group felt that there were some areas which still needed to be more prominent in the ambition itself, such as the ESO-DSO relationship and an emphasis on consumer engagement. The ESO have subsequently altered ambition one to “Reliable and secure system operation to deliver energy

when consumers need it” in order to ensure a focus on the consumer and what they need. In addition, within ambition 4 they highlight a need to “think and plan across the boundaries of transmission and distribution” and that they will work “with others to drive consumer value”. The ERSG feel that the ESO could improve the plan further by addressing the tone of voice and style of the document to reflect the step change in collaboration that they must create in order to realise the benefits set out in the Business Plan. However, on the whole the ERSG now agree that the ESO have produced a highly ambitious plan which will deliver much needed progress for the energy industry.

### Collaboration with the industry and TSO-DNO/DSO relationship

The group are in agreement that, in order for the Business Plan proposals to succeed, they must align with the plans of TNOs and DNOs where appropriate. It is imperative that these market parties increase their collaboration to realise the full benefits. For example, when the connections hub proposal was presented to the ERSG the ESO was asked whether the DNOs were on board with these proposals and it was mentioned that the TOs are putting similar proposals into their plans. The ESO were not able to give strong assurance, which raised concerns about coordination and collaboration between the various industry participants. Similar concerns were raised for proposals around the NOA expansion and how this will fit with the DNOs’ ambitions and direction of travel. The ESO accepted that their relationships with the network companies will need to develop further during the delivery of the Business Plan. One of the ways that it will do this is through the proposed cross-sector Design Authority, which will give these stakeholders a say in the design of the new systems. The ESO has included detail of their interactions with these companies in the stakeholder annex and from this it is clear what feedback has been given and how it has been incorporated into the Business Plan.

In some areas of the Business Plan, the ERSG consider that the language could be improved for the ESO to demonstrate a more collaborative mindset. Although there is some detail on how they will work with network companies it is not completely clear. It was recognised that the responsibility for collaboration also needs to be taken on by the DNOs and TOs, as well as the ESO. There is a lack of clarity on the roles and responsibilities for connections, and how this fits with other network companies. The ERSG felt that there are many moving pieces beyond the ESO’s control that need to be addressed in order to fully determine how this should work between different parties. It is clear that further work needs to be done to define roles and responsibilities and where the boundaries are, but it is recognized that this is not wholly within the ESO’s gift and there would be strong encouragement from the ERSG for the ESO to work more closely with government and regulator to ascertain the nature and extent of its role now that it is legally and regulatorily separate from the wider National Grid group. Government and the regulator do need to set out more clearly the boundaries of its new role.

### Competition in Onshore transmission

The Competitively Appointed Transmission Owner (CATO) workstream has now been separated from the scope of the Business Plan following Ofgem’s recent decision. However, this was an area of much discussion for the ERSG, and so it was felt that an overview of discussion should be included in this report.

The ESO first presented their proposals for CATO during April, where they said that they would actively support Ofgem and industry to deliver a model that maximizes consumer value. They presented two options:

- Proposal 1: Support Ofgem in the development of the CATO regime
- Proposal 2: Support Ofgem with running the tender once the regime is introduced

At this time there were mixed feelings in the group as to whether Ofgem should run these tenders, or if the ESO were better placed to do this given their experience and expertise in running competitive. The group concluded that they would support the ESO in undertaking this role, but that the ESO would need to gather wider stakeholder support for this. Some of the ERSG also felt that the ESO did not seem to be proactively pursuing competition in onshore transmission, and were only doing as Ofgem had directed. At a following meeting, the ESO presented more detailed information on their potential involvement in establishing a regime and the group felt this showed that they had moved from a reluctant to an active participant in this work.

Potential conflicts for the ESO in this work were discussed by the group. Although it is clear that some conflicts may exist due to the fact that the ESO belongs to the same group as a Transmission Owner, the move to independent ESO was trusted by the majority of the ERSG, and it will be up to the ESO to demonstrate their neutrality in these processes.

There was continued frustration that the CATO proposals in the plan did not contain a sufficient amount of detail as to what the ESO would actually do to progress this work. It was felt by some group members that the ESO had been reactive rather than proactive in this work. The ESO did address this further at the final meeting but by then the decision had been made to remove the proposals from the Business Plan. However, they were able to more clearly explain the deliverables and timelines that would be milestones as part of this work, and that a final plan would be delivered by February 2021. The ERSG asked whether the ESO would also be considering development of the Late CATO model. The ESO responded that this was not within the scope set by Ofgem, but that they would be willing to incorporate this if this changed.

ERSG fed back that they felt good progress had been made in this area and that the ESO should be encouraged to become more proactive with respect to this work, rather than only responding to Ofgem's direction.

### IT Capability and the Shared Services Model

As the plan evolved the ESO did provide an increasing level of detail on how the significant IT development would be delivered. There was more explanation on how this would be organised, and where this capability would sit within the business. When these details were first presented to the group it was not clear where capabilities and governance would lie, and it was felt that the expertise and leadership should sit within the ESO, rather than the broader NG Group through corporate services.

The ESO explained that this was organised through a "shared services model", where IT capability (as well as other services such as human resources and legal) would sit in the wider National Grid Group, but this would be dedicated to ESO IT delivery. It was emphasised that this structure was agreed and approved by Ofgem as part of the Legal Separation arrangements, and more information on the methodology for this has been included in the Business Plan by the ESO.

This was an area of much discussion and the group felt that, given the volume and significance of the IT development projects and size of workforce required to deliver this (as defined by the ESO in the Business Plan), the capability should be directly accountable to the ESO Board. It was also emphasized

the priority for the expertise, capability and intellectual property should be retained as part of the ESO and not by external providers or held within the wide National Grid Group.

Whilst the ERSG accept that the shared service model is already in place, and a methodology has been agreed upon with Ofgem, the ESO must continue to be fully transparent with this model, and demonstrate that costs have been appropriately benchmarked and that the ESO has control over establishing, accessing and directing the IT and associated resources it needs. The ERSG would also encourage both the ESO and National Grid Group to consider whether this is an appropriate model for the ESO going forward or whether the ESO would be strengthened by the IT specialist dedicated team to be relocated into the ESO for the systems elements, whilst leaving business as usual IT to be dealt with as a shared service. The ERSG would suggest that for such a crucial service and a fundamental aspect of its business to be located outside the business is not in the longer-term interest of the ESO.