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for energy consumers

Consultation

RIIO-2 Draft Determinations - Core Document

Publication date	09 July 2020	**Contact:**	RIIO Team
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Response deadline	04 September 2020	**Tel:**	020 7901 7000
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Our aim for the RIIO-2 price controls is to ensure energy consumers across GB get better value, better quality of service and environmentally sustainable outcomes from their networks. In May 2019, we set out the framework for the price controls in our Sector Specific Methodology Decisions.

In December 2019, Transmission and Gas Distribution network companies and the Electricity System Operator submitted their Business Plans to Ofgem setting out proposed expenditure for RIIO-2. We have now assessed these plans. This document, and others published alongside it, set out our Draft Determinations for company allowances under the RIIO-2 price controls, for consultation. We are seeking responses to the questions posed in these documents by 4 September 2020. Following consideration of responses we will make our Final Determinations at the end of the year.

This document outlines the scope, purpose and questions of the consultation and how you can get involved. Once the consultation is closed, we will consider all responses. We want to be transparent in our consultations. We will publish the non-confidential responses we receive alongside a decision on next steps on our website at Ofgem.gov.uk/consultations. If you want your response – in whole or in part – to be considered confidential, please tell us in your response and explain why. Please clearly mark the parts of your response that you consider to be confidential, and if possible, put the confidential material in separate appendices to your response.

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1. Draft Determinations at a glance

1.1 RIIO-2 will prepare the regulated network companies to deliver Net Zero at lowest cost to the consumer, while maintaining world-class levels of system reliability. We think investment in networks is likely to need to rise, perhaps significantly, through the next decade to meet Net Zero targets. We are challenging network companies to be as efficient as possible in how they run and finance themselves, to help offset additional investment and keep charges on bills as low as possible to consumers. The RIIO-2 Draft Determinations propose challenging targets and allowances for companies, while ensuring the price control is adaptive to deliver the most effective energy system transition at lowest cost.

1.1 Our proposals are summarised below.

Facilitating further decarbonisation of GB's energy sector

- Funding activities to facilitate decarbonisation where there is a clear needs case to invest now. This includes approximately £3bn baseline allowances proposed for areas such as connecting low carbon generation and enhancing system operability.
- A coherent package of uncertainty mechanisms to ensure sufficient flexibility for companies to bring forward strategic network investments during the price control to help meet the challenges of Net Zero. This includes both a cross-sectoral Net Zero re-opener, and sector-specific uncertainty mechanisms.
- A minimum of £630m of innovation funding to do more research and development into green energy, including low carbon alternatives to gas heating, such as hydrogen.
- Over £500m funding to reduce the networks' own impact on the environment, including fleet emissions, greenhouse gas emission and resource use and waste, with uncertainty mechanisms for further funding, such as reducing visual impacts in electricity transmission.
- Increasing funding to the Electricity System Operator (ESO) to deliver the changes necessary to operate the system carbon-free by 2025, including market reforms and whole system approaches to future system investment underpinned by IT and data transformation within the ESO.

Safe and resilient networks, with better quality of service for customers

- Setting strong quality-of-service targets, particularly in key customer priority areas such as connections, reliability, and environmental impact. Companies would have financial output delivery incentives worth -1.1% to +0.2% Return on Regulatory Equity (RoRE)[1] in electricity transmission, -0.8% to +0.4% in gas distribution, and -0.7% to +0.6% in gas transmission.
- Strengthening gas distribution service standards, including doubling consumer payments for failing to meet minimum standards and allowing £30m to improve service for vulnerable consumers and carbon monoxide awareness.
- Approximately £6bn funding to maintain, replace and repair ageing network assets, and further funding for network resilience (including physical security, IT and cyber-security upgrades).

Better value for consumers

- Reducing the allowed return on capital, resetting to levels consistent with current evidence and market conditions. Halving the returns companies can make on their investments compared to RIIO-1, by reducing equity allowances to 3.95% (at 60% gearing), which includes an adjustment for expected outperformance of 0.25%.[2]
- Setting high expectations for network company efficiency by setting Total expenditure (Totex) 45% and 20% lower, on average, than company bids in the transmission and gas distribution respectively.
- Around 50% of baseline allowances linked to either uncertainty mechanisms or Price Control Deliverables, ensuring network companies are only paid for what they deliver.
- To further drive cost efficiency, companies are set an ongoing cost efficiency challenge of 1.2% across most of the gas distribution and transmission company cost bases.
- Rewards for network companies of up to £1.6m, and penalties of up to £150m under the Business Plan Incentive. Totex incentive rates set between ~30-40% for transmission companies and ~50% for gas distribution companies,

[1] RoRE is an estimate of the financial return achieved by shareholders during a price control period from the licensee's forecast out-turn performance under the price control. It is a useful way to gain an overall picture of how regulated equity is performing under the price control compared to the assumed return used in setting allowed revenues.
[2] See Chapter 3 of Finance Document for further detail, including a proposed ex post top up mechanism if outperformance does not materialise.

ensuring consumers keep a greater share of the savings when companies spend more efficiently against their allowances.

- A Return Adjustment Mechanism threshold set at 3% from the baseline allowed return on equity – any returns above this level over the 5-year period would be halved via the sharing factor, ensuring companies share more of the benefits of outperformance with consumers.
- Reducing the network portion of a consumer bill by 16% for gas distribution and 4% in transmission on average compared to RIIO-1. For consumer bills, this translates to savings of around £20 per annum.
- A tailored package of financing and incentive arrangements for the ESO. The ESO would have an allowed return on equity of 5.28% and additional funding of £1.9m, in recognition of its unique risks and smaller asset base. The ESO's incentives are designed differently from other sectors'. Recognising the crucial role the ESO can play in unlocking value across the entire system, its incentives are aimed at the ESO's delivery of key outcomes rather than on driving down its internal expenditure.

2. The RIIO-2 review

2.1 Throughout the RIIO-2 development process our aim has been consistent – to drive better services for consumers at the most efficient cost, at the same time as preparing the network companies and the ESO for the energy system of the future. In particular, our objective is to ensure that the price controls provide sufficient funding to networks and the ESO to enable a wide range of Net Zero trajectories throughout the next decade. We expect RIIO-2 to drive these positive changes, while embedding the learnings from RIIO-1.

2.2 In May 2019, we published our sector specific methodology decisions (SSMD) on the key elements of the regulatory framework for RIIO-2 for transmission, gas distribution and the ESO.[3] This included the outputs that we expect companies to deliver, our approaches to setting Totex allowances and ensuring investor returns reflect the risk associated with those investments. The methodology decisions also provided the framework for the companies to develop their Business Plans for RIIO-2.

2.3 Companies submitted their Business Plans to Ofgem and published them on 9 December 2019. As part of the analysis of Business Plans, Ofgem raised a large number of supplementary questions directly with the companies. Where necessary, we have also held bilateral discussions with companies to explore issues further. These have helped to clarify points of detail or provided extra data to inform our view. The Draft Determinations in this document and associated annexes reflect our analysis of these Business Plans and the outcome of supplementary engagement.

2.4 Through our Draft and Final Determinations process, we will set the outputs that the companies need to deliver, and the associated revenues they may collect. The review covers the 5-year RIIO-2 price control period, which runs from 1 April 2021 to 31 March 2026. For the ESO, we are setting costs and outputs for a period of 2 years, from 1 April 2021 to 31 March 2023, and the ESO will then submit a further Business Plan for the next period. This reflects the need for the ESO to adapt as it responds to the changing electricity system.

2.5 The core elements of our RIIO-2 Draft Determinations are set out below.

[3] Sector specific methodology decision

Putting the consumer voice at the heart of the Business Plan development process and enhancing scrutiny of those plans

2.6 We expect companies to respond to changes across the energy sector and to put their stakeholders' needs at the heart of the way they run their businesses. We established the Challenge Group, and required the companies to set up Consumer Engagement Groups (for distribution) and User Groups (for transmission and the ESO) (collectively 'the Groups'), with the purpose of enhancing scrutiny of companies' Business Plans. Feedback from the Groups has informed our Draft Determinations – we set out how, and welcome views about the potential ongoing role of the Groups during RIIO-2, in Chapter 3.

2.7 We have applied our Business Plan Incentive (BPI) framework to the companies' Business Plans (but not the ESO). We designed the incentive to encourage network companies to submit ambitious Business Plans containing the information we required to undertake a robust assessment. The incentive makes rewards available to network companies whose Business Plan represents genuine value for money and provides information that helps us to set better price controls. Inefficient, low quality Business Plans would be subject to a financial penalty. We explain our approach to the implementation of the BPI in Chapter 10.

An outputs and incentives framework that stretches companies to embed and build on RIIO-1 performance, establishes clear consequences for non-delivery, and returns a higher share of savings to consumers

2.8 Outputs and incentives are a key feature of the RIIO-2 framework. They are designed to drive companies to focus on delivering the objectives that matter to current and future consumers, and for the environment during the 2021-2026 period and beyond. For RIIO-2 we propose to use Licence Obligations, output delivery incentives and price control deliverables to specify:

- the services that customers should receive
- the levels of performance that the companies need to achieve
- the financial and reputational consequences for companies that out- or under-perform against these outputs, and
- the safeguards to protect customers if specific investments are not delivered as planned.

2.9 We set out further details on our proposals for setting RIIO-2 outputs in Chapter 4. For the ESO we are proposing a tailored outputs and incentives framework, discussed in our ESO sector annex.

2.10 For RIIO-2, we invited network companies to propose additional bespoke outputs as part of their Business Plans – reflecting the needs of and feedback from their stakeholders and consumers. We received over 200 proposals for bespoke outputs across the ET, GT and GD sectors. We set out our approach to the assessment and design of bespoke outputs in Chapter 4.

2.11 We expect network companies to share a greater proportion of costs saved with consumers under the RIIO-2 price controls compared with the RIIO-1 controls while still maintaining a strong incentive for companies to operate efficiently. When a network company out- or under- performs against its cost allowance, the Totex Incentive Mechanism (or 'sharing factor') apportions between its customers and investors the cost saved or incurred, versus the allowance Ofgem sets. Our approach to setting the sharing factor is detailed in Chapter 10. For the ESO, we use a different approach to cost regulation, which does not apply a Totex Incentive Mechanism. Chapter 4 of our ESO sector annex discusses our approach for the ESO.

Ensuring companies have the funding they need to operate and develop the networks, while ensuring value for money for consumers

2.12 In their Business Plans, companies forecast a total expenditure of just over £24bn - an increase relative to RIIO-1. In our view, there is considerable room for improvement for most companies. In many cases we consider work was not sufficiently justified, in others we have proposed volume and efficiency reductions. As set out in Chapter 5, this means we propose to set Totex allowances for networks between 20% and 45% below company submitted costs. In some cases, where we are not currently convinced of the need for a company to carry out all or part of a specific activity, or where the cost of that activity are uncertain, we will use uncertainty and other mechanisms (eg 'use it or lose it' allowances) to ensure consumers only pay for work where the needs case is proven and costs are efficiently incurred. We set out our approach to managing uncertain costs for ET, GT and GD companies in Chapter 7.

2.13 We expect network companies to make a step-change in efficiency by the end of RIIO-2, allowing them to deliver better services for customers, and to protect and

improve the environment, while at the same time keeping bills low. We propose to set an ongoing efficiency challenge of 1.2% across most of the cost base for Gas Distribution and Transmission companies. Our approach is set out in Chapter 5.

2.14 Our approach to funding the ESO including managing uncertain costs recognises that the ESO's own cost compared to the consumer benefits it can deliver are relatively low. This is primarily set out in Chapter 4 of our ESO sector annex, with managing uncertainty more broadly discussed in Chapter 7.

Setting an appropriate balance of risk and return such that the interests of companies and investors align with those of consumers via the use of indexation

2.15 In reaching our Draft Determinations, we have applied the finance-related methodologies set out in our SSMD and because of our proposals, network companies would see lower returns compared to RIIO-1. The returns we propose are fair, based on market evidence, and allow us to protect the interests of existing and future consumers, while having regard to the need to secure companies financeability. As set out in Chapter 6, the RIIO-2 price control provides greater certainty for investors than previous controls, with lower sharing factors and a narrower RoRE range than RIIO-1.

2.16 The proposed Weighted Average Cost of Capital (WACC) allowance for ET, GT and GD companies is the lowest ever proposed for network companies and reflects the current historically low interest rate environment. This would reduce costs for consumers, while fairly compensating investors for the risks they face. We propose indexing the two main components of the WACC (debt and equity allowances) to protect both consumers and networks from forecast error, with allowances changing if interest rates change. See our Finance Annex for further details. Key financial parameters for the ESO are set out in Chapter 5 of the ESO sector annex.

New areas of focus for RIIO-2

2.17 Since publishing our SSMD, we have taken into account changes in the wider market context and feedback from stakeholders to ensure our Draft Determinations cover the right areas and reflect issues that have recently emerged. In particular, we have sought to better reflect the critical role of RIIO-2

in enabling the achievement of Net Zero targets in decarbonising the economy, as well as changes resulting from the COVID-19 pandemic.

Net Zero

2.18 There is no single pathway to Net Zero, and the drive towards decarbonisation brings with it uncertainty as to what future expenditure is required. Decarbonisation at lowest cost to consumers is one of Ofgem's core priorities and is a key consideration for our Draft Determinations.

2.19 The ESO has a critical role to play in supporting the achievement of Net Zero targets, and this role is central to much of the proposed expenditure in its Business Plan. Moreover, the ESO's proposals to develop the best pathways to Net Zero system operation should also build a stronger evidence base for what Net Zero network investment is required. The network companies, on the other hand, proposed relatively little Net Zero-related investment expenditure in baseline spending plans, compared to what they expect could come forward during the price control period.

2.20 Our Draft Determinations propose to provide companies with the baseline allowances that would allow them to deliver the services that consumers require, at an efficient cost, while supporting decarbonisation goals where the case for investment is clear. The pathway to Net Zero is not yet established, and the case for investment will likely change and become clearer over time. In recognition of this, we are also introducing a number of mechanisms that will enable the price control to flex in response to future needs. This includes the cross-sectoral Net Zero re-opener and Strategic Innovation Fund, in addition to sector-specific mechanisms.

2.21 We consider these mechanisms will enable companies to seek the necessary allowances to achieve Net Zero targets, where a needs case and value to consumers can be proven, while allowing Ofgem to exercise scrutiny over the spending to ensure the cost to consumers is kept as low as possible. We discuss our approach to uncertainty in Chapter 7, and supporting and driving companies to ensure that their networks are ready to meet Net Zero targets in Chapter 8.

COVID-19

2.22 COVID-19 has presented some new challenges that we have addressed as part of the Draft Determinations, and will continue to address as part of our ongoing work. We had originally intended to conduct a series of Open Hearings to support our assessment of company Business Plans and to inform our Draft Determinations positions. Unfortunately, due to COVID-19 restrictions, it was not possible to run the Open Hearings. We have nevertheless sought to reflect the stakeholder input that fed into preparations for the Open Hearings. This is set out Chapter 3 of this document, where we also discuss future RIIO-2 stakeholder engagement opportunities.

2.23 We will continue to engage with stakeholders so that we can better understand the potential long-term impacts of COVID-19 on network companies and the ESO, and consider these for Final Determinations. In particular, we want to understand how those impacts may interact with our commitment to support a green recovery from COVID-19.

2.24 Based on the improving situation with regard to COVID-19, we remain confident in our ability to deliver the existing programme for RIIO-2. This would enable us to publish Final Determinations by the end of 2020, with RIIO-2 for transmission and gas distribution companies, and the ESO, beginning on time and in full by 1 April 2021. However, COVID-19 continues to present some risks to delivery. We therefore believe it is prudent to have contingency plans in place. We set out further details in Chapter 12 on our proposed ongoing response to the COVID-19 pandemic. We will also shortly be publishing a consultation seeking views on our contingency proposals.

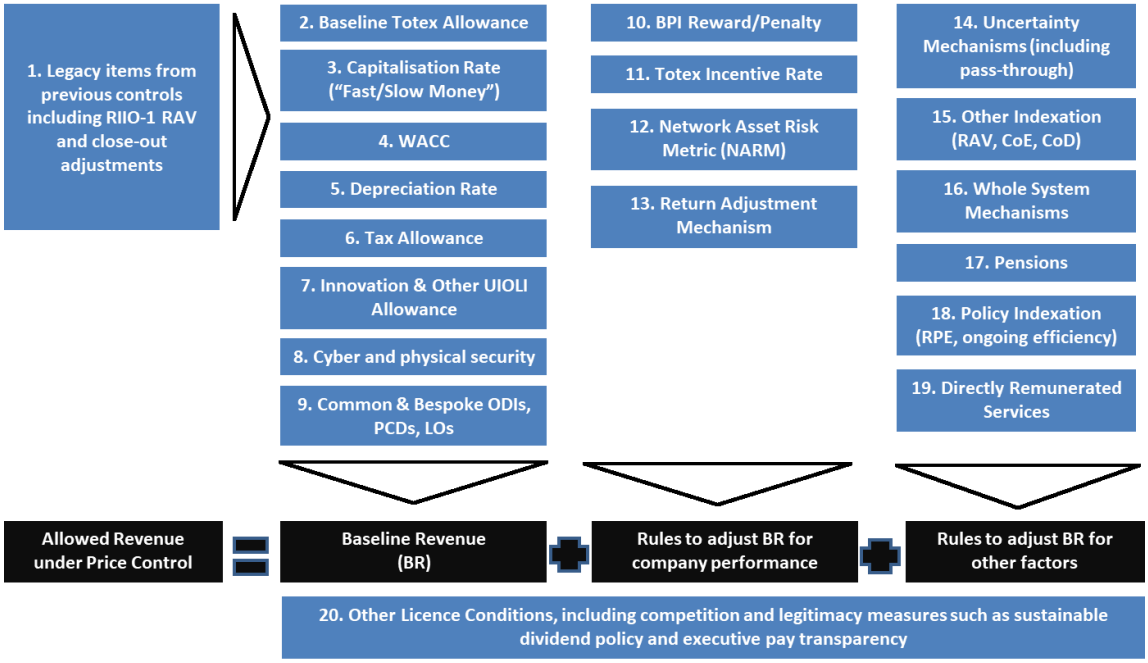
RIIO-2 Building Blocks

2.25 We have structured our proposals around a series of price control building blocks, as presented in Figure 1 below. We use the building blocks to set and adjust Allowed Revenue under the price controls. In our Draft Determinations, we specify which building block each of our consultation positions relates to. The building blocks cover:

- baseline revenue and its composite parts, eg baseline Totex, depreciation allowance

- the mechanisms that adjust this revenue during the price control period relative to company performance, eg rewards and penalties for specific incentives, and
- other adjustments to baseline revenue, eg due to uncertainty mechanisms that increase or reduce allowances within the price control period.

Figure 1: RIIO-2 Building Blocks



2.26 The ESO's price control is based on these building blocks but with the following adjustments:

- Not applicable: BPI; Totex Incentive Rate; NARM; Return Adjustment Mechanism
- Amended: The Common and bespoke ODI is replaced by a single Incentive Scheme
- New: Additional Funding building block sits alongside the WACC.

Navigating the Draft Determinations

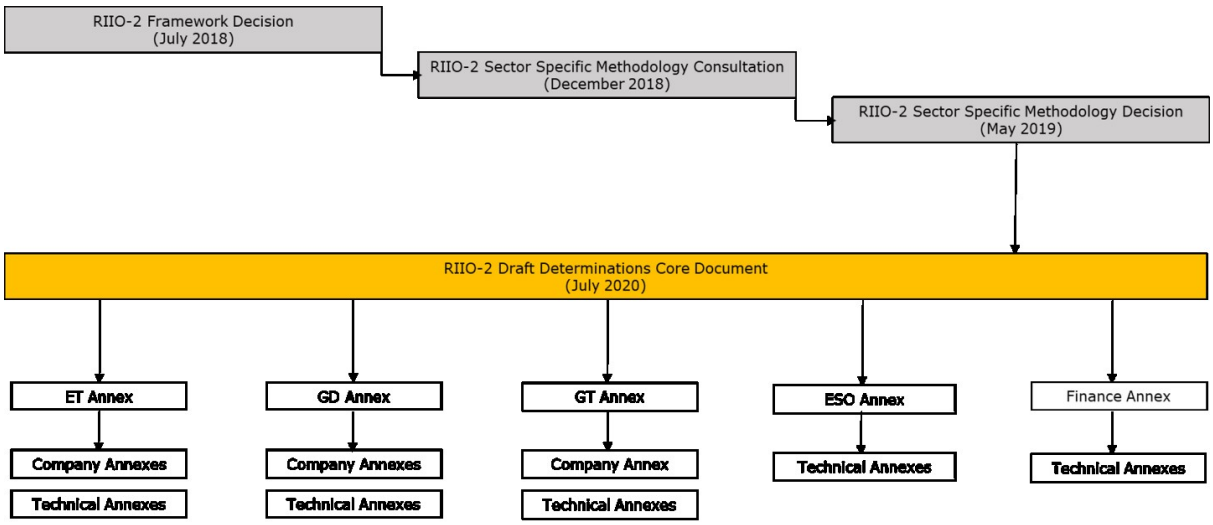
2.27 Our Draft Determination document suite is set out in Figure 2 – this includes documents for each sector including GT, ET, GD, the ESO and Finance. This document is the Core document and contains details on topics where our approach to aspects of RIIO-2 is common to all sectors, such as the way in which we set outputs, or our approach to assessment of company Business Plans with respect to the Business Plan Incentive. Where there are sector-specific considerations or

deviations, we have set these out in this document. This document should be read alongside the:

- Sector Documents (GT, ET, GD, and ESO) - these contain our proposed approach to topics that are specific to a sector, such as visual amenity in electricity transmission, or replacement expenditure (repex) in gas distribution. These documents provide a sector overview of the price control.
- Finance Document – this contains our proposed approach to the regulatory finance building blocks of RIIO-2. In general these apply to all sectors with sector or company-specific considerations identified.
- Company Annexes – these contain the complete and detailed set of proposals specific to each network company (the ESO document is a combined sector/company document)
- Technical Annexes – this includes detailed Ofgem-produced documents and consultancy reports relevant to specific topics such as financial parameters, cyber resilience or the Network Asset Risk Measure (these will be cross-referenced where relevant).

2.28 It is our intention to publish an updated Impact Assessment during the month of July 2020. It will present further detail on our considered impact of these RIIO-2 proposals. Pending this, we refer stakeholders to the detailed consideration of impacts in the chapters of this document and the other supplementary annexes, and more broadly across the suite of RIIO-2 documents published as part of our Draft Determinations.

Figure 2: RIIO-2 Draft Determinations documents map



Next steps

All proposals published as part of these documents are draft proposals, subject to consultation. We will publish our decisions on the RIIO-2 price controls in our Final Determinations later this year. We will implement our Final Determinations by modifications to the companies' licence conditions, after further consultation on licence drafting.

Consultation stages and how to respond

2.29 In order to facilitate the stakeholder consultation response, we have set up a series of webinars (See Chapter 3). We will fully consider and take into account consultation responses when developing our Final Determinations.

2.30 Table 1 below sets out the key stages for this consultation and how we will progress from Draft Determinations to Final Determinations.

Table 1: Consultation stages

Stage	Date
Consultation Open	09/07/2020
Consultation closes (awaiting decision). Deadline for responses	04/09/2020
Final Determinations (including publication of consultation responses)	December 2020

How to respond

2.31 We want to hear from anyone interested in this consultation. Please send your response to the person or team named on this document's front page.

2.32 We have asked for your feedback on each of the consultation questions. Please respond to each one as fully as you can.

2.33 We will publish non-confidential responses on our website at www.ofgem.gov.uk/consultations (see Appendix 4 for details regarding how to respond and use of data).

3. Embedding the consumer voice in RIIO-2

3.1 In this Chapter, we set out how our enhanced engagement proposals have strengthened the voice of consumers as part of the process of reaching our RIIO-2 consultation positions. It also sets out the further work we expect companies to do to ensure that the consumer voice continues to be heard and underpins the day-to-day operation of the network companies during RIIO-2.

Embedding the consumer voice in RIIO-2	
Purpose	The Challenge Group, Customer Engagement Groups, and User Groups have challenged companies in the development of their Business Plans.
Benefits	Company engagement with User Groups and Customer Engagement Groups in the development of their Business Plans to encourage better quality Business Plans that deliver the outcomes that consumers value most.

3.2 As set out in our SSMD and in detail in the guidance document on enhanced stakeholder engagement, we expect companies to respond to the changes in how their networks are used by understanding that stakeholders needs must be at the heart of the way companies run their businesses. [4,5]

3.3 In view of that expectation, Ofgem and the companies established the Groups to challenge the Business Plans proposed by the companies.[6] The CEGs and UGs provided ongoing feedback to the company and the CG provided written feedback to the companies on the draft business plans provided on 1 July 2019 and 1 October 2019. The CEGs and UGs published reports on the Business Plans on 23 December 2019 and the CG published its report on 24 January 2020. [7,8] Following the publication of the company Business Plans, we issued a call for evidence on 13 December 2019 seeking views from stakeholders on the company Business Plans, informed by the reports published by the groups. The reports were published before the call for evidence deadline closed. [9] We received 37 responses to the stakeholder call for evidence, including correspondence in relation to the reports of the groups.

[4] SSMD Core Document, chapter 3
[5] Enhanced stakeholder engagement guidance
[6] In the distribution sector, the companies set up Customer Engagement Groups (CEGs) and in transmission the companies (including the ESO) set up User Groups. Ofgem established the Challenge Group (CG) which considered the draft and final Business Plans of all the companies in all sectors.
[7] RIIO-2 Challenge group independent report to Ofgem
[8] Reports to Ofgem, from RIIO-2 Independent Customer Engagement Groups and User Group, on the energy network company business plans for RIIO-2
[9] Call for Evidence on the Electricity Transmission, Gas Transmission, Gas Distribution and Electricity System Operator Business Plans for RIIO-2

3.4 We intended to run nine company specific Open Hearings to challenge specific areas of company Business Plans, and a common issues hearing to discuss cross cutting topics such as Cost of Capital, financeability, and the challenges of meeting the Net Zero targets. It was not possible to run the Open Hearings (scheduled to commence from 17 March 2020) due to COVID-19 restrictions.

3.5 As part of our work leading to Draft Determinations, we have reviewed the groups' reports and responses to the stakeholder call for evidence. The Groups' reports and stakeholder feedback were useful in casting light on the key issues in the company Business Plans. We have also facilitated a dialogue between the RIIO-2 Challenge Group and the CEG/UG to explore areas of difference between the groups on their perspectives on the plans. Our Draft Determinations have been informed by relevant considerations, including (but not limited to) the enhanced stakeholder engagement process as a whole. Forward looking stakeholder engagement

3.6 Ahead of Final Determinations, Ofgem is proposing to facilitate further stakeholder engagement through the Draft Determinations consultation process, the core aims of our Enhanced Stakeholder Engagement Strategy being to strengthen the consumer voice through responses to consultation.[10]

Webinars

3.7 We intend to hold a series of four webinars to enable stakeholders, particularly those with less technical knowledge of price controls, to better understand the RIIO-2 process and our Draft Determinations. There will also be an opportunity to ask questions.

3.8 These webinars will take place in August 2020 and will give an overview of sector price controls, as well as two themed webinars around Net Zero and finance.

- **Sector specific price control: Transmission**, 04/08/2020, 16:00-17:00
- **Net Zero**, 10/08/2020, 15:30-17:00. This will include short overview presentations covering the ESO, gas distribution and transmission. This webinar

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will also include an overview presentation for the Electricity Distribution Sector Specific Methodology Consultation, due to be published in late July.

- **Finance**, 12/08/2020, 16:00-17:00. This will include short overview presentations covering the ESO, gas distribution, transmission and regulatory finance.

- **Sector specific price control: Gas Distribution,** 14/08/2020, 15:00-16:00

3.9 For more details, or if you would like to attend a webinar, please notify us by emailing stakeholders@ofgem.gov.uk, stating which of the webinars you would like to attend.

External Engagement

3.10 Following the publication of our Draft Determinations, we have set up a number of bilateral meetings to engage with both companies and non-company stakeholders. The purpose of these meetings will be to discuss initial reactions to our determinations and answer any detailed questions core stakeholders may have.

3.11 In October, we intend to hold a series of online Open Meetings in lieu of the Open Hearings that we had to cancel due to COVID-19. These meetings will take the form of 'enhanced bilateral meetings' where third party stakeholders will be able to contribute and attend. These meetings will enable representatives from GEMA to hear key areas of concern from both the individual companies and other stakeholders ahead of our final determinations.

3.12 In addition to enhanced engagement, we will be attending a number of external events and forums ahead of the publication of Final Determinations. If you are interested in Ofgem attending an event to discuss our Draft Determinations please email stakeholders@ofgem.gov.uk.

Enduring role of the UGs and CEGs

Enduring role of the UGs and CEGs	
Purpose	UGs and CEGs could have a key role in continuously challenging companies' consumer and network user focus.
Benefits	Increased focus of companies on consumer and network user needs improves outcomes for these users.

Background

3.13 We think that there is potential value in companies continuing their formal engagement with groups. The following section sets out our proposals for an enduring role of the groups throughout the RIIO2 price control period.

Consultation position

Enduring role of the UGs and CEGs	Consultation position
Establishing an enduring role	Retention of the Groups for the purpose of continuously challenging companies' consumer and network user focus, during RIIO-2 period as well as in the lead-up into RIIO-3
Setup	One Group per company or one Group per sector
Role during price control period	Focus on companies' stakeholder engagement and delivery against Business Plan
Broadening the remit	Any additional scope which assures better outcomes for consumers (eg innovation, scrutiny of investment proposals developed via uncertainty mechanism)

3.14 We are confident the work of these groups has already led to better outcomes for consumers by providing scrutiny of Business Plans at the development stage. We are now consulting on an enduring role for the Groups, how to make best use of their expertise and experience to continue to further customer interests during the RIIO-2 price controls. We also welcome views on the setup of Groups going forward, assuming the identification of an enduring role.

3.15 Should an enduring role be identified, we will work with the Groups to assess and develop any enduring role and will provide updates to the enhanced engagement guidance document[11] if required. As part of this process, we are also keen to get views from stakeholders.

3.16 We invite stakeholders' views on whether the one Group per company set up is likely to deliver as effectively during the price control period as it did during the Business Plan development stage or whether a single Group per sector (ie transmission, gas distribution) may be more suitable to achieve the right outcomes.

3.17 During the price control period, Groups might report on companies' stakeholder engagement and encourage companies to deliver against their Business Plans,

[11] https://www.ofgem.gov.uk/publications-and-updates/riio-2-enhanced-stakeholder-engagement-guidance

including the commitments in their engagement strategies. We invite views on what role Groups should be taking if their role is enduring through the price control period.

Consultation questions

Q1. What role should Groups play during the price control period and what type of output should Groups be asked to deliver? Who should be the recipients of these outputs (companies, Ofgem and/or stakeholders)?

Q2. What role should Groups take with respect to scrutinising new investment proposals which are developed through the uncertainty mechanisms?

Q3. What value would there be in asking Groups to publish a customer-centric annual report, reviewing the performance of the company on their business plan commitments?

Q4. What value would there be in providing for continuity of Groups (albeit with refresh to membership as necessary) in light of Ofgem commencing preparations for RIIO-3 by 2023?

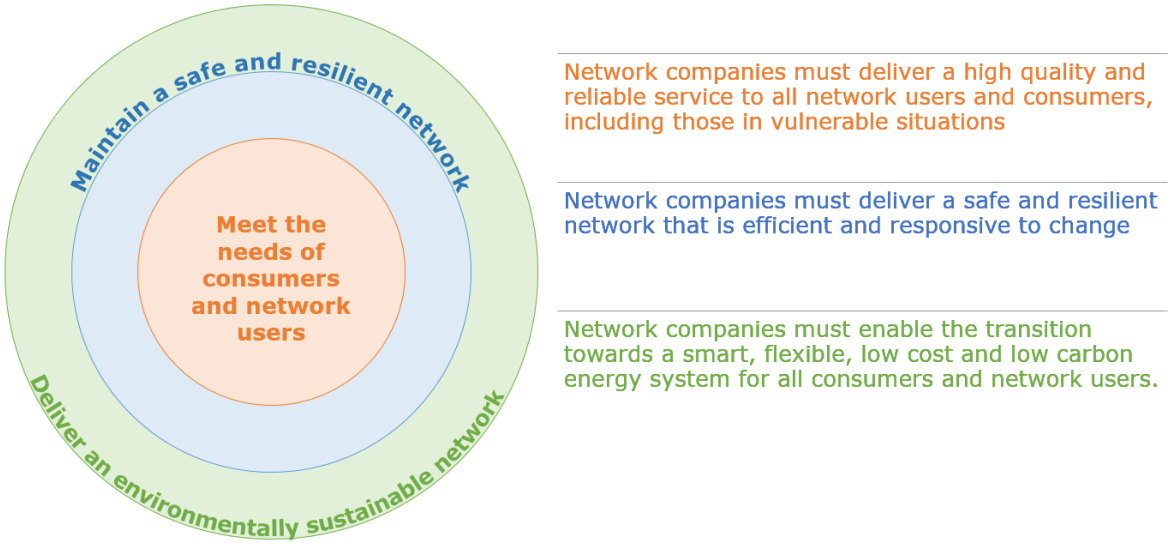
4. Quality of service – setting outputs for RIIO-2

4.1 In our SSMD, we established the RIIO-2 outputs framework for transmission and gas distribution network companies. This included the three components of our outputs framework:

- Licence Obligations (LOs) set minimum standards that network companies must achieve.
- Price Control Deliverables (PCDs) specify the deliverable(s) for the funding allocated, and the mechanism(s) to refund consumers in the event an output is not delivered (or not delivered to a specified standard).
- Outcome Delivery Incentives (ODIs) drive service improvement through reputational and financial incentives.

4.2 Outputs for RIIO-2 are grouped into three consumer-facing output categories.

Figure 1: Consumer facing output categories



4.3 As set out in our SSMD, the ESO operates under a bespoke approach to outputs and incentives. This is set out in Chapters 2 and 3 of the ESO sector annex and is not discussed in detail here. Some cross-sector outputs set out below are relevant to the ESO, we have specified where this is the case.

4.4 For RIIO-2, we are proposing to set challenging output targets on key service quality measures, ensuring the companies build on RIIO-1 performance levels,

with more stretching targets to drive improvements in RIIO-2. We also propose to link a greater proportion of spending allowances to outputs that hold companies to account for delivery, with mechanisms in place to return funding to consumers where work is not delivered, or not delivered to a specified level.

4.5 The outputs that we are proposing across our RIIO-2 determinations are either 'common' or 'bespoke'. Common outputs apply to all sectors or all companies within a sector (eg all GDNs or TOs). We use common outputs for areas of service quality that are relevant to all consumers in a sector or multiple sectors. In contrast, bespoke outputs are specific to individual companies; they seek to reflect the needs of and feedback that companies received from their consumers and other stakeholders.

4.6 We set out our approach to outputs across the Draft Determination document suite. Table 2 sets out where specific information on outputs can be found.

Table 2: Outputs and location

Topic	Description and location
Approach to setting common outputs	SSMD Core Document. In this chapter, we clarify two aspects of our outputs framework (including PCDs and approach to ODI caps/collars).
Approach to setting bespoke outputs	In this chapter, we summarise our approach to assessing bespoke outputs and the results of our assessment.
Cross-sector outputs	Our proposals for outputs that are common across multiple sectors of the RIIO-2 price control are either set out in this chapter or in relevant annexes (as per Table 3 below).
Sector-specific outputs	Our consultation positions for new or revised outputs are detailed in our GT, ET and GD Annexes.
Bespoke outputs	Not all network companies have bespoke outputs. Refer to company annexes for Cadent, NGET, NGGT, NGN, SGN, SHET and SPT.

Approach to setting outputs

4.7 We set out the overarching design of our outputs framework in our SSMD.[12] In this section, we provide further clarifications on our approach to setting PCDs and

[12] SSMD Core document, paragraphs 4.19-4.35.

note our proposal in relation to caps and collars for sector-wide ODIs (full details can be found in the Finance annex).

PCD Framework

4.8 Companies requested in Business Plans that we provide more information on how we would apply PCDs. In our SSMD, we indicated that we would set PCDs for outputs that we directly funded through the price control and where the funding provided is not transferrable to a different output or project. We noted that we might also attach PCDs to projects that we do not fund up-front in the Business Plan, but introduce during the price control through re-openers.

4.9 PCDs are by their nature relatively bespoke and the ways in which they are set and assessed will vary accordingly.[13] Generally, the outputs, allowances and delivery dates will be set up-front. In some cases, allowances will be recovered automatically through a formula defined in the licence. For others, depending on the complexity of PCDs and their underlying projects, we will undertake ex post reviews to determine the delivery status and extent of associated claw back (if any).

4.10 Our assessment may consider whether PCD outputs have been fully delivered, partially delivered, delivered late, or delivered to an equivalent specification. Where we have proposed to set PCDs, we have sought to set out the design features of the specific PCD within the relevant Draft Determination document (this is typically company annexes). We expect the links between specific PCD outputs and delivery modes used in our assessment to be clarified through the Licence and guidance documents.

ODI caps/collars

4.11 On the topic of caps and collars, our SSMD indicated that there would be an upcoming decision on how they would be applied for sector-wide ODIs. Caps and collars are, respectively, upper and lower limits on the penalties and rewards associated with ODIs. We propose to calibrate caps and collars with reference to base revenue. Please refer to the Finance Annex for our reasoning and consultation question.[14]

[13] See sector and company annexes for detailed descriptions of the PCDs are proposing for RIIO-2.
[14] Finance Annex, Chapter 11

Assessment approach for bespoke outputs

4.12 In our Business Plan Guidance (BPG), we invited companies to propose bespoke outputs (ODIs, PCDs, and LOs) that reflect the needs of and feedback from their specific stakeholders and consumers. We received over 200 proposals for bespoke outputs, which covered a wide range of themes from across the network companies' Business Plans.

4.13 In our assessment of the bespoke output proposals, we have sought to strike a balance between the likely benefit to consumers, and the cost and complexity of introducing additional mechanisms into the price controls.

4.14 We reviewed the evidence that companies provided for each proposal and assessed it in accordance with our BPG.[15] Where the justification did not satisfy the BPG conditions we have rejected the bespoke output proposal. Where the BPG conditions were satisfied, we took the following steps:

- We identified bespoke proposals for similar outputs and considered whether it would be more appropriate for the output to be a common output. The outputs for which we consider this the case appear as new proposals for common outputs in the sector annexes.
- We considered whether alternative output types or uncertainty mechanisms would be more effective in achieving the proposal's objectives. Where it was we have proposed an alternative mechanism instead.
- We accepted bespoke output proposals in cases where a common output or alternative mechanism would be less appropriate than the proposal submitted by the company.

4.15 We propose to allow 35 bespoke outputs in RIIO-2 across Electricity Transmission, Gas Transmission and Gas Distribution sectors. The complete set of bespoke output proposals for each company and our rationale for accepting or rejecting them is set out in each company annex.

4.16 We recognise that we propose not to take forward a considerable proportion of bespoke proposals as RIIO-2 outputs. In most cases, we found the evidence submitted in the Business Plan did not provide:

[15] Business Plan Guidance, Paragraphs 2.16-2.17

- a sufficient needs case, reflecting the service requirements of consumers or network users
- a stretching target or evidence of value to consumers above existing expected performance for the company (or where applicable, the sector)
- robust supporting information of consumer benefits or costs, stakeholder support and/or parameters to implement the output.

4.17 In some company annexes, we have identified bespoke proposals that have sufficient potential merit that, with further work before Final Determinations, could become RIIO-2 outputs. In these cases, we have signalled what further information we would need ahead of Final Determinations.

Cross-sector outputs

4.18 The following sections describe our proposals for outputs that are common across multiple sectors of the RIIO-2 price control. Outputs do not apply to the ESO.

4.19 Outputs that we are proposing for multiple sectors are set out in Table 3. Our consultation positions on each of the outputs are set out either below or in relevant annexes.

Table 3: Outputs proposed for multiple sectors

Output name	Output type*	Sectors applied to	Draft Determination Section
Meeting the needs of consumers and network users			
Modernising Energy Data	LO	All	Chapter 4 Core Document
Stakeholder Engagement Incentive	No output	ET, GD, GT	Chapter 4 Core Document
Maintain a safe and resilient network			
Cyber Resilience OT and IT	PCD	All	Confidential annexes for cyber resilience OT and IT
Physical Security	PCD	ET, GD, GT	See company annexes for company specific parameters, where applicable.
Network Asset Risk Metric (NARM)	PCD and ODI-F	ET, GD, GT	NARM Annex
Large Project Delivery (LPD)	ODI-F	ET, GD, GT	Chapter 4 Core Document, ET Sector Annex
Deliver an environmentally sustainable network			
Environmental Action Plans and Annual Environmental Report	LO, ODI-R and EAP commitments	ET, GD, GT	Chapter 4 Core Document, Sector annexes

* ODI-R/F = Output Delivery Incentive (Reputational/Financial), PCD= Price Control Deliverable, LO= Licence Obligation.

Meeting the needs of consumers and network users

Modernising Energy Data

Modernising Energy Data	
Purpose	Digitalising the energy system by making better use of Energy System Data and digital technologies to generate value for stakeholders.
Benefits	Network companies and the ESO to make better use of Energy System Data to deliver a more efficiently planned, maintained and operated energy system. Users of Energy System Data have greater information and insight, improving the energy services offered to consumers.

Background

4.20 In November 2019, we announced we are developing data best practice guidance to define how we expect Energy System Data[16] to be used.[17] We did that as part of our programme, Modernising Energy Data; a collaboration between Ofgem, the Department for Business, Energy and Industrial Strategy and Innovate UK.[18]

4.21 In September 2019, we asked companies, including the ESO, to publish digitalisation strategies alongside the submission of their Business Plans in December 2019.[19] The strategies outline the actions network companies will take to digitalise the energy system. In June 2020 we published our feedback on the digitalisation strategies in an open letter to the network companies.[20]

4.22 In the letter we said we wanted companies to use the feedback to review their strategies, and to publish an updated "digitalisation strategy and action plan" by 31 December 2020.

4.23 We also said that we were minded to include two Licence Obligations in RIIO-2 to ensure effective digitalisation of the energy system and that the value of Energy System Data to consumers is maximised. This section sets out our proposals.

Consultation position

Modernising Energy Data	Consultation position
Licence Obligation - Digitalisation Strategy and Action Plan	Companies to publish updates to the digitalisation strategy at least once every two years and updates to the digitalisation action plan at least every six months.
Licence Obligation - Data Best Practice	Companies to use Energy System Data in accordance with Data Best Practice guidance. In particular, the guidance will include the principle of Energy System Data being treated as "presumed open".[21]

Rationale for consultation position

4.24 Ultimately, these Licence Obligations are to ensure companies use Energy System Data to improve services and maximise the benefits provided to consumers. Key benefits will include innovation in and improvements to energy services, as well as

[16] Our working definition of Energy System Data has evolved from the definition provided by the Energy Data Task Force:"facts and statistics collected together that describe the energy system (current, historic and forecast), including: the presence and state of infrastructure, its operation, associated market agreements and their operations, policy and regulation."
[17] Data best practice guidance
[18] Innovate UK
[19] Modernising energy data digitalisation strategy, paragraph 2.44
[20] RIIO Digitalisation strategies
[21] For more information about data being treated as "presumed open", see the EDTF report

delivery of an energy system that meets the requirements of the UK targets for Net Zero carbon emissions at the lowest possible cost to consumers.

4.25 We believe that companies must make changes to their business practices to achieve the benefits that can be delivered to consumers through the effective use of Energy System Data. We are proposing that these changes are made mandatory through the above Licence Obligations.

4.26 The Licence Obligations will help ensure that companies take specific actions to improve how they use Energy System Data and deliver the benefits of digitalisation to consumers.

Licence Obligation - Digitalisation Strategy and Action Plan

4.27 This Licence Obligation will require companies to publish regular updates to their digitalisation strategy and action plan.

4.28 Product and service development in the data and digital industries is typically much shorter than the equivalent development processes for traditional energy system activities, such as physical infrastructure. As a result of that, we expect the delivery of digitalisation strategies and action plans will be a fluid process and will require network companies to provide stakeholders with regular updates on their progress against their digitalisation strategy and action plan.

4.29 We are proposing that the digitalisation strategy is updated at least every two years, and that updates to the associated action plan are published at least every six months. In our open letter, we suggested that the digitalisation strategy would be updated annually.[22] We have reflected on that and believe that updating the digitalisation strategy every two years strikes the correct balance between transparency and regulatory reporting burden.

Licence Obligation - Data Best Practice

4.30 This Licence Obligation will require companies to work in accordance with the principles set out in our data best practice guidance.

4.31 This guidance is being developed and drafts have been publicly available since 4 January 2020. We will carry out a consultation on the final draft of the guidance. This consultation will be a separate, but parallel, activity to the overall RIIO-2

[22] RIIO Digitalisation strategies

consultation process. The consultation on the guidance is our preferred forum to seek views on the content of the guidance itself.

4.32 The principles in the current draft include the recommendation that Energy System Data should be "presumed open". The principle does not mean that companies will always be expected to make Energy System Data available and it will need to be applied in accordance with companies' existing obligations under Data Protection and Freedom of Information legislation.

4.33 The guidance will also set out how companies should deal with issues including the security, privacy and commercial sensitivity of information, as well as the public interest in it, when deciding whether to make Energy System Data available. It will also cover requirements for ensuring the decision-making process itself is transparent as well as the recording and publishing to stakeholders information about decisions companies make when deciding on the availability of Energy System Data.

4.34 We are seeking views as part of this consultation on which data should fall within the scope of the term Energy System Data within the Licence Obligation and guidance. We anticipate this is a topic we will return to when we consult on the guidance.

4.35 Broadly, we expect that:

- stakeholders are inclusively enabled to seek access to data
- there is identification of sensitivities associated with the data
- reasonable actions that can mitigate identified sensitivities are determined
- it is also determined whether carrying out mitigation and then opening, making public or sharing that data is beneficial overall to consumers
- where there is a benefit, the mitigation is put in place and the de-sensitised data is made available as appropriate
- Consideration is given to both data itself and also its associated processing instruments, for example computer code.

Consultation questions

Q5. Will the combination of the two proposed Licence Obligations support the delivery of a digitalised energy system and maximise the value of data to consumers?

Q6. Do you agree with our proposed frequency for publication of updates to the digitalisation strategy and the digitalisation action plan, respectively?

Q7. What kinds of data do you think should comply with the data best practice guidance to maximise benefits to consumers through better use of data?

Stakeholder Engagement Incentive

Stakeholder engagement incentive	
Purpose	To drive network companies to undertake continuous high quality stakeholder engagement in RIIO-2.
Benefits	Ensure that network companies are able to anticipate the needs of its stakeholders and deliver a consumer-focused, socially responsible and sustainable energy service.

Background

4.36 The RIIO-1 framework includes the Stakeholder Engagement Incentive to encourage network companies to engage proactively with stakeholders in order to anticipate their needs and deliver a consumer focused, socially responsible and sustainable energy service.

4.37 In our SSMD, we said we consider high-quality stakeholder engagement to be BAU in RIIO-2.[23] On this basis, we proposed to replace the Stakeholder Engagement Incentive with a reputational ODI. We encouraged network companies to propose bespoke outputs for ongoing stakeholder engagement, where outputs go beyond BAU activity and are of demonstrable additional benefit to stakeholders. We said we would report on networks companies' bespoke outputs as part of a reputational ODI.[24]

4.38 We also said that we would evaluate network companies' approaches to stakeholder engagement through the wider Business Plan Incentive (BPI) for stakeholder engagement. We required network companies to include a clear strategy for engagement in RIIO-2 and commitments to deliver the strategy in their Business Plans as a BPI minimum requirement.[25]

[23] SSMD Core Document, paragraph 3.4
[24] SSMD GD Annex, paragraph 2.100-2.102; SSMD GT Annex, paragraph 2.26-2.28; SSMD ET Annex, paragraph 2.40-2.43
[25] SSMD GD Annex, paragraph 2.96-2.99; SSMD GT Annex, paragraph 2.22-2.25; SSMD ET Annex, paragraph 2.36-2.39

Consultation position

4.39 We welcome the ambition shown in the companies' engagement strategies, and all network companies met the minimum Business Plan requirements in this area. We encourage network companies to report on their engagement activities and commitments through annual reporting directly to their stakeholders.

4.40 Having assessed the companies' bespoke output proposals, no comparable performance metrics, which can appropriately monitor performance across all the companies, were identified. As such, we are not proposing to include a common ODI-R in this area. Our decisions on the bespoke output proposals are set out in the company annexes.

4.41 As an additional measure, we think the Groups could have an enduring role to work with the companies to monitor progress and ensure they deliver the commitments in their engagement strategies. We welcome views on what this role should entail as part of consideration of the ongoing role of the Groups (as set out in Chapter 4).

Consultation question

Q8. Do you agree that the Groups could have an enduring role to work with the companies to monitor progress and ensure they deliver the commitments in their engagement strategies?

Maintain a safe and resilient network

Large Project Delivery

Large Project Delivery (LPD)	
Purpose	To incentivise the timely delivery of large projects
Benefits	Minimise consumer detriment from large projects being delivered late

Background

4.42 In our SSMD ET Annex, we committed to think about ways to minimise consumer detriment from large project that are delayed and/or not successfully delivered to the required level of quality.[26]

[26] SSMD ET Annex, paragraph 4.93.

Consultation position

Output parameter	Consultation position
Large Project Delivery (LPD)	We propose to introduce a suite of three LPD mechanisms that should be available for application to large (£100+) transmission projects in RIIO-2 in order to incentivise their timely delivery, and to minimise consumer detriment if delivered late. The three mechanisms are: • Re-profiling of allowances; • Milestone based approach to recovery of allowances; and • Project delay charge.

4.43 The LPD mechanisms have been developed primarily with the ET sector in mind, because ET is where we expect to see the majority of high value projects where late delivery would be most likely to cause a material detriment to GB consumers. Nonetheless, we will consider whether to apply our LPD mechanisms to projects meeting the LPD criterion in the GD and GT sectors on a project-by-project basis. We encourage all stakeholders to provide views on our proposals in this area.

4.44 Please refer to the ET Annex for further details on the three mechanisms and consultation questions.

Deliver an environmentally sustainable network

4.45 In our SSMD, we decided to adopt a cross-sector environmental framework. As part of this, we required all transmission and gas distribution companies to include an Environmental Action Plan (EAP) as part of their Business Plan. This would enable us to consistently assess companies' efforts to address the key impacts of their networks on the environment[27], and compare companies' decarbonisation efforts.

4.46 The network companies included many proposals in their EAPs to improve their environmental performance or mitigate the adverse impact of network activities on the environment. In most cases, the network companies did not categorise a proposal as a type of output. Instead, they committed to undertake a particular activity, or way of working, or to reach an interim milestone during the course of RIIO-2. For the majority of these commitments, the network company proposed to fund delivery out of its baseline Totex. We refer to these proposals as EAP commitments.

[27] SSMD Core Document, paragraphs 7.14 - 7.17.

4.47 Although EAP commitments are not RIIO-2 outputs, the network companies will be accountable to stakeholders for delivering on these and will be required to report on progress via their RIIO-2 Annual Environmental Report (AER). We propose that this report is a Licence Obligation and reputational ODI. EAP commitments will have a formal status in the reporting guidance we are developing on the AER.

4.48 In this section, we summarise our consultation position on the minimum requirements for the RIIO-2 EAPs across all sectors. We set out our consultation position on the elements of the EAPs that are similar across the relevant sector within the Sector Documents.[28] Where outputs are unique to an individual company these are set out in the relevant company annexes.

Environmental Action Plans and Annual Environmental Report

Environmental Action Plan and Annual Environmental Report	
Purpose	To ensure network companies take responsibility for their impacts on the environment, contribute to decarbonising the energy system and support GB's environmental objectives. To ensure transparent and comparable reporting on the environmental performance of gas and transmission networks.
Benefits	Reduce adverse environmental impacts of gas and transmission networks, and protect and enhance the natural environment for current and future consumers.

4.49 The total estimated cost of initiatives the companies proposed in their EAPs is £1.5 billion. Our funding decisions are set out across the sector and company annexes. In summary, we propose to allow £160m baseline funding across the companies to facilitate the delivery of EAP commitments, and a further £420m attached to specific PCDs. These deliverables include major asset replacements to reduce SF6 and gas compressor emissions, land remediation, and the conversion of companies own operational fleet to electric vehicles. In addition, there are UMs within the price control to fund additional environmental initiatives. These include mitigating visual amenity impacts of electricity transmission lines in designated areas, the decarbonisation of the gas network, and additional gas compressor replacement.

[28] When we reviewed the EAPs, we found that within a sector there was a high degree of commonality in the type of initiatives proposed to address a particular environmental impact but these sometimes differed in comparison to the proposals made in the other sectors. This is not surprising given the varying characteristics of the different energy sectors, which give rise to different challenges that the networks face and opportunities to address their environmental impact.

Background

4.50 We published minimum requirements for EAPs in the BPG and via our SSMD, decided to introduce a new Licence Obligation for network companies to publish an AER.[29] In the AER, each company will report on the environmental impact of their network, the progress made in delivering their EAP during RIIO-2, and their contribution to the low carbon energy transition.[30]

Consultation position

Output parameter[31]	Consultation position
ODI-R for business carbon footprint (BCF)	To set a common ODI-R for the BCF reduction targets proposed by each company in their EAPs.
EAP commitment for recycling and waste	All network companies report in the AER on their EAP commitment for recycling and waste reduction targets proposed by each company in their EAP.
EAP commitment for embodied carbon	All network companies report in the AER on their EAP commitment to measure and monitor embodied carbon in new network projects.
EAP commitment for the supply chain	All companies report in the AER on their EAP commitments to drive sustainability improvements in their supply chain.
EAP commitments for biodiversity and natural capital	All companies report in the AER on their EAP commitments to measure and monitor biodiversity and natural capital on network sites.
LO for Annual Environmental Report	The companies will be required to report in their AERs on progress in achieving their EAP commitments and relevant ODIs, PCDs and UMs proposed in their EAPs.

Rationale for our consultation position

4.51 The network companies have generally organised their EAPs by environmental theme. Using this approach, the network companies have packaged up:

- the relevant network and business activities contributing to a particular environmental impact
- their current practice, and proposed actions to modify their practice in RIIO-2 in order to better manage and reduce the impact
- new actions to deliver improved performance in the areas covered by the EAP.

[29] Business Plan Guidance, Appendix 2
[30] SSMD Core Document, paragraphs 3.73 - 3.78.
[31] The specific detail of the targets and commitments under each building block for each of the network companies are in the ET, GT and GD Sector Documents

4.52 Looking across the companies, we found that the ambition to deliver environmental improvements varied considerably. This reflects several factors including:

- the ability of companies to respond to feedback on target setting from the Groups and other stakeholders
- the particular challenges and opportunities for addressing material environmental impacts that can vary across network companies depending on factors including geographic area, size, business delivery model etc
- the level of maturity that the company had in measuring a particular impact and their understanding of mitigation options.

4.53 In some instances, it is a challenge to practically and meaningfully separate out the expected contribution of the various EAP proposals to an impact area, particularly those that are related to projects that have other drivers, eg customer connections. Nonetheless, we were generally satisfied that most of the proposals in the network companies' EAPs are justified on the basis of their expected effectiveness in mitigating adverse environmental impacts, as well as being value for money for consumers.

4.54 Overall, we have assessed that all the companies met the Business Plan EAP minimum requirements. This means that they will:

- have a science-based target in RIIO-2 to reduce their greenhouse gas emissions
- report on embodied carbon in new network projects, as well as establish baselines and targets to reduce the carbon intensity of new network build during RIIO-2
- adopt high standards of environmental management in a supplier code and aim to achieve a target of 80 per cent or more of suppliers (by value) meeting the code in RIIO-2
- have time bound targets for achieving zero avoidable waste to landfill, as well as targets for improving recycling rates
- adopt a methodology to measure and monitor natural capital and biodiversity at network sites.[32]

[32] Greenhouse gas reduction targets are considered 'science-based' if they are in line with the latest climate science advice on what is needed to meet the goals of the Paris Agreement - to limit global warming to well below 2°C above pre-industrial level and pursue efforts to limit warming to 1.5°C.

Setting harmonised RIIO-2 outputs for EAP minimum requirements

4.55 There are some instances where we are proposing some small modifications. The reasons for these are to:

- harmonise the commitment for a similar activity/outcome across all of the network companies
- ensure that targets and key performance indicators are specific, measurable, attainable, relevant and time-bound (SMART).

4.56 For the impact areas where performance can be measured reliably and can be monitored using well-understood or widely adopted methodologies, eg business carbon reporting, our consultation position is to set reputational ODIs for all of the companies.

4.57 For impact areas where we have lower confidence about the availability of a reliable and relevant measure, ie because an industry standard is not available yet, our consultation position is that all the network companies regularly report their progress on delivering their EAP commitments through the AER.

4.58 During RIIO-2, we expect that reporting conventions and standards on environmental matters will be developed and adopted more widely by the network companies. We expect that reporting on EAP commitments in the AER will adopt such metrics when available to show the effect that they are having on key impact areas.

Environmental benefits of network companies' EAPs

4.59 Based on our assessment of the EAPs, we have a reasonable expectation that the environmental performance of transmission and gas distribution network companies in RIIO-2 will improve and be more transparent compared to RIIO-1.

4.60 All companies have included actions to reduce their BCF. If achieved, these will reduce the greenhouse gas emissions associated with transmission and gas distribution networks by 1.7m tonnes of CO2 equivalent emissions. This represents a 34% reduction compared to 2018/19 levels.[33]

4.61 It is difficult to quantify all of the potential environmental benefits of the RIIO-2 EAPs. Nonetheless, we expect to see improvements in many areas, including:

[33] The tCO2e reduction is the sum of the individual network companies' analysis on the carbon impact of their EAP initiatives.

protecting and enhancing the natural environment, driving sustainable practices up the supply chain, sustainable resource use and waste reduction. As the network companies adopt environmental performance metrics in these areas to establish baseline data and measure changes over time, the ability to quantify the effect of the network companies' EAP commitments should improve.

Annual Environmental Report - next steps

4.62 Companies will be required under their licence to report annually on progress in delivering their EAP during RIIO-2 through the AER. The report must include an annual update on the environmental impact of the network, as well as progress updates on implementing their RIIO-2 EAP commitments, and environmental outputs.

4.63 We will provide guidance to the companies on the scope and form of the AER. We intend to hold a working group in autumn to work with the companies to develop the guidance.

Consultation questions

Q9. Do you agree with our proposal to accept the proposals for an ODI-R for BCF and the other proposals set out above as EAP commitments and to require progress on them to be reported as part of the AER?

5. Ensuring efficient cost of service

5.1 A key part of RIIO-2 is setting a total expenditure (Totex) allowance for companies. Totex allowances are a material component of customers' bills now and in the future, and it is important that customer bills reflect efficient costs.

5.2 In their Business Plans, companies forecast a total expenditure of just over £24bn - an increase relative to RIIO-1. In our view, there is considerable room for improvement by most companies.

5.3 We are proposing to set stretching efficiency targets, and disallow Totex that companies failed to justify in Business Plan submissions as value for money. This is balanced against more widespread use of uncertainty mechanisms. We consider that our proposals will allow network companies to maintain high quality services, while managing future energy system needs.

5.4 Our view of the efficient level of funding reflects our detailed review of company Business Plans, supplemented by information gathered through several rounds of clarification questions. We have also drawn on work done by the Groups. To the extent appropriate, we have adopted a consistent approach to the assessment of cost areas across sectors. However, there are sector-specific considerations that must necessarily be taken into account, particularly for our approach to ESO costs. We set out our approach to the assessment of ESO costs and setting allowances in the ESO Sector document. The remainder of this chapter applies to the Transmission and Gas Distribution sectors only

Our view of efficient Totex allowances

Efficiency

5.5 RIIO-2 should push companies to be more efficient with stretching ongoing efficiency targets and lower sharing factors. We are proposing to index Real Price Effects (RPEs) to help companies to manage input price risks and to ensure consumers are not exposed to costs that do not eventuate.

5.6 We are proposing to set an ongoing efficiency target of 1.2% for capex and repex, and 1.4% for opex each year, covering most of the gas distribution and transmission company cost bases to ensure companies deliver services for

consumers for the best possible value. Further detail on RPEs and ongoing efficiency is set out in the section below.

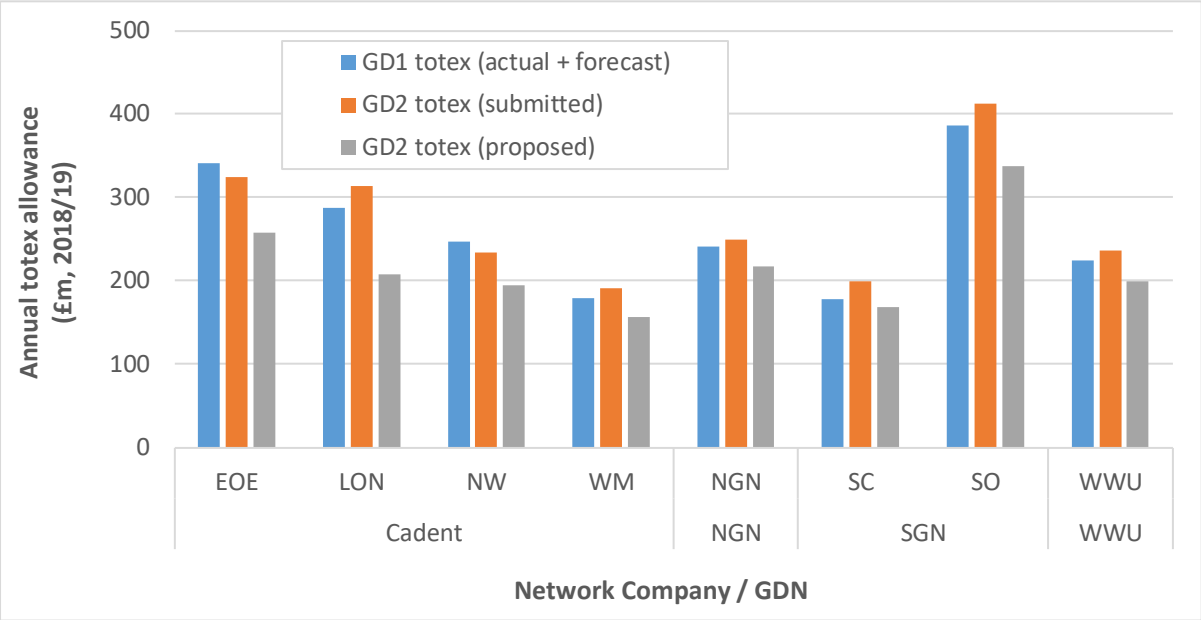
Disallowed costs

5.7 We propose to make significant reductions in some areas of company spending plans. In many cases, this reflects that companies did not provide sufficient justification for the increases in expenditure. This consultation nevertheless provides a final opportunity for companies to provide better justification, and we will consider these carefully ahead of Final Determinations.

5.8 We propose that approximately 50% of baseline Totex across gas distribution and transmission sectors will be linked to uncertainty mechanisms and PCDs to ensure companies are only paid for what they deliver. This also provides a greater degree of protection compared to RIIO-1 for both companies and consumers against forecasting risk and uncertainties.

5.9 Figure 3 shows total cost (baseline Totex) projections for all gas distribution network companies relative to the current period. Figure 4 shows projections of total cost (baseline Totex) excluding load related capex for all transmission network companies relative to the current period.

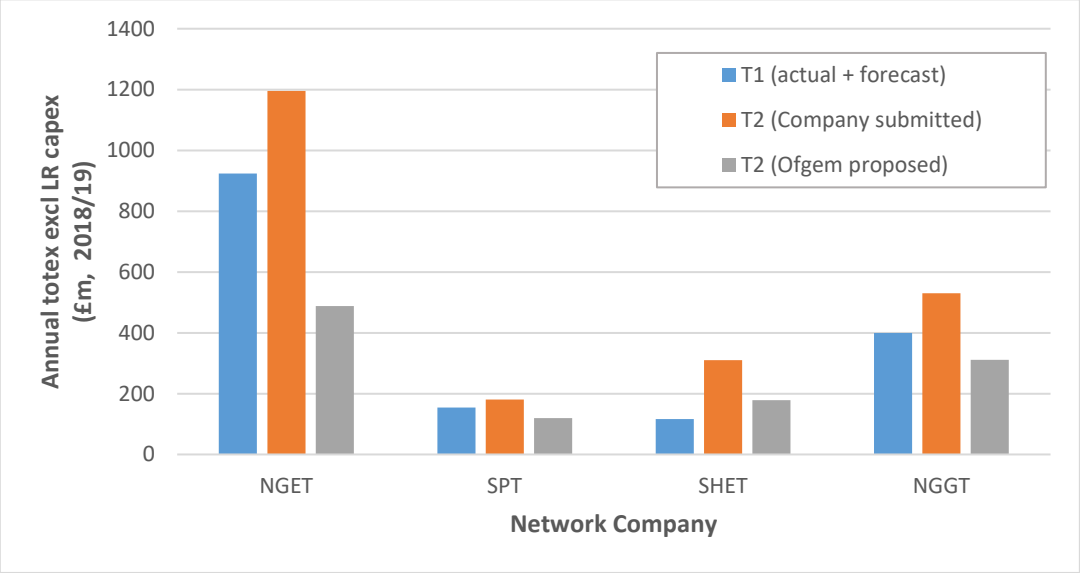
Figure 3: Gas Distribution Company Totex comparison



5.10 Following our assessment, for gas distribution companies we propose to allow £8.7bn Totex overall, which equates to a reduction of ~20% against company

submissions.[34] A primary area of cost reduction is the Repex programme, where we have determined that some investments were either considered discretionary, too uncertain at this stage, or where they have a payback period beyond 2037.[35] For gas distribution companies we propose a benchmark frontier for modelled costs at the 85th percentile. We believe this is consistent with setting high but achievable expectations for GDNs' future efficiency gains, building on the improvements they were funded to deliver over RIIO-GD1.

Figure 4: Transmission Company Totex comparison (excluding load related capex)



5.11 We have excluded load-related capital expenditure from the comparison above because direct comparison of our baseline proposals against RIIO-T1 actual rates of expenditure would be misleading. This is because the RIIO-T1 actual expenditure for load reflects all of the costs covered both by the price control baseline allowances and the RIIO-T1 uncertainty mechanisms. By comparison, our baseline proposals for RIIO-T2 do not reflect the impact of uncertainty mechanisms. We have set uncertainty mechanisms for RIIO-T2 to accommodate a potentially significant increase in investment needs. However, we do not currently have a central forecast for this value. Forecasts provided as part of network company business plans indicate that additional funding of over £10bn could be sought across the transmission companies.

[34] This excludes forecast RPEs.
[35] This maintains the cut-off point applied in RIIO-GD1, reflecting uncertainty over the future of the gas network

5.12 For transmission, we propose to allow £7.5bn Totex overall, which equates to a reduction of ~45% against company submissions. We have set baseline totex allowances for all TOs only where we are satisfied of the need for and certainty of the proposed work, and where there is sufficient certainty of the efficient cost of the work. Key drivers for reductions include moving £1.2bn of submitted costs to uncertainty mechanisms for when needs are clearer or plans are more mature, including asset works and IT; removing at least £2.5bn as a result of lack of sufficient engineering justification for the volume of work, in particular assets work; and removing £2.4bn as a result of applying cost efficiency and other factors.

5.13 The majority of our proposed reductions have occurred within the non-load related expenditure cost category, where we have been particularly unconvinced of the need presented in some companies' business plans for the proposed volume of asset replacement works. In our view, the information we received in many cases did not provide sufficient justification for spending consumers' money. Our proposals are based on the information that we have seen to date. However, we recognise the importance of maintaining network assets from a safety and reliability perspective. We therefore particularly encourage those companies that submitted poor quality or incomplete information to us, to improve substantially the quality of their evidence in this area during the consultation on these Draft Determinations. We will consider any such further evidence from the companies and fully take into account any improved justification in our Final Determinations.

5.14 The Totex incentive mechanism (sharing factor) determines the exposure of companies to under or overspends compared to our Totex allowances. As set out in our SSMD, we have linked the overall strength of the Totex incentive rate to the degree of confidence that we have in our cost assessment of Totex baselines. As a result, we propose lower incentive rates for all companies in RIIO-2 compared to RIIO-1. We think that our proposed incentive rates represent a reasonable balance of risk and reward for companies. Further detail on the Totex incentive mechanism can be found in Chapter 10 of this document.

Driving Efficiency

Real Price Effects (RPE) and ongoing efficiency

RPEs and ongoing efficiency	
Purpose	We set price control allowances that are indexed to a general inflation measure (Consumer Prices Index including owner occupiers' housing costs (CPIH)), which is a consumer-focused index. To the extent that CPIH does not adequately capture changes to prices that network companies face, we may make further adjustments to allowances. We refer to these adjustments as RPEs. Ongoing efficiency reflects the productivity improvements that we consider even the most efficient company can achieve.
Benefits	Setting a suitably stretching ongoing efficiency challenge ensures value for money for consumers, while RPEs allow company revenues to reflect material external cost fluctuations.

5.15 In our SSMD we set out our proposal to:

- Provide RPEs where evidence suggests that input price risks are materially different from inflation (CPIH) risk, and set RPEs at zero where differences are not material
- Index RPEs, including a forecast of RPEs in upfront allowances, then true-up annually based on actual outturn information
- Set RPE allowances on a notional company basis where appropriate.[36]

5.16 We stated our intention to apply ongoing efficiency using growth accounting data. We said we would consider retaining EU KLEMS[37] as our preferred data source but would also consider alternative options for assessing productivity.[38]

5.17 We consulted on the choice of productivity metrics, comparator sectors, and time periods from EU KLEMS, and the use of Data Envelopment Analysis (DEA) and Malmquist Total Factor Productivity (TFP).[39]

[36] SSMD core document, page 69.
[37] EU KLEMS is an industry level, growth and productivity research project. EU KLEMS stands for EU level analysis of capital (K), labour (L), energy (E), materials (M) and service (S) inputs.
[38] SSMD core document, page 69.
[39] RIIO-2 tools for cost assessment pages 64-65.

5.18 We emphasised our requirement that companies should include stretching ongoing efficiency targets in their Business Plans.

Approach to assessment

5.19 We commissioned consultants (CEPA) to undertake a full assessment of evidence, including company Business Plan submissions, and provide a cross-sector report with recommendations for RPE indices and ongoing efficiency assumptions, including models and methodologies for determining both. The full methodology and approach to assessing ongoing efficiency and RPEs can be found in CEPA's 'RIIO-GD2 and T2: Cost Assessment - Frontier shift methodology paper.[40]

5.20 We think that the methodological approaches set out in this paper are appropriate to determine RPEs and ongoing efficiency. These are therefore our preferred approaches for RIIO-2 and have been applied to establish our proposed RPEs and ongoing efficiency assumptions for all network companies.

Consultation position

Output parameter	Consultation position
RPEs	Include adjustments for RPEs for all network companies based on forecasts of input price indices in upfront allowances. "True up" RPE adjustments annually based on out-turn differences between CPIH and input price indices.
Ongoing efficiency	Apply an ongoing efficiency challenge of 1.2% per year for capex and repex, and 1.4% for opex for all network companies.

Rationale for Consultation position

RPEs

5.21 The analysis that CEPA has undertaken identified several RPE adjustments that meet our selection criteria for Gas Distribution (GD) and Transmission companies. The exact adjustment varies by sector (and company for transmission). CEPA's analysis considered both the case for RPE adjustments and aspects of implementation of those adjustments. through a five-stage process, covering:

- Stage 1: The determination of input cost structures.
- Stage 2: A materiality assessment.
- Stage 3: Selection of appropriate indices.[41]

[40] CEPA, RIIO-GD2 and T2: Cost Assessment - Frontier shift methodology paper (May 2020).
[41] These qualifying criteria are set out in CEPA (May 20), Table 4.3.

- Stage 4: Estimation of forecast values for input price indices.
- Stage 5: The treatment of cost categories that are not subject to RPE adjustments.

5.22 We propose to apply the resulting RPEs to the cost structure set out in our cost assessment tools consultation in June 2019 and our SSMD.[42] We confirm our intention to use a notional company cost structure for GD but do not think this is appropriate for the Transmission sector. We therefore propose to use company-specific cost structures for Transmission. For the purposes of Draft Determinations, we have used CEPA's calculated cost shares based on cost forecasts submitted by companies in their Business Plans. These will be updated at Final Determinations to reflect our final views of the cost structures associated with company cost allowances, rather than those based on company cost forecasts.

5.23 We agree with the approach of assessing evidence on the materiality of differences between trends in CPIH and input price trends. We think that a two-stage materiality test that involves consideration of the materiality of the cost category as well as the sensitivity of costs to different assumptions about trends in input prices (relative to CPIH) provides a reasonable basis for assessing the need for RPE adjustments.

5.24 We propose to apply RPE adjustments to the following cost categories:

- labour (general and specialist) for all companies in GD and Transmission (GT and ET)
- materials for all companies in GD and Transmission
- plant and equipment for SHET only (other company cost submissions did not pass the materiality test for this cost category).

5.25 We will update the analysis of our materiality assessment for Final Determinations to reflect our final views of company cost allowances rather than company cost forecasts. This could mean that the final list of cost categories to which RPE adjustments are applied is different to that set out above.

5.26 We propose to use the input price indices that we had used in RIIO-1 to determine RPE adjustments as set out in Table 4, as these all meet our qualifying criteria for index selection. CEPA has produced forecasts of these indices and has used these

[42] RIIO-2 tools for cost assessment, pp. 63-64.

forecasts to determine forecasts of RPE adjustments (in percentage terms) in each cost category.

Table 4: Proposed RPE input price indices and weightings

Index		Weightings					
		GD	NGGT	NGGT	NGET	SHET	SPT
Labour costs (general and specialist)		100%	100%	100%	100%	100%	100%
Office for National Statistics (ONS) Average Weekly Earnings (AWE) private sector		25%	25%	25%	20%	20%	20%
ONS AWE construction		25%	25%	25%	20%	20%	20%
ONS AWE transport & storage		25%	25%	25%	20%	20%	20%
Price Adjustment Formulae Indices (PAFI) civil engineering		25%	25%	25%	20%	20%	20%
British Electrical Allied Manufacturers Association (BEAMA) electrical engineering (ET only)		0%	0%	0%	20%	20%	20%
Materials costs		100%	100%	100%	100%	100%	100%
Opex	FOCOS Resource Cost Index (RCI) of infrastructure (materials)	25%	25%	25%	25%	25%	35%
Capex/Repex	PAFI steelwork	25%	75%	75%	0%	0%	0%
	PAFI plastic pipes	25%	0%	0%	0%	0%	0%
	PAFI copper piping	25%	0%	0%	75%	75%	65%
Plant & equipment costs		NA	NA	NA	NA	100%	NA
PAFI plant and road vehicles		NA	NA	NA	NA	33%	NA
ONS machinery and equipment output Produce Price Inflation (PPI)		NA	NA	NA	NA	33%	NA
ONS machinery and equipment input PPI		NA	NA	NA	NA	33%	NA

5.27 Table 5 below sets out current RIIO-2 RPE forecasts following an application of the indices and weightings set out in Table 4, to our proposed cost structures.

Table 5: Draft RIIO-2 RPE forecasts

Network	2019/20	2020/21	2021/22	2022/23 - 2025/26
All GDNs	0.89%	1.38%	1.20%	1.22%
NGGT (TO)	-0.19%	1.50%	1.31%	1.28%
NGGT (SO)	0.32%	1.28%	1.11%	1.11%
NGET	0.64%	1.64%	1.44%	1.34%
SHET	0.46%	1.52%	1.29%	1.16%
SPT	0.32%	1.45%	1.28%	1.18%

5.28 We will update these forecasts ahead of our Final Determinations to take account of new information that may become available in the interim.

5.29 Under our proposed approach, we will include our forecast RPEs in upfront allowances with an ex-post true-up based on out-turn CPIH and input price indices, once they become available. This will be undertaken as part of our Annual Iteration Process (AIP).

5.30 We have carefully considered CEPA's report and think that both the approach taken to assess the case for RPE adjustments, and methodology for calculating the size and coverage of those adjustments, is appropriate.

Ongoing efficiency

5.31 We propose to set network companies a stretching ongoing efficiency challenge that helps deliver value for money for consumers throughout the RIIO-2 price control. We commissioned CEPA to carry out analysis and to consider the available evidence on the scope for ongoing efficiency gains that we can reasonably expect companies to deliver during the RIIO-2 period.[43]

5.32 We asked CEPA to consider evidence from a range of sources, including:

- growth accounting analysis based on a review of the EU KLEMS database
- forward-looking productivity forecasts for the UK economy
- historical performance of the companies, including the potential to make use of the companies' historical data, using techniques such as DEA
- wider evidence on the scope for productivity improvements, eg as a result of innovation funding received by the network companies during RIIO-1.

5.33 The CEPA report proposes baseline figures, calculated from data sourced from the EU KLEMS database, covering the period 1997-2016, using Value Added (VA) measures of Total Factor Productivity (TFP) for capex and repex and Labour Productivity (LP) for opex. The analysis used the unweighted average of selected industries (excluding manufacturing),[44] and the weighted average of all industries (excluding real estate, public admin, education, health and social services).

[43] CEPA, RIIO-GD2 and T2: Cost Assessment - Frontier shift methodology paper (May 2020).
[44] This includes construction and maintenance of an asset combined with some customer-/business-facing services (construction, wholesale and retail trade: repair of motor vehicles and motorcycles; transportation and storage; and financial and insurance activities).

5.34 CEPA then considered whether these baseline figures for ongoing efficiency should be adjusted to reflect several additional factors, and suggest that we consider the following:

- Giving some weight to Gross Output (GO) measures from EU-KLEMS;
- Productivity growth forecasts from the Office of Budget Responsibility (OBR) and Bank of England (BoE); and
- Whether innovation funding provided to consumers as part of the RIIO-1 price controls could deliver ongoing efficiency benefits through lower costs during the RIIO-2 period, over and above the range indicated by evidence from EU KLEMS, OBR and BoE.

5.35 CEPA suggests a reference range for ongoing efficiency, taking account of these additional considerations of:

- 0.5% - 1.2% for the ongoing efficiency challenge for capex and repex
- 0.7% - 1.4% for the opex efficiency challenge.[45]

5.36 We propose to set companies a stretching ongoing efficiency challenge that helps deliver value for money for consumers. In line with this ambition, we propose to set an ongoing efficiency challenge for all companies at the top of the range proposed by CEPA:

- 1.2% per year for capex and repex (for GD)
- 1.4% per year for opex.

5.37 We have taken account of the following considerations when opting for these figures.

Using GO versus VA measures from EU KLEMS:

5.38 We have considered giving some weight to GO measures from EU KLEMS. However, we believe that the practical difficulties in estimating GO (as highlighted in the CEPA report[46]) limit the weight that can be reasonably placed on them (compared to VA measures). We therefore do not think it is appropriate to give any weight to GO measures. GO measures typically result in lower productivity

[45] CEPA (May 20), Section 3.6.
[46] CEPA (May 2020), section 2.1

results than VA, so excluding them from our analysis results in a higher proposed level for ongoing efficiency.

Inclusion of productivity growth forecasts:

5.39 We have considered including productivity growth forecasts from the Office of Budget Responsibility (OBR) and Bank of England (BoE). These forecasts are influenced by short and medium term risks to the economy such as the UK's exit from the European Union and COVID-19. In the context of a rising trend in longer term productivity forecasts, we do not wish to place significant weight on such economy-wide and short-term forecasts, as network companies are not exposed to these short- -term risks (to volume and revenue) as their comparators in the wider economy and are better able to withstand any short-term shocks. OBR and BoE forecasts may therefore underestimate productivity in network companies and are not appropriate for setting ongoing efficiency.

Impact of innovation funding

5.40 We have considered whether innovation funding provided by consumers since 2007 for GD, GT, and ET, could deliver efficiency benefits over and above those achieved in the wider economy and in comparator sectors, and beyond the range indicated by EU KLEMS.[47,48] By providing innovation funding throughout RIIO-1 and previously, we believe that consumers have effectively provided the network companies with additional upfront allowances and that this should have driven efficiency.

5.41 CEPA finds that both the theory and available evidence suggests that there is some degree of causality between innovation funding and ongoing efficiency improvements in the energy sector, and that this is supported by academic evidence. CEPA has considered if the innovation funding is treated like an investment what level of ongoing efficiency provides a reasonable return and suggests that a 0.2% annual ongoing efficiency would give consumers a 4.2% return on RIIO-1 innovation funding; we believe this is reasonable given the associated level of risk. We have considered whether some of the innovation funding may have resulted in quality of service improvements (rather than cost reductions), which would be more difficult to capture through productivity metrics.

[47] Our funding timeline

[48] A full discussion around the comparator sectors used can be found in: CEPA (May 20), pp. 14-16.

However, we believe that there are sufficient levels of gains that are likely to come from lower costs that this should be accounted for, and this should result in them achieving at least 0.2%[49] additional ongoing efficiency.

5.42 We have considered additional evidence for, and believe it is possible that, network companies could achieve ongoing efficiency improvements in excess of the range proposed by CEPA. We have considered the possibility that both TFP and labour productivity measures from sources like the EU KLEMS could underestimate the scope for efficiency gains within regulated sectors such as electricity and gas networks in GB. This is because, not only are network companies less exposed to negative shocks, the lack of competitive pressure means they should be able to place greater management focus on driving high efficiency gains. This suggests that their ongoing efficiency may be higher than the top of the range proposed by CEPA from EU KLEMS. In addition, our analysis of the considerations highlighted by CEPA and addressed above would each result in ongoing efficiency at the upper end of the range proposed by CEPA.

5.43 CEPA's report discusses the theoretical links between adjustments for ongoing efficiency improvements and any efficiency improvements and any efficiency improvements that may be embedded within CPIH growth and concludes that it is not possible to determine any significant impact. CEPA recommends that for cost categories that are not subject to RPE adjustments, a non-zero ongoing efficiency challenge should be applied. We therefore propose to apply ongoing efficiency to all of the components of Totex[50] (including those where no RPE adjustment is proposed).

5.44 Further details on individual company submissions, and how our proposed ongoing efficiency challenge are applied to set Totex allowances for RIIO-2, are set out in the sector annexes.

[49] CEPA notes that this 0.2% does not capture any of the potential upside that might accrue if innovation funding delivers greater improvements than is required to provide consumers with a reasonable rate of return. In addition, the provision of the price control funding for innovation means that innovation in the energy network sector may be less sensitive to economy-wider shocks than in competitive industries which would also support a higher challenge.
[50] This is our default position but we will continue to consider whether any areas should be exempt.

Consultation questions

Q10. Do you agree with our proposed RPEs allowances? Please specifically consider our proposed cost structures, assessment of materiality, and choice of indices in your answer.

Q11. Do you agree with our proposed ongoing efficiency challenge and its scope?

6. Ensuring efficient financing

6.1 Our Draft Determinations seek to align the interests of companies and investors to those of consumers by setting the appropriate balance of risk and return. As set out in earlier chapters, we propose to incentivise companies to deliver stretching levels of efficiency and levels of service that improve over time. Similarly, our Draft Determinations seek to ensure that investor returns during RIIO-2 fairly reflect the levels of service and cost efficiency delivered for consumers, and are commensurate with the level of risk that underpins their investment.

6.2 We propose a tailored package of financing and incentive arrangements for the ESO. We set out those elements which are bespoke to the ESO in the ESO Sector Annex chapter 5, while cross-referring to the Finance Annex for those areas where the same approach is taken for all sectors. This chapter therefore generally does not capture ESO issues.

Summary of our finance proposals

6.3 Alongside Totex, several core aspects of our finance package are key determinants of a price control's impact on consumer bills. In line with the wider RIIO-2 aims of driving better value for consumers, preparing regulated companies for the energy system of the future and ensuring that the price controls provide sufficient funding to Net Zero through uncertainty mechanism and other measures, our finance proposals reduce the allowed return on capital, resetting to levels consistent with current evidence and market conditions.

6.4 The Finance Annex sets out our analysis and finance-related consultation questions in more detail. Key elements of these proposals are summarised below.

6.5 Our finance-related consultation positions apply methodologies decided on in our SSMD, are calibrated to market evidence and introduce elements that are dependent on our analysis of business plans.

6.6 The proposed allowed returns are the lowest ever proposed for network companies and reflects the current historically low interest rate environment and calibration to market evidence. This will reduce costs for consumers while fairly compensating investors for the risks they face. We estimate that our proposals on cost of capital alone will save consumers approximately £3.3bn (18/19 prices), over a 5-year

period, relative to RIIO-1. The Draft Determinations proposals are summarised in Table 6 below.

Table 6: Draft determination on the baseline allowed return on capital

Price base	Component	Average - five years ending 31st March 2026				Ref	Source
		SHET	NGET and SPT	GT	GD		
CPIH	Notional gearing	55%		60%		A	Finance Annex Chapter 5
	Cost of equity	3.93%		4.20%		B	Finance Annex Chapter 3 shows Ofgem estimate of 4.20%. 3.93% assumes the cost of capital is identical at 60% and 55% gearing.
	Expected Outperformance	0.22%		0.25%		C	See Finance Annex Chapter 3 for Ofgem estimate of 0.25%. 0.22% assumes return on capital is identical at 60% and 55% gearing.
	Allowed return on equity	3.70%		3.95%		D	D = B – C
	Allowed return on debt	1.47%[51]	1.74%			E	Finance Annex Chapter 2
	Allowed return on capital	2.47%	2.63%			F	F = A * E + D * (1 – A)

6.7 The equity allowance consultation position reflects calibration of the three-step methodology decided on in our SSMD, namely Capital Asset Pricing Model (CAPM) analysis, cross-checks and an adjustment for expected outperformance.

6.8 Evidence suggests at least 0.25% outperformance can be expected by equity investors in RIIO-2. We propose a 0.25% adjustment (at 60% gearing) to the allowed equity return to account for this expectation. However, given our proposed approach is novel, we are prepared to supplement our SSMD methodology to further support this position. We are, therefore, consulting on a potential ex post adjustment mechanism that mitigates the risk that investors fail to earn equity returns in line with costs.

6.9 Our proposed debt allowance reflects calibration to gas distribution, electricity transmission and gas transmission networks' expected average debt costs over

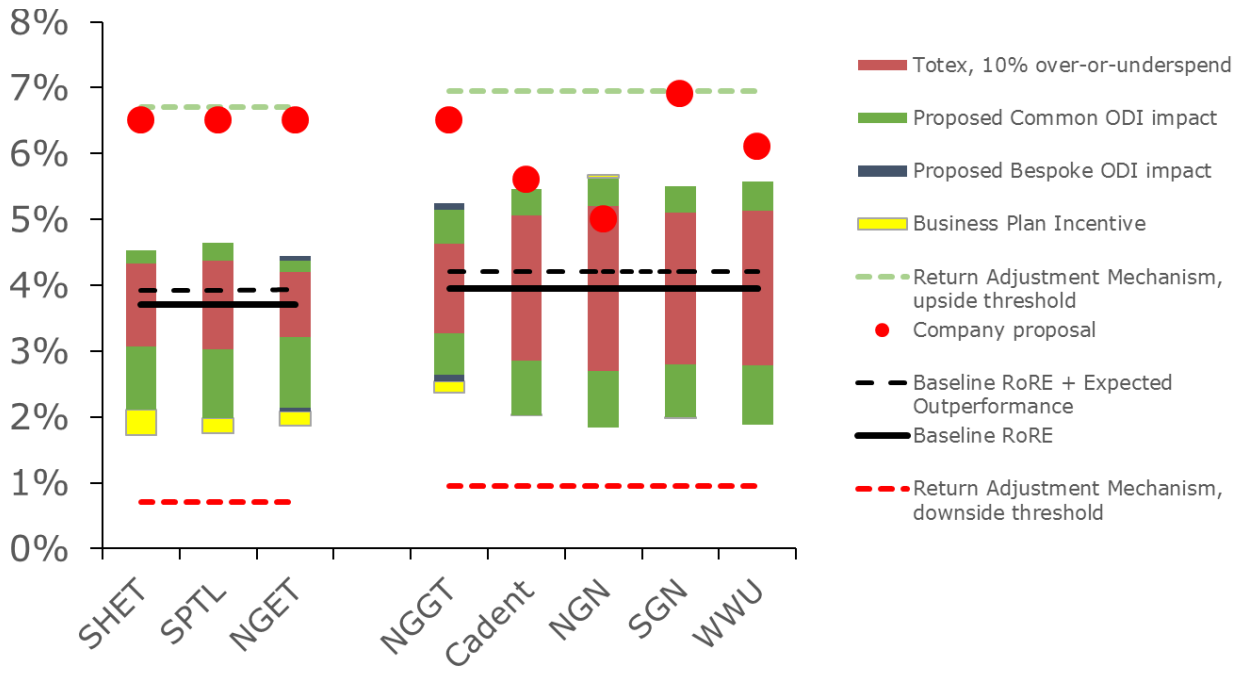
[51] Based on Illustrative UM Totex case. The five year average forecast using baseline Totex assumptions would be 1.58% CPIH real.

RIIO-2. The proposed allowance is to be based on an index of utility bond yields over a trailing average period starting at 10 years and extending to 14 years by the end of RIIO-2. Added to these yields will be a 0.17% allowance for transaction and liquidity costs.

6.10 We propose indexing the two main components of WACC (debt and equity allowances) such that both consumers and networks are protected from forecast error, with allowances changing as market rates change. The combination of indexation of both of these components reduces risk for networks and aids in preserving credit quality in different interest rate environments.

6.11 Overall, the RIIO-2 price control exhibits lower systematic risk than previous controls, with lower sharing factors and a narrower RoRE range (shown below) than RIIO-1.

Figure 5: RIIO-2 average RoRE ranges and company proposals



6.12 We consider all companies subject to RIIO-2 price controls, including the ESO, can finance their activities based on the notional structure. Credit quality for network companies is, in the round, consistent with two notches above the minimum investment grade. We consider that efficient licensees can generate sufficient cash flows, allowing continuing investment in networks and services.

6.13 We propose a symmetrical return adjustment mechanism with threshold levels 300bps either side of the baseline allowed return on equity, with an adjustment rate of 50% of returns above or below the relevant threshold. This mechanism will provide protection to consumers and investors in the event that network company returns are significantly higher or lower than anticipated at the time of setting the price control.

6.14 Further detail on all finance elements in the Finance Annex include proposals on notional gearing, capitalisation rates, regulatory depreciation, indexation of RAV and allowances, return adjustment mechanisms, tax, pensions and other finance issues.

7. Managing uncertainty

7.1 In this chapter we set out our consultation position on managing uncertainty in RIIO-2. This chapter does not apply to the ESO, with limited exceptions which are set out below (eg Cyber resilience). In general, our approach to uncertainty for the ESO is set out in chapter 7 of the ESO sector annex.

Introduction

7.2 In our SSMD we set out that the network companies should manage the uncertainty they face and that the regulatory regime should not protect network companies against all forms of uncertainty.

7.3 Uncertainty mechanisms (UMs) allow us to adjust a network company's allowances in response to changing developments during the price control period. Without these, network companies' allowances could be higher or lower than required. This could result in consumers facing higher costs than necessary or expose network companies to an unreasonable level of risk.[52]

7.4 There are four main types of UMs that we are using in the RIIO-2 price control:

- **volume drivers** to adjust allowances in line with actual volumes where the volume of certain types of work that will be required over the price control is uncertain (but where the cost of each unit is stable)
- **re-opener mechanisms** to decide within the price control period on additional allowances to deliver a project or activity once there is more certainty on the needs case, project scope or quantities, and costs.
- **pass-through mechanisms** to adjust allowance for costs incurred by the network companies that they have limited control over and that, in general, we consider the full cost should be recoverable eg business rates.
- **indexation** to adjust allowance for costs that network companies have very limited control over such as general price inflation or interest rates.

7.5 We are proposing a combination of common and bespoke UMs across our RIIO-2 Draft Determinations. Common UMs apply to all sectors (ie cross sector), or to all companies within a sector (ie sector specific). We use common UMs to manage

[52] PCDs also protect consumers from higher costs than necessary by returning allowances in the event that there are changes during the price control period that mean a company no longer needs to deliver some types of work for which it received funding.

uncertainties that are universal for all network companies in a sector or multiple sectors. In contrast, bespoke UMs are for individual companies to manage uncertainties that they face and are likely to be regional or company-specific in nature.

7.6 Some examples of UMs include:

- Cross-sector: Physical security re-opener or pass-through for business rates.
- Sector-specific: GD domestic connection or ET shunt reactors volume drivers, where each network is set a different baseline allowance for the price control.
- Bespoke: Compressor re-opener for NGGT.

7.7 We have worked with government and network companies to explore how changes during RIIO-2 may affect the price control framework. Key areas of uncertainty include the pathway(s) GB may adopt to meet its decarbonisation objectives, and enhancing GB's network cyber resilience. We also intend to work with network companies to consider whether any additional regulatory mechanisms are needed in RIIO-2, such as to manage the potential impacts of COVID-19 (see Chapter 12).

7.8 We provide further detail on UMs across the Draft Determination document suite. Table 7 sets out where specific information can be found.

Table 7: Uncertainty mechanism detail and location

Topic	Description and information location
Approach to setting uncertainty mechanism	In the following section, we explain our approach for setting outputs and our process for assessing bespoke UMs requested by companies. We also set out a new approach for a set of four common design parameters for re-openers.
Cross-sector uncertainty mechanisms	In the last section of this chapter, we set out our consultation positions for five cross-sector UMs that are either new or have evolved since our SSMD. We also indicate the location of further information on the other cross-sector UMs within our Draft Determinations or where our position is unchanged from previous publications. We also explain our considerations when looking to address legislative, policy or standards uncertainty using re-openers.
Sector-specific uncertainty mechanisms	Our consultation positions for new or revised UMs are detailed in our GT, ET and GD Annexes.
Bespoke uncertainty mechanisms	Not all network companies have bespoke uncertainty mechanisms. Refer to the company annexes for Cadent, NGET, NGGT, SHET and SPT.

Approach to setting uncertainty mechanisms

7.9 In our SSMD, we made decisions on many of the UMs required to manage material uncertainty in costs and/or scope of work in specific areas of the price control. We have also considered how companies are managing risk as part of our cost assessment processes and evaluated the numerous (>50) bespoke UMs proposed in companies' business plans.

7.10 We recognise that forecasting costs and outputs with confidence for the duration of a price control is challenging. However when considering whether to set a UM, we need to weigh these forecasting risks against the incentives for companies to conduct their activities efficiently within their price control allowances. Where we propose UMs in our Draft Determinations, we have considered whether the mechanism meets the UM criteria set out in the BPG.[53]

[53] Business Plan Guidance, paragraph 2.60 and Table 1

Assessment approach for bespoke UMs

7.11 Where we found a company's justification for a bespoke UM did not satisfy the criteria, we propose to reject that proposal. Where the UM criteria were satisfied, we took the following steps:

- We identified bespoke proposals for similar UMs and considered whether it would be more appropriate for the UM to become common to all sectors, or companies within a sector.
- We considered whether alternative output types or uncertainty mechanisms would be more effective in achieving the proposal's objectives. Where it was, we have proposed an alternative mechanism instead.
- We propose to accept bespoke UM proposals in cases where a common output or alternative mechanism would be less appropriate than the proposal submitted by the company.

7.12 We propose to allow 15 bespoke UMs in RIIO-2: three for Electricity Transmission, 11 for Gas Transmission and one for Gas Distribution. In addition, we found that many of the bespoke proposals were similar across the companies and we are proposing to take these forward as common UMs instead. In other cases, we found the evidence submitted in the Business Plan did not provide sufficient:

- justification of the uncertainty
- information to implement the mechanism, or
- evidence of potential drawbacks and value for money.

7.13 The complete set of bespoke UM proposals and our rationale for accepting or rejecting them is set out in each company annex.

Approach to common design parameters for re-openers

7.14 The majority of our proposed UMs are re-opener mechanisms. Where appropriate, we expect most re-openers to operate in accordance with a common set of design parameters, which we are proposing to adopt.

Common design parameters for re-openers	
Purpose	To provide clarity on the parameters and process relating to re-openers. Re-openers provide the opportunity for network companies to request amendments in allowances, outputs, or delivery dates during the price control, when there is more certainty.
Benefits	Protects both consumers and network companies from uncertainty around requirements, unknown and emerging risks/threats, new regulatory requirements and technology changes.

Background

7.15 In our SSMD, we stated that we would use re-opener mechanisms where appropriate to set or adjust allowances once there is more certainty on price and quantity.[54] We are proposing a set of common design parameters for re-openers. There may be circumstances where this approach may not be suitable and these are set out in sector and company specific documents where applicable. Unless explicitly stated, re-openers will follow the common set of design parameters.

7.16 We propose that the Authority may make changes to outputs or expenditure allowances using re-openers. For the avoidance of doubt, allowances may be increased or decreased.

Consultation position

Re-opener parameters	Consultation position
Re-opener application windows	Bring forward re-opener application windows from May to January. Reduce re-opener application window from one month to one week (ie last week of January).
Application requirements	Provide additional detail and guidance where possible in licence conditions and guidance.
Authority triggered re-opener	Authority can trigger a re-opener at any time during price control.
Materiality threshold	For each individual re-opener application, set a materiality threshold such that we will only adjust allowances if the changes to allowances resulting from our assessment, multiplied by the TIM incentive rate applicable to that licensee, exceeds a threshold of 1% of annual average base revenues (as set out in Final Determinations). Allow for aggregation of some re-openers subject to specific criteria.

[54] SSMD Core Document, paragraph 9.7

Rationale for consultation position

Application Windows

7.17 Consistent with RIIO-1, we are proposing that licensees may only submit a re-opener application during specified periods during RIIO-2. Specified application windows provide more certainty for both network companies and Ofgem to prepare for application submissions.

7.18 We propose that the relevant Regulatory Years, in which the re-opener application window is open, is decided for each individual re-opener mechanism.

7.19 We propose to reduce the application window from one month to one week and consider this will not significantly affect the ability of licensees to make applications. We consider that a shorter window will provide further certainty on when applications can be submitted allowing relevant parties to better plan their resources.

7.20 We propose to bring the re-opener application windows forward, from May, to January. Based on experience in RIIO-1, we consider this will allow a longer lead-time to clarify questions or gather further information from licensees. It will also ensure that Ofgem is more likely to be able to make informed and robust decisions in time for that year's Annual Iteration process (AIP), which is our aim.

7.21 We may reject any re-opener application that does not contain all the information necessary for us to make an informed decision on the contents of the application.

Application Requirements

7.22 We propose to provide additional information in licence conditions and in guidance on:

- the level of detail and evidence required in re-opener applications
- any requirements or obligations on network companies when submitting re-opener applications (eg requirement to publish their re-opener application publicly, provide assurance of completeness)
- any other considerations when making re-opener applications.

7.23 We propose to consult on guidance we produce and any subsequent amendments, before it comes into effect.

Authority Triggered Re-openers

7.24 As in RIIO-1, we propose a provision for the Authority to trigger a re-opener subject to the same scope and materiality thresholds as are applied to applications made by a licensee.[55] For RIIO-2, we propose that the Authority would be able to trigger a re-opener at any time during the price control.

7.25 We consider it is in the interests of consumers and licensees that the Authority is able to trigger a re-opener at any time. For example, where a significant change has materialised (eg government policy changes in relation to heat policy) in order to re-assess the necessary outputs, expenditure, and deliverability. Our proposed approach would be beneficial for consumers and the licensees because an Authority triggered re-opener would act as a "fail safe" to protect both consumers and licensees at all times during the price control, including outside of application windows.

7.26 We set out below the proposed process we would follow when implementing an Authority triggered re-opener:

- The Authority will become aware of information or events that lead to it considering triggering a re-opener.
- If there is not yet sufficient information to trigger a re-opener, the Authority may use its existing information gathering powers[56] to obtain more information.
- The Authority will follow the proposed process, which will be set out in the licence:
  - publish a draft direction
  - consult for no less than 28 days.
- After considering all relevant information, make a decision including a direction if any changes are being made to outputs or allowances.

7.27 When we request information, we will be transparent and clear in setting out the evidence we expect from licensees. We will also be considerate of the

[55] We note that this was the case for GT, GD, and ET sectors during RIIO-1. However, for ED-1, we recognise that a provision for the Authority to trigger a re-opener was not always available.
[56] The Authority may gather information under powers set out in section 47A Electricity Act 1989 or section 34A Gas Act 1986. The Authority may also request information from the licensees under the current RIIO-1 licence condition "Provision of information to the Authority". These are set out in RIIO-1 licence conditions: Condition B4 of the Electricity Transmission Standard Conditions, Condition 24 of the Gas Transporter Standard Licence Conditions, Condition 6 of the Electricity Distribution Standard Licence Conditions.

proportionality in the level of data and other evidence requested, and the timeframe within which this must be submitted.

7.28 When we are considering, or decide to trigger a re-opener, we will be transparent as to our reasons. We will only trigger a re-opener if we consider that one of the triggers (set out in the licence condition) has materialised.

Materiality Threshold

7.29 In our SSMD, we stated that we thought the RIIO-1 approach for setting the materiality threshold re-openers was broadly appropriate as a starting position for RIIO-2.[57]

7.30 We considered other metrics and levels, however we think our proposed approach continues to be appropriate for RIIO-2. Base revenue is a comparatively stable metric and predictable over time. It is a good reflection of a company's ongoing cost and asset base, and excludes the impact of other uncertainty mechanisms (eg pass through items).

7.31 For each re-opener application relating to a licensee, we propose to set a materiality threshold such that we will only adjust allowances if the changes to allowances resulting from our assessment, multiplied by the TIM incentive rate applicable to that licensee, exceeds a threshold of 1% of annual average base revenues (as set out in Final Determinations). We propose to apply the same threshold to individual re-openers triggered by the Authority.

7.32 Our proposed materiality threshold level provides a balance to ensure network companies and consumers are protected from significant variations in expenditure over the price control, while also ensuring network companies manage non-material variations in expenditure, mitigating regulatory burden associated with assessing myriad small cost claims from the network companies.

7.33 As in RIIO-1, we propose an aggregation process is available for some re-openers, subject to specific criteria, to meet the materiality threshold. We recognise that there may be circumstances in which a number of individual re-openers may fail to meet the proposed common materiality threshold,[58] but cumulatively may have a material impact.

[57] SSMD Core Document, paragraph 9.34
[58] 1% of annual average base revenue as set in Final Determinations.

7.34 We propose that a re-opener can be considered for an aggregation process if all of the following criteria are met:

- each individual re-opener application must exceed a minimum individual materiality threshold, once the changes to allowances resulting from our assessment, are multiplied by the TIM incentive rate (eg 0.5% of annual average base revenue as set in Final Determinations)
- when re-opener applications are aggregated, the changes to allowances resulting from our assessment, multiplied by the TIM incentive rate exceeds a higher threshold (eg 3% annual average base revenue as set in Final Determinations)
- any re-opener that exceeds the proposed common materiality threshold for individual re-opener applications by itself,[59] is excluded from the aggregation process.

Consultation questions

Q12. Do you agree with our proposed common approach for re-openers?

Cross-sector uncertainty mechanisms

7.35 The following sections set out our view on the uncertainty mechanisms that apply to all companies within the GD and Transmission sectors in RIIO-2. We also describe our requirements in order to set UMs that address changes in legislation, policy or standards.

7.36 Unless otherwise specified, the re-openers detailed in the rest of this chapter will adopt the common design parameters set out in the previous section.

[59] 1% of annual average base revenue as set in Final Determinations.

Table 8: Cross-sector uncertainty mechanisms

Mechanism Name	Mechanism Type	Chapter reference
UMs addressed in this document		
Real Price Effects	Indexation	Chapter 5
Coordinated Adjustment Mechanism	Re-opener	Chapter 7
Cyber Resilience OT*	'Use it or lose it' allowance and re-opener	Chapter 7
Cyber Resilience IT*	Re-opener	Chapter 7
Non-operational IT and Telecoms Capex	Re-opener	Chapter 7
Physical Security (PSUP)	Re-opener	Chapter 7
Net Zero	Re-opener	Chapter 8
UMs addressed elsewhere		
Cost of debt indexation	Indexation	SSMD Core Document, para 12.11 Calibration explained in Finance Annex, Chapter 2
Cost of equity indexation	Indexation	Set in SSMD Core Document, para 12.25 Calibration explained in Finance Annex, Chapter 3
Inflation Indexation of RAV and Allowed Return	Indexation	Finance Annex, Chapter 9
Pensions (pension scheme established deficits)	Re-opener	No change since SSMD Finance, para 7.62.
Tax Review	Re-opener	Finance Annex, Chapter 7
Bad Debt	Pass-through	Finance Annex, Chapter 11
Business Rates	Pass-through	No change since SSMD Core Document, para 9.11.
Ofgem Licence Fee	Pass-through	No change since SSMD Core Document, para 9.11.

*Previously named Cyber resilience and Business IT respectively.

Coordinated Adjustment Mechanism (CAM) re-opener

Coordinated Adjustment Mechanism	
Purpose	To reallocate activity and associated allowances from one licensee's price control to another.
Benefits	To protect consumer interests by enabling the reallocation of responsibility for, and revenue associated with, an output/project from one licensee to another licensee who can deliver that project/output with greater benefits for the consumer.

Background

7.37 We published our decision to develop a whole system re-opener (the CAM) in our SSMD (further information on whole system solutions is covered in Chapter 8).[60] We stated that the appropriate reallocation of responsibilities will improve in-period cooperation and make the price controls more resilient to changes arising from the energy system transition. We also stated that the mechanism must be designed such that it achieves the appropriate reallocations cost-effectively.[61]

7.38 The CAM is intended to introduce more fluidity between individual networks' price controls by enabling activities to be removed from one licensee's price control and an alternative added to another licensee's price control, where doing so will result in a benefit to the consumer. This should enable the party best placed to deliver greater benefits for consumers to undertake the work, wherever the original responsibility lay in the system.

7.39 In our SSMD, we stated that networks putting forward whole system focused projects must demonstrate that such projects produce net benefits for their sector's consumers.[62] We propose that this could allow for transfers across sectors, such as from a gas licensee to an electricity licensee and vice versa. We note the work being carried out through the ENA, to develop a methodology for a whole system cost benefit analysis.[63] Further information on the evidence required to show consumer benefit in CAM re-opener applications will be set out in the re-opener guidance.

7.40 We have engaged further with companies on the proposed elements of the CAM set out in the table below.

[60] SSMD Core Document, paragraph 8.37.
[61] SSMD Core Document, paragraph 8.38.
[62] SSMD Core Document, paragraphs 8.13 and 8.14 and footnote 19: "The use of 'sector' in this regard refers to the distribution, transmission and operation of a single energy source. For example, the 'gas sector' includes the firms responsible for gas transmission, distribution, and system operation."
[63] ENA Whole Energy Systems

Consultation position

Coordinated Adjustment Mechanism	Consultation position
Materiality threshold	We will not set a materiality threshold for this re-opener.
Financial incentive	We will not include a financial incentive for networks to use the CAM.
Whether the transfer was foreseeable	We will not include a 'foreseeable' criterion.
Timing of re-opener windows	To gather feedback on the timing of re-opener windows: should there be annual windows or two set re-opener windows in the price control? Should those windows be in in January or May?
Single or joint applications	That applications should come from a single licensee, but must include a statement of agreement between the licensee who was originally assigned the responsibility and associated revenues for the output or project and the licensee who is able to deliver it with greater benefits to consumers.
Interaction with electricity distribution licensees	To gather feedback on whether: DNOs should be the partner licensee in a single application until 2023; or if a CAM licence condition should be introduced to RIIO-ED1.
Who can trigger the CAM	That network companies only can trigger the CAM.

Rationale for consultation position

Materiality threshold

7.41 In our SSMD, we indicated that thresholds might be introduced to focus on projects of a value sufficient to justify the administrative cost.[64] We are not proposing to set a materiality threshold for this re-opener, which departs from the common design parameter for re-openers.[65] We consider that it would be inappropriate to set a materiality threshold for this re-opener, as the costs for the output or project are set at the beginning of RIIO-2. The value attached to the transfer is the scale of benefits to be gained by the consumer, not the costs relating to the activity.

7.42 We do not consider that networks companies will put in speculative applications where those benefits are negligible, or hard to demonstrate, as unsuccessful re-opener applications have a resource cost for networks that cannot be recouped.

[64] SSMD Core Document, paragraph 8.39 and Appendix 2.
[65] Further information on the default positions is under the 'Approach to uncertainty mechanisms' section of this chapter.

7.43 However, we will include indicative examples of the scale and type of benefits we expect to see in the accompanying re-opener guidance, and keep the need for a threshold under review.

Financial incentive

7.44 In our SSMD, we said we would consider whether there is a need to incentivise network companies to use the mechanism.[66] We do not propose to include a financial incentive for network companies to use the CAM.

7.45 Some network companies have argued that an incentive is necessary to recognise the cost involved in, for example, exploring multiple options or foregoing any potential TIM on activity they have transferred.

7.46 We consider exploring options to be part of normal business planning and project delivery work. Network companies already have performance incentives to motivate such exploration, such as avoided costs through the TIM and those related to delivery of outputs.

7.47 We acknowledge that a company transferring activity out of its price control may affect their level of reward or penalty under the TIM. We consider that the network companies involved are best placed to agree a compensatory value for this risk to be passed between them, and allow for it in the assessment of likely net benefits for the consumer.

7.48 We will not set fixed rules for these commercial agreements, but will expect to see it included in the re-opener application cost benefit analysis, and will include some indications of reasonable scale in the re-opener guidance.

Unforeseeable

7.49 In our SSMD, we considered a requirement that any proposed transfer could not have been 'foreseen', to avoid potential 'selling-on' of activities.[67]

7.50 However, we consider that the scrutiny involved in the Business Plan submission assessment process, stakeholder engagement and enhanced engagement groups should result in a level of oversight to ensure that outputs and projects are originally allocated based on what is considered to deliver the greatest benefit to consumers at the start of the price control. As such, we consider the requirement

[66] SSMD Core Document, paragraph 8.40.
[67] SSMD Core Document, paragraph 8.41.

would be an additional burden of proof hurdle in the application process for little gain, and will not include it as a condition.

Timing of re-opener windows

7.51 In our SSMD we proposed two windows (in years two and four of the 2021 price controls) to allow for integration of the ED-2 Business Planning cycle.[68]

7.52 Some stakeholders have subsequently commented that an annual process would be more appropriate to deliver fluidity between price controls. Some potential transfers may be too time-sensitive to accommodate a delay of two years until the next window opens.

7.53 We would be interested to receive views on whether there should be annual re-opener windows instead.

7.54 The common design parameter for re-opener application windows is January. However, stakeholders have suggested that May is a more appropriate month for re-opener windows for the CAM, allowing for joint options to be considered after network companies have reviewed their financial position in April, and to align with the RIIO-ED2 planning process.

7.55 We would also be interested to receive views on whether January or May is a more appropriate application window for this re-opener.

Joint applications

7.56 We propose that applications should come from a single licensee, but must include a statement of agreement between the licensee who was originally assigned the responsibility and associated revenues for the output or project, and the licensee who is able to deliver it with greater benefits to consumers.

7.57 As the CAM licence condition will initially only be available to ET, GT, and GD in their RIIO-2 price controls, we recognise that there may be difficulties with the ED sector making use of the CAM re-opener before the start of RIIO-ED2 in 2023. We would welcome views on two options:

a) an application under a single network company's CAM licence condition that contains a statement of agreement from their partner network company, so

[68] SSMD Appendix 2, page 147.

allowing an electricity distribution network company to participate as the partner network company

b) introducing the same licence condition into the RIIO-1 price control for electricity distribution network companies.

7.58 We propose to introduce the CAM licence condition for ET, GT and GD by the start of the price control in April 2021, and will engage further with all stakeholders on the associated Guidance.

Triggered by networks in agreement only

7.59 In our SSMD, we proposed that Ofgem should follow the default arrangements for re-openers and be able to trigger this re-opener in response to new information or analysis, and that a single network could apply (without agreement from potential partner networks).[69]

7.60 After further discussion with stakeholders, we have decided that this would not be appropriate for the CAM as it is only intended to be a process to transfer activity from one price control to another where the networks are in agreement. It is not a tool for one network company to ask Ofgem to impose a decision on another, nor is it a tool for Ofgem to micromanage business decisions.

Consultation questions

Q13. Do you agree with our proposals on a materiality threshold, a financial incentive, a 'foreseeable' criterion, and who should trigger and make the application?

Q14. Do you consider that two application windows, or annual application windows, are more appropriate, and should these be in January or May?

Q15. Do you consider that the RIIO-1 electricity distribution licences should be amended to include the CAM, or wait until in 2023 at the start of their next price control?

[69] SSMD Appendix 2

Cyber Resilience Operational Technology[70] (OT) and Cyber Resilience Information Technology[71] (IT)

Background

7.61 Cyber security and resilience is vital to the provision of energy in GB. There is a need for continued investment to manage the risks on networks and information systems, as we recognise the consequences of potential cyber related incidents on consumers. The following applies to network companies and the ESO.[72]

7.62 Due to national security concerns, we have set out our rationale for our proposed cyber resilience OT and IT allowance in confidential company annexes, which have been sent directly to network companies and the ESO. We are consulting on our proposed approach to determine our proposed allowance for cyber resilience OT and IT in a non-confidential version of the Cyber Resilience OT and IT Methodologies Annex.

7.63 In our SSMD, we decided that for the cyber resilience OT allowances will be provided on a 'use it or lose it' basis, with allowances subject to ongoing monitoring as part of outcome based PCDs.[73] A re-opener mechanism will be available at the beginning of RIIO-2 to companies who were unable to submit these plans by December 2019. We decided that for the cyber resilience IT, baseline allowances will be provided with a re-opener mechanism to deal with uncertainty.

Cyber Resilience OT and Cyber Resilience IT[74]	
Purpose	To reduce risk, improve cyber resilience and response outcomes on the networks and comply with relevant regulations.
Benefits	Ensure network companies are managing risks posed to the security of the network and information systems, and preventing and minimising the impact of incidents on these essential services to ensure a safe and resilient network

[70] Operational Technology are network and information systems that are considered necessary to the delivery of essential services, for example Supervisory Control and Data Acquisition Systems (SCADA).
[71] Information Technology are network and information systems that are used within business functions, for example word processing.
[72] Cyber resilience OT does not apply to the ESO.
[73] SSMD Core document paragraph 6.108.
[74] We no longer refer to 'Cyber Resilience' and 'Business IT Security', as we did in the SSMD Core Document. We have decided to change our reference to provide clarity for non expert readers. We now refer to these two terms as 'Cyber Resilience Operational Technology (OT)" and "Cyber Resilience Information Technology (IT)".

Consultation Position

UM parameter	Consultation position
Cyber Resilience OT	Two re-opener application windows for all network companies available at the beginning of the price control (2021), and mid-period (2023). All licensees required to submit application at first re-opener window. Allowance subject to ongoing monitoring as part of outcome based PCDs. No materiality threshold and no aggregation.
Cyber Resilience IT	Two re-opener application windows for all network companies available at the beginning of the price control (2021), and mid-period (2023). All licensees required to submit application at first re-opener window. Allowance subject to ongoing monitoring as part of outcome based PCDs. No materiality threshold and no aggregation.

Consultation Position

Re-openers for Cyber Resilience OT and IT

7.64 We propose that network companies can submit cyber resilience OT and IT re-opener applications to propose adjustments to their allowed expenditure, outputs and delivery dates to cover matters including (as appropriate):

- new projects capable of producing measured risk reduction and improving National Cyber Security Centre (NCSC) Cyber Assessment Framework (CAF) outcomes on their networks and information systems, to comply with The Security of Network and Information Systems Regulations 2018[75,76]
- significant changes to levels of risks or threats
- new statutory or regulatory requirements relating to cyber resilience OT and IT.

7.65 For all companies – and for both cyber resilience OT and IT – we propose a re-opener mechanism at the beginning of RIIO-2, as well as a re-opener mechanism at the mid-period of RIIO-2:

- 1 April 2021 and 8 April 2021[77,78]

[75] NCSC Cyber Assessment Framework
[76] This is applicable for cyber resilience OT re-openers only.
[77] Due to a shorter price control, the ESO does not have formal re-openers. However, we propose to require the ESO to use this window to submit new cyber resilience IT plans.
[78] Note that cyber resilience OT does not apply to the ESO.

- 25 January 2023 and 31 January 2023.[79]

7.66 We propose that there is no materiality threshold for cyber resilience OT and IT re-openers. Cyber resilience OT and IT activities are carried out to reduce and mitigate threats relating to national security. Therefore, we do not think it is appropriate that projects must meet a materiality threshold. Since there is no materiality threshold, we do not think it is appropriate for these re-openers to be included as part of the aggregation process.

7.67 Cyber resilience OT as a policy area is relatively new, resulting in uncertainty around the scope and cost of cyber security OT enhancements. The cyber resilience IT environment is fast changing and new risks/threats may emerge post Business Plan submission. We are therefore proposing to require all network companies to submit an updated cyber resilience OT and IT plan during the first re-opener window at the start of RIIO-2.

7.68 We propose to include reporting requirements for both cyber resilience OT and IT and will engage with network companies to establish these requirements.

7.69 We propose that in addition to specifying the delivery of project-specific outputs, the PCDs should also require the delivery of outputs such as CAF outcome improvement, risk reduction and cyber maturity improvement.

Proposed 'use it or lose it' allowance for cyber resilience OT

7.70 In considering whether the cyber resilience OT 'use it or lose it' allowance has been spent in a proportionate, appropriate and efficient way, we will consider factors including whether the licensee has:

- engaged and reported progress regularly with Ofgem, and considered any guidance between Draft Determinations and the first re-opener window, and throughout the price control
- used the first re-opener window to propose improved plans and solutions, including a more mature programme of activities
- for Cyber Resilience OT plans, demonstrated risk reduction, improvements in CAF outcomes, and milestone achievements

[79] This window does not apply to the ESO.

- demonstrated organisational, governance, and senior stakeholder support for Cyber Resilience OT plan.

Consultation Questions

Q16. Do you agree with our proposed re-opener windows for cyber resilience OT and IT, and our proposal to require all licensees to provide an updated Cyber Resilience OT and IT Plan at the beginning of RIIO-2?

Q17. What are your views on including the delivery of outputs such as: CAF outcome improvement; risk reduction; and cyber maturity improvement, along with projects-specific outputs?

Non-operational IT and Telecoms capex re-opener

Non-operational IT and Telecoms capex	
Purpose	To provide allowed expenditure to network companies as part of their Totex to implement efficient IT enhancements in support of the business systems and networks.
Benefits	Ensure network companies are able to achieve their IT strategy and meet the aspiration of digitalising the energy sector.

Background

7.71 We decided that for the non-operational IT and Telecoms capex, baseline allowances will be provided subject to the Totex Incentive Mechanism and a re-opener mechanism will be included to deal with projects considered to have high levels of uncertainty.

7.72 The following section sets our views on the re-opener process. Our approach to setting baseline allowances for non-operational IT and Telecoms capex is addressed in the company specific documents.

Consultation Position

Output parameter	Consultation position
Non-operational IT and Telecoms capex	Two re-opener windows for all network companies available at the beginning of the price control, and mid-period. No materiality threshold. No aggregation.

Rationale for consultation position

7.73 We propose that network companies can submit non-operational IT and Telecoms capex re-opener applications to propose adjustments to their allowed expenditure, outputs, and delivery dates:

- for projects submitted as part of their RIIO-2 Business Plan that were not afforded an ex-ante allowance
- for new statutory/regulatory requirements relating to IT systems and deliverables.

7.74 For all companies, we propose a re-opener window at the beginning of RIIO-2, as well as a window at the mid-period of RIIO-2. The dates we are proposing for these re-opener application windows are:

- between 1 April 2021 and 8 April 2021
- between 25 January 2023 and 31 January 2023.

7.75 We propose that there is no materiality threshold for non-operational IT and Telecoms capex re-openers. IT investments are carried out to improve efficiency and operational capability while allowing the energy sector to transition into a digitalised industry and meet the expanding objectives and roles required. Therefore, we do not think it is appropriate that projects must meet a materiality threshold. Since there is no materiality threshold, we do not think it is appropriate for these re-openers to be included as part of the aggregation process.

Consultation Questions

Q18. Do you agree with our proposal for the Non-operational IT and Telecoms capex re-opener?

Physical security

Physical security re-opener	
Purpose	To adjust revenues following government mandated changes to network site security requirements
Benefits	Ensures network companies are compliant with government security requirements.

7.76 The network companies are responsible for a number of assets that are considered by government as Critical National Infrastructure (CNI). Working with the

Department for Business, Energy and Industrial Strategy (BEIS), network operators agree and implement the Physical Security Upgrade Programme (PSUP), which involves measures required to enhance physical security at CNI sites.

7.77 The level of security at each CNI site and the type of solution required is determined externally and must adhere to BEIS' PSUP Guidance Document[80] and CPNI High Level Security principles.[81]

7.78 In our SSMD, we said we will have a re-opener window at both the mid-period and end of the price control to adjust allowed revenues if there are government mandated changes to the scope of work required during RIIO-2.[82]

7.79 For CNI sites that require an enhanced PSUP solution during RIIO-2 and where the scope is known, we have provided efficient baseline funding. We are proposing that baseline allowances for physical security are subject to ongoing monitoring as part of PCDs. See the company specific documents for full details of our assessment and PCDs.

Consultation position

UM parameter	Consultation position
Materiality threshold	Apply a materiality threshold in line with our common approach to re-openers.
Re-opener window	Regulatory Year 2023 (mid-period) and 2026 (close-out)

Rationale for consultation position

7.80 Changes in government policy and revisions to the CNI list are out of network companies' control and may result in significant investment being required in RIIO-2 for which companies have received no baseline funding.

7.81 We consider there to be a need for a mid-period re-opener to provide certainty of allowed funding where there has been a significant change to the work required. We consider this strikes the right balance between providing flexibility to respond to changes in government policy and providing certainty to companies where

[80] Due to its confidential nature, this is not published publically by BEIS.
[81] CPNI Protection
[82] SSMD Core document Chapter 6.

there is significant change so that they can proceed with delivering the required investments.

7.82 In our SSMD, we proposed that both the mid and end-of-period re-opener windows should have a materiality threshold, but did not take a decision at that stage on what the threshold should be. We propose to apply a materiality threshold in line with our common approach to re-openers.

7.83 This is to ensure that only changes in government policy which have a material impact on the required investment are considered, rather than using significant resources and introducing regulatory burden for costs that are not material.

7.84 This re-opener mechanism is only for physical security investments made as part of the PSUP programme following changes to government policy. The mechanism does not include any non-PSUP physical security investments.

Consultation questions

Q19. Do you agree with our approach to using a re-opener mechanism for changes to government physical security policy?

Addressing changes to legislation, policy and technical standards

7.85 New technical standards, regulatory amendments, and legislative requirements emerged in some areas during RIIO-1 with which network companies had to comply without an allowance to cover associated costs. Anticipating similar issues in RIIO-2, several companies proposed bespoke re-opener mechanisms relating to amendments to, or the introduction of, new technical standards, policy, and legislation that may emerge during RIIO-2 that may result in unforeseen costs. This, for example, included Brexit, environment and climate change and black start resilience.

7.86 We also previously set out that one of the key areas where there are strong ties to the RIIO-2 framework is reforming access and forward-looking charging arrangements. We stated that we would consider what mechanisms and processes are required to deal with any changes to existing arrangements that may arise during the price control period. [83]

[83] RIIO-2 Framework Decision

Consultation position

Output parameter	Consultation position
Need for legislative policy change re-opener(s)	To not introduce any additional uncertainty mechanisms to adjust allowances in response to changes in legislation, policy or technical standards.[84] However, our position reflects a lack of information provided by network companies on the types of costs that may be driven by specific areas of uncertainty. We are seeking views on the specific areas of legislative, policy, and technical standards that may drive costs in RIIO-2 that cannot reasonably be expected to be managed by the companies.

7.87 We do not currently propose to include any additional re-opener mechanisms relating to changes in legislation, policy, or technical standards. This is on the basis that we have insufficient information to justify the need for or scope of any such mechanisms in any sector currently.

7.88 However, we are seeking views on the legislative, policy, and technical standards that stakeholders think are likely in the following areas:

- Environment and climate change - we are seeking views on what sort of legislative changes might result in increased costs because of changes in future environmental or climate change policy.
- Wayleave review adjustment (relating to Electricity Transmission only) – we are seeking views on how the review of compensation rates may impact the costs on work proposed within the RIIO-2 Business Plan Data Templates. We are also seeking views on which types of assets this review may affect and the level of engagement network companies have had with the National Farmers Union and the associated independent assessment body to date.
- Brexit – we are seeking views on what sort of legislative changes and changes to associated Trade Tariff commodity codes, duty, and VAT rates caused by changes to arrangements of the EU Customs Union may impact licensees' costs. We are also seeking views on the specific asset types that may be affected by such changes.
- Environmental Enhancement – we are seeking views on the monetary impact the implementation of the Environment Bill may have regarding the mandatory provision to improve biodiversity net gain. We are seeking views on the incremental costs as well as the likely timeframes.

[84] Beyond those uncertainty mechanisms we are already proposing for specific areas in this Draft Determination (eg heat policy re-opener).

- Engineering technical standards – we are seeking views on what sort of changes to engineering technical standards may impact licensees' costs during RIIO-2 and what the monetary impact may be as well as the asset types that may be affected.
- Access reform implementation – we are aiming to implement our electricity network access and forward-looking charges Significant Code Review (SCR) in 2023. We acknowledged that there is the potential for driving down costs and supporting timely and efficient network investment by helping identify where alternative solutions (such as new sources of flexibility) should be taken forward as an alternative to new capacity.[85] We are seeking views on how the Access review may manifest in its interaction with elements of the price control (eg volume drivers, TIM).

7.89 We also note that alternative mechanisms may already be in place within the RIIO-2 framework, rendering the need for additional uncertainty mechanisms unnecessary. Table 9 below highlights where in our Draft Determinations we have mechanism that address these type of uncertainty.

Table 9: Alternative uncertainty mechanisms to new legislative, policy and technical standards UMs

Uncertainty	Location in Draft Determinations
Heat Policy	GD Sector Document, Chapter 4
Multiple-occupancy buildings (MOBs) safety	GD Sector Document, Chapter 4
Specified streetworks	GD Sector Document, Chapter 4
Physical security (PSUP)	This chapter
Flood resilience	See Medium Sized Investment Re-opener (MSIP), ET Sector Document, Chapter 4
Cyber Resilience OT and IT	This chapter
Black Start	See MSIP, ET Sector Document, Chapter 4
Net Zero re-opener	This document, Chapter 8

Review of GB System Operation

7.90 Our RIIO-2 proposals are based on the current governance framework for the gas and electricity system operators. In February 2020, we announced an accelerated and expanded review of GB system operation. This review will provide the government with advice on whether we have the right governance framework in

[85] Reform of electricity network access and forward-looking charges: a working paper

place to deliver the Net Zero emissions target at lowest cost to consumers. If this review (or any subsequent review) results in the government deciding to make changes to the current model for system operation, then we may need to reconsider the suitability and effectiveness of the RIIO-2 price control arrangements for the affected companies which could lead to key parameters of the settlement being adapted.

Consultation questions

Q20. Do you agree with our approach regarding legislation, policy and standards?

8. Net Zero and innovation

8.1 A key objective of RIIO-2 is to prepare the networks and ESO to deliver Net Zero at lowest cost to the consumer, while maintaining world-class levels of system reliability.

8.2 Investment in the energy networks is likely to need to rise, perhaps significantly, to meet Net Zero targets as we progress through this decade.

8.3 To achieve our objective, we are therefore challenging network companies in these Draft Determinations to be as efficient as possible in how they run and finance themselves. This will help to offset the impact of any Net Zero investment on consumer bills. We are similarly challenging the ESO to be highly ambitious and work closely with other industry parties and wider stakeholders to ensure there is a coordinated, whole system approach to solving Net Zero system challenges.

8.4 The transition to a Net Zero future also requires a fundamental change in how we operate network price controls. In February, we published Ofgem's Decarbonisation Action Plan setting out our intentions to make "the network price control regulatory regime more adaptive to deliver the most effective transition at lowest cost". To this end, we propose to make the RIIO-2 price control flexible enough to inject the necessary funding, at the right time, to enable the achievement of Net Zero. In practice, this means we have allowed room for significant additional requests from the network companies for funding to be made at any time within the price control period, rather than having everything settled at the beginning of the control. The ESO's price control is designed to provide it with the flexible funding required, and means specific Net Zero uncertainty mechanisms are not required. This is set out in more detail in the ESO Sector Annex.

8.5 Where there is a clear needs case to provide allowances for Net Zero investment now, our Draft Determinations propose to provide baseline funding for these. For instance, we are proposing to allow over £3.5bn baseline funding for a range of projects to facilitate Net Zero and enable companies to respond to changing network conditions. This includes:

- connecting renewable generation in the ET sector

- targeted innovation funding and outputs in the GD sector for activities such as hydrogen research and development, and trial projects
- funding for the ESO to invest in its control room IT systems to ensure it can achieve the commitment to be able to operate the system carbon free by 2025.

8.6 Where there is less certainty that a particular investment is needed, or the scope or cost of the investment is unclear, we propose to introduce a range of UMs to enable the price control to flex when investment needs become clearer. We recognise that we and the networks will need to take calculated risks in many areas in the future. This includes anticipatory investment to propel the rollout of EVs and to achieve lowest cost deployment of renewables such as offshore wind. We also recognise that significant support for research and development and innovation-led trial for technologies such as hydrogen may be needed.

8.7 In their Business Plans, companies signalled a further potential £10bn of investment that may be needed to facilitate the Net Zero transition. This includes major anticipatory investments such as NGET's proposals to invest in transmission-powered rapid EV charging on the motorway network, and build loop circuits along the East Coast of England in anticipation of 40GW of offshore wind in the North Sea. Similarly, SHET indicated that there may be a need for additional investment during RIIO-2 to connect much higher levels of renewables generation in Scotland.

8.8 These companies have not sought baseline funding for these proposals because the needs case or scope is not currently clear. For instance, NGET's proposal for motorway charging will need to fit within the government's overall plan for rapid charging along motorways and A-roads, and are likely to need a combination of distribution and transmission system interventions. Similarly, developments in the coordination and design of the offshore transmission system could have a significant impact on requirements for onshore transmission reinforcements like NGET's East Coast proposal. We are also challenging the ESO to strengthen its proposals on how it approaches assessing network challenges (see the ESO Sector Document).

8.9 In Gas Distribution, SGN and Cadent proposed bespoke re-openers to develop and construct hydrogen infrastructure and run deployment trials. There is considerable need for research and trials to support the development of an evidence base around the safety and viability of Hydrogen. Furthermore, there is a need for the

industry to coordinate their project proposals to ensure that we create a complete evidence base and remove any potential overlaps or duplications between schemes. The proposed hydrogen infrastructure projects are also likely to be dependent upon the further development of government heat policy.

8.10 This is exciting work, but it will not be ready to progress in time for our Final Determinations in December. That is why our price control framework seeks to allow strategic network investments for Net Zero to be brought forward by companies throughout RIIO-2. This approach will also allow Ofgem to exercise scrutiny over company spending proposals that deliver decarbonisation, keeping the cost to consumers as low as possible.

8.11 To make ongoing funding decisions on such major strategic investments in the most joined up way, we want to improve our co-ordination with the government and other key stakeholders such as the National Infrastructure Commission, the Committee on Climate Change, and the devolved administrations. To do this, we have established a Net Zero Advisory Group (NZAG), bringing these key players together. Discussions with the NZAG could inform our decisions on our approach to and timing of big strategic investments.

8.12 At the heart of our strategic approach are two mechanisms we propose to use to support the transition to Net Zero: the Net Zero re-opener and Strategic Innovation Fund (SIF). The Net Zero re-opener and SIF will be available to GD and Transmission sectors, while the SIF will also be available to the ESO (Table 10). We would also retain innovation funding for network companies and the ESO via the Network Innovation Allowance (NIA).

8.13 In addition to these cross sector mechanisms, we are also proposing a package of sector-specific UMs (Table 11). We expect these to work as a coherent package of measures to ensure companies have sufficient flexibility to bring forward both strategic network investments for Net Zero and respond to changes in network requirements.

Table 10: Summary of our proposals for cross-sector RIIO-2 Net Zero-related mechanisms

Proposals	Strategic Innovation Fund (SIF)	Net Zero Re-opener
Scope	To enable a strategic approach to innovation funding that supports the achievement of Net Zero targets. The SIF would be available to all network companies and the ESO.	To allow changes in policy, the role of network companies, as well as technological or market developments to be reflected in company allowances.
Criteria	Network activities that focus on achieving Net Zero targets and, in particular, on related strategic innovation challenges set by Ofgem. Precise scope set on challenge-by-challenge basis.	Material changes requiring significant adjustment to expenditure due to changes in policy, the role of network companies, or technological or market developments.
Funding approach	Flexible upward adjustment of network charges (BSUoS, TNUoS and NTS Charges) at time of relevant decision, subject to a clear and objective process for evaluating funding bids and assessing cost efficiency. Costs socialised across GB consumers.	Adjustments could include increasing or reducing cost allowances, specified levels of activity or outputs.
Materiality threshold	Minimum threshold of £5m, but subject to change based on challenge set. No maximum cap.	Set a materiality threshold such that we will only adjust allowances if the changes to allowances resulting from our assessment, multiplied by the TIM incentive rate applicable to that licensee, exceeds a threshold of 1% of annual average base revenues (as set out in Final Determinations).

Table 11: Proposed UMs across sectors we expect to support facilitation of Net Zero

Mechanism	Sector coverage	Detailed description
Heat Policy re-opener (to respond to policy decisions on the future of gas and heat)	GD	GD sector document
Demand and generation connection volume drivers (automatic mechanism to flex allowances)	ET	ET sector document
Medium-sized Investment Projects (MSIP) (for projects up to £100m)	ET	ET sector document
Large Onshore Transmission Investment (LOTI) (for projects greater than £100m)	ET	ET sector document
Major projects re-opener (eg to assess funding for projects to reduce compressor emissions)	GT	NGGT company annex
Incremental capacity re-opener (to assess requests for capacity in GT)	GT	NGGT company annex

8.14 We note that a number of companies proposed the need for one or more 'legislative policy' re-openers. In some cases, these were proposed specifically in light of potential Net Zero legislative changes. As set out in chapter 8, we do not propose to include these bespoke legislative re-openers in the price control. We recognise that we need to allow for legislative change, but we expect that any such changes could be accommodated within one of the UMs presented above.

Consultation questions

Q21. Do you agree with our overall approach to meeting Net Zero at lowest cost to consumers? Specifically, do you agree with our approach to fund known and justified Net Zero investment needs in the baseline, and to use uncertainty mechanisms to provide funding in-period for Net Zero investment when the need becomes clearer?

Q22. Do you think the package of cross sector and sector-specific UMs provides the appropriate balance to ensure there is sufficient flexibility and coverage to facilitate the potential need for additional Net Zero funding during RIIO-2?

8.15 The remainder of this chapter consults on proposals for the design of the Net Zero re-opener, SIF and NIA respectively.

Net Zero re-opener

Net Zero re-opener	
Purpose	To introduce an increased level of adaptability into the RIIO-2 price control by providing a means to amend the price control in response to changes connected to the meeting of the Net Zero carbon target, which have an effect on the costs and outputs of network licensees.
Benefits	To allow for necessary amendments within the RIIO-2 period, as opposed to waiting until the settlement of the subsequent price control.

8.16 In our Decarbonisation Action Plan, we said that we would seek to introduce a system-wide[86] Net Zero re-opener spanning the gas and electricity sectors. Our aim was to balance the need for investor confidence with the need to respond flexibly to technological and policy developments along the path to Net Zero.

8.17 During RIIO-2, companies will be expected to deliver various outputs identified at the outset of the price control using allowed revenues. Generally, we do not change output targets or revenue allowances during the price control period unless we have made provision in the price control for a known uncertainty.

8.18 However, it is critical that the price controls enable the gas and electricity networks to support the achievement of Net Zero targets. We recognise that Net Zero policy will not develop in five-year segments, aligned with our RIIO-2 timetable. Accordingly, there may be circumstances during the price control period where assumptions made to set the price control are no longer appropriate, due to changes related to the transition to Net Zero. Where this is the case, it may be necessary to make adjustments (the effect of which could be, among other things, to increase or decrease allowed revenues) during the period rather than waiting until the next price control review. This is why we believe it appropriate to introduce the Net Zero re-opener mechanism into the RIIO-2 price controls.

8.19 We sought views from stakeholders including all TOs, GDNs and DNOs via a letter issued in May. We received responses from all but one network licensee, and one other stakeholder. We reviewed these responses, and had regard to them in arriving at the position on which we are consulting on here.

[86] As the ESO has a 2-year business plan that provides sufficient overall flexibility for net zero adaption, we do not propose to put this re-opener in place for the ESO.

8.20 We consider it appropriate to include the Net Zero re-opener in RIIO-2, as it would provide the necessary level of adaptability to Net Zero-related developments that would not otherwise exist within the price controls. It represents a distinct proposal from the other elements discussed in this chapter: we would not expect the Net Zero re-opener to be used to fund innovation projects, which companies should fund through BAU activities or using the innovation stimulus, or heat policy initiatives for Gas Distribution, for which we propose a separate re-opener.

Consultation position

Output parameter	Consultation position
Scope	Changes connected to the achievement of the Net Zero carbon target not otherwise captured by any other RIIO-2 mechanism.
Reopener Window (year)	The re-opener mechanism could be used by Ofgem at any time throughout the RIIO-2 price control.
Materiality threshold / Trigger	Apply a materiality threshold in line with our common approach to re-openers.

Rationale for consultation position

Scope

8.21 In our May letter, we asked stakeholders for their views on the appropriate scope for the re-opener. Overall, responses on this point were mixed, with some respondents generally expressing a preference for a mechanism limited to changes in government policy and others a preference for a wider set of triggering events. Several stakeholders suggested that the scope of the re-opener should be kept narrow. They suggested that it should be restricted to some or all of: material changes in government policy; technological changes; whole system opportunities or other events that were not well understood at the point of the Business Plans. A TO argued that a broader approach was warranted – they suggested that adopting a narrow definition could unduly limit the potential Net Zero impacts.

8.22 In responses to the May letter, stakeholders flagged some potential areas where changes may occur in RIIO-2 for which use of the Net Zero mechanism may be appropriate. These included changes relating to:

- the use of hydrogen on the gas network
- power generation (including the prevalence of offshore wind and distributed generation) and associated impact upon energy network companies

- the use of biogas
- further electrification of the rail network
- heat policy (where not otherwise within the scope of the heat policy re-opener in the Gas Distribution sector)
- the nature and pace of the uptake of electric vehicles.

8.23 We propose to proceed with the introduction of the Net Zero re-opener along the lines of the wider scope detailed above. This approach would help to ensure that RIIO-2 can be adaptable to a wider range of potential developments. We consider that a narrowly framed re-opener would be ineffective in enabling us to respond to a broad range of potential developments in RIIO-2. As such, it might mean that we miss opportunities in RIIO-2 to facilitate the achievement of the Net Zero target.

Process

8.24 We envisage the re-opener mechanism would operate along the following lines.

8.25 Subject to the consideration of all relevant available evidence, received through the NZAG or other representations, for instance, we would determine whether a relevant change of circumstances that could have a material impact on RIIO-2 costs or outputs has occurred or will occur.

8.26 Where a relevant change in circumstances is identified, we would consult on the anticipated impact of the change. Stakeholders would at this stage have the opportunity to make representations on whether, and how, the change should be reflected in the price control. In the case of network companies, this could include resubmitting elements of their Business Plans.

8.27 We would consider responses to the consultation and form a view on whether and what amendments to network company licences are necessary to facilitate the change, and the extent to which other uncertainty or price control mechanisms could facilitate the required changes. We would also consider whether the proposed adjustments are sufficiently material to proceed with triggering the re-opener (materiality is covered in more detail in the following section).

8.28 Following a further consultation on the detail of proposed adjustments, we would then amend the relevant network company licences to implement any adjustments, as appropriate.

8.29 As part this overall process, we would consider the extent to which other uncertainty mechanisms or price control mechanisms may be capable of enabling the changes required.

8.30 We consider that Ofgem should have sole ability to initiate the Net Zero re-opener. However, stakeholders would have the option of drawing to our attention issues that they believed were relevant.

8.31 In response to our May letter, some network companies expressed the view that they should be given the ability to trigger the use of this re-opener. They suggested that they were better placed to anticipate and identify whether a re-opener is required than Ofgem, and that restricting their ability to do so may lead to missed opportunities.

8.32 Input from stakeholders will be vital in allowing this proposed mechanism to work effectively. Through ongoing engagement with licensees, policy-makers (including via NZAG) and a wider group of stakeholders, we will be able to gather sufficient information to inform us as to when this mechanism should be used. Furthermore, we consider it important that the mechanism should only be used in circumstances where it will lead to consumer benefit. We are well placed to make decisions as to when and in what circumstances the mechanism should be used, taking stakeholder views into consideration. Therefore we propose that Ofgem alone may trigger this re-opener mechanism.

Materiality threshold

8.33 As proposed in Chapter 7, our general principle is that re-openers within the RIIO-2 price controls must feature specific materiality thresholds which have to be met in order to trigger use of the mechanism. We have considered whether such an approach would be appropriate in this case.

8.34 A materiality threshold would also help to ensure that the re-opener process is only used where the expected benefits of running the process would outweigh the expected costs to stakeholders and Ofgem. It would prevent relatively minor adjustments with overall limited potential benefits for consumers from being pursued.

8.35 Conversely, in this particular instance, it is difficult to foresee in detail the precise nature of the changes that may be addressed via this mechanism or the associated adjustments that may be required. On this basis, it may be preferable

to make an exception to the general rule and leave the materiality question open but consider this on a case-by-case basis, when faced with a relevant change.

8.36 On balance, we propose to apply a materiality threshold in line with our re-openers. This would ensure that Ofgem and licensees only deal with changes that are sufficiently material and where the costs of using the mechanism are clearly outweighed by the expected benefits.

Adjustments

8.37 We envisage that, through the re-opener process, the types of changes that could ultimately be made to network companies' licences could include:

- increases or decreases in allowed revenue
- adjustments to existing output targets or the introduction of new output arrangements
- changes to existing reporting requirements or the introduction of new reporting requirements.

8.38 We intend to discuss a draft of a Net Zero re-opener licence condition at a forthcoming RIIO-2 Licence Drafting Working Group.

Consultation question

Q23. Do you have any views on our proposed approach to a Net Zero re-opener?

Innovation

8.39 Innovation activity will help enable the transition to a smarter, more flexible and sustainable low-carbon energy system. It will also help to reduce costs for consumers, including by finding new ways of operating and developing networks.

8.40 Innovation should be a core part of companies' BAU activities – as part of our SSMD, we challenged companies to demonstrate more innovation in their Business Plans. We also decided to provide dedicated innovation funding in the form of a SIF, devoted to large-scale transformational research and development projects, and the NIA, devoted to smaller-scale process or technological innovations.[87]

[87] SSMD Core Document, Chapter 10.

8.41 Below we outline our proposals for the SIF, which will enable high value, strategic innovation projects and increase alignment between network innovation and other publicly funded innovation to support the transition to Net Zero.

8.42 We also set out our proposals for companies to receive around £180m of NIA funding in RIIO-2 in order to support smaller scale innovation focused on the energy system transition and help consumers in vulnerable situations. This funding is conditional on the implementation of an improved reporting framework ahead of the start of RIIO-2, and will be supported by measures to improve the robustness of RIIO-2 NIA projects.

RIIO-2 Strategic Innovation Fund

Strategic Innovation Fund	
Purpose	To ensure a greater degree of alignment between network innovation and other publicly funded innovation to support the transition to Net Zero. The SIF will target network initiatives that directly or indirectly contribute to the achievement of Net Zero while delivering benefits to network companies and consumers.
Benefits	Support strategic network innovation projects that would not otherwise be supported within a five-year price control and contribute to the energy system transition.

Background

8.43 In our SSMD, we confirmed that we will include a new innovation funding pot in RIIO-2.[88,89]

8.44 The current process by which companies identify projects for network innovation funding can be uncoordinated and lack strategic focus. This is particularly problematic given that the nature of future system challenges are likely to require increased collaboration between network companies, third parties and funders of innovation[90], and greater consideration of whole system solutions.

[88] The introduction of the SIF was also a key action within our Decarbonisation Action Plan published in February 2020.
[89] Alongside this document, we have also published a report from Afry considering options for the operation of the SIF.
[90] Including the Department for Business, Energy and Industrial Strategy, the Department for Transport, UK Research and Innovation, and the devolved administrations.

Consultation position

Strategic Innovation Fund	Consultation position
Key aims	To support strategic innovation that contributes to the achievement of Net Zero targets and benefits network companies and consumers as a whole. To facilitate meaningful progress in the decarbonisation of power, heat, transport and wider industry, and support the energy system transition at lowest cost to consumers. To further coordinate network innovation funding with other public sector funding initiatives, ensuring greater strategic alignment and eliminating funding gaps. To respond flexibly to challenges that arise, moving away from a rigid annual competition process to evaluate projects.
Setting an innovation strategy	Set the strategic focus for network innovation projects funded by the SIF by working with the government, in particular through the Net Zero Innovation Board, to develop a sector-wide energy innovation strategy.
Setting Innovation Challenges for SIF projects	Set Innovation Challenges against which we expect companies to bring forward network innovation projects
Frequency of Innovation Challenges	Set challenges for SIF projects across RIIO-2 to target strategic issues as they arise
Scope of eligible projects	The SIF would focus on strategic projects that would not otherwise be taken forward as BAU activities by companies or via NIA funding. Projects would only be eligible for funding where (a) access to the assets of a network company are essential, or (b) in the case of third-party innovators, the innovation would not happen but for the provision of SIF funding.
Requiring industry collaboration and third party involvement	The Innovation Challenges will include requirements relating to the composition of consortiums and project partnerships that bid in for funding, where appropriate.
Value of funding available	The SIF should be used to fund individual high-value innovation projects over £5m. Make available a level of total funding equivalent to that provided via the RIIO-1 Network Innovation Competition (NIC), which was £450m, and may increase this if necessary.
Percentage of innovation project funded	Consider on a case-by-case basis what percentage of projects would be funded via the SIF
Source of funds for the approved projects	Approved projects would be funded via use of system charges
Evaluation of projects	Projects will be evaluated using an independent expert panel.
Administration of SIF	Appoint a third party to administer the fund on our behalf.

Rationale for our consultation position

Key aims

8.45 Our proposed key aims for the SIF build upon the three areas of reform that we set out in July 2018: to increase alignment of funding to support the energy system transition; to increase coordination with other public innovation funding and enable increased engagement from third parties.

8.46 Additionally, innovation required to meet Net Zero needs will require us to operate more flexibly than we did within the RIIO-1 NIC to ensure we can quickly respond to emerging innovation needs.

Setting an innovation strategy

8.47 We would work with the government, in particular through the Net Zero Innovation Board,[91] to develop a sector-wide energy innovation strategy. We expect BEIS to take the lead on the overall approach, and for Ofgem to focus on key areas, including networks.[92]

8.48 We anticipate that increased alignment with the government's sector-wide energy innovation strategy would help ensure that network innovation increasingly aligns with innovation within the wider energy supply chain, and benefits from increased international coordination (via engagement with the government's international innovation partnerships).

Setting Innovation Challenges for SIF projects

8.49 Innovation Challenges will likely be set around a range of network issues associated with the future of heat, power, transport and wider industry. In setting these Innovation Challenges, we may collaborate with other innovation funders, including BEIS, UKRI, third party innovators, and bodies such as the Health and Safety Executive. We consider that this strategic focus will help to ensure coherence across various end-to-end projects.

8.50 This approach may dictate that we adopt a more collaborative approach with industry as it seeks to support the development of projects. For example, to help set some challenges, we may need to work collaboratively with BEIS, UKRI, network companies, third party innovators, and bodies such as the Health and

[91] The Net Zero Innovation Board will soon replace the existing Energy Innovation Board.
[92] We note Ofgem will likely input into this wider strategy in line with Ofgem's wider responsibilities, such as generation, retail and consumer protection.

Safety Executive (HSE) to consider the challenges that need to be set and work with network companies as they develop network initiatives to address those challenges.

Frequency of Innovation Challenges

8.51 As we want to be flexible to respond to the innovation needs of the energy system transition, we propose to set Innovation Challenges during the price control as they arise, coordinating with other public innovation funders.

Scope of eligible projects

8.52 The SIF would focus on strategic network innovation projects that would not otherwise be taken forward as BAU activities by companies or via NIA funding. Accordingly, we propose that projects would only be eligible for funding where (a) access to the assets of a network company are essential, or (b) in the case of third-party innovators, the innovation would not happen but for the provision of SIF funding.

8.53 All SIF projects must deliver net benefits for network consumers, as the funding for these will ultimately come from consumer bills. Nevertheless, we believe our proposals would enable us to support a range of projects considering network issues associated with the future of heat, power, transport and wider industry. Additionally, eligible projects could include anything from early-stage research through to deployment trials.

Requiring industry collaboration and third party involvement

8.54 To ensure collaboration between network companies and third parties, we propose that the Innovation Challenges will impose requirements relating to the composition of consortiums and project partnerships that bid in for funding, where appropriate. For example, to ensure a given project's links across a sector are reflected, we may require that all network companies within that sector, academia and other relevant stakeholders are involved as project partners.

Value of funding available

8.55 In view of the continuation of the NIA for smaller-scale innovation projects, we propose that, in principle, the SIF should be used to fund individual high-value innovation projects over £5m. However, we may make exceptions to this in certain cases where projects would not otherwise be taken forward by companies as BAU activities or via the NIA.

8.56 During the RIIO-2 period, we propose to make available a level of funding equivalent to that provided via the RIIO-1 NIC, which was £450m, and may increase this if necessary.[93] However, we do not propose to set an annual funding limit and would instead set a cap for funding available for each challenge.

Percentage of innovation project funded

8.57 Within RIIO-1, the NIC funds 90% of projects, with companies or project partners making a 10% 'compulsory contribution'. However, as the nature of projects funded via the SIF may vary significantly in RIIO-2, for each Innovation Challenge, we propose to consider on a case-by-case basis what percentage of projects would be funded via the SIF.

Source of funds for approved projects

8.58 We propose that approved projects would be funded via use of system charges, in the same way as they are funded under the RIIO-1 NIC. As such, the cost of the innovation projects would be socialised across GB consumers, which we consider to be appropriate given the GB-wide learnings from innovation projects.

8.59 RIIO-1 gas NIC funds are currently raised from transmission customers via NTS Charges. We propose to adopt the same cost recovery mechanism for gas innovation projects funded via the SIF. In the case of electricity projects funded via the SIF, we propose that costs related to projects led by TOs would be recovered from Transmission Network Use of System (TNUoS) Charges, as is the case for RIIO-1 NIC funds. Costs related to projects led by the ESO would be funded via Balancing Services Use of System (BSUoS) Charges because many of the benefits of those projects relate to balancing and settlement.

Evaluation of projects

8.60 Decisions on project funding need to be evidence based. The involvement of the expert panel to evaluate projects would help to feed into our consideration as decision makers that project costs are reasonable and that projects will deliver benefits to network consumers.

8.61 The level of scrutiny of the expert panel would be proportionate to the scale of the project in question. For example, the expert panel may use a series of bilaterals

[93] The level of funding available via the RIIO-1 NIC covered GD, GT, ET, ESO and ED. We will consult separately on whether the proposed cap remains appropriate ahead of RIIO-ED2.

with bidders to evaluate high-value or complicated projects, whereas other smaller-value projects may not need bilaterals to support the evaluation.

8.62 Ultimately, all decisions on which projects receive funding via the SIF would be made by GEMA (or by delegated authority).

Appointing a third party to administer the SIF

8.63 The nature of the energy system transition means that the SIF will need to be capable of responding flexibly to emerging issues. Appointing a third party to administer the SIF would enable the fund to operate more flexibly and align with other funding programmes. Our proposal is that the role of the third party would be to:

- administer the funding programme - including setting the timeline and process for each challenge, processing bids for funding and engaging with bidders
- act as a secretariat for the expert panel - for example, by administering the recruitment of the expert panel and supporting its evaluation of projects
- conduct initial analysis of bids for funding - for example, by conducting background analysis and considering how projects submitted for funding build upon past innovation. This initial analysis would support the expert panel's evaluation and be considered by GEMA as decision maker.

Next steps

8.64 Our aim is that the SIF will be operational in 2021, which also aligns with the start of the next Government spending review period.

8.65 In addition to considering feedback from this consultation, over the coming year, we will seek to develop further detail on the practical operation of the SIF and consider:

- the definition of 'innovation' for the purposes of the SIF
- the possibility of using one public sector energy innovation interface through which companies would apply for energy innovation funding
- the source of funds for the administration of the SIF
- potential challenges for design-only early competitions
- how we can build upon the existing joint gas and electricity innovation strategies network companies produce

- how we can ensure network companies' knowledge dissemination activities build upon and link up with innovation activities funded by other bodies.

Consultation questions

Q24. Do you agree with our proposals for the RIIO-2 Strategic Innovation Fund?

Q25. Do you have any comments on the additional issues that we seek to consider over the coming year ahead of introducing the Strategic Innovation Fund?

Innovation within BAU activities

8.66 We assessed companies' innovation as part of BAU activities against the Business Plan Incentive Minimum Requirements (see Chapter 10). All network companies met the innovation-specific Minimum Requirements, and some companies were able to clearly demonstrate how their plan built on past innovation projects funded by the RIIO-1 innovation stimulus.

8.67 However, consistent with feedback from the Groups, we consider that some companies need to show more ambition to take forward innovation as part of BAU activities, and rely less on requests for additional NIA funding to take forward smaller-scale innovative activities.

8.68 Additionally, we have proposed efficiency challenges for companies on the basis of our expectation that companies build upon innovation funded by the consumer and continue to rollout proven innovation (discussed in Chapter 5).

Network Innovation Allowance

Network Innovation Allowance	
Purpose	To fund innovation relating to the energy system transition and support for consumers in vulnerable situations.
Benefits	The NIA will enable companies to take forward innovation projects with longer–term financial and environmental benefits for consumers, which they would not otherwise undertake within the price control.

Background

8.69 In our SSMD, we decided to reform the NIA for RIIO-2 to focus on innovation projects related to longer-term energy system transition challenges or consumer vulnerability issues. We decided to improve public reporting on projects, to ensure lessons learned can be shared across the industry, and to enhance third party

ability to engage with and access innovation projects. We indicated that we would consult further on the detailed design of the NIA.[94]

8.70 In this section we set out our proposals in relation to the RIIO-2 NIA framework and funding allowances. We have assessed the NIA requests made as part of companies' Business Plans, taking into consideration any additional relevant information.[95] For example, we have considered feedback from the Groups[96] and assessed the level of funding requested across companies, and against RIIO-1 innovation funding received and spent.

8.71 Where companies requested a proportionately higher amount of funding, we looked for clear and compelling reasons why this was necessary and where it would be spent. Where we consider the case for providing the funding is clear, we propose to set the allowance at the level requested. Where it is not, we propose to provide companies with levels of NIA funding similar to the RIIO-1 benchmark – provided they included evidence against the criteria from the SSMD.

8.72 In addition, subject to feedback to this consultation, we plan to consult on and implement the new RIIO-2 NIA governance arrangements ahead of the start of the new price control.[97] Although the RIIO-1 NIA governance document will be our starting point, we propose several improvements below for RIIO-2, which we consider will strengthen the NIA framework.

[94] SSMD Core Document, paragraphs 10.47 - 10.63 and 10.71-10.73.
[95] The full detail we requested from companies on NIA was detailed in the Business Plan Guidance, paragraphs 2.73-2.76.
[96] When reviewing feedback from the Groups, we also considered any representations companies made in response pushing back on the Groups' views.
[97] RIIO-1 NIA governance documents

Consultation position

Network Innovation Allowance	Consultation position
Provision of NIA funding	In overview, we propose to make available approximately £180m in NIA funding (as summarised below in Table 12 and detailed for each company in the company-specific annexes). All NIA funding is conditional on the implementation of an improved, industry-led reporting framework by the start of RIIO-2 (further detail below).
Funding arrangements	Companies would have a single 'use it or lose it' allowance to cover the duration of the price control period.
Scope of eligible projects	Projects should focus on the energy system transition or addressing consumer vulnerability, and deliver net benefits for consumers within the sector. Commercially available technologies would not be eligible for the NIA.
Considering the impact of innovation on vulnerable consumers	Companies conduct an impact assessment to assess the expected effects of the innovative solution upon vulnerable consumers.
Improving NIA reporting	Implement the improved industry-led reporting framework in RIIO-2 NIA governance arrangements.
Increasing third party involvement	Network companies produce guidance for third parties on the treatment of Intellectual Property Rights (IPRs) in NIA.
Quality assurance of projects	The introduction of additional quality assurance measures, such as a peer review or independent audits of projects upon completion.

8.73 We propose that all NIA funding is conditional on the implementation of an improved, industry-led reporting framework by the start of RIIO-2. This should support collaboration between companies and help to track the benefits of RIIO innovation stimulus projects. If that condition is not satisfied, our proposal is that we will not award NIA funding in RIIO-2.

8.74 We propose that full details of an industry-led reporting framework be submitted to us in advance of Final Determinations in December 2020 to demonstrate to our satisfaction that the framework is improved and will be ready for implementation by the start of RIIO-2 on 1 April 2021. The framework should track innovation activities throughout their lifecycle, and:

- enable activities to be coordinated before they are taken forward, preventing duplication or misalignment where appropriate
- provide for the dissemination of lessons learned during projects to enable a wide range of stakeholders to become involved in projects

- facilitate the evaluation of project costs and benefits after projects are implemented.

Table 12: Requested and proposed RIIO-2 NIA funding

Company	NIA funding requested (2021-2026)	Proposed RIIO-2 NIA funding (for years as indicated)
Cadent	£40m	£32.5m (2021-2026)
NGN	£11.5m	£11.5m (2021-2026)
SGN	£65.9m	£30m (2021-2026)
WWU	£13.3m	£13.3m (2021-2026)
NGGT	£30.9m	£20m (2021-2026)
NGET	£75.6m	£49.3m (2021-2026)
SPT	£13.5m	£10m (2021-2026)
SHET	£8m	£8m (2021-2026)
NGESO	£45m	£7.2m (2021-2023)
Total	£303.7m	£181.8m

Rationale for consultation position

Provision of NIA funding

8.75 As explained in our SSMD, we recognise that a five-year price control may disincentivise some innovation that does not deliver short-term benefits to consumers.[98] However, the provision of innovation funding to network companies is a short-term cost to consumers, although there is the potential of significant longer-term benefits from the rollout of successful innovation projects.[99]

8.76 In order to protect consumers, and ensure that beneficial projects receive NIA funding, the timely implementation of a robust industry-led reporting framework is, in our view, necessary.[100]

8.77 The SSMD set out our expectation that companies fund more innovation as part of BAU activities and rely less on ring-fenced innovation stimulus funds. Companies requesting high levels of RIIO-2 NIA funding were expected to provide clear evidence justifying an increase in funding relative to RIIO-1. We also expected them to provide evidence of strong delivery arrangements, with plans to collaborate, involve third parties, disseminate learnings and rollout any proven

[98] SSMD Core Document, paragraph 10.55-10.57.
[99] The potential benefits of NIA funding was noted in Poyry's evaluation of the LCN Fund.
[100] We note progress companies are making with the ENA Benefits Reporting Framework – Delivery Plan, December 2019.

innovation into the wider business.[101] No companies provided sufficient evidence to justify a substantial increase in funding relative to RIIO-1. However, we are satisfied that some companies who received lower levels of funding in RIIO-1, and provided sufficient evidence of delivery arrangements for RIIO-2, justify the small increases in NIA funding that they proposed.

8.78 Additionally, one of the purposes of the RIIO innovation stimulus is to enable companies to work together and consider the challenges that the industry as a whole is facing. We were disappointed that companies' plans for NIA innovation funding were largely independent of each other, even though we encouraged collaboration on innovation activities and challenged companies to demonstrate that successful innovation is being diffused across the energy sector.

Funding arrangements

8.79 While some companies requested an annual allowance in their Business Plans, others requested a single sum to be spent as they saw fit over the course of the price control.

8.80 We propose to give companies a single allowance for the length of the relevant price control. We consider that providing allowances in a consistent way will improve transparency and simplify the process for third parties that wish to engage with innovation projects. This would provide clarity around when innovation funding would be available, enabling third parties to approach network companies at a time of their choosing.

8.81 We expect that such an arrangement would avoid the peaks and troughs of innovation activity seen at the start and end of each regulatory year during the price control. The allowance would cover five years for TOs and GDNs, and two years for the ESO.

Scope of eligible projects

8.82 We propose that all projects must focus on the energy system transition or addressing consumer vulnerability in order to be eligible for NIA funding. Other innovation projects, for example those aiming to improve operational efficiencies, should be funded as part of network companies' BAU activities.

[101] We set out our expectations for companies' innovation strategies more widely within the Business Plan Guidance, paragraphs 2.66-2.76.

8.83 In our SSMD, we set out our view that consumers should not pay twice for innovation that realises cost efficiencies within the price control period – as companies would already be able to benefit from these projects via the Totex incentive mechanism. By restricting the scope of eligible projects to those focused on energy system transition challenges or addressing consumer vulnerability, we would ensure that companies only use the NIA for projects that they are not otherwise incentivised to take forward. This would enable companies to take forward projects that, for example, deliver wider whole system benefits beyond the timeframe of the current price control.

8.84 We additionally propose to introduce a requirement that all NIA projects must aim to develop solutions that deliver net benefits to their sector's consumers. This is consistent with the definition of whole systems adopted in SSMD.[102]

8.85 We do not consider that GB demonstrations of commercially available technologies should be eligible for NIA funding. The RIIO-1 NIA Governance stated that NIA funding could be used to support demonstrations of technologies that have been successfully trialled in other countries,[103] and as a result there were several projects trialling commercially available technologies. We no longer consider that such demonstrations represent sufficient risk to warrant innovation funding. This is in line with our expectation that network companies fund lower-risk innovation as part of BAU activities.

Considering the impact of innovation upon vulnerable consumers

8.86 The impact of the energy system transition on vulnerable consumers needs to be considered throughout the development of innovative network solutions to ensure they are not left behind or adversely affected. For this reason, we propose to introduce a requirement for companies to conduct an impact assessment to assess the expected effects of the innovative solution on vulnerable consumers. This impact assessment would help to identify and address the expected effects, or lack thereof, of innovation projects on vulnerable consumers.

Improving public reporting of the NIA

8.87 In our SSMD, we proposed to improve public reporting of NIA activities, including costs and benefits, and to enhance how learning is shared across the industry.

[102] SSMD Core Document, paragraph 8.14.
[103] For example, RIIO-1 Gas NIA Governance, paragraph 3.6.

Within their Business Plans, all network companies noted their involvement in the development of a common benefits measurement framework.[104]

8.88 As detailed above, we propose to make the provision of RIIO-2 NIA funding conditional on the submission of an improved, industry-led reporting framework ahead of Final Determinations. This framework should be ready to be implemented by the start of RIIO-2 on 1 April 2021.

8.89 Subject to our satisfaction with improvements in the reporting framework, we propose to include this reporting framework in the RIIO-2 NIA governance arrangements. Requiring companies to use this framework would help to illustrate NIA projects' external interlinkages, increase collaboration between companies and provide increased transparency on companies' NIA activities.

Increasing third party involvement

8.90 We propose to impose a requirement in the RIIO-2 NIA governance arrangements that network companies collectively produce guidance for third parties on the treatment of Intellectual Property Rights (IPRs) in NIA projects. We consider additional guidance for third parties on the approach to IPRs within NIA projects would help to increase third party involvement. SSMC responses identified uncertainty about the effect of IPRs as a disincentive for third party participation. The continued participation of a number of third parties in RIIO-1 NIA projects suggests that RIIO-1 IPR arrangements should be replicated in RIIO-2. However, we consider that increased clarity in respect of the practical application of these arrangements would enable more third parties to become involved in projects.

Quality assurance of projects

8.91 Some SSMC responses expressed concern about the robustness of research undertaken using NIA funding. In particular, concerns were raised in relation to the independence of research and the lack of compliance checks to ensure projects were worthy of funding.[105]

8.92 We think that quality assurance measures to test the robustness and compliance of NIA projects will help to improve confidence in the merits of innovation projects. We welcome views on what quality assurance measures could be

[104] For summary of this work, see ENA Benefits Reporting Framework – Delivery Plan, December 2019.
[105] We also note the research being led by the UKERC considering the power of incumbents shaping research on the future of heat.

introduced to increase confidence in the independence and robustness of research, and ensure compliance with governance requirements. These could include:

- peer review of NIA projects upon completion by another network company[106] or an external party such as an academic
- independent audit of completed projects by an independent body tasked with examining the research conducted and its compliance with governance requirements.

Consultation questions

Q26. Do you agree with our approach to benchmarking RIIO-2 NIA requests against RIIO-1 NIA funding?
Q27. Do you agree with our proposal that all companies' NIA funding should be conditional on the introduction of an improved reporting framework?
Q28. What are your thoughts on our proposals to strengthen the RIIO-2 NIA framework?
Q29. Do you have any additional suggestions for quality assurance measures that could be introduced to ensure the robustness of RIIO-2 NIA projects?

Closing out RIIO-1 NIA

Background

8.93 RIIO-1 NIA funds are provided on an annual 'use it or lose it' basis. As such, all expenditure on RIIO-1 NIA projects for ET, GT, GD and ESO must be incurred by 31 March 2021. This means that unspent 2020/21 NIA funding will be lost if not incurred by 31 March 2021.

8.94 This may mean that some longer-term NIA projects could finish abruptly (especially operation and maintenance innovation projects, which we propose cannot be taken forward using NIA in RIIO-2). It could also lead to reduced innovation activity towards the end of RIIO-1 as companies - and their third party partners - do not commit funding to projects at risk of delay beyond the end of RIIO-1. This may be exacerbated by uncertainty arising from, or difficulties in completing projects caused by, the COVID-19 pandemic.

[106] This could replicate the requirements imposed in the RIIO-1 NIC Governance that NIC Close Down Reports must be peer reviewed by at least one other network company before they are finalised. For example, see Gas NIC Governance, paragraph 8.38-8.40.

Consultation position

Closing RIIO-1 NIA	Consultation position
End date for spending RIIO-1 NIA funds	To allow companies to carry over any unspent NIA funds from the final year of RIIO-1 into the first year of RIIO-2

Rationale for consultation position

8.95 In light of ongoing stakeholder engagement, we propose to allow unspent 2020/21 RIIO-1 NIA funds to be carried forward into 2021/22 (the first year of RIIO-2). We would require that projects utilising these carried-over funds must start before 31 March 2021.[107] Any unspent 2020/21 RIIO-1 NIA funding would be lost on 31 March 2022.

8.96 We consider this approach would enable RIIO-1 NIA projects to close during the course of 2021/22, preventing a cliff edge on 31 March 2021. There would be no negative impact on consumers as this proposal does not provide additional funds, but instead extends the deadline for existing RIIO-1 allowances. Consumers should benefit because the proposal would enable projects to be completed and resulting lessons learned to be shared across the industry.

Consultation question

Q30. Do you agree with our proposals to allow network companies and the ESO to carry over any unspent NIA funds from the final year of RIIO-1 into the first year of RIIO-2?

Improving data transparency within innovation projects

Consultation position

Wider innovation-related requirements	Consultation position
Data transparency	All work relating to data as part of innovation projects funded via the NIA and SIF will be expected to follow our Data Best Practice guidance.

[107] We held discussions in a RIIO-2 innovation workshop in July 2019 and received representations from the ENA, on behalf of all network companies and the ESO, which highlighted a significant impact on ongoing RIIO-1 NIA projects if funding is lost on 31 March 2021.

Rationale for consultation position

Strengthening innovation through better use of data

8.97 Further to the discussion in Chapter 4 regarding our work to modernise energy data, we consider innovation projects should maximise the value of data to energy consumers. This is particularly relevant for projects funded via the RIIO-2 NIA and SIF as these projects will be funded using consumer funds.

8.98 We therefore propose that all work relating to data as part of innovation projects funded via the NIA and SIF will be expected to follow our Data Best Practice guidance.[108] Iteratively and continuously improving the use of data during these projects will help to deliver short- and long-term value for consumers.

Consultation question

Q31. Do you agree with our proposal that all work relating to data as part of innovation projects funded via the NIA and SIF will be expected to follow Data Best Practice?

Enabling whole system solutions

8.99 In our SSMD, we introduced a whole system element to the BPI, a whole system consideration to the innovation stimulus, and a new whole system re-opener (the 'Coordinated Adjustment Mechanism').[109] This section sets out our views on the whole system aspects of the BPI and consideration in the innovation stimulus. Further thinking on the whole system re-opener is set out in Chapter 7 (Managing Uncertainty) alongside discussion of other uncertainty mechanisms.

8.100 In the BPG we required companies to evidence plans and processes for joint planning with other network companies and/or the system operator, effective identification and adoption of potential whole system solutions and approaches, and demonstration of long-term whole system thinking and value for consumers and the wider society, including identification of uncertainties and mitigation. Where a company did not identify any potential opportunities for proposed whole

[108] Data best practice guidance.
[109] SSMD Core Document, Chapter 8.

system outcomes and solutions, we expected to see evidence of their engagement and attempts to discover such opportunities.[110]

8.101 All GT, ET and GD network companies have met the whole system related BPI Minimum Requirements. In overview, these did not go above and beyond the minimum, and were often stand-alone proposals rather than a shift in corporate thinking. However, we accept that this is a new focus for policy and will take time to embed. Nonetheless, there were some good proposals for systemic approaches to uncover opportunities.

8.102 Our views on each of the whole system bespoke outputs have been set out in the company annexes.

Whole system consideration in the innovation stimulus

8.103 We expect that the NIA and SIF will enable companies to support whole system-related innovation projects that they may not otherwise do as BAU activities. Nevertheless, we note that whole system thinking - in the form of joint work across energy vectors - is much more advanced in innovation than other areas of the Business Plans. We expect to see the learnings from these innovation projects feed through to BAU as the price control progresses.

[110] Business Plan Guidance, paragraph 2.51

9. Increasing competition

Competition	
Purpose	Increasing competition in the design, delivery, financing and operation of network solutions will have a critical role in RIIO-2 in ensuring that decarbonisation targets are able to be met at the lowest possible cost to consumers
Benefits	An efficient and effective competitive regime should drive efficiency in the design and costing of network solutions and therefore lead to an overall reduction in customer bills.

9.1 Competition in the design and delivery of energy networks is a central aspect of the RIIO-2 price controls. It has a key role to play in driving innovative solutions and efficient delivery that can help us meet our decarbonisation targets at the lowest possible cost to consumers.

9.2 In our SSMD, we confirmed that we are looking to extend the use of competition in RIIO-2 where it is in the interest of consumers.[111] This chapter sets out our proposals for how "native", "early" and "late" competition will feature within the RIIO-2 package, including how the late competition models will interact with other uncertainty mechanisms, and the next steps for the development of early competition. These developments, especially that of early competition, may increase the ESO's role in shaping the evolution of the networks and electricity system. The ESO's price control framework has inbuilt flexibility to accommodate such an evolving role.

Native Competition

9.3 In our SSMD, we decided that network companies were to develop and present a competition plan as part of their Business Plans, which aligned with our native competition best practice principles. We considered the competition plans as a Minimum Requirement within Stage 1 of the Business Plan Incentive.[112] We also stated that competition plans that were considered particularly ambitious may be eligible for a reward under Stage 2 of the Business Plan Incentive.[113]

9.4 We believe that all GT, ET and GD network companies met the native competition related Business Plan Incentive Minimum Requirements under Stage 1. However,

[111] SSMD Core Document, paragraph 10.79.
[112] Business Plan Guidance, paragraphs 2.84-2.89.
[113] SSMD Core Document, paragraphs 10.128-10.137.

in relation to Stage 2 we do not believe any of the companies' Consumer Value Proposition competition plans demonstrated sufficiently ambitious measures to be eligible for a reward.

Expansion of late competition

9.5 In our SSMD, we explained that we consider that it is in the interests of consumers to be able to apply, where appropriate, our three existing late models for competition in the transmission and GD sectors:

- the Competitively Appointed Transmission Owner (CATO) regime[114]
- the Special Purpose Vehicle (SPV) Model[115]
- the Competition Proxy Model (CPM).[116]

9.6 We also confirmed the criteria for identifying projects that may be suitable for late model competition across the electricity transmission and gas sectors.[117] These criteria are as follows:

- new
- separable
- high-value: projects of above £100m expected capital expenditure.

9.7 In our SSMD, we explained that we expected network companies to identify in their Business Plans those projects that they considered were likely to meet the criteria for competition. Our RIIO-2 Business Plan guidance[118] required network companies to identify each project expected to involve expenditure of £100m or greater. Network companies were required to assess them against the other two criteria for competition to consider their suitability for our late models of competition. They were also expected to identify how these high value projects could be repackaged to create a project that meets the criteria for competition.[119]

[114] The model is described in Appendix 6 - Glossary of the SSMD.
[115] The model is described in Appendix 6 - Glossary of the SSMD.
[116] Further detail on proposed CPM arrangements are included within Appendix 2.
[117] SSMD Core Document, paragraph 10.92.
[118] Business Plan Guidance, paragraph 2.78.
[119] More information on our re-packaging principle is available at page 22 of our November 2016 decision Document; https://www.ofgem.gov.uk/system/files/docs/2016/11/ecit_november_2016_decision.pdf

Consultation Position

Late competition	Consultation position
Application of late model to projects funded in baseline allowances	We do not consider it is in consumers' interests to apply late models of competition to these projects.
Application of late model to projects eligible for UMs	All projects in all sectors that meet the criteria for competition and are brought forward under a UM will be considered for delivery through a late competition model.
Network company development requirements	Companies must ensure that they do not carry out any development work on eligible UM projects that is detrimental to the application of late competition.
When we will make our decision on whether or not to apply a late competition model to projects eligible for UMs	We will aim to reach our decision on individual projects as soon as practically possible once the relevant project design is appropriately settled. At the latest, this is expected to be the point at which we approve the design put forward by the developing network company.
What will we consider in deciding whether to apply a late competition model to projects eligible for UMs	Our consideration will be informed by the RIIO-2 Impact Assessment on late competition[120] and a project-specific assessment of the consumer impact of applying the competition models.

Rationale for consultation position

9.8 In the case of large RIIO-2 investment projects, we have only proposed baseline funding for projects that we consider present a confirmed needs case that requires significant investment early on in the RIIO-T2 period. They are projects identified as critical within the latest Network Options Assessment (NOA) report, or projects driven by confirmed local transmission-connected generation.

9.9 On balance, we consider that baseline funding for these projects to be in the best interest of consumers. We have reached this view based on a range of factors. Firstly, it is unlikely that the CATO and SPV models will be sufficiently developed to deliver these projects without some level of delay that may not be in the interest of consumers. Secondly, given that the focus of the majority of the proposed baseline projects concern the upgrading of existing assets, there is some uncertainty around the extent to which these baseline projects will meet the new and separable criteria for competition. Thirdly, as referenced in our recent decision on the Hinkley-Seabank project, and consultation on the Shetland project, recent market conditions and our finance proposals for RIIO-2 suggest that we may not

[120] https://www.ofgem.gov.uk/system/files/docs/2019/06/competition_impact_assessment_may_2019.pdf

be able to have sufficient confidence that the application of the CPM would deliver benefits to consumers for the projects that require imminent decisions. [121,122]

9.10 During RIIO-2 we will focus on ensuring that late competition is available for application to projects that are subject to uncertainty mechanisms during RIIO-2 and meet the criteria for competition. Therefore, throughout RIIO-2, all projects across all sectors that meet the criteria for competition and are brought forward under an uncertainty mechanism will be considered for delivery through a late competition model.

9.11 Network companies should expect that we will assess all large investment projects in RIIO-2 against the other two criteria for competition and where appropriate consider them for our late competition models. If only part of a project meets the criteria for competition, we will consider whether to split the project up to apply a model of late competition to the part that meets the criteria for competition. We therefore expect companies to ensure that they do not carry out any development work that could be detrimental to any part of these projects being suitable for delivery through late competition.

9.12 The ESO's latest publication of the NOA identified a range of potential ET projects that it considers meet the criteria for competition.[123] In addition, our review of Business Plans has identified additional projects across all sectors, not included in our proposed baseline funding that we currently consider might meet the criteria for competition when brought forward within the RIIO-2 period (see Table 13 below). This suggests that there is a pipeline of projects across all sectors in RIIO-2 that we will consider on a project-by-project basis for potential delivery through late competition during RIIO-2.

9.13 The majority of these potential projects identified through the NOA, and in business plans, remain subject to uncertainty in terms of need, design or timing. For this reason, we are not proposing that these projects are included in initial baseline funding. Should the need for these projects becomes clearer during the RIIO-2 period, these projects may be eligible for funding through uncertainty

[121] Chapter 5: https://www.ofgem.gov.uk/publications-and-updates/shetland-transmission-project-consultation-proposed-final-needs-case-and-delivery-model
[122] Chapter 3: https://www.ofgem.gov.uk/publications-and-updates/hinkley-seabank-updated-decision-delivery-model
[123] Section 4.3.3: https://www.nationalgrideso.com/document/162356/download

mechanisms. The specific projects and relevant uncertainty mechanisms are identified in Table 13 below.

Table 13: Projects that might meet the criteria for competition if brought forward within the RIIO-2 period

Sector	Company	Project	Project value	Proposed uncertainty mechanism
ET	All TOs	Projects identified through the NOA process	>£5bn	LOTI re-opener
ET	NGET	Dinorwig-Pentir	[REDACTED]	LOTI re-opener
ET	SHET	Skye	Unknown	LOTI re-opener
GT	NGGT	Bacton	£139m	Major Project re-opener
GT	NGGT	St Fergus	£118m	Major Project re-opener
GT	NGGT	Milford Haven	£262m	Incremental capacity re-opener
GD	Cadent	Hynet	£250m	NZIIM

9.14 The timing of our decision on whether or not to apply a late model of competition to the whole, or part of a project is important to the efficient implementation of the models. We expect to assess each project eligible for consideration under uncertainty mechanisms in RIIO-2 against the criteria for competition at the same time as we assess whether the project is needed and the suitability of the proposed design. Figure 6 provides an overview of how we expect the process to work in the electricity transmission sector and Figure 7 provides the equivalent overview for the gas transmission and gas distribution sector.

9.15 We will aim to reach our decision on whether to apply a model of late competition to the whole or part of a project, as soon as practicable once the relevant project design is sufficiently settled. We would normally expect this to be the point at which we are comfortable that the design of the project is unlikely to change. In the electricity transmission sector, for example, this could mean we make a decision to apply late competition in parallel to our Initial Needs Case process for projects that qualify for the LOTI uncertainty mechanism. The latest we expect to make the decision on whether or not to apply late competition will be the point at which we make our final approval of the network company's proposed design. In the electricity transmission sector, for example, this would mean that the latest we would expect to make our decision for LOTI projects would be the time at which we approve the Final Needs Case.

9.16 We consider that making our decision as early as practicable once the relevant project design is appropriately settled should maximise the time available to run a tender process where applicable (eg in the case of the CATO model), thereby maximising the scope for consumer saving, while also minimising the scope for delays to critical investments on the network.

9.17 For the avoidance of doubt, we will not apply a late competition model to any project where a decision has already been reached to fund the project through either baseline allowances or through a relevant uncertainty mechanism.

9.18 Implementation of late competition is likely to require network companies develop design options to a sufficiently high quality and then progress these projects through the planning process. We consider that our proposals for funding design and pre-construction work will ensure that companies are funded for the efficient pre-construction work that they do during RIIO-2 and projects are developed in a timely manner.

9.19 Our decision on whether a specific project will be funded through one of the late competition models will include consideration of the overarching RIIO-2 Impact Assessment on late competition, including any relevant new information. Our decision will also consider any relevant project-specific factors or circumstances through a project-specific assessment of the consumer impact of applying the competition models.[124] The impact of our applying any of the late models of competitions on network company financeability will also be considered as part of our decision.

9.20 Through the assessment of the Business Plans we have identified two projects that we consider may meet the criteria for competition but that were not identified as likely to meet the criteria by the relevant TOs. These projects are NGET's Dinorwig-Pentir project and SHE-Transmission's Skye project. The projects have not been identified by the NOA, so have not been assessed against the criteria for competition by the ESO through that process. The relevant TOs did not carry out assessments of the projects against the competition criteria. We do not consider the fact that these projects were not assessed against the competition criteria as part of the NOA process as an appropriate reason for the TOs to have not carried out this assessment themselves within their Business Plans. This is particularly

[124] Competition Impact Assessment May 2019

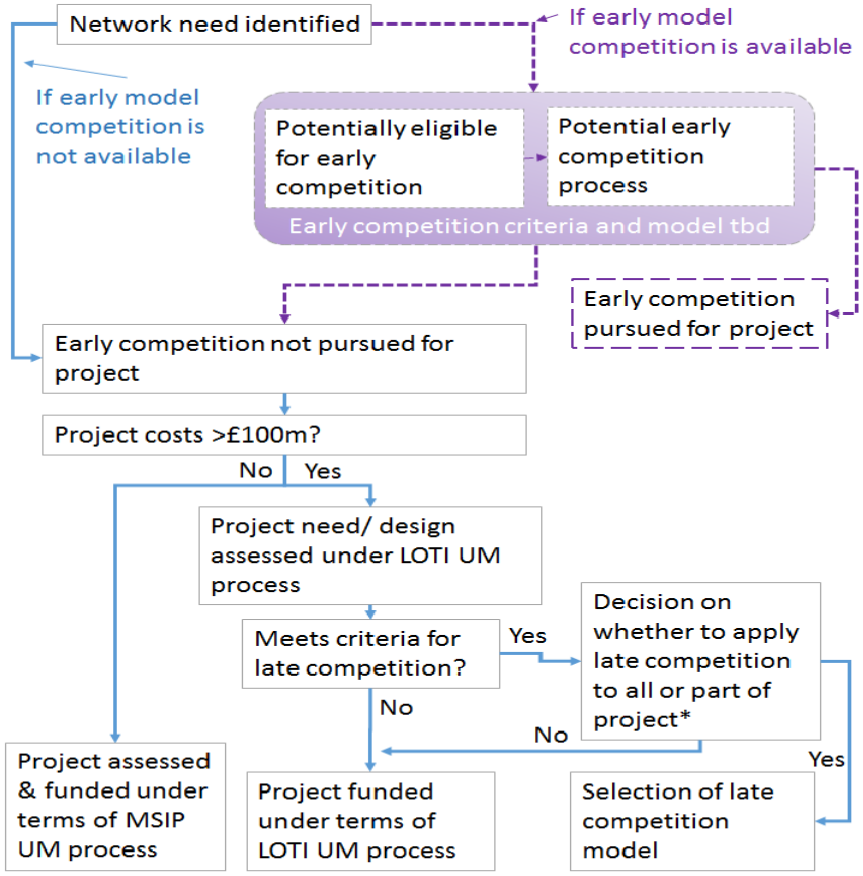
relevant in the case of the Dinorwig-Pentir project, where NGET originally sought baseline funding.

9.21 For the avoidance of doubt, these projects should also be developed by the relevant TOs, with an expectation that if they are brought forward we will assess their suitability for the late competition models within the price control period through the uncertainty mechanisms. We expect the TOs not to carry out any development work that could be detrimental to these projects being suitable for late competition.

Consultation Question

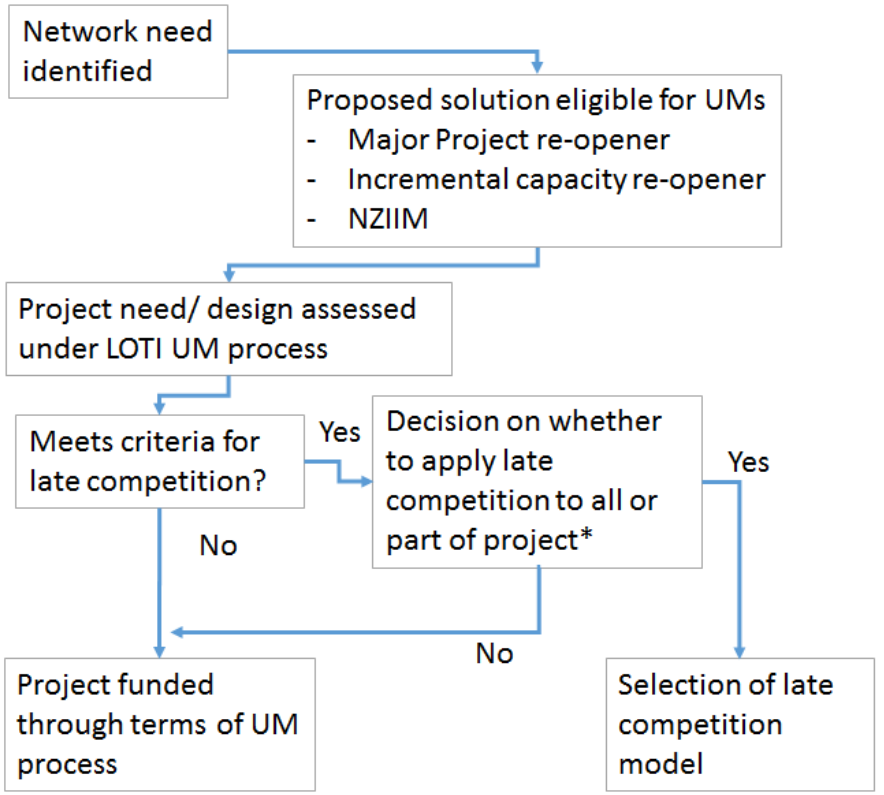
Q32. Do you agree with our proposed position on late competition?

Figure 6: Process map showing overview of our expectation of the decision-making process for application of late competition to ET projects



* If late competition is only applied to part of a project, the remaining part of the project will be funded under the terms of the LOTI UM

Figure 7: Process map showing overview of our expectation of the decision-making process for application of late competition GT/ GD projects



* If late competition is only applied to part of a project, the remaining part of the project will be funded under the terms of the relevant UMs

Introduction of early competition

Background

9.22 In our SSMD, we set out that we have decided to continue the development of early competition so that certain projects may be subject to early competition during RIIO-2.

9.23 Our SSMD also explained that we will focus on investigating and developing the ESO's ability and capability to facilitate early competition. For this reason, our SSMD requested that the ESO develop an Early Competition Plan (ECP).[125] We initially expect the ECP to cover the electricity transmission sector, with views on how this can be applied to electricity distribution in RIIO-ED2. In September 2019, we wrote to the ESO in relation to our expectations for the work. This letter included an indicative timeline to receive a finalised ECP in February 2021.[126]

9.24 In December 2019, the ESO submitted its proposed ECP work plan for delivering its finalised ECP in February 2021. The ESO published the first phase of the ECP in February 2020.[127] In May 2020, it completed stakeholder workshops on a variety of topics,[128] ahead of issuing its phase two consultation earlier this month.[129]

9.1 We will consider the ECP once it is finalised in February 2021 and consult on our views. This will include consideration of any criteria for identifying system needs or projects potentially suitable for early competition. As and when this potential role is defined, we will ensure it is integrated within the price control arrangements for the ESO by adjusting their spending benchmark if necessary and setting clear obligations, expectations and incentives associated with successful delivery.

9.2 Network companies were required to identify each project of £50m or greater in their Business Plans. To allow for consideration of their suitability for an early model of competition, network companies were required to identify each project of £50m or greater in their Business Plans.

[125] SSMD ESO annex, paragraphs 2.20-2.21.
[126] Appendix B: https://www.ofgem.gov.uk/system/files/docs/2019/09/electricity_system_operators_early_competition_plan_letter_0.pdf
[127] https://www.nationalgrideso.com/document/164036/download
[128] These sessions, held in May 2020, covered commercial, technical, and delivery aspects.
[129] https://www.nationalgrideso.com/document/172476/download

Consultation Position

Early competition	Consultation position
Application of early model to projects funded in baseline allowances	Projects that receive baseline funding will not be considered for delivery through early competition models.
Application of early model to projects eligible for UMs	We will consult on our views on the ESO's Early Competition Plan, once it is finalised in February 2021. It will include our views on how early competition may interact with other processes, such as uncertainty mechanisms and the late model competition arrangements.
Criteria for projects suitable for early competition	As part of our consultation following the ESO's Early Competition Plan once it is finalised in February 2021, we will set out our views on any appropriate criteria for identifying projects suitable for delivery through early competition, including whether or not £50m is an appropriate cost threshold for early competition .

Rationale for consultation position

9.3 Key aspects of the early competition policy are still to be developed. Until the ESO finalises its ECP in February 2021, we do not consider it appropriate to finalise proposals for how early competition will be incorporated into RIIO-2, nor any criteria for identifying projects suitable for early competition.

9.4 We expect to revisit the projects of £50m+ identified in Business Plans when finalising any early competition models for RIIO-2. We propose that where these projects, or where other appropriate projects, are compatible with our approach to applying early competition in RIIO-2, and have not been awarded baseline funding, we would consider any appropriate amendments to the relevant mechanisms within the RIIO framework, such as the Medium Sized Investment Projects (MSIP) re-opener, to implement early competition.

9.5 This would allow the potential use of early competition for these projects, and other qualifying projects not identified in Business Plans, within the RIIO-2 period.

Consultation questions

Q33. Do you agree with our proposed approach on early competition?

10. Approach to the Totex and Business Plan Incentive Mechanisms

10.1 This chapter does not apply to the ESO.

Totex Incentive Mechanism

Overview of TIM outcome

10.2 The Totex Incentive Mechanism (TIM) is designed to encourage network companies to improve efficiency in delivery and ensures that the benefits of these efficiencies are shared with consumers. It also provides some protection to companies from overspends as the costs of overspends are also shared with consumers.

10.3 In our SSMD, we said that the TIM would incorporate a confidence-dependent incentive rate, which is specific to each network company, and represents the proportion of any under- or overspends that the company is exposed to.

10.4 In line with the approach set out in our SSMD, we calculated a confidence metric for each network company as the ratio of high-confidence baseline costs to Totex, where the aggregate efficient cost benchmark for high-confidence baseline costs is the numerator and the network company's overall Totex allowance is the denominator.

10.5 We then calculated the incentive rate for each network company as follows.

Incentive rate (%) = [50% * confidence metric] + [15% * (1-confidence metric)]

Table 14: Proposed TIM incentive rate for each network company[130]

Licensee	Proposed TIM incentive rate
ET - NGET	39.2%
ET - SPT	39.1%
ET - SHETL	30.9%
GD - Cadent	49.7%
GD - NGN	50.0%
GD - SGN	49.4%
GD - WWU	49.6%

[130] For Cadent and SGN, these are based on each network company's incentive rate weighted by base Totex.

Licensee	Proposed TIM incentive rate
GT - NGGT	36.6%

10.6 In our SSMD, we said that we would consider whether the incentive rate should be applied on a post-tax or pre-tax basis. Having considered this further, we propose that the incentive rate calculated as set out above would be the effective incentive rates (after paying tax) faced by network companies. This is consistent with our view that the effective incentive rate on costs that network companies face should lie within the range of 15%-50% of Totex, which is the range that we believe offers the best value for consumers.

Our approach to high and lower cost confidence assessments

10.7 This section sets out our approach to the assessment of confidence in baseline costs that were submitted by companies in their Business Plans. The results from our confidence assessments feed into the calculation of sharing factors for the TIM, which is discussed in the next section. They are also key for our assessment at Stages 3 and 4 of the BPI.

10.8 In our SSMD, we said that we would categorise baseline costs into two categories based on our confidence in our ability to independently set expenditure allowances in respect of those costs.

- "High-confidence" baseline costs are those costs for which we have a high level of confidence in our ability to independently set a cost allowance.
- All other baseline costs would be categorised as "lower confidence" baseline costs.

10.9 We said that for high-confidence baseline costs, we would be able to set cost allowances using information that is substantially independent of cost forecasts provided by companies in their Business Plans. We also said that companies could put forward supporting information in their Business Plans that we would take account of as part of our assessment of confidence in submitted costs.

10.10 Our assessment of confidence has a material impact on each company's scope for being subject to penalties or rewards under BPI Stages 3 and 4 respectively.

- Companies could be liable for penalties under BPI Stage 3 in respect of baseline costs that are categorised by us as lower confidence baseline costs.

- Companies could earn rewards under BPI Stage 4 in respect of baseline costs that are categorised by us as high-confidence baseline costs, provided they have passed BPI Stage 1. High-confidence costs do not attract a BPI Stage 3 penalty.

10.11 We believe that, in the case of high-confidence costs, there is no need to apply a BPI Stage 3 penalty. For high-confidence costs, there is limited value in companies' cost forecasts as a benchmark for efficient costs. Moreover, the existence of independent benchmarks means that companies have little incentive to submit inefficient and high cost forecasts, but instead have an incentive under BPI Stage 4 to submit their best and most efficient cost forecasts.

10.12 For lower confidence costs, we do not have independent cost benchmarks, and therefore the company cost forecasts are an important element of our cost assessment process. In the absence of independent benchmarks, we think a BPI Stage 3 penalty is necessary to deter the submission of unreasonably high and poorly justified costs.

10.13 Separately, for each company, the share of high-confidence baseline costs in total baseline costs influences the sharing factor that we apply as part of our proposed TIM. The higher the proportion of high-confidence costs, the higher the sharing factor.

10.14 In line with what we said in our SSMD, our assessment of confidence is based on the extent to which we are able to independently set a cost allowance for companies. This ability could be based on a number of factors, including:

- the availability of independent benchmarks that we are able to rely on in reaching our view of costs
- the quality and suitability of supporting information provided by companies.

10.15 Our assessment of confidence is closely linked to the cost assessment tools that we have used in reaching our view of efficient costs, which in turn has informed the Totex baseline allowances that we propose to set. In particular:

- where we have substantively relied on econometric benchmarking to determine efficient levels of costs, we have assessed those costs to be high-confidence costs

- where we have used other methods and tools to determine efficient levels of costs, we have undertaken our assessment of confidence at a more granular level.

10.16 Where we have used econometric benchmarking to support our cost assessment, we consider that our econometric models are capable of producing high-quality cost benchmarks that are, in large part, independent of the cost forecasts submitted by individual companies. We have taken account of the following reasons in arriving at our view:

- econometric benchmarking is a well-established tool for cost assessment that has been used by regulators in the UK and elsewhere
- we have applied tests of statistical quality and robustness to our models and their results. The results of these tests give us confidence in the models' ability to provide high-quality cost benchmarks
- while we have used information provided by companies in their Business Plans as inputs to our models, much of this information is drawn from historical data submitted by companies as part of our annual reporting process. Data submitted through this process is covered by quality assurance processes
- any forecast data provided by companies that we have used is likely to have a limited impact on the benchmarks derived from our econometric models due to the number of companies and time periods included in our modelling

10.17 Taking account of all of these factors, we have come to the view that econometric benchmarks (where they can be used) give us a high degree of confidence in our ability to set cost allowances. Consequently, we have categorised all costs determined through econometric modelling as high-confidence costs.

10.18 Our assessments of confidence in costs where we have used other cost assessment tools are undertaken at a more granular level, and are closely aligned with the cost assessments themselves.

10.19 Our approach to determining efficient costs in these cases are based on:

- an assessment of the efficient level of activity required to be delivered by the companies to meet their statutory and Licence Obligations, and to deliver the outputs we have set for them as part of the price control
- an assessment of the efficient cost of undertaking the required level of activity as set out above.

10.20 We have assessed costs relating to particular activities as high-confidence if a) we have a high degree of confidence that the activity needs to, or will, be undertaken during the RIIO-2 price control period, and b) we have a high degree of confidence in our ability to estimate efficient costs of delivering that activity.

10.21 All costs that have not been assessed as high-confidence costs following our assessment are considered to be lower-confidence costs.

10.22 Where we have attached PCDs to costs, we may treat those costs as either high or lower confidence depending on the degree of confidence we have in our ability to estimate efficient costs associated with those PCDs. Costs associated with PCDs are included in baseline Totex allowances.

10.23 We have excluded from our confidence assessments costs associated with activities that we propose to fund through Uncertainty Mechanisms, including re-openers, volume drivers and 'use it or lose it' arrangements rather than through baseline allowances. There is significant uncertainty about the cost allowances that companies may eventually receive for these activities (if they are carried out), and we do not think it would be reasonable to use costs associated with such activities to determine upfront BPI rewards and penalties, or the confidence-dependent incentive rate under the TIM.

10.24 We recognise that we have assessed a significantly higher proportion of costs in the Gas Distribution sector as high-confidence costs compared to the Electricity and Gas Transmission sectors. This reflects differences between the sectors in the availability of independent cost benchmarks. The industry structure of the Gas Distribution sector makes it easier to construct independent cost benchmarks, whereas this is not always possible in the Electricity and Gas Transmission sectors. However, in our BPG, we set out a number of ways in which companies can support a high-confidence assessment by providing information in their Business Plans. Alongside, other relevant considerations, we have taken account of information provided by companies in their Business Plan submission in reaching our views on cost confidence.

The Business Plan Incentive

10.25 The BPI was developed to encourage network companies to submit ambitious Business Plans that contain the information Ofgem requires to undertake a robust assessment of the Business Plans.

10.26 The BPI rewards companies where, in our view, their Business Plan represents genuine additional value for money compared to business-as-usual and provides information that helps us to set better price control. In contrast, inefficient, lower quality Business Plans are subject to financial penalties.

10.27 We provide in this chapter an overview of company performance against the BPI, and details regarding our approach to the assessment of the Business Plans against the BPI. Further details on company performance are set out in company annexes.

Overview of BPI outcomes

10.28 The proposed outcomes of the BPI are set out in Table 15 for all companies.

Table 15: Proposed outcomes of BPI for all companies[131]

Licensee	Stage 1	Stage 2	Stage 3	Stage 4	Applicable cap/collar (+/- 2% Totex)	Total Reward/Penalty (£m)
Cadent	No penalty	£0m	-£0.1m	£0m	£85.4m	-£0.1m
NGN	No penalty	£1.6m	£0m	£0m	£22.7m	£1.6m
SGN	No penalty	£0m	-£1.1m	£0m	£53.2m	-£1.1m
WWU	No penalty	£0m	£0m	£0m	£21m	£0m
NGGT	-£7.8m	£0m	-£18.6m	£0m	£31.8m	-£26.4m
NGET	-£16.7m	£0m	-£179.6m	£0m	£66.6m	-£66.6m
SHET	No penalty	£0m[132]	-£47.3m	£0m	£32.2m	-£32.2m
SPT	No penalty	£1.6m	-£16.6m	£0m	£19.4m	-£15.0m

10.29 Our proposals set out in Table 15 reflect our overall view that the quality of information provided in Business Plans, particularly in the transmission sector, has not met expectations. Furthermore, two companies (NGET and NGGT) have been

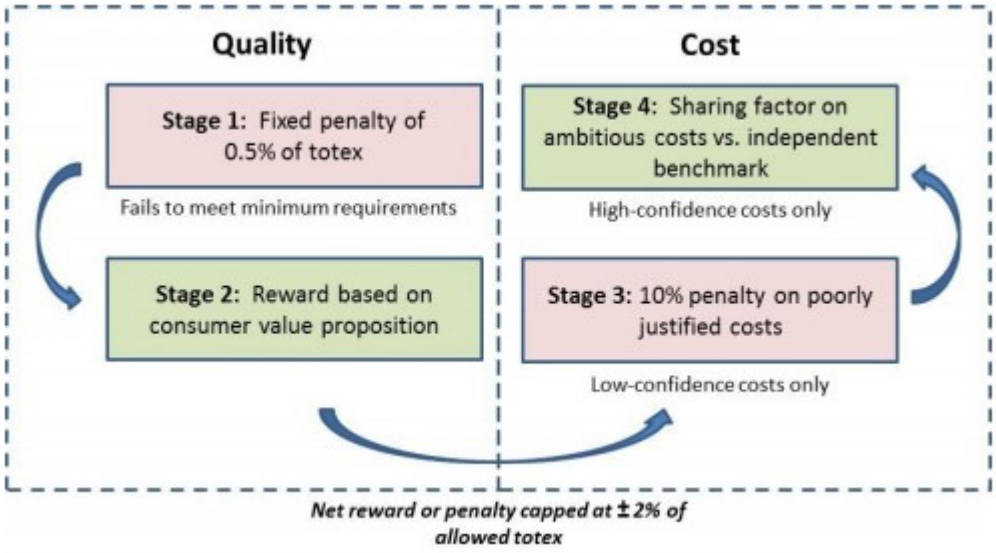
[131] As with other financial incentives in RIIO-2, we propose to make separate tax adjustments so that the figures in the table represent the estimated financial impact on the company after paying corporation tax.
[132] Note we propose to accept one CVP. However, we are consulting on a revised methodology for the calculation of the CVP value.

assessed as failing Stage 1 of the BPI, failing to meet the Minimum Requirements for quality and completeness and are subject to a penalty.

Four stages of the Business Plan Incentive assessment

10.30 In our SSMD, we set out that there are four stages of assessment under the BPI as set out in the figure below.

Figure 8: Summary of four stages of assessment under the BPI



10.31 At SSMD, we decided that for each company rewards and penalties (aggregated across all four stages of the BPI) are capped at 2% of our proposed Totex allowances. The following sections outline our approach to assessing company performance for the purposes of the BPI and TIM. Our assessment of individual company performance against each incentive is set out in the company-specific annexes. Specific sector considerations are summarised below.

BPI Stage 1 assessment process

Background

10.32 In our SSMD,[133] we outlined that the purpose of Stage 1 of the BPI is to ensure that Business Plans contain all of the information that we consider to be the minimum required to allow us to assess those plans properly. Our SSMD set out that if we find that a Business Plan has failed to meet the Minimum Requirements,

[133] SSMD Core Document, Chapter 11.

an upfront penalty of 0.5% of allowed baseline Totex would be levied on the company. Where this is the case, the company would not be eligible for any reward under the BPI but can still be penalised under Stage 3.

Approach to assessment

10.33 We assessed each of the Minimum Requirements specified in Appendix 1 of the BPG against the completeness and quality criteria set out in paragraphs 5.8 and 5.9 of that same document.

10.34 Where our assessment found that a Business Plan had not met one or more of the Minimum Requirements, we carried out a materiality assessment. Our assessment of materiality took account of the number and nature of the Minimum Requirements that were not met and the impact that the gaps have had on the completeness and quality of the Business Plan, and consequentially on our ability to carry out a thorough assessment of the companies' Business Plan.

10.35 During our assessment, we also reviewed whether the wording associated with the Minimum Requirements that had been originally set out in our SSMD was clear enough to constitute a 'minimum' requirement. Following consideration of the policy in the course of our assessment, we propose that the following areas listed in Appendix 1 of the BPG should not be classed as 'Minimum Requirements' as they were drafted as potential asks rather than requirements:

- ET - Stakeholder satisfaction survey; Additional contribution to low carbon transition; Successful delivery of large capital investment projects; Cost Assessment; Uncertainty Mechanisms.
- GD - Decarbonisation of heat – biomethane.
- GT - Low carbon energy systems and decarbonisation of heat.

Consultation position

Licensee	Assessment against Minimum Requirements
ET - NGET	Multiple Minimum Requirements not met in relation to Cost Assessment, and Cost Benefit Analysis (CBA) and engineering justifications.
ET - SPT	Minimum Requirements met
ET - SHETL	Minimum Requirements met
GD - Cadent	Not met Average Restoration Time incentive Minimum Requirement
GD - NGN	Not met Smart Meters rollout costs Minimum Requirement
GD - SGN	Minimum Requirements met
GD - WWU	Minimum Requirements met
GT - NGGT	Multiple Minimum Requirements not met in relation to Cost Assessment, and Cost Benefit Analysis (CBA) and engineering justifications.

10.36 Following our assessment of Minimum Requirements and the materiality of the gaps identified, we consider that NGET and NGGT have failed Stage 1 of the BPI.

10.37 Our initial assessment found that Cadent and NGN have each been assessed as not meeting one Minimum Requirement. However, following our materiality assessment, we consider that these are not material enough to warrant failure against BPI Stage 1. See 'Gas Distribution' section below for our full rationale.

10.38 Following our assessment that NGET and NGGT have failed Stage 1, we propose to apply a penalty of 0.5% of Totex[134] in each case. This penalty is consistent with the position that we set out in our SSMD.

Rationale for consultation position

Electricity Transmission

10.39 We consider that NGET has not met the Minimum Requirements set out in paragraphs 3.10, 3.12, 3.14 and 3.21 of the BPG. These relate to NGET's cost assessment, EJPs and CBAs. Our detailed explanation for this is contained in Appendix 4 of the NGET Company Annex. We have provided a summary below of our assessment against these requirements. We have provided a summary below of our assessment against these requirements:

- Paragraph 3.10 of the BPG – for c.£1bn of its proposed asset health led interventions, NGET has proposed methodologies without the background calculations, or a sufficient explanation of why the volume of intervention

[134] See Table 14

varies from historical volumes and cost. This Minimum Requirement said that "we expect companies to explain their costs/workload forecasts, particularly where these diverge from historical trends."

- Paragraph 3.12 of the BPG – evidence supporting the asset health condition inputs has not been provided. No reports on repairs, asset age information, duty information, visual inspection reports or photographs of individual assets were submitted. This has required Ofgem and our consultants, Atkins, to sample the interventions proposed and to request all contributory information used to justify their inclusion. This should have been included in the original submission, as the BPG stated that "Business Plans must clearly set out the key drivers of expenditure for the RIIO-2 period - for example… conditions of assets/utilisation."
- Paragraph 3.14 of the BPG – NGET has not provided a clear rationale behind, or the assumptions used to assess, the volume of work that it proposes to undertake, which in turn makes it difficult for us to robustly assess its costs. Secondly, for non-lead assets where categories of expenditure are more uncertain and more difficult to forecast using historical/independent benchmarks, NGET has not considered mechanisms that mitigate risk associated with uncertainty, and/or other evidence to justify its submitted costs.
- Paragraph 3.21 of the BPG – NGET has not determined the minimum level of intervention required to remain compliant with legislation and has not considered a reasonable range of credible investment decisions. Due to the lack of detailed justification for asset health interventions, NGET's submission is not open to "scrutiny and challenge", nor is it "transparent about assumptions, inputs and rationale for decisions, calculations and results".

10.40 We consider that both SHET and SPT have passed all of the Minimum Requirements set under Stage 1 of the BPI. In comparison to some of NGET's failings listed above:

- SHET provided relevant asset data for all assets which have a related investment and provided a 90-page detailed submission on condition data.
- SPT provided robust asset health and whole-life risk assessments for each proposed investment.

Gas Distribution

10.41 Cadent was assessed to have not met the Minimum Requirement set out in paragraph 2.163 of our SSMD, which relates to the Average Restoration Time incentive for total unplanned interruptions in its North London network. The reason is that Cadent failed to provide a justified split of its Average Restoration Time incentive between Multi-Occupancy Buildings and non-Multi-Occupancy Buildings.

10.42 NGN was assessed to have not met the Minimum Requirement set out in paragraph 6.17 of our SSMD which relates to Smart Meter rollout costs. The reason is that NGN has failed to provide adequate stakeholder engagement to support its proposals. NGN has also not identified how these costs impact its other cost areas, as requested in our SSMD.

10.43 We consider that both SGN and WWU have met all of the Minimum Requirements set under Stage 1 of the BPI.

Gas Transmission

10.44 We consider that NGGT has not met the Minimum Requirements set out in paragraphs 3.10, 3.14 and 3.21 of the BPG. These relate to the cost assessment, EJPs and CBAs submitted. Our detailed explanation for this is contained in Appendix 2 of the NGGT Company Annex. We provide a summary of our concerns below against each of the paragraphs numbers where we consider NGGT to have failed:

- Paragraph 3.10 of the BPG – NGGT failed to provide any of the information sought by this Minimum Requirement in relation to its proposed work on the Hatton compressor station, where no supporting documents were provided to support a proposed cost of £75m.
- Paragraph 3.14 of the BPG – similarly, in relation to NGGT's funding request for decommissioning of compressors at multiple sites, it failed to provide "evidence of the efficiency of their costs" or "details of assumptions and justification for projected changes in the efficient levels of unit costs over time (ie ongoing efficiencies) caused by improvements in project delivery, technological innovation, procurement efficiencies, etc"
- Paragraph 3.21 of the BPG – NGGT's plan failed to meet the criteria to "be transparent about assumptions, inputs and rationale for decisions, calculations and results". This was apparent throughout the Business Plan, but especially

in relation to the methodology used to calculate asset health intervention volumes, where NGET's approach was only revealed after multiple rounds of supplementary questions.

Outcome of BPI Stage 1

10.45 Following our assessment, we consider that SHET, SPT, SGN and WWU have passed Stage 1.

10.46 Following a review of the materiality of the Minimum Requirements that Cadent and NGN were assessed to have not met, we consider that these are not sufficiently material to warrant failure against BPI Stage 1.

10.47 As part of our materiality assessment of Cadent and NGN's assessment results, we took account of the fact that the specific Minimum Requirements that had not been met had a low materiality for consumers in terms of cost allowances sought. We were able to obtain and understand the information that had originally been omitted by these companies through a simple supplementary question and its original omission did not have a material impact on our Business Plan assessment. As a result, we consider that both Cadent and NGN have also passed Stage 1.

10.48 In contrast, the Minimum Requirements that NGET and NGGT did not meet related to areas of the Business Plan which carry an especially high importance for consumers in areas which relate to ensuring the safe operation of the network. The failings were also in areas of the Business Plans which carry a high financial materiality for GB consumers.

10.49 Both companies did not meet multiple Minimum Requirements in relation to areas across their Business Plans. These were not isolated errors, but systemic failings in relation to the content of the Business Plans. The lack of detail and justification shown in their Business Plans for high value expenditure areas undermines our confidence in the Business Plans.

10.50 Cumulatively, these failings had a material impact on our ability to assess their Business Plans in a timely and robust manner. Significant resource needed to be dedicated to resolving the issues with both plans, including through supplementary questions and significant amounts of bilateral engagement.

10.51 We consider that these failures to meet the Minimum Requirements are sufficiently serious and material to warrant failure against BPI Stage 1.

Consequently, we consider that both NGET and NGGT have failed Stage 1 and are consulting on that position at Draft Determinations.

Application of the BPI Stage 1 penalty

10.52 As set out in our SSMD, we had considered that a possibility of a penalty of 0.5% of Totex for Stage 1 of the BPI was sufficient to provide an incentive for companies to apply the necessary effort to provide us with a Business Plan that is of an acceptable standard. Our rationale for this view was that:

- a 0.5% of Totex penalty would have a sufficient financial impact on a company to warrant it taking specific action to avoid the penalty
- an incentive of this strength has been shown to be effective at driving positive company behaviour in other areas, such as our Timely Connections incentive.

10.53 We propose to apply a penalty of 0.5% of allowed totex to NGET and NGGT as a consequence of their failures against Stage 1. We will apply this penalty as we propose to apply other financial incentives in RIIO-2, with a separate tax adjustment, so that the financial impact on the company after paying tax is 0.5% of allowed Totex.

Consultation questions

Q34. Do you agree with our view that SHET, SPT, SGN and WWU passed all of the Minimum Requirements, and as such are considered to have passed Stage 1 of the BPI?

Q35. Do you agree with our rationale for why NGET and NGGT should be considered to have failed Stage 1 of the BPI?

Q36. Do you agree with our rationale for why Cadent and NGN are considered to have passed Stage 1 of the BPI?

BPI Stage 2 assessment process

CVP Requirements

10.54 In the BPG, we set out our approach to the Stage 2 assessment.[135] We outlined that we expected companies to provide evidence of the associated additional value to consumers provided by their CVP proposals.

[135] Business Plan Guidance Chapter 5.

10.55 We also identified various types of activities that could be included within a company's CVP proposal.[136] However, we were clear that this list was not exhaustive and that CVP proposals related to the listed activities would not automatically lead to a Business Plan reward.

Assessment process

10.56 CVP proposals have been assessed following a consistent approach across companies and sectors.

10.57 We have reviewed the level of justification provided in the Business Plans for each proposal in accordance with our BPG. Matters we have considered include the non-exhaustive list set out in the BPG.[137]

10.58 Each CVP proposal was assessed on its own merits. There was no consideration of a company's CVP package as a whole. Where we are content with an overall proposal, but do not accept the quantification methodology used to calculate the monetised value to consumers, we have already engaged, or intend to engage with relevant companies to develop a robust methodology. Further detail is in the company annexes.

10.59 As set out in the BPG,[138] the size of the final reward received by the company is calculated by multiplying the net consumer value by the company's efficiency incentive rate, as set out in the company annexes.

Treatment of non-monetised proposals

10.60 In the BPG, we set out that where companies were unable to propose a robust methodology for calculating a monetised value, we might not be able to determine an appropriate size of reward, which might lead to the proposal receiving no reward.[139]

10.61 Following our assessment, we are proposing not to reward any non-monetised CVP proposals. However, these proposals were not rejected because we could not determine the size of the reward. The reasons for rejection are set out in more detail in the company annexes.

[136] Business Plan Guidance Paragraph 5.18.
[137] Business Plan Guidance Paragraphs 5.21-5.25.
[138] Business Plan Guidance Paragraph 5.22.
[139] Business Plan Guidance, paragraph 5.16.

Stage 2 assessment outcome

Company performance against the CVP

10.62 Network Companies put forward 117 CVP proposals in total across the three sectors: 42 for Electricity Transmission, 8 for Gas Transmission, and 67 for Gas Distribution. The total proposed value of the CVP proposals was in excess of £5.5bn.

10.63 We propose that three proposals should receive rewards. Table 16 below provides a summary of outcomes.

10.64 As our proposal would have been that three additional CVP proposals put forward by NGET and NGGT should receive rewards. However, as we consider that NGET and NGGT have failed Stage 1, they are not able to receive a reward under Stage 2, as per the BPG.[140]

Table 16: CVP outcome by company

Licensee	CVP Outcome
ET - NGET	Our proposal would have been a reward for 1 proposal, subject to our position on Stage 1.
ET - SPT	We propose a reward of £1.6m for 1 CVP proposal, to provide land to community groups at non-operational sites to maximise benefit.
ET - SHET	We propose a reward for 1 CVP proposal, to achieve no net loss of biodiversity on construction projects from 2020, and net gain from 2025. We intend to engage to establish a methodology for calculating the value.
GD - Cadent	We propose that no reward is received.
GD - NGN	We propose a reward of £1.6 for 1 CVP proposal, to set stretching time bound targets to make repairs to lower risk leaking pipes.
GD - SGN	We propose that no reward is received.
GD - WWU	We propose that no reward is received.
GT - NGGT	Our proposal would have been rewards for 2 proposals, subject to our position on Stage 1.

10.65 We recognise the significant effort that companies made to prepare CVP proposals, and the additional challenge presented by a novel incentive. However, as consumers ultimately fund any reward, we must be satisfied it provides clear additional value to consumers. We do not think that many of the CVP proposals

[140] Business Plan Guidance paragraph 5.3

submitted to us had been clearly justified to receive a reward. Common reasons for this are listed in paragraph 10.69.

10.66 We do commend some of the activities proposed, and we have provided baseline funding for some of these to be delivered.

10.67 We consider that our RIIO-2 framework as a whole delivers significant additional value compared to RIIO-1. We therefore acknowledge that identifying additional ways to deliver consumer value beyond our framework was a challenging and stretching task for companies.

10.68 The total value of CVP proposals submitted to us was far higher than we anticipated, given it far exceeded the total cap on the BPI of 2% per company. From our assessment, we consider many of the proposals to be outside the scope of CVPs.

10.69 Some common reasons for CVP proposals not receiving a reward across the sectors include: the company failing to demonstrate how the activity provides additional value to consumers; not sufficiently demonstrating support from consumers and stakeholders; an associated output was rejected, making the CVP redundant; and that there was insufficient evidence to support the proposal.

10.70 Further details on the outcome of our Stage 2 assessment are provided in the company annexes, including our more detailed reasoning for proposing CVP proposals should either receive, or not receive rewards.

Proposed approach for treatment of CVP rewards

Consultation position

Aspect of CVP	Consultation position
Reporting requirements	For all proposals that receive a CVP reward, we will introduce an annual reporting requirement regarding delivery status, and require detailed reporting at close-out of RIIO-2.
Clawback	We will introduce an ex post clawback mechanism to recover a proportion of the reward in the event of non-delivery.
Submission of performance metrics	For all CVPs which we propose should receive a reward, we require submission of performance metrics as part of consultation response, for us to consider ahead of Final Determinations. These should detail measurable activities or outputs the company will complete to deliver proposed consumer benefits.

Rationale for consultation position

Reporting requirements

10.71 We propose to modify the Regulatory Instructions and Guidance to introduce an annual reporting requirement for CVPs receiving a reward to monitor progress during the RIIO-2 period. We propose to provide a common reporting template, where companies will class each CVP's delivery status and provide a brief commentary.

10.72 We propose to require a more detailed report to be submitted to us during the close-out of RIIO-2. The structure of this report will be communicated to companies prior to close-out and it should demonstrate how companies have performed against their CVP outputs. It should relate to the metrics which companies have submitted, and Ofgem has approved, as set out in the performance metrics section below. We will use this report to inform our ex post assessment.

10.73 Some company proposals included a commitment to report on progress against CVPs to their User Group (UG) or Customer Engagement Group (CEG). The extent and frequency of these reporting commitments varied. We are supportive of this approach to increase transparency and we encourage network companies to report to their UGs/CEGs annually on the progress of their CVPs (subject to the ongoing role of the Groups). This annual report could also be published online or included as an annex to the relevant company's annual report.

Performance Metrics

10.74 To allow us to adequately assess if a CVP reward has been delivered at RIIO-2 close-out, we expect companies to provide clear performance metrics for all the CVPs we are proposing to reward, as part of their response to this consultation.

10.75 These metrics should be:

- based on specific measurable actions or outputs, rather than actual consumer benefit
- clearly related to the total reward, such that we can determine what proportion of the reward has been delivered at closeout.

10.76 Ofgem will consider these submissions, and in Final Determinations will set out the outputs we will use to assess delivery of rewarded CVP proposals. If we are not

satisfied that the proposed metrics will adequately inform whether and how to apply a clawback in event of partial or non-delivery, we may decide the CVP proposal should not receive a reward. It is important that we are able to evaluate if a CVP proposal has been satisfactorily delivered during RIIO-2.

10.77 These proposed metrics will be used to assess delivery of CVP proposals at RIIO-2 close-out. If a company believes that, due to changing circumstances, an activity or output no longer provides value to consumers, it should submit justification for this as part of the final RIIO-2 closeout report. It must also detail any alternative activity it undertook. It would be at Ofgem's discretion to determine if this was adequate to constitute delivery.

Clawback for non-delivery

10.78 In our SSMD, we set out that the CVP reward may be clawed back where relevant.[141] In the BPG, we stated that Ofgem would consider including a provision for clawback in the event CVP commitments are not delivered.[142] Additionally, we stated that companies should, where appropriate, commit to returning any associated rewards in the event of non-delivery.

10.79 Some company proposals included a commitment to return some or all of a CVP reward in the event of non-delivery. There was not a uniform proposed approach in the proposals we received.

10.80 We propose that any CVP reward we allow and determine to have not been fully delivered at close out of RIIO-2 will be recovered through an ex post clawback mechanism. The purpose of this clawback is to hold companies to account and ensure consumer value is delivered.

10.81 We propose to recoup only the proportion of any CVP reward we determine has not been delivered. This will be informed by relevant considerations including, the close-out report and performance metrics described above.

10.82 Each CVP reward will be considered individually, regardless of overall value and there is no stated minimum value that could be clawed back. If costs were awarded as part of a CVP proposal and are separable, these would also be subject to the proposed clawback mechanism. We propose that any sum to be clawed

[141] SSMD Core Document, paragraph 11.46
[142] Business Plan Guidance, paragraph 5.20

back will be done by revising the revenue awarded by the PCFM through a subsequent Annual Iteration Process after RIIO-2 close-out.

10.83 If net rewards for a company across the BPI at Final Determinations exceed 2% of its allowance and is therefore capped, we may not seek to claw back the entirety of the pre-cap reward that the CVP represents in the event of non-delivery. The intention is to avoid companies having a CVP reward clawed back that is not received in full. A company should not be left worse off than if had not submitted the proposal for an undelivered CVP.

10.84 If at Final Determinations any company has a BPI reward which would otherwise have exceeded the 2% cap, we will set out a full methodology to address the potential clawback. We propose to determine the amount to claw back by calculating the proportion of the CVP reward compared to the overall BPI reward from Stage 2 and Stage 4 before the cap is applied, and then applying this proportion to the post-cap BPI reward. This would be scaled to each CVP reward, and extent of delivery. We welcome views on this proposed approach.

Proposed approach for treatment of rejected CVP proposals

10.85 We are not proposing receipt of rewards for the majority of CVP proposals submitted. In light of the nature of many of these proposals, we do however encourage the companies to deliver many of the activities set out as part of the CVP proposals as part of their day-to-day activities. While we do not consider these proposals meet the requirements to receive a CVP reward, we would expect some activities to be delivered as BAU during RIIO-2.

10.86 Where funding is provided for an activity through baseline allowances or another output, then we would still expect the activity to be carried out, regardless of whether the CVP proposal was rewarded. These activities will be subject to other regulatory requirements as appropriate.

10.87 Where we are not proposing receipt of a CVP reward, we do not intend to require companies to report on delivery of the CVP proposal using the proposed reporting requirements above.

Consultation Questions

Q37. Do you agree with our overall approach regarding treatment of CVP proposals?

Q38. Do you agree with our proposed clawback mechanism to treat received CVP rewards?

BPI stage 3 assessment process

10.88 In our SSMD we said costs that are assessed as lower confidence costs could be liable for penalties under Stage 3 of the BPI. We said that we would apply a penalty of 10% of the value of any poorly justified lower confidence costs that are removed by Ofgem from company Business Plans.

10.89 For lower confidence costs, we arrived at our view of efficient baseline cost allowances for individual cost elements by combining:

- The company forecasts of the levels of activity to be carried out during the RIIO-2 period, less any activities that are removed or rejected for funding by Ofgem; and
- Our view of the efficient costs of carrying out those activities.

10.90 Further details of how we have assessed efficient baseline cost allowances are set out in the sector and company-specific annexes.

10.91 The amount of lower confidence costs removed by Ofgem from Business Plans is the difference between company costs forecasts in the final Business Plan submissions and our efficient baseline allowances.

10.92 We determined the subset of the lower confidence costs removed by Ofgem from Business Plans that were poorly justified by companies. In reaching our view of costs that were poorly justified by companies, we have taken account of the information provided by the companies to support both the forecast levels of activity and the forecast costs of undertaking that activity. Further details of our assessment of the justification provided by companies are set out in the company-specific annexes.

10.93 We then aggregated the amount of poorly justified lower confidence costs removed by Ofgem across all categories of costs, and applied the penalty rate of 10% to determine the amount of penalty under BPI Stage 3.

BPI Stage 4 assessment process

10.94 In our SSMD we said costs that are assessed as high-confidence costs could be eligible for rewards under Stage 4 of the BPI. We said that companies could earn rewards by submitting cost forecasts in their Business Plans that are lower than a benchmark that we would otherwise have used in setting the allowance.

10.95 In relation to high-confidence costs, we have developed our view of baseline allowances drawing on efficient cost benchmarks that we have developed through our cost assessment tools:

- where we have relied on econometric benchmarking, the cost benchmark is our estimate of the modelled costs (including relevant non-modelled costs), before applying ongoing efficiency adjustments, and after applying catch up efficiency and volume adjustments, and any other sectoral and regional adjustments that are described in the relevant sector documents and annexes
- where we have relied on other cost assessment tools, the efficient cost benchmark is our estimate of efficient baseline costs before applying ongoing efficiency adjustments.

10.96 Further details of how we have determined our view of efficient cost benchmarks are set out in the sector and company-specific annexes.

10.97 For high-confidence costs, we set baseline allowances using the lower of a) the company forecast; and b) the efficient cost benchmark.

10.98 For the purposes of BPI Stage 4, we compared our efficient cost benchmarks against the cost forecasts submitted by companies in their final Business Plan submissions, aggregated in both cases across all high-confidence cost categories. Where the aggregate company forecast of high-confidence costs is lower than the aggregate efficient cost benchmark, the difference between the two is the amount eligible for BPI Stage 4 rewards.

10.99 Where applicable, BPI Stage 4 rewards are determined by applying the company-specific sharing factors to the amount eligible for Stage 4 rewards.

11. Interlinkages in RIIO-2, post appeals review and pre-action correspondence

RIIO-2 Interlinkages

11.1 In this chapter we seek to explain how different elements of the RIIO-2 price control relate to each other, in other words how proposals in one area relate to decisions made and assumptions used elsewhere in the price control.

11.2 The purpose of this chapter is to provide a high-level view of how the different elements of the RIIO-2 price control framework interact with each other. In setting out these interlinkages, we hope to provide further clarity for stakeholders on the overall RIIO-2 framework.

Interlinkages in the RIIO-2 package

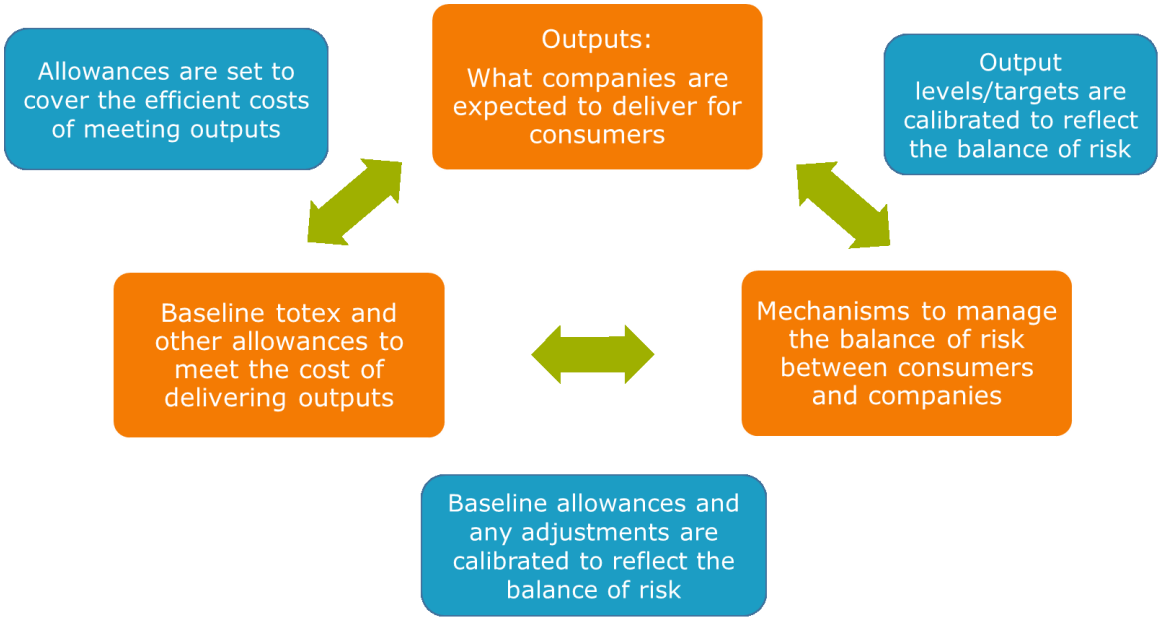
11.3 RIIO is a complex price control framework, with many interlocking decisions that come together to create an integrated price control package that delivers for consumers, users of the gas and electricity networks and network companies.

11.4 Our RIIO-2 price control package is a system made up of three distinct but closely linked pillars:

- Outputs, which are the activities and outcomes that we expect the companies to deliver for consumers during the RIIO-2 period. This includes, but is not limited to, statutory obligations, price control deliverables, ODI targets, Licence Obligations and ongoing efficiency improvements.
- Expenditure allowances, which allow companies to recover the efficient costs of delivering those outputs for consumers through regulated revenues. This includes baseline Totex allowances and other allowances that we set to meet the cost of delivering outputs such as WACC, ODI rewards and penalties, uncertainty mechanism revenues.
- Uncertainty and other risk mitigating mechanisms to manage and maintain a fair balance of risk between consumers and companies. This includes, but is not limited to, UMs, RPE indexation, TIM sharing factor, BPI, and RAMs.

11.5 Figure 9 below provides a high-level overview of how these three pillars link together to create the RIIO-2 package for network companies.

Figure 9: High level overview of interlinkage between outputs, expenditure allowances, and uncertainty / other risk mitigating mechanisms



11.6 The ESO's RIIO-2 price control has similar pillars of outputs, funding and rules to adjust for uncertainty, but uses different approaches and components within these pillars (see the ESO sector annex for more information).

11.7 The intrinsic links between these three pillars mean that each of them affects and is affected by decisions taken in relation to the other two pillars. For instance, the amount of work that companies have to do to meet their obligations (ie outputs) influences the efficient levels of expenditure allowances and conversely the amount of money available through allowances determines the amount of work that can be undertaken. Mechanisms to manage risk influences both the amount of work undertaken and the efficient costs of doing so. For instance, better risk protection through RPE indexation could lead to lower costs (through lower contingency costs and lower cost of capital). Similarly, lower incentive targets could mean that companies are more likely to deliver their outputs at a lower cost.

11.8 Therefore, we recognise that in some cases, a change to a component that sits in one of these pillars may have an effect on the other pillars, and the impact this change has on the other pillars would need to be taken into consideration.

11.9 We note that the effect of the interlinkages can be considered under two categories:

- Interlinkages that are relatively mechanistic in nature, such that changes in one aspect of the price control have a direct impact on another aspect of the control for methodological reasons.
- Interlinkages that are less mechanistic in nature and involve a certain degree of regulatory judgement. Such interlinkages typically relate to decisions that are taken at a global level, in light of decisions and assumptions made in other parts of the price control, but are not in a mechanistic manner. Such decisions need to be considered 'in the round'.

11.10 We provide several examples below in order to illustrate the nature of the interlinkage categories. The examples provided are not an exhaustive list of every way in which individual aspects of our overall price control decision may be linked to every other aspect. It would not be proportionate to attempt to do this here. Instead, we provide these examples to help licensees and other stakeholders to gain a better understanding of how our proposed price control is comprises a number of interlinked elements.

Cost of Equity

Policy area	Mechanistic interlinkages	In the round interlinkages
Cost of equity	NA	Outputs, ODI calibration, TIM, cost allowances, uncertainty mechanisms.

11.11 The assessment of the risks to investors for the purposes of determining a reasonable allowance for the cost of equity depends on a number of elements of the RIIO-2 package, including expectations for output delivery, expenditure allowances, calibration of incentive targets, approaches to determining financial rewards/penalties, levels of expected performance and caps/collars.

11.12 Changes to these elements could affect the level of risk faced by companies, with a consequential impact on the assumptions that feed into our assessment of the cost of equity.

Cost of Equity (Expected Returns versus Allowed Returns)

Policy area	Mechanistic interlinkages	In the round interlinkages
Cost of equity (expected returns versus Allowed returns)	NA	Outputs, ODI, Totex allowances, TIM

11.13 Our proposals for the cost of equity include an adjustment to reflect differences between allowed returns and expected returns, based on our expectation of the scope for outperformance during RIIO-2.[143]

11.14 Our estimate of the scope for outperformance is informed by historical evidence from energy and other price controls, but the scope for outperformance in RIIO-2 is also affected by our proposed outputs, expenditure allowances and Uncertainty Mechanisms. Any change to the level of outputs to be delivered, expenditure allowances provided or the calibration of Uncertainty Mechanisms may have an impact on the scope for outperformance in the RIIO-2 package.

Cost of debt

Policy area	Mechanistic interlinkages	In the round interlinkages
Cost of debt	NA	Totex allowances, capitalisation rates, depreciation, notional gearing, overall assessment of credit quality (financeability)

11.15 There are interlinkages between cost of debt calibration and a) Totex allowances, b) capitalisation rates, c) depreciation and d) notional gearing. This is because one input into the cost of debt calibration exercise is an assumption as to how much debt companies will raise in the upcoming price control. This assumption is driven by forecast RAV growth (which is in turn linked to Totex allowances, capitalisation rates and depreciation) and notional gearing assumptions.

11.16 Any material changes to Totex allowances, notional gearing, depreciation or capitalisation therefore have knock-on effects on the cost of debt allowance calibration because it may materially change the amount of new debt assumed to be issued in RIIO-2. This could in turn have an impact on the forecast average costs of debt across GD and T and therefore the appropriateness of the allowance calibration.

11.17 In extremis, if the package as a whole (including equity allowances, notional gearing or the overall risk and return balance) were changed very materially, this could lead us to a different assessment of the credit quality of future notional

[143] This has not been done for the ESO for the reasons set out in the ESO Sector Document Finance Chapter

efficient operator debt. This may then require a reassessment of the calibration of the debt allowance.

Business Plan Incentive

Policy area	Mechanistic interlinkages	In the round interlinkages
Business Plan incentive	BPI stages (1,2,3 and 4) and TIM incentive rates	BPI Stage 2 and outputs

11.18 The BPI itself comprises four stages. For those companies to which the BPI applies, we recognise there are interlinkages between these four stages and other elements of the RIIO-2 packages:

- Stage 1 involves an assessment of whether Business Plans are complete in meeting Minimum Requirements and are of a satisfactory quality. Business Plans that fail Stage 1 are not eligible for any rewards that may be available under Stages 2 and 4.
- We have proposed to accept and reject CVPs as part of Stage 2 of the BPI. We recognise that there are interlinkages between our proposals on the CVP and other outputs. In the event that our proposals on the CVP were to be changed, we may need to reconsider our proposals for any outputs linked to the CVPs and associated clawback mechanisms.
- Our assessment of cost confidence determines the proportion of costs that are assessed as part of Stage 3 and Stage 4. Costs assessed as high-confidence costs may be eligible for rewards under Stage 4. All other baseline costs are potentially subject to Stage 3 penalties. Additionally, the outcome of our cost confidence determines the TIM. Any potential changes to our confidence assessment after Draft Determinations will mechanistically impact our proposals for the TIM.

Real Price Effects

Policy area	Mechanistic interlinkages	In the round interlinkages
Real price effects	NA	Cost of Equity, financeability

11.19 Our proposals for RIIO-2 include an RPE indexation mechanism, which protects companies and consumers from the risks of material deviation of input price trends and CPIH. Changes to the level of risk protection offered by this

mechanism could have an impact on our view of the risks to investors, and therefore our view of the appropriate cost of equity.

Ongoing Efficiency

Policy area	Mechanistic interlinkages	In the round interlinkages
Ongoing efficiency	NA	Innovation funding

11.20 We have identified interlinkages with our proposals for ongoing efficiency and innovation funding. As part of our efficiency challenge for companies, we have considered the scope for ongoing efficiency improvements that can be attributed to innovation funding provided as part of the RIIO price control framework. Our consultants CEPA have undertaken analysis to show that consumers can expect up to 0.2% ongoing efficiency benefits from our innovation funding mechanisms. We agree with CEPA's analysis.

11.21 We think there are strong links between the two, such that any easing of our ongoing efficiency challenge needs to be accompanied by a review of the value for money offered by innovation funding.

Return adjustment mechanisms

Policy area	Mechanistic interlinkages	In the round interlinkages
Return adjustment mechanisms	NA	TIM, ODIs

11.22 Our proposal on a threshold of 300bps around the baseline allowed return on equity is made taking account of the total RIIO-2 package that is proposed within these Draft Determinations – considering the TIM and ODI parameters. We believe that it is an appropriate proposal in this context. We also believe that each of the mechanisms serves a different purpose and that their combined operation achieves the objectives of RIIO 2. Therefore, we recognise that there are interlinkages between our proposals for RAMs[144] and our proposals for the TIM and ODI calibration. If adjustments were made to relevant aspects of the price control

[144] We note that RAMs do not apply to the ESO

in between Draft Determinations and Final Determinations, we will consider the extent to which these may necessitate a need to reconsider the threshold level.

Additional funding for the ESO

Policy area	Mechanistic interlinkages	In the round interlinkages
Additional funding for the ESO	NA	Cost of equity, financeability, asymmetry, rules for cost disallowance, incentive value

11.23 We have proposed additional funding for the ESO to allow for the risks it faces that are not effectively remunerated through its return on capital. The additional funding amount and cost of equity are strongly linked. They together help ensure the ESO can finance its activities, and avoid duplicative funding for the same risks.

11.24 As the ESO's risks are a product of its regulatory framework, there are also close links between this value and our framework design choices. In particular our proposals for costs disallowance and the extent of asymmetric risk they may create, have been considered in conjunction with our proposals on additional funding. We have considered the overall asymmetry of risk and reward in the price control when setting our funding proposals, and our choice of incentive scheme value is another aspect which influences this.

Next steps

11.25 We will continue to consider the interlinkages that exist in the RIIO-2 package in the lead up to Final Determinations. As noted further down in this chapter, and in line with the approach set out by the CMA in its open letter to the Authority we would expect that any interlinkages that exist between these pillars, including the illustrative examples provided above, are in the first instance raised by an appellant (and wider parties) in the context of any CMA appeal so that each element of our proposed price control determinations is viewed in its proper context.

Consultation questions

Q39. Do you have any views on the interlinkages explained throughout this chapter?

Q40. Are there other interlinkages within our RIIO-2 package that you think are relevant to the three pillars identified in this chapter?

Post appeals review, interlinkages and pre-action correspondence

11.26 In December 2018, we consulted on the possibility of introducing measures, following on from any successful appeals to the CMA, to address the impact of an appeal on other aspects of the price control settlement.[145]

11.27 Respondents raised concerns that our proposals went beyond GEMA's statutory powers and could undermine the appeals framework. Some respondents also questioned the need for the proposal, expressing the view that the current regime already allows the CMA to consider interlinkages. A number of respondents asked for further details before reaching a view and responding.

11.28 We said in our SSMD that our policy thinking was still in development, and that we would consult further ahead of any decision.[146]

11.29 We continue to consider that the principle of a review of wider aspects of the price control following the conclusion of any appeals to the CMA has merit to ensure that the overall price control settlement is consistent and coherent, and are seeking views on how such a review may operate.

11.30 There is a further aspect to our position in relation to appeals, namely we expect that any stakeholder who is considering appealing to write to us in the form of pre-appeals correspondence, and are consulting below on the practicalities and timeframes of when we would expect to receive such correspondence.

Consultation position

Appeals	Consultation position
Post appeals review	To make clear in Final Determinations that, in appropriate circumstances, we will consider whether to review wider aspects of the price control settlement following the conclusion of a successful appeal to the CMA. The aim of such a review would be to ensure a coherent regulatory settlement is maintained in the event the CMA's decision has material knock on consequences for the wider price control settlement.
Pre-action Correspondence	We expect any prospective appellant to send pre-action correspondence at a sufficiently early stage after the publication of Final Determinations and ahead of the deadline for making an application for permission to appeal. That correspondence should explain their intention to appeal, and the elements of the RIIO-2 price control that they plan to appeal, including the scope of any such appeal including, in sufficient detail, the alleged errors, and

[145] Please refer to paragraph 2.20 of our December SSMC document for full details.
[146] Please refer to paragraphs 2.18 – 2.23 of SSMD for full details.

Appeals	Consultation position
	why that particular component(s) of the price control is wrong having regard to interlinked aspects of the decision.

Post appeals review and interlinkages

11.31 We want to be open about how we may act in a post appeals context to allow appealing licensees to consider the question of interlinked decisions and the wider price control settlement in deciding how to frame their appeal, including what the CMA have said in response to our open letter (please see further below). Our proposal is also intended to provide clarity to the non-appealing licensee(s) as to our intentions.

11.32 A review of wider aspects of the price control settlement may be required following a successful CMA appeal. We therefore propose to set out, as a statement of policy in Final Determinations, our intent to carry out a post appeals review where this would be of assistance in ensuring the overall coherence and consistency of the regulatory settlement. Through such a review we would consider whether it was necessary to adjust an element of the price control including allowances, outputs and incentives, that are linked to aspects of our decision that are overturned on appeal before the CMA. We believe that the proposal has merit, and that there are potential scenarios where it may be useful. While there are obvious and significant limitations in attempting to predict an uncertain future event, and we are unable to provide an exhaustive list, the proposal could apply in the following scenarios:

- The CMA quashes the decision(s) appealed and remits to Ofgem for reconsideration with a direction that Ofgem reconsider the decision and consider interlinkages; or
- The CMA quashes the decision(s) appealed, retakes the decision itself but directs Ofgem to consider interlinkages.

11.33 The above scenarios could occur in circumstances where the element of the price control that is successfully appealed is interlinked to other elements of the price control and the outcome of the appeal has a material impact on these other elements. We consider that any review can operate so as not to undermine the statutory appeals framework. A review would be conducted in compliance with the final decision of the CMA on any appeal. We think that the possibility of conducting a review and, if appropriate, making a post appeal adjustment to the RIIO-2 price control should be set out as a statement of policy in Final Determinations

providing clarity to all as to what might happen following an appeal. We do not consider that it would be appropriate or necessary to include provision for it in the licence.

Pre-action correspondence

11.34 Some respondents to the SSMC raised concerns about case management given the risk of multiple appeals to the RIIO-2 price control licence modifications, and said they were keen to ensure that matters in dispute are aired in pre-appeal discussion.

11.35 The CMA agreed in their response to our open letter that in terms of pre-appeal conduct "active engagement is beneficial for all parties", noting that the CMA itself needs to resource for any appeals lodged.[147] The CMA encouraged pre-appeal conduct as good practice, and noted that behaviour which without good reasons makes case management more difficult, such as "appellants who fail to engage with the appropriate regulators and notify us and update us about their potential intentions to appeal", could be reflected in the assessment of conduct, when allocating costs, even for successful appeals. They were of the view that pre-notification of an appeal should include the potential scope of any appeal, rather than being just a notification of its potential existence. We consider the correspondence should also cover the question of interlinkages between a decision appealed and linked aspects of the price control in light of the CMA's position that where "there are … interlinkages described clearly by the regulator, we would encourage appellants to explain why the component under challenge is wrong having regard to the interlinked aspects of the decision."

11.36 Given this, we expect any prospective appellant to send pre-action correspondence at a sufficiently early stage, between the publication of Final Determinations and ahead of the appeals window opening. We would expect to receive this correspondence in the period from early December 2020 to early February 2021 - after the publication of Final Determinations and before we are due to publish a decision on the corresponding RIIO-2 licence conditions. We expect potential appellants to come forward to clearly explain their intention to appeal, the element(s) of the RIIO-2 price control that they intend to appeal, the scope of that appeal including, in sufficient detail, the alleged errors, and why that

[147] Open letter to the Competition and Markets Authority (CMA) on price control appeals

particular component(s) of the price control is wrong having regard to interlinked aspects of the decision.

Consultation questions

Q41. Do you have any views on our proposal to include a statement of policy in Final Determinations that in appropriate circumstances, we will carry out a post appeals review and potentially revisit wider aspects of RIIO-2 in the event of a successful appeal to the CMA that had material knock on consequences for the price control settlement?

Q42. Do you have any views on the proposed pre-action correspondence, including on the proposed timing for sending such to Ofgem?

12. Impact of COVID-19 on the price controls

12.1 The various measures taken by the Government and devolved administrations to control the spread of the COVID-19 virus had a significant and immediate impact on the way network companies and system operator carry out their business as usual activities between mid-March and the end of June 2020. Although reduced, there continues to be an impact across all sectors, in particular distribution networks.[148]

Easement framework

12.2 In response to the issues which arose in that period, Ofgem published a regulatory easement framework[149] for companies for a limited period and set out proposals to allow energy suppliers to defer some of their network charges to relieve financial stress on the sector.[150]

12.3 On 16 June, we set out our expectation that network companies and ESO comply with all of their regulatory obligations from 1 July 2020 onwards.[151] The only exceptions to this approach will be where works and services cannot be delivered to the required standards because of the need for the companies, their supply chain, or their customers to comply with government COVID-19 related guidance to keep customers and staff safe.

12.4 At this stage, it is not possible to forecast accurately the final impact of COVID-19 on the ability of companies to deliver against their output targets for the final year of RIIO-1. This in turn results in a level of uncertainty on the knock-on impact this may have when setting RIIO-2 baselines. We expect that there will be greater clarity by the time of Final Determinations. Between now and Final Determinations we will engage with the companies to gain a fuller understanding of the impacts on RIIO-1 and consequential impacts on RIIO-2 through a series of workshops and bilateral meetings. We also encourage companies to submit evidence of these impacts in their consultation responses to the Draft Determinations. Based on the

[148] Impacts in distribution are likely to be greater than in transmission due to a higher level of interaction with people in their homes.
[149] Impact of COVID-19 on energy network companies - an enabling framework for regulatory flexibility
[150] These proposals are reflected here: https://www.ofgem.gov.uk/publications-and-updates/managing-impact-covid-19-energy-market-relaxing-network-charge-payment-terms
[151] Impact of COVID-19 on network utilities - regulatory expectations from 1 July 2020.

evidence we receive, we will consider whether impacts are sufficiently material to justify intervention.

12.5 In those areas where we may propose to make adjustments, we will engage with the affected companies as to how best to make any adjustments.

- For RIIO-1 outputs, we would seek to use the close out mechanism as far as possible.
- For RIIO-2 outputs, for network companies, we would look to make adjustments at Final Determinations if appropriate. We are also open to the proposal of putting in place either a single or number of uncertainty mechanisms to make the necessary adjustments once the RIIO-2 price control period has commenced on 1 April 2021, if we are persuaded that the impacts are likely to be material enough to warrant such intervention.[152]

Consultation question

Q43. Do you think we need specific mechanisms in RIIO-2 to manage the potential longer-term impacts of COVID-19? If yes, what might these mechanisms be?

RIIO-2 contingency planning

12.6 Ofgem had to reprioritise its workload in response to COVID-19. As a key priority, we are continuing to follow the existing timeline for RIIO-2, although we have already changed the way we are carrying out some of our RIIO-1 related work, such as developing close out methodologies, which has been postponed.[153]

12.7 Based on the improving situation with regard to COVID-19, we remain confident of being able to deliver the existing programme for RIIO-2, with Final Determinations published in December 2020. However, COVID-19 continues to present some risks to delivery, including if there should be any subsequent 'waves' of infection. We therefore believe it is prudent to have contingency plans in place in the event that impacts on Ofgem or company resources means that we cannot adhere to the

[152] We expect that there is sufficient flexibility in the ESO's price control to make an uncertainty mechanism unnecessary.
[153] We recognise that there are several cost areas in RIIO-1 that require specific mechanisms to account for their uncertain nature and need to be settled once the price control has ended. Where the process for 'close-out' was not defined when RIIO-1 was set, methodologies for how Ofgem will determine any necessary adjustments of those elements need to be developed. We have notified companies that we will develop these after the settlement of RIIO-2. Where areas may have a material impact on the setting of RIIO-2, eg where a company has been given an allowance in RIIO-1 for outputs delivered in RIIO-2, we will deal with them in the appropriate areas to ensure these are captured in the RIIO-2 final settlements.

existing timeline for RIIO-2. We consider it unlikely that such a contingency will arise, but believe it is wise to prepare for it. We will shortly be publishing a consultation seeking views on our contingency proposal.

Appendices

Appendix 1 – Consultation questions

Q1. What role should Groups play during the price control period and what type of output should Groups be asked to deliver? Who should be the recipients of these outputs (companies, Ofgem and/or stakeholders)?

Q2. What role should Groups take with respect to scrutinising new investment proposals which are developed through the uncertainty mechanisms?

Q3. What value would there be in asking Groups to publish a customer-centric annual report, reviewing the performance of the company on their business plan commitments?

Q4. What value would there be in providing for continuity of Groups (albeit with refresh to membership as necessary) in light of Ofgem commencing preparations for RIIO-3 by 2023?

Q5. Will the combination of the two proposed Licence Obligations support the delivery of a digitalised energy system and maximise the value of data to consumers?

Q6. Do you agree with our proposed frequency for publication of updates to the digitalisation strategy and the digitalisation action plan, respectively?

Q7. What kinds of data do you think should comply with the data best practice guidance to maximise benefits to consumers through better use of data?

Q8. Do you agree that the Groups could have an enduring role to work with the companies to monitor progress and ensure they deliver the commitments in their engagement strategies?

Q9. Do you agree with our proposal to accept the proposals for an ODI-R for BCF and the other proposals set out above as EAP commitments and to require progress on them to be reported as part of the AER?

Q10. Do you agree with our proposed RPEs allowances? Please specifically consider our proposed cost structures, assessment of materiality, and choice of indices in your answer.

Q11. Do you agree with our proposed ongoing efficiency challenge and its scope?

Q12. Do you agree with our proposed common approach for re-openers?

Q13. Do you agree with our proposals on a materiality threshold, a financial incentive, a 'foreseeable' criterion, and who should trigger and make the application?

Q14. Do you consider that two application windows, or annual application windows, are more appropriate, and should these be in January or May?

Q15. Do you consider that the RIIO-1 electricity distribution licences should be amended to include the CAM, or wait until in 2023 at the start of their next price control?

Q16. Do you agree with our proposed re-opener windows for cyber resilience OT and IT, and our proposal to require all licensees to provide an updated Cyber Resilience OT and IT Plan at the beginning of RIIO-2?

Q17. What are your views on including the delivery of outputs such as: CAF outcome improvement; risk reduction; and cyber maturity improvement, along with projects-specific outputs?

Q18. Do you agree with our proposal for the Non-operational IT and Telecoms capex re-opener?

Q19. Do you agree with our approach to using a re-opener mechanism for changes to government physical security policy?

Q20. Do you agree with our approach regarding legislation, policy and standards?

Q21. Do you agree with our overall approach to meeting Net Zero at lowest cost to consumers? Specifically, do you agree with our approach to fund known and justified Net Zero investment needs in the baseline, and to use uncertainty mechanisms to provide funding in-period for Net Zero investment when the need becomes clearer?

Q22. Do you think the package of cross sector and sector-specific UMs provides the appropriate balance to ensure there is sufficient flexibility and coverage to facilitate the potential need for additional Net Zero funding during RIIO-2?

Q23. Do you have any views on our proposed approach to a Net Zero re-opener?

Q24. Do you agree with our proposals for the RIIO-2 Strategic Innovation Fund?

Q25. Do you have any comments on the additional issues that we seek to consider over the coming year ahead of introducing the Strategic Innovation Fund?

Q26. Do you agree with our approach to benchmarking RIIO-2 NIA requests against RIIO-1 NIA funding?

Q27. Do you agree with our proposal that all companies' NIA funding should be conditional on the introduction of an improved reporting framework?

Q28. What are your thoughts on our proposals to strengthen the RIIO-2 NIA framework?

Q29. Do you have any additional suggestions for quality assurance measures that could be introduced to ensure the robustness of RIIO-2 NIA projects?

Q30. Do you agree with our proposals to allow network companies and the ESO to carry over any unspent NIA funds from the final year of RIIO-1 into the first year of RIIO-2?

Q31. Do you agree with our proposal that all work relating to data as part of innovation projects funded via the NIA and SIF will be expected to follow Data Best Practice?

Q32. Do you agree with our proposed position on late competition?

Q33. Do you agree with our proposed approach on early competition?

Q34. Do you agree with our view that SHET, SPT, SGN and WWU passed all of the Minimum Requirements, and as such are considered to have passed Stage 1 of the BPI?

Q35. Do you agree with our rationale for why NGET and NGGT should be considered to have failed Stage 1 of the BPI?

Q36. Do you agree with our rationale for why Cadent and NGN are considered to have passed Stage 1 of the BPI?

Q37. Do you agree with our overall approach regarding treatment of CVP proposals?

Q38. Do you agree with our proposed clawback mechanism to treat received CVP rewards?

Q39. Do you have any views on the interlinkages explained throughout this chapter?

Q40. Are there other interlinkages within our RIIO-2 package that you think are relevant to the three pillars identified in this chapter?

Q41. Do you have any views on our proposal to include a statement of policy in Final Determinations that in appropriate circumstances, we will carry out a post appeals review and potentially revisit wider aspects of RIIO-2 in the event of a successful appeal to the CMA that had material knock on consequences for the price control settlement?

Q42. Do you have any views on the proposed pre-action correspondence, including on the proposed timing for sending such to Ofgem?

Q43. Do you think we need specific mechanisms in RIIO-2 to manage the potential longer-term impacts of COVID-19? If yes, what might these mechanisms be?

Appendix 2 – Competition Proxy Model

In our SSMD we confirmed that the Competition Proxy Model (CPM) would remain in place during the RIIO-2 period and potentially be applicable to projects in all sectors that meet the criteria for late model competition (new, separable and high value[133]). This appendix clarifies how we propose the CPM arrangements will be applied during the RIIO-2 period.

What is the Competition Proxy Model?

As set out in the September 2018 Update on the CPM delivery model[154], the CPM involves setting a largely project-specific set of regulatory arrangements to cover the construction period and a 25-year operational period for an asset (in contrast with setting arrangements rather than for a portfolio of assets under a price control settlement). It is intended to replicate the efficient project finance structure that tends to be used in competitive tender bids for the delivery and operation of infrastructure projects.

The CPM therefore assumes that the full construction debt is raised upfront and then drawn down upon as expenditure is incurred on the project. The allowed cost of capital (as determined through the CPM cost of capital methodology set out in the September 2018 CPM Update) is applied to the annual allowed expenditure during construction. This allowed expenditure is determined through our detailed assessment of the project costs, which is referred to as the Project Assessment (PA) process. By the end of the construction period, the full construction period capital costs allowance will be uplifted by the annual construction cost of capital to determine a total capital cost value at the end of construction. This capital cost value, minus any allowed revenue recovered during construction, will be recovered by the developing network company over the following 25-year operational period with the operational cost of capital applied.

An annual operating cost allowance will apply during the operational period. We intend to add this annual allowance to the annual recovery of the construction capital cost value across the full 25-year revenue term. The annual revenue allowance during the operational period will be based on this total amount including returns distributed evenly on an NPV neutral basis across the full revenue term.

[154] https://www.ofgem.gov.uk/publications-and-updates/update-competition-proxy-delivery-model

An appropriate financial model that reflects the complexity of the assumed financing arrangements is central to a project finance approach. Within the RIIO-2 period we propose that each individual CPM project will have its own CPM financial model. This model will be consulted on at the PA stage when the cost of capital, and construction cost allowances for each project are set, and then utilised for the remaining years in which the CPM arrangements apply to the relevant assets. The individual CPM financial models for each company will feed into allowed revenue for RIIO-2 through a separate line within the pass-through section of the LiMo model outside of the application of company sharing factors.

If the relevant developers of CPM projects do not propose their own financial model the Amberside model, originally developed in the context of the HSB project in RIIO-T1, will be used as the default means of determining a project revenue from the relevant financing arrangements and project capital and operational costs. Where the Amberside model is used in RIIO-2, we will consult on the relevant model inputs as part of the PA process.

Instead of CPM allowances flowing through the Annual Iteration Process, the CPM-specific sharing factor will be applied at the end of construction through the Post-Construction Review process.

Needs case assessment

As referenced in Chapter 9, we propose that within the RIIO-2 period, only new and separable projects above £100m that are subject to other uncertainty mechanisms will be considered for CPM. Each such project will first be subject to a review of the option being developed as part of an assessment of whether the investment is needed under the relevant RIIO Uncertainty mechanism. In the Electricity Transmission sector, where we determine at Initial Needs Case stage that a LOTI project should be delivered through CPM it will be subject to a final needs case process under the CPM rather than LOTI arrangements. This CPM final needs case will be identical to the Final Needs Case process followed under LOTI.

Setting the cost of capital

The cost of capital for both the construction and operational period is set based on the CPM cost of capital methodology set out in the September 2018 CPM Update.

We consider that it is most appropriate to fix the allowed construction cost of capital at Project Assessment (see 'Cost assessment and treatment') but only set an indicative cost of capital for the operational period at that time. We will consider at Project Assessment for each project whether or not it is appropriate to also fix the cost of capital for the operational period before ahead of construction beginning, or whether to set it at the completion of construction.

We determine the level of cost of capital that the developing network company is able to recover from consumers during the construction and operational phases of the project. However, we do not mandate that the assumed capital structure within that methodology is followed in the delivery of the project. For example, if a developing network company wishes to implement a higher project gearing during construction and allow for a higher return on equity, this would be permitted as long as it does not result in any consumer detriment relative to the structure assumed within our cost of capital methodology.

Below, we summarise the methodology for setting the financing costs under CPM, and detail the specific adjustments to this methodology that we may consider appropriate for particular projects during RIIO-2. This is to ensure that the cost of capital methodology under the CPM is fully reflective of the risks faced by the specific projects funded by it.

Cost of debt during construction

For CPM projects we will continue to rely on the iBoxx index with a tenor that is aligned with our view of the appropriate and efficient length of the construction period. This means that if a project has a construction period of 3 years, we will look to implement a debt tenor of 3 years for the construction period.

Our central assumption is that the BBB-rated debt is the appropriate benchmark for projects that meet the criteria for competition. BBB-rated debt will therefore be used, with an appropriate allowance for transaction costs, as the high end of the cost of debt range during construction. We will consider on a project-by-project basis whether the risk profile of a specific project suggests that A-rated debt is a more appropriate benchmark for the low end of the cost of debt during the construction period. For example, this could be appropriate where a project has a particularly short construction period, or involves a relatively low level of construction risk.

Cost of equity during construction

The cost of equity during the construction period for future projects will be derived from benchmarks of the following building blocks of the cost of equity during construction:

1. Risk-Free Rate

2. Total Market Returns

3. Equity beta (Eβ)

Risk-free rate (RFR)

RFR is a measure of the market derived level of expected return for an investment that faces no risk. For CPM projects this will be benchmarked at the 10-year trailing average of the 10-year UK gilt rate. We consider that using the 10-year gilt rate provides sufficient protection from potentially more volatile shorter terms rates. We will therefore use this approach for any future project that is delivered through the CPM during RIIO-2.

Total Market Returns (TMR)

TMR is a measure of the average expected equity return within the market. As referenced in our recent updated decision on the delivery model for the Hinkley-Seabank project, we consider it appropriate that the TMR under CPM is aligned with the methodology applied in the wider RIIO price control.

Equity beta (Eβ)

Eβ is a measure of how much the specific assets under consideration are expected to vary from the TMR. Under CPM, the Eβ range follows the same methodology as the IDC methodology used to set the IDC return during the construction period of offshore wind projects and interconnectors subject to the cap and floor regime. The low end of this range is derived from the Eβ benchmark that was used in the setting of the cost of capital for SHE Transmission's RIIO-T1 price control determination. The high end of the Eβ range is derived from analysis of how construction companies, as a comparator to the delivery of construction projects that meet the criteria for late competition, compare to the expected return in the FTSE All-share index.

Cost of debt during the operational period

As set out in the CPM Update, the cost of debt range for CPM projects during the operational period will be derived from the average across the iBoxx 10-year plus index at A-rating and the same index at BBB-rating. Given our proposal to use the iBoxx Utilities 10yr+ index for RIIO-2 debt allowances (see Finance Annex for details), we will consider, on a project-specific base, whether this approach should also be adopted for CPM projects during the RIIO-2 period. We will also continue to monitor the extent to which the tenors of the debt within the 10-year index appropriately aligns with the 25 year operational period of CPM projects. Where necessary, we will also consider the use of longer tenor indices within the setting of the cost of debt for the operational period under CPM.

Cost of equity during the operational period

The initial cost of equity range for the operational period under CPM will be set based on the rates observed in the winning bids under the OFTO regime in Tender Rounds 2 and 3.

We will continue to set the operational equity return under the CPM for future projects based on the most contemporary evidence available from the OFTO regime. This is because we continue to believe that OFTOs represent an accurate reflection of the risk profile of the assets delivered under projects that qualify for funding through the CPM.

Adjustments to the arrangements to facilitate a Project Finance approach

The cost of equity benchmarks from the OFTO regime reflect the project finance approach that is generally followed under that regime. Whilst we do not consider that the cost of capital ranges for either the construction or operational periods under the CPM specifically require a project finance approach being taken, we will consider where appropriate the potential funding of efficient costs incurred securing a project finance approach.

Specifically, our PA will consider any costs associated with setting up a special purpose vehicle (SPV) for the project, and any necessary reserve accounts or other guarantees required to implement such an approach. Efficient, evidenced costs will be allowed for in the project revenue allowance rather than through the project's cost of capital. Any such decision will be on a project-by-project basis and will only be considered where the

developing network company specifically confirms its intention to pursue a project finance approach.

Allowed revenue during the construction period

Evidence from our previous work developing the CATO regime suggested that there can be consumer benefits in allowing revenue during construction for larger projects with extended construction periods. These benefits come from reducing the cost of capital by reducing the cash flow limitations on the developer. For this reason, for projects under the CPM that we consider require a construction period of over 4 years (excluding pre-construction activities), the CPM will allow for revenue during construction.

Any revenue provided during construction will cover only the allowed cost of debt, based on the upfront costs set at our Project Assessment. This allows debt to be serviced during construction, but retains the appropriate delivery incentives that would be in place under a typical project finance approach.

Adjustments for inflation

Within our work to implement CPM within the RIIO-T1 arrangements, we sought to allow flexibility in how the revenue allowance for a CPM project is linked to inflation. During RIIO-2 we propose that allowances for CPM projects are linked to CPI-H in line with the rest of the price control, and will develop the associated licence arrangements on this basis. However, in order to retain flexibility, network companies will be able to make an evidence-based case for why we should use an alternative approach for specific projects as part of the Project Assessment process.

Cost Assessment and treatment

The approach to setting and monitoring the efficient costs of future projects under the CPM will follow the following framework as set out in the September 2018 CPM model update.

The cost assessment process under the CPM will have three stages. It will consist of:

- a Project Assessment before construction begins
- annual reporting during the construction period
- a Post-Construction Review (PCR) when construction is completed.

Project Assessment

Under the CPM we will formally review and set cost allowances at PA. Capital cost allowances will be finalised at the PA, subject to the outcome of the annual reporting process and PCR, which are explained later in this document. Provisional allowances for operating costs will also be set at the PA, before being finalised at the PCR.

Capital costs will be formed of controllable firm costs that have been agreed (either incurred or forecasted), and risk and contingency costs that are estimates.

For each project we will also determine the exact value of the sharing factor at the PA.

Assessment of the controllable (firm) costs

Our assessment of the firm capital costs will include the following elements:

- consideration of the suitability of the tender processes and subsequent award of contracts
- use of benchmarking, where applicable, as a signpost exercise to establish the efficiency of the costs
- detailed review of the submitted firm capital costs on an overall and component basis
- as part of annual reporting and the PCR, we will assess the actual spend in relation to firm costs to ensure that actual spend is in line with the cost allowances set at PA.

Assessment of uncertain risk and contingency costs

We expect that each project will have areas of cost uncertainty relating to both risk-related expenditure and contingency costs. The uncertain nature of these cost areas is one of the reasons why the capital allowance set at the PA will be reviewed annually and at the PCR.

At PA we will also identify risk costs which we do not consider should be funded up front. This could include risks that are unlikely to occur, but that would be likely to have a large impact, if they did occur. It could also include other risks that are difficult or inefficient to quantify up front. These "qualifying cost areas" will be treated as part of the PCR.

As part of annual reporting and the PCR, we will assess the actual spend in relation to these costs and update the allowances accordingly.

Assessment of operational period costs and setting of operational cost allowance

We will set an indicative operational cost allowance at PA based on an efficiency assessment of the relevant developing network company's proposed costs. This will include an assessment of the proposed inspection, operation, and maintenance strategy for the assets once built. At Project Assessment for each project we will consider whether or not it is appropriate to fix the operational cost allowance ahead of construction beginning, or whether to set it at the completion of construction.

Post Construction Review

The PCR will serve three main functions:

- assess whether any qualifying risks from the PA have eventuated and, if so, establish the efficient level of funding under the terms of the CPM (the costs associated with these risks will not be subject to the sharing factor)
- reconcile all of the remaining actual costs incurred during construction, which will have been reviewed by Ofgem during the annual reporting, against the allowances set at PA (the sharing factor will also be applied to underspends and overspends on each individual cost item)
- finalise the ongoing operational costs for the project.

We consider that this approach to setting cost allowances under the CPM will ensure that a company is appropriately incentivised to minimise costs of the kind it can control, while avoiding it receiving windfall gains or suffering losses from risks it cannot control.

The result of the PCR will be an update CPM project cost allowances, which will be reflected in the 25-year operational period of the project over which these costs will be recovered.

We would expect to start the PCR process at the earlier of:

a) 90-95% spend committed on the project;
b) one year after the delivery date set out in the network company's licence for the project; or

c) if the project is driven by a single large generator, at any point during construction if it becomes apparent that the generator project will be materially delayed due to factors which are beyond the developing network company's control.

Where the above criteria is met more than 12 months before the end of the construction period, for reasons outside of the developing company's control, the company will be able to apply for an adjustment to its costs within the construction period. This would be referred to as a "Mid Construction Review (MCR)", with additional funding provided subject to our assessment of the evidence provided.

Where a MCR is triggered for a CPM project, a PCR will still be applied at the end of the construction period.

The Sharing Factor

The developing network company will share underspend or efficient overspend of the cost allowances that we set at PA with consumers. The sharing factor on these costs will be applicable to each specific cost item as opposed to the total project costs, and will be assessed on a case-by-case basis. This will retain the incentive on a developing network company to drive down the construction costs.

The sharing factor will not be applicable to expenditure associated with qualifying risks that are considered through the PCR. For those events the network company will receive full funding for the costs providing that those events are eligible for funding under the PCR and the costs are efficiently incurred.

The exact value of the sharing factor for each project will be determined at the PA. Whilst our starting expectation is that it will be set at a similar level to the rate set for the relevant company under RIIO-2, with the final rate will be contingent on the proportion of the total costs that are submitted for each project that we determine should only be funded through the PCR rather than via an ex-ante allowance.

Treatment of late delivery

For each project funded through the CPM, a specified project output and date will be inserted into the relevant licence. This will indicate what needs to be delivered by the project and by when. Where applicable, our Late Project Deliverable proposals may be applied. In line with our usual processes, we would also consider whether any late delivery against this date constituted a breach of the licence condition and whether to

consider enforcement action. In considering whether this is the case or not, we would follow our usual processes and policies for enforcement.

Irrespective of whether any delay is treated as a breach of licence requirements, we propose that additional costs incurred during a delay will not be reflected in the revenue allowance during construction. Subject to the arrangements set out in the preceding section on the PCR, only unavoidable costs incurred during delays will be reflected in the revenue stream and recovered over the 25-year operational period. Where it can be evidenced by a developing network company that a construction delay was unavoidable and outside of its control due to exceptional circumstances, it would be able to earn the allowed construction cost of capital during the length of the delay.

Arrangements during the operational period

Opex

As explained above, we will set provisional operational costs for the 25-year revenue term of each project at the PA. This will provide developing network companies with a degree of confidence as to what cost allowance to expect during the operational period. We intend to finalise the operational cost allowance at the PCR unless we determine from evidence provided by the network company that those costs can be clearly and accurately determined at the PA.

Cost re-openers

Similar to OFTOs and Interconnectors, the CPM will include a cost re-opener mechanism to compensate developing network companies for low probability, high impact events that they cannot control (eg force majeure events) that trigger a sufficient increase in opex costs. The exact threshold we set for reopening the opex costs will depend upon the quantum and nature of the opex costs identified at PA, and will likely be proportionate to the threshold set under the OFTO regime. The developing network company would be able to make a claim for any efficiently incurred additional costs beyond the relevant threshold where a qualifying event occurs during the operational period.

In addition, and similarly to the OFTO regime, the CPM will provide protection against certain unanticipated changes in law. Under these arrangements, the developing network would be able to claim for material increases in costs associated with specific changes in law that impact directly on the cost it incurs on a CPM project.

Additional capex requirements during the operational period

During the revenue term, it is possible that the assets delivered through the CPM will need to be upgraded to accommodate additional capacity or connections. Where any upgrade is demonstrated to be needed, and the upgrade is forecast to meet the late model competition criteria (ie the upgrade is new, separable and high value), we expect the regulatory treatment will mirror the prevailing arrangements in place at the time. This could mean the CATO, SPV model or the CPM are implemented to deliver the upgrade.

Where such a network upgrade is demonstrated to be needed but does not meet the criteria for late model competition, we propose setting a cost allowance for the work based on prevailing RIIO arrangements and market conditions at the time the cost allowance is set.

Identifying CPM project costs

It will be important to ensure that costs associated with the assets delivered by a CPM project and incurred during the construction and operational periods are identifiable as separate from the remainder of RIIO-2 and any future price controls. This will ensure that costs are appropriately captured as relating to the CPM projects, rather than the wider RIIO portfolio. Where it is efficient to fund CPM project-specific operational costs through an allocation of cost from a wider recorded cost covering work within RIIO, we will expect the relevant network to propose and adhere to a clear and consistent allocation approach.

Treatment of work that does not meet the criteria for competition

It is possible that only part of a project meets the criteria for competition and so CPM is only be applied to part of a project. In these cases, any work that does not meet the criteria for competition will be funded through the prevailing price control arrangements of the relevant company under the RIIO-2 price control framework. This work will be funded in a consistent manner with how it would have been funded if CPM was not applied to the project at all.

Appendix 3 – Glossary

A

Allowed revenue

The amount of money that a network company can earn on its regulated business.

Asset stranding

Assets which have subsequently become either not used or underused as compared with initial expectations.

The Authority/Ofgem/GEMA

Ofgem is the Office of Gas and Electricity Markets, which supports the Gas and Electricity Markets Authority (GEMA or 'the Authority'), the body established by section 1 of the Utilities Act 2000 to regulate the gas and electricity markets in Great Britain.

B

Balancing Services Use of System (BSUoS) charges

The BSUoS charges recover the cost of day-to-day operation of the transmission system. Generators and suppliers are liable for these charges, which are calculated daily as a flat tariff for all users.

Base revenue

Base revenue (also referred to as baseline revenue) is the amount of revenue network companies are allowed to recover as set up front at the beginning of the price control. Additional revenue may be allowed during the price control under certain, specified circumstances, for example, if it is triggered under an Uncertainty Mechanism.

Baseline Allowed Return

Our estimation, taking into account expectations, of the efficient return for debt and equity capital. Based on a weighted average of the pre-tax cost of debt and the post-tax cost of equity, adjusted for ex ante expectations if any. The weighting uses notional gearing.

Basis Points ('bps')

Used in finance to express small changes in rates. One basis point is 0.01% or one hundredth of 1%. 50bps is 0.5%.

Benchmarking

The process used to compare a company's performance (eg its costs) to that of best practice or to average levels within the sector.

Biogas

A gas produced by the biological breakdown of organic matter in the absence of oxygen. This gas can be used in a similar manner to natural gas to produce heat or electricity but unlike natural gas, biogas can be renewable fuel.

Bond

A type of debt instrument used by companies and governments to finance their activities. Issuers of bonds usually pay regular cash flow payments (coupons) to bond holders at a pre-specified interest rate and for a fixed period of time.

Business carbon footprint (BCF)

A measure of the total greenhouse gas emissions (in tonnes of CO_2 equivalent) caused directly and indirectly by the reporting company. Direct and indirect emissions sources are categorised into scope 1, 2 and 3 emissions.

The greenhouse gases that may be reported include carbon dioxide (CO_2), methane (CH_4), sulphur hexafluoride (SF_6) and specified kinds of hydro fluorocarbons and perfluorocarbons.

Greenhouse gas emissions are measured as tonnes of carbon dioxide equivalence (tCO_2-e). This means that the amount of a greenhouse gas that a business emits is measured as an equivalent amount of carbon dioxide which has a global warming potential of one. For example, in 2019–20, one tonne of SF_6 released into the atmosphere will cause the same amount of global warming as 23,500 tonnes of carbon dioxide over the next 100 years[155]. So, one tonne of SF_6 is expressed as 23,500 tonnes of carbon dioxide equivalence, or 23,500 tCO_2-e.

Business Plan Data Template (BPDT)

A set of data templates that gas and electricity transmission and gas distribution network companies used when submitting both draft Business Plans to the RIIO-2 Challenge Group, and final Business Plans to Ofgem.

Business Plan Incentive (BPI)

[155] https://www.ghgprotocol.org/sites/default/files/ghgp/Global-Warming-PotentialValues%20%28Feb%2016%202016%29_1.pdf

A RIIO-2 incentive to encourage companies to submit ambitious Business Plans. Business Plans have been assessed under 4 stages in terms of their cost and quality, with rewards available for Business Plans representing genuine value for money and which provide information that helps Ofgem to set better price controls. Inefficient, low quality plans may be subject to a financial penalty.

C

Capital Asset Pricing Model (CAPM)

A theoretical model that describes the relationship between risk and required return of financial securities. The basic idea behind the CAPM is that investors require a return for the level of risk in their investment.

Capital expenditure (capex)

Expenditure on investment in long-term distribution and transmission assets, such as gas pipelines or electricity overhead lines.

Capitalisation policy

The approach that the regulator follows in deciding the percentage of total expenditure added to the RAV (and thus remunerated over time) and the percentage of expenditure remunerated in the year that it is incurred.

Challenge Group (CCG)

Ofgem has set up a central RIIO-2 Challenge Group that is independently chaired. It provided Ofgem with a public report on companies' Business Plans from the perspective of end consumers.

The Competition and Markets Authority (CMA)

A non-ministerial government department in the UK that considers regulatory references and appeals, conducts in depth inquiries into mergers, markets and aspects of regulation of the major regulated industries.

Competition Proxy Model (CPM)

The CPM is one of the late competition models that may be applied to projects that meet the Criteria for competition during RIIO-2. Under the CPM, Ofgem would utilise relevant benchmarks from other regimes, alongside other market information, to set a project-specific revenue for the incumbent network licensee that we consider would have eventuated from an efficient competitive process for construction and long-term operation (25 years) of a project.

Competitively Appointed Transmission Owner (CATO)

The late CATO regime is one of the late competition models that may be applied to projects that meet the Criteria for competition during RIIO-2. Under late CATO build a 'preliminary works party' (most likely a network company's licensee) would complete all necessary preliminary works for a new, separable and high value project. Ofgem or another appropriate party would then run a tender to determine a CATO responsible for construction and operation of the project. The CATO would bid a 'tender revenue stream' to construct, own and operate the asset for a long-term operational period (currently expected to be 25 years).

Consumer

Within the regulatory framework we consider consumers to be the end users of gas and electricity, whether for domestic or business use.

Consumer Prices Index (CPI/CPIH)

The CPI is an aggregate measure of changes in the cost of living in the UK. It differs from the RPI in that it does not measure changes in housing costs and mortgage interest repayments - whereas the RPI does. CPI and RPI are calculated using different formulae, and have a number of other subtler differences.

CPIH includes a measure of owner-occupiers' housing costs.

Consumer Value Proposition (CVP)

Consumer Value Proposition is stage 2 of the Business Plan Incentive, where a company could bid for reward by demonstrating the additional value its Business Plan will generate for existing and future consumers and consumers in vulnerable situations.

Coordinated Adjustment Mechanism

A whole system focused re-opener to protect consumer interests by supporting the reallocation of project revenues and responsibilities to the network best placed to deliver the relevant projects.

Corporation tax

A UK tax levied on a company's profits.

Cost of capital

The cost of capital is the combined cost of debt and cost of equity.

Cost of debt

The effective interest rate that a company pays on its current debt. Ofgem calculates the cost of debt on a pre-tax basis with reference to a trailing average index of debt costs.

Cost of equity

The rate of return on investment that is required by a company's shareholders. The return consists both of dividend and capital gains (ie increases in the share price). Ofgem calculates the cost of equity on a post-tax basis.

Credit rating

An evaluation of a potential borrower's ability to repay debt. Credit ratings are calculated using a number of factors including financial history and current assets and liabilities. There are three major credit rating agencies (Standard and Poor's, Fitch, and Moody's) who use broadly similar credit rating scales, with D being the lowest rating (highest risk) and AAA being the highest rating (negligible risk).

Criteria for competition

The Criteria for competition is the criteria used to identify projects that may be suitable for late model competition across the electricity transmission and gas sectors. These criteria are as follows:

- new
- separable
- high-value: projects of above £100m expected capital expenditure.

Customer Engagement Group (CEG)

For RIIO-2, distribution companies were each required to set up a Customer Engagement Group. These Groups provided Ofgem with a public report on their views and the companies' Business Plans from the perspective of local stakeholders.

D

Decarbonisation

In a network price control context, the role of network operators in facilitating the reduction or removal of carbon dioxide emissions from energy and other sectors of the economy, eg transport.

Depreciation

Depreciation is a measure of the consumption, use or wearing out of an asset over the period of its economic life.

Distributed generation (DG)

Any generation connected directly to the local distribution network, as opposed to the transmission network, as well as combined heat and power schemes of any scale.

Distribution Network Operators (DNOs)

A DNO is a company that operates the electricity distribution network, which includes all parts of the network from 132kV down to 230V in England and Wales. In Scotland 132kV is considered to be a part of transmission rather than distribution so their operation is not included in the DNOs' activities.

There are 14 licenced DNOs that are subject to RIIO price controls. These are owned by six different groups.

Distribution System

The system of low voltage electric lines and low pressure pipelines providing for the transfer of electricity and gas within specific regions of GB.

Distribution System Operation (DSO) roles

The development of distribution system operation roles is a live and evolving policy area with various workstreams currently in progress. In general, DSO roles refer to innovative techniques and use of market-based solutions as alternatives to network reinforcement, as well as greater coordination with other network and system operators to achieve efficient outcomes in a whole system context.

Distribution Use of System (DUoS)

DUoS is a cost paid by suppliers to Distribution Network Operators (DNOs) for the building and maintenance of the local distribution network. Suppliers then pass this DUoS charge on to energy consumers.

E

Economic life

The period over which an asset performs a useful function.

Electricity System Operator (ESO)

The entity responsible for operating the electricity transmission system and for entering into contracts with those who want to connect to and/or use the electricity transmission system. National Grid Electricity System Operator Limited is the electricity system operator in Great Britain.

End-use energy efficiency

A reduction in the amount of energy required to provide equivalent energy services to consumers. For example, loft, cavity wall insulation and double glazing allows a building to use less heating and leads to a reduction in base heat demand.

Environmental Action Plan (EAP)

These were plans that the licensees were required to submit with their Business Plans in December 2019 to address the impacts of their business and network activities on the environment and set out their commitments to addressing these impacts.

Equity beta

The equity beta measures the covariance of the returns on a stock with the market return. The weaker this covariance, the lower the return that investors would require on that stock.

Equity risk premium

A measure of the expected return, on top of the risk-free rate, that an investor would expect for a portfolio of risk-bearing assets. This captures the non-diversifiable risk that is inherent to the market. Sometimes also referred to as the Market Risk Premium.

Ex ante

Refers to a value or parameter established upfront (eg at the price control review to be used in the price control period ahead).

Ex post

Refers to a value or parameter established after the event (eg following commencement of the price control period).

F

Fast money

Fast money allows network companies to recover a percentage of total expenditure within a one-year period with the rest being capitalised into the RAV (slow money).

Financeability

Financeability relates to licence holders' ability to finance the activities which are the subject of obligations imposed by or under the relevant licence or legislation. Financeability is assessed using a range of different qualitative and quantitative measures, including financial ratios.

Flexibility

The ability to modify generation and/or consumption patterns in reaction to an external signal (such as a change in price, or a message).

Fuel poverty

In England, a household is considered to be fuel poor if it has above-average required fuel costs, in circumstances where, if it were to spend the amount needed to meet its energy needs fully, it would be left with a residual income below the official poverty line. As part of its new Fuel Poverty Strategy for England[156], the Department for Business, Energy and Industrial Strategy has consulted on amending this definition to refer to households living in a property with an energy efficiency rating of Band D, E, F or G, where disposable income after housing and energy costs is below the poverty line.

In Wales, a household is considered to be fuel poor if it would have to spend more than 10% of income to maintain a satisfactory heating regime.

In Scotland a household is considered to be fuel poor if, after having paid its housing costs, it would need more than 10% of its remaining net income to pay for its reasonable fuel needs and, having paid for its reasonable fuel needs, its childcare costs and its housing costs, this then leaves the household unable to maintain an acceptable standard of living.

G

Gas Distribution Networks (GDNs)

GDNs transport gas from the National Transmission System to final consumers and to connected system exit points. There are eight network areas managed by four companies that are subject to RIIO price controls.

[156] https://www.gov.uk/government/consultations/fuel-poverty-strategy-for-england

Gas System Operator (GSO)

The entity responsible for operating the gas transmission system and for entering into contracts with those who want to connect to and/or use the gas transmission system. National Grid Gas Transmission is the gas transmission system operator in Great Britain.

Gas Transporter

The holder of a Gas Transporter licence. The gas distribution networks and National Grid Gas Transmission are Gas Transporters.

Gearing

A ratio measuring the extent to which a company is financed through borrowing. Ofgem calculates gearing as the percentage of net debt relative to the RAV.

Gilts

A bond issued by the UK government.

H

Headroom

A term in finance related to borrowing which has different meanings in different contexts. Here we use it to mean a safety margin of a borrower.

High-confidence baseline costs

Costs included in baseline totex allowances or forecasts for which Ofgem has a high level of confidence in its ability to independently set a cost allowance. See also 'Lower-confidence baseline costs'.

I

Indexation

The adjustment of an economic variable so that the variable rises or falls in accordance with index movements (eg inflation indices, bond indices).

Inflation index

This is a measure of the changes in given price levels over time. Common examples are the Retail Prices Index (RPI) the Consumer Prices Index (CPI) and the Consumer Prices Index including housing costs (CPIH), which are all measures of the aggregate change in consumer prices over time.

Insulation and Interruption Gas (IIG)

A gas with a global warming potential of greater than zero, used within electrical switchgear and transmission assets with a suitable dielectric strength to enable use as an insulator to prevent discharge or as an interruption aid to prevent flow of current during planned or non-planned switching.

Interconnector

Equipment used to link electricity or gas systems across borders.

Intermittent generation

Electricity generation technology that produces electricity at irregular and, to an extent, unpredictable intervals, eg wind turbines.

L

Large Project Delivery (LPD)

A suite of proposed RIIO-2 mechanisms to incentivise the timely delivery of large (£100m+) projects.

Licence conditions

These are the conditions under which a licensee holds its licence to operate as a gas transporter or electricity transporter and address various detailed matters including requirements to meet certain standards of performance, how the company's allowed revenue is to be calculated and procedures for modifying various documents.

Licence obligations (LO)

This is one of the RIIO building blocks, an output that is contained within the licence conditions of a network company. The Authority has the power to take appropriate enforcement action in the case of a failure to meet these obligations.

Load Related Capex

Capital expenditure on new assets to accommodate changes in the level or pattern of electricity or gas supply and demand.

Lower-confidence baseline costs

Costs included in baseline totex allowances or forecasts that are not High-confidence baseline costs. See also 'High-confidence baseline costs'.

M

Market to Asset Ratios (MAR)

The MAR represents the ratio between the market enterprise value, ie the market valuation of a company, of a regulated network and its regulatory asset value (RAV).

N

National Electricity Transmission System (NETS)

Means the system consisting (wholly or mainly) of high voltage electric lines owned or operated by transmission licensees within Great Britain, in the territorial sea adjacent to Great Britain and in any Renewable Energy Zone and used for the transmission of electricity from one generating station to a sub-station or to another generating station or between sub-stations or to or from any interconnector and includes any electrical plant or meters owned or operated by any transmission licensee within Great Britain, in the territorial sea adjacent to Great Britain and in any Renewable Energy Zone in connection with the transmission of electricity.

Net Present Value (NPV)

NPV is the discounted sum of future cash flows, whether positive or negative, minus any initial investment.

Net Zero Advisory Group (NZAG)

A group set up but by Ofgem that is intended to strengthen strategic coordination among key government departments and public sector organisations involved in the energy system transition, including around the heat, power, and transport sectors.

Network Access Policy (NAP)

A policy that is designed to facilitate efficient performance and effective liaison between the ESO and the TOs in relation to the planning, management and operation of the National Electricity Transmission System (NETS) for the benefit of consumers.

Network charges

These are charges recovered for the use of network services.

Network Company

A transmission owner or gas distribution network operator. The ESO does not fall under this term, see the term of "Electricity System Operator (ESO)".

Network Innovation Allowance

A use-it-or-lose-it allowance to fund small projects focused on the energy system transition and vulnerable consumers.

Network Options Assessment (NOA)

The NOA is the process for assessing options for reinforcing the National Electricity Transmission System (NETS) to meet the requirements that the Electricity System Operator (ESO) finds from its analysis of the Future Energy Scenarios (FES).

Network users

Companies along the gas and electricity supply chain (ie producers and generators, transmission and distribution network companies, and energy suppliers) and consumers.

Non-Load Related Capex

The replacement or refurbishment of assets which are either at the end of their useful life due to their age or condition, or need to be replaced on safety or environmental grounds.

Notional company/business

A hypothetical, but typical, network company.

O

Offshore transmission

The majority of offshore generation will be connected to the electricity grid through offshore transmission cables. Offshore transmission is defined as being any offshore transmission network that operates at 132kV or above.

Offshore Transmission Owners (OFTOs)

OFTOs operate and maintain the offshore transmission assets.

Ongoing Efficiency

The reduction in the volume of inputs required to produce a given volume of output - ie the productivity improvements that we consider even the most efficient company is capable of achieving.

Operating Expenditure (opex)

The costs of the day-to-day operation of the network such as staff costs, repairs and maintenance expenditures and overheads.

Outputs

Services, requirements, and deliverables that network companies are funded or incentivised to deliver through the price control. These can be LOs, ODIs or PCDs. Common outputs apply to all or some of the energy sectors, whereas bespoke outputs apply to one network company.

Output Delivery Incentives (ODIs)

In RIIO-2, ODIs will apply where service quality improvements beyond a level that is funded through base revenues may be in the interests of consumers. ODIs can be financial (ODI-F) or reputational (ODI-R).

P

Pass-through (of costs)

Costs for which companies can vary their annual revenue in line with the actual cost, either because they are outside network companies' control or because they have been subject to separate price control measures.

Price control

The control developed by the regulator to set targets and allowed revenues for network companies. The characteristics and mechanisms are developed by the regulator in the price control review period depending on network company performance over the last control period and predicted expenditure (companies' Business Plans) in the next.

Price Control Deliverables (PCDs)

In RIIO-2, we will use PCDs to capture those outputs that are directly funded through the price control and where the funding provided is not transferrable to a different output or project. The purpose of a PCD will be to ensure the conditions attached to the funding are clear up-front.

R

Real Price Effects (RPEs)

We set price control allowances which can include a general inflation measure (CPIH) and certain price indices that reflect the external pressures on companies' costs. We

refer to the difference between CPIH and certain price indices as Real Price Effects (RPEs).

Regulatory Asset Value (RAV)

The value ascribed by Ofgem to the capital employed in the licensee's regulated business (the 'regulated asset base'). The RAV is calculated by summing an estimate of the initial market value of each licensee's regulated asset base at privatisation and all subsequent allowed additions to it at historical cost, and deducting annual depreciation amounts calculated in accordance with established regulatory methods. These vary between classes of licensee. A deduction is also made in certain cases to reflect the value realised from the disposal of assets comprised in the regulatory asset base. The RAV is indexed to allow for the effects of inflation on the licensee's capital stock.

Regulatory burden

A term used to describe the cost to regulated companies – both monetary and opportunity – of regulation.

Regulatory Instructions and Guidance (RIGs)

A document that is published as part of the price control settlement which sets out further detail on how the price control is to be implemented and how compliance with it will be monitored.

Reinforcement

The installation of new network assets to accommodate changes in the level or pattern of electricity or gas supply and demand.

Re-openers

An Uncertainty Mechanism used in certain limited and pre-defined circumstances, which may amend revenue allowances, outputs and/or delivery dates within the price control period.

Repex

Repex is the Health and Safety Executive enforced gas mains replacement programme.

Research and development (RandD)

Work undertaken in order to increase knowledge, and used to create new processes or technologies that will advance capabilities.

Retail Prices Index (RPI)

The RPI is an aggregate measure of changes in the cost of living in the UK. It has a different formula to CPI; for example, it measures changes in housing costs and mortgage interest repayments, whereas the CPI does not.

Return Adjustment Mechanisms (RAMs)

Failsafe mechanisms to mitigate the future risk of companies earning materially higher or lower than expected returns in a changing system.

Return on Regulatory Equity (RoRE)

RoRE is the financial return achieved by shareholders in a licensee during a price control period from its actual performance under the price control. RoRE is calculated post-tax and is estimated using certain regulatory assumptions, such as the assumed gearing ratio of the companies, to ensure comparability across the sector. We use a mix of actual and forecast performance to calculate five-year average returns. These returns may not equal the actual returns seen by shareholders.

Revenue Driver

An Uncertainty Mechanism used to adjust allowed revenue during the price control if specific measurable events occurs. Revenue drivers are used by Ofgem to increase the accuracy of the revenue allowances. See also 'volume driver'.

RIIO (Revenue = Incentives + Innovation + Outputs)

Ofgem's regulatory framework, stemming from the conclusions of the RPI-X@20 project. It builds on the success of the previous RPI-X regime, but better meets the investment and innovation challenge by placing much more emphasis on incentives to drive the innovation needed to deliver a sustainable energy network at value for money to existing and future consumers.

RIIO-Electricity Distribution Price Control Review 1 (RIIO-ED1)

The price control applied to the electricity distribution network operators. It runs from 1 April 2015 to 31 March 2023.

RIIO-Gas Distribution Price Control Review 1 (RIIO-GD1)

The price control review applied to the gas distribution network operators. It runs from 1 April 2013 to 31 March 2021.

RIIO-Transmission Price Control Review 1 (RIIO-T1)

The price control review applied to the electricity and gas transmission network operators. It runs from 1 April 2013 to 31 March 2021.

Ring-fence

The Ring Fence Conditions in gas and electricity network operator licences provide assurance that network operators always have the financial and operational resources necessary to fulfil their obligations under legislation and their licences.

Risk-free rate

The rate of return that an investor would expect to earn on a riskless asset. Typically, government-issued securities are considered the best available indicator of the risk-free rate due to the extremely low likelihood of the government defaulting on its obligations.

RPI-X

The form of price control applied to regulated energy network companies before RIIO. Each company was given a revenue allowance in the first year of the control period. The price control then specified that in each subsequent year the allowance would move by 'X' % in real terms.

RPI-X@20

Ofgem's comprehensive review[157] of how we regulate energy network companies, announced in March 2008. Its conclusions, published in October 2010, resulted in the implementation of a new regulatory framework, known as the RIIO model.

S

Scope 1 emissions

Direct emissions from sources owned or controlled by the reporting company that release emissions straight into the atmosphere. Examples of scope 1 emissions include emissions from combustion in owned or controlled boilers, furnaces, vehicles; emissions from chemical production in owned or controlled process equipment.

Scope 2 emissions

Indirect emissions being released into the atmosphere associated with the reporting company's consumption of purchased electricity, heat, steam and cooling. These are indirect emissions that are a consequence of the reporting

[157] https://www.ofgem.gov.uk/network-regulation-riio-model/current-network-price-controls-riio-1/backgroundrpi-x20-review

company's activities but which occur at sources they do not own or control. This includes losses of electricity for electricity transmission and distribution companies.

Scope 3 emissions

Other indirect emissions that occur that are a consequence of the reporting company's actions, which occur at sources they do not own or control and which are not classed as scope 2 emissions. Examples of scope 3 emissions are business travel by means not owned or controlled by the reporting company, waste disposal, or purchased materials or fuels.

SF_6

Sulphur Hexafluoride gas. This is used in some high-voltage switchgear due to its excellent insulating properties.

Shrinkage

Shrinkage is a term used to describe gas either consumed within or lost from a gas transporter's system. It includes leakage from the network, gas used by network operators during transportation (eg to power compressors), and gas stolen from the network.

Slow money

Slow money is where costs are added to the RAV and therefore revenues are recovered slowly (eg over 20 years) from both existing and future consumers.

Special Purpose Vehicle (SPV) model

The SPV model is one of the late competition models that may be applied to projects that meet the Criteria for competition during RIIO-2. Under the SPV model, the incumbent network licensee would run a tender to appoint an SPV to finance, deliver and operate a new, separable and high value project on the licensee's behalf through a contract in effect for a specified revenue period. The allowed revenue for delivering the project would be set over the period of its construction and a long-term operational period (currently expected to be 25 years).

Storage (electricity)

Storage refers to any mechanism which can store energy which has been converted into electricity. This can be primary (super-conducting and capacitor

technologies); mechanical (pumped hydro, compressed air, flywheels); and electrochemical (batteries).

Storage (gas)

Installations owned by GDNs and contracted storage capacity from third parties, for example salt cavities, liquefied natural gas, storage vessels and gas holders. Gas storage is required to balance diurnal and seasonal variations in supply and demand.

Strategic Innovation Fund (SIF)

A funding mechanism for strategic energy system transition innovation projects.

Supplier

Any person authorised to supply gas and/or electricity by virtue of a Gas Supply Licence and/or Electricity Supply Licence.

Supply chain

Refers to all the parties involved in the delivery of electricity and gas to the final consumer - from electricity generators and gas shippers, through to electricity and gas suppliers.

Sustainable energy sector

A sustainable energy sector is one that promotes security of supply over time; delivers a low carbon economy and associated environmental targets; and delivers related social objectives (eg fuel poverty targets).

System Operator (SO)

The SO is the entity responsible for operating the transmission system and for entering into contracts with those who want to connect to the transmission system. In relation to electricity and gas this role is performed by National Grid.

System Operator-Transmission Owner Code (STC)

The document that defines the high-level relationship between the ESO and the TOs and OFTOs, which is required to be in place pursuant to Standard Condition B12 (System Operator – Transmission Owner Code) of the electricity transmission licence.

T

Third party

Within the innovation context, third party refers to any person other than network companies. It may include, for example, private companies, academics, small and medium-sized enterprises, and trade bodies. It is often used interchangeably with non-network company.

Total expenditure (totex)

Totex includes both capital expenditure (capex) and operating expenditure (opex). It also includes replacement expenditure (repex) in gas distribution. Totex is made up of fast money and slow money.

Total Market Return (TMR)

The TMR is a measure of return that equity investors expect for the market-average level of risk.

Transmission Licensee

Means the holder for the time being of a licence granted or treated as granted under section 6(1)(b) of the Electricity Act 1989.

Transmission Network Use of System (TNUoS)

TNUoS charges recover the cost of providing and maintaining shared (or potentially shared) electricity transmission assets, ie assets that cannot be solely attributed to a single user. TNUoS charges are recovered from all generation and demand users of Britain's electricity transmission system. These charges vary by location, reflecting the costs that users impose on the transmission network to transport their electricity.

Transmission Owner (TO)

Means, in the electricity sector, National Grid Electricity Transmission, Scottish Power Transmission or Scottish Hydro Electric Transmission and, in the gas sector, National Grid Gas Transmission.

Transmission system

The system of high voltage electric lines and high pressure pipelines providing for the bulk transfer of electricity and gas across GB.

U

Uncertainty Mechanisms (UMs)

Uncertainty mechanisms allow changes to the base revenue during the price control period to reflect significant cost changes that are expected to be outside

the company's control. Common UMs apply to all or some of the energy sectors, whereas bespoke UMs apply to one network company.

User Group

For RIIO-2, transmission companies and the ESO were required to set up a User Group. This Group provided Ofgem with a public report on their views and the companies' Business Plans from the perspective of network users.

V

Volume driver

An Uncertainty Mechanism allowing revenue to vary as a function of a volume measure (eg number of new connections).

W

Whole system solutions

Solutions arising from energy network companies and system operators coordinating effectively, between each other and with broader areas, which deliver value for consumers.

Appendix 4 – Responding to this consultation

Your response, data and confidentiality

12.8 You can ask us to keep your response, or parts of your response confidential. We will respect this, subject to obligations to disclose information, for example, under the Freedom of Information Act 2000, the Environmental Information Regulations 2004, statutory directions, court orders, government regulations or where you give us explicit permission to disclose. If you do want us to keep your response confidential, please clearly mark this on your response and explain why.

12.9 If you wish us to keep part of your response confidential, please clearly mark those parts of your response that you do wish to be kept confidential and those that you do not wish to be kept confidential. We might ask for reasons why. Please put the confidential material in a separate appendix to your response. If necessary, we will get in touch with you to discuss which parts of the information in your response should be kept confidential, and which can be published.

12.10 If the information you give in your response contains personal data under the General Data Protection Regulation 2016/379 (GDPR) and domestic legislation on data protection, the Gas and Electricity Markets Authority will be the data controller for the purposes of GDPR. Ofgem uses the information in responses in performing its statutory functions and in accordance with section 105 of the Utilities Act 2000. Please refer to our Privacy Notice on consultations, see Appendix 4.

12.11 If you wish to respond confidentially, we will keep your response itself confidential, but we will publish the number (but not the names) of confidential responses we receive. We will not link responses to respondents if we publish a summary of responses, and we will evaluate each response on its own merits without undermining your right to confidentiality.

General feedback

12.12 We believe that consultation is at the heart of good policy development. We welcome any comments about how we have run this consultation. We would also like to get your answers to these questions:

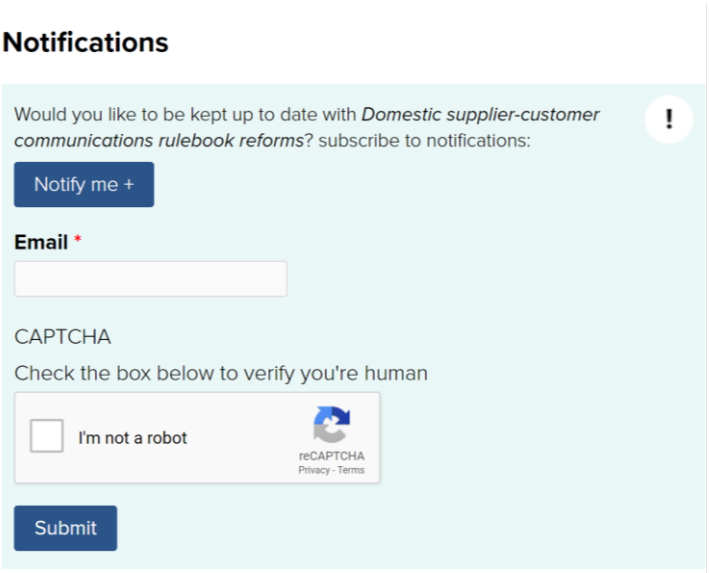
- Do you have any comments about the overall process of this consultation?

- Do you have any comments about its tone and content?
- Was it easy to read and understand, or could it have been better written?
- Were its conclusions balanced?
- Did it make reasoned recommendations for improvement?
- Any further comments?

12.13 Please send any general feedback comments to stakeholders@ofgem.gov.uk

How to track the progress of the consultation

12.14 You can track the progress of a consultation from upcoming to decision status using the 'notify me' function on a consultation page when published on our website. Ofgem.gov.uk/consultations.



12.15 Once subscribed to the notifications for a particular consultation, you will receive an email to notify you when it has changed status. Our consultation stages are:

- Open
- Closed (awaiting decision)
- Closed (with decision).