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# What this paper contains

In our main Business Plan, we set out our Certain View of the investment needed to deliver stakeholders' ambitions alongside a safe a secure network during RIIO-T2. We also established five clear goals, evidence of the additional benefits we propose to secure for our stakeholders by 2026. These are:



Transport the renewable electricity that powers 10 million homes

100% network reliability for homes and businesses

**Every connection** delivered on time

One third reduction in our greenhouse gas emissions

£100 million in efficiency savings from innovation

As we deliver this ambitious £2.2bn programme our stakeholders will expect to see evidence of progress in delivering the benefits promised by this investment, where we are exceeding original expectations and how we are efficiently responding to industry uncertainty. In RIIO, this is achieved by setting and reporting on clearly defined **Output** measures, driving delivery by carefully calibrated **Incentives** and responding to change by **Uncertainty Mechanisms**. This paper therefore provides stakeholders clarity on each.

- Chapter 1: the outputs we propose to deliver in RIIO-T2, including incentives;
- Chapter 2: how innovation will support that delivery; and
- Chapter 3: the uncertainty mechanisms that help manage the risk to consumers by protecting against the equally undesirable outcomes of over or under resourced networks.

**Outputs:** We are committed to setting clear outputs and establishing enhanced performance reporting during RIIO-T2 that allows our stakeholders to hold us to account. The outputs against which our progress can be assessed are set out in our main Business Plan and expanded in this paper. This also includes our commitment to an Enhanced Reporting Framework for RIIO-T2, providing transparency for and accountability to our customers for the funding provided. Chapter 1 defines the outputs for each of our four RIIO-T2 strategic themes and proposes how these can be measured. Ofgem has confirmed it will not progress with target setting for many outputs until 2020. Where possible, we have proposed solutions to setting targets and will continue to develop these with the regulator. Figure A shows how the outputs in each area of our plan map to Ofgem's three output categories. Appendix 1 sets out our outputs in tabular format as requested in Ofgem's Business Plan Guidance.



Strategic Themes	Stakeholder-Led Strategy	Safe and Secure Network Operation	Sector Leading Efficiency	Leadership in Sustainability		
Ofgem Output Categories	Meet the needs of consumers and network users	Maintain a safe and resilient network		Deliver an environmentally sustainable network		
Goals	Every connection delivered on time	100% network reliability for homes and businesses	Iransport the renewable energy that powers 10 million homes	One third reduction in our greenhouse gas emissions		
	£100 million in efficiency savings through innovation					
Outputs	Outputs that support service quality for our directly connected customers and all stakeholders.	Outputs that will ensure the resilience of our network as we meet the energy transition challenges.	Outputs that will ensure the efficient delivery of our Certain View capital delivery projects.	Outputs that support our environmental and wider sustainability ambitions.		
Financial	(Figure 1.4)	(Figure 1.6)	(Figure 1.8)	(Figure 1.10)		
Incentives	Timely Connections Satisfaction Survey	Energy Not Suppled (ENS)	Whole System Mechanism	SF6 and other IIGs EDR+		
	(Table 1.1)	(Table 1.1)	(Table 1.1)	(Table 1.1)		

**Our output commitments:** Stakeholders tell us that they want to see how we are delivering on our output commitments and to understand the consequence on our RIIO-T2 package if delivery is above or below baseline. This document sets out the measures in place to provide stakeholders with that assurance (see Figure 1.3 and Appendix 2).

**Incentives:** RIIO encourages networks to continually innovate and explore lower cost solutions to deliver improved outcomes for our stakeholders. For many of the outputs listed above, and in this paper, we will be able to deliver more than the baseline performance set out and allowed for in our plan, but we recognise we should only choose to deliver more when it is of value to stakeholders.

We have proposed incentivised outputs which enable us to flex delivery in response to continued stakeholder feedback. By setting clear stakeholder informed incentive rates in advance of the price control period we can make a choice during RIIO-T2 where and when to invest. Our stakeholders have confidence that we will only deliver increased outputs where the cost of doing so does not exceed the benefit.

**Innovation**: Continued innovation is central to achieving the outcomes set out in our plan. We support Ofgem's decision to retain a strong innovation stimulus for both large as well as smaller scale innovations. Our goal is to ensure that we deliver £100m of efficiency savings during RIIO-T2 and expect innovation to place a central role in this. Delivery of this will support our overarching objective to enable the transition to a low carbon economy.

**Uncertainty Mechanisms:** The allowances we are asking for in this plan are required to deliver what we have defined as the Certain View; where all the activities and investments we propose have a strong, evidence-based need to be done. Where circumstances are beyond our control or not possible to forecast sufficiently far ahead, we are not seeking the potential RIIO-T2 expenditure allowance in advance.

We are proposing a small number of mechanisms that will be triggered under limited circumstances and through controlled processes. Our stakeholders can have confidence that allowances will only ever be given where there is a defined need. The mechanisms proposed and the justification for each are set out later in this document (Chapter 3 and Appendices 6 and 7). We also summarise each mechanism in the Ofgem tabular format (see Appendix 1). Combined with our delivery commitment for all stakeholders, see <u>section 1.12</u>, consumer bills are fully protected.

# Why we are publishing this paper

Our consultation on the draft Business Plan, supported by the July "RIIO-T2 Regulatory Framework" subsidiary document<sup>1</sup>, produced further stakeholder views on the components of the RIIO-T2 regulatory framework. We are taking this opportunity to update our thinking across all these and expand on the detail.

This updated information will also enable the Challenge Group to respond to the latest content ahead of our formal December Business Plan submission to Ofgem.

# **Ongoing engagement**

Our proposals on outputs, incentives and uncertainty mechanisms will continue to be refined until we submit our final Business Plan in December 2019. We are taking our final output and incentive proposals including our Consumer Value Proposition (CVP) to our User Group in October and are in the process of seeking third party assurance on these proposals.

There are also ongoing working groups with Ofgem on some of the incentives and on the uncertainty mechanisms which will inform our final position for December. Ofgem will also make the final decision on the calibration of the incentives and this will not be decided until Draft and Final Determinations. Therefore, for some, the value of the incentives are our best estimates only.

# How this paper is structured

Our Regulatory Framework paper has three chapters.

- Chapter 1: The **Outputs** and **Incentives** which will drive performance and delivery under each of our strategic themes and mapped to Ofgem's Output categories.
- Chapter 2: How **Innovation** should be incorporated into the RIIO-T2 settlement, including cross-party proposals on how we could measure and report on associated benefits.

<sup>&</sup>lt;sup>1</sup> Regulatory Framework (Scottish Hydro Electric Transmission plc, July 2019), available at <u>http://www.ssen-transmission.co.uk/media/3390/111regulatory-framework\_final-draft.pdf</u>

• Chapter 3: The **Uncertainty Mechanisms** which we believe are necessary to manage the potential areas of change during RIIO-T2.

These chapters are supported by appendices providing additional detail on each component of the Regulatory Framework.

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# **1** The right RIIO-T2 Outputs and Incentives

- 1.1 We are committed to setting clear outputs and establishing enhanced performance reporting during RIIO T2 that allows our stakeholders to hold us to account. The outputs against which our progress can be assessed are set out in our main Business Plan and expanded in this paper.
- 1.2 Figure 1.1 summarises the outputs we commit to delivering in RIIO-T2 and how these map to Ofgem's three output categories.

Strategic Themes	Stakeholder-Led Strategy	Safe and Secure Network Operation	Sector Leading Efficiency	Leadership in Sustainability		
Ofgem Output Categories	Meet the needs of consumers and network users	Maintain a safe and resilient network		Deliver an environmentally sustainable network		
Goals	Every connection delivered on time	100% network reliability for homes and businesses	Iransport the renewable energy that powers 10 million homes	One third reduction in our greenhouse gas emissions		
	£100 million in efficiency savings through innovation					
Outputs	Outputs that support service quality for our directly connected customers and all stakeholders.	Outputs that will ensure the resilience of our network as we meet the energy transition challenges.	Outputs that will ensure the efficient delivery of our Certain View capital delivery projects.	Outputs that support our environmental and wider sustainability ambitions.		
Financial	(Figure 1.4)	(Figure 1.6)	(Figure 1.8)	(Figure 1.10)		
Incentives	Timely Connections	Energy Not Suppled (ENS)	Whole System Mechanism	SF6 and other IIGs		
	Satisfaction Survey			EDR+		
	(Table 1.1)	(Table 1.1)	(Table 1.1)	(Table 1.1)		

Figure 1.1 Integrated Output and Incentive Framework

- 1.3 The sections which follow expand on the output targets introduced in our main Business Plan in each of the four strategic themes chapters and highlight the outputs which we believe should be incentivised along with an estimated maximum value under RIIO-T2. We also outline how all stakeholders are protected by our delivery commitment.
- 1.4 Chapter 1 structure:
  - What are RIIO-T2 outputs?
  - Incentivising ambition summary of our incentive package
  - Our delivery commitment for all stakeholders
  - Outputs and Incentives four strategic themes.

# What are RIIO-T2 Outputs?

1.5 We have consistently adopted Ofgem's definitions of RIIO-T2 outputs which are grouped into three categories; Licence Obligations (LOS), Price Control Deliverables (PCDs) and Output Delivery Incentives (ODIs). These may be common to all TOs, and determined by Ofgem, or they may be bespoke, proposed by individual TOs and approved by Ofgem. When we reference financial ODIs in this document these are abbreviated to ODI (F) while reputational ODIs are abbreviated to ODI (R).

#### Figure 1.2 Ofgem Output Categories



# **Incentivising ambition**

- 1.6 Our Certain View plan is ambitious, laying the foundation for Net Zero while stretching for improvements in outputs at minimal cost to consumers. To facilitate full output delivery and consumer value, we believe this plan needs strongly calibrated incentives.
- 1.7 In addition to Ofgem's common ODIs, we propose two further incentives as bespoke ODIs along with higher calibration on some incentive rates. This approach produces a moderately incentivised plan and one that:
  - strives for the outputs our consumers and wider stakeholders have consistently, repeatedly and passionately told us are of most importance to them and which they value most achieving Net Zero<sup>2</sup> (hence, we have strengthened the SF<sub>6</sub> calibration and proposed the EDR+ mechanism); and
  - delivers a bottom-line cost benefit for consumers (Whole System Mechanism).
- 1.8 Comparison of our proposals with the equivalent RIIO-T1 position and the incentive ranges indicated by Ofgem reveals our plan is proportionate and reflective of the wider ambitions of today's stakeholders

<sup>&</sup>lt;sup>2</sup> For example, at out summer road shows where we consulted on our July Draft Plan 62% put achieving Net Zero at 10 when asked to place it on a scale of 1 to 10 in terms of importance (a further 9% rated it as 8 or 9).

(see Table 1.1). Ofgem has yet to determine the incentive levels for Timely Connections, Energy Not Supplied (ENS) and  $SF_6$  and other insulation interruption gases (IIGs). We have assumed parity with RIIO-T1 for the first two and proposed a stronger calibration for  $SF_6$  and other IIGs.

#### Table 1.1 Incentive Comparison

<b>£m incentive range</b> (19/20 prices)	<b>RIIO-T1</b> (5-year equivalent)		<b>Ofgem RIIO-T2</b> (5-year total)		<b>Our Draft Plan</b> (5-year total)	
	Сар	Collar	Сар	Collar	Сар	Collar
Stakeholder Engagement Incentive	10	0	0	0	Totex	ex ante
Stakeholder Survey	20	-20	11	-11	23	-23
Timely Connections	0	-10	0	-10	0	-10
Bespoke Quality of Connections	0	0	0	0	Adopted	by Ofgem
Energy Not Supplied*	8	-8	8	-8	8	-8
Bespoke Whole System Mechanism	0	0	0	0	20	0
SF <sub>6</sub> and other IIGs	2		2		20	-20
Bespoke Environmental Discretionary Reward+ (EDR+)	27	0	0	0	20	-20
Total 5 years - opportunity	67	-38	21	-29	91	-81
Average annual - opportunity	13	-8	4	-6	18	-12

\*The ENS Ofgem SSMD and our draft plan cap and collar figures are based on a 50% sharing factor. If we apply 15% the 5-year opportunity falls from £8m to £2m.

Delivering for consumers and network users: showing ambition

- 1.9 Our Business Plan proposals demonstrate ambition. Compared to Ofgem's proposals, our plan shows greater ambition to reduce SF<sub>6</sub> emissions, the most harmful of greenhouse gases, and to meet wider sustainability ambitions, both with a notable downside risk if we don't meet the targets set. The risk is on us, not consumers, to realise that ambition. Full details on SF<sub>6</sub> and our wider sustainability outputs options are found below in <u>sections 1.72</u> and <u>1.69</u>, respectively.
- 1.10 Stakeholders want to share in the benefits from networks unlocking Whole System solutions. Our Whole System Mechanism provides that much needed catalyst to make integrated solutions a reality in RIIO-T2. Only with such a catalyst can we move to Whole System being business as usual in future price controls.

#### Delivering for consumers and network users: influencing the sector

- 1.11 We have been at the forefront during this price control development process in informing Ofgem's position and shaping its common incentives, notably its Satisfaction Survey and Whole System Coordinated Adjustment Mechanism (CAM) (a reopener designed to allow for realignment of revenues and responsibilities within the price control).
  - Informing Satisfaction Survey: In April 2019 we presented our bespoke Quality of Connections ODI to Ofgem. This was a proposal for a real time survey of all our connections customers across the full customer experience; going beyond the application and connecting stage, to include scoping, energisation and review. We would be subject to a financial penalty or reward depending on our survey score relative to a set baseline. This proposal was the product of extensive engagement with our connections stakeholders and our User Group and was designed to meet the more complex and

diverse needs of our customers. Ofgem subsequently decided to introduce a very similar mechanism through the common Satisfaction Survey. Further engagement with Ofgem confirms there is complete alignment between the two incentives, with the Satisfaction Survey now incorporating the full customer experience and all connections customers (i.e. including embedded generation customers).

- Informing the Whole System CAM. Our second bespoke financial ODI our Whole System Mechanism – was presented as part of our Sector Specific Methodology response, to Ofgem in April and June 2019 and through stakeholder roadshows following our first draft Business Plan. The Whole System CAM mechanism adopted by Ofgem in its Sector Specific Methodology Decision (SSMD) has replicated much of our framework but omitted some key aspects which are essential to the success of RIIO-2 Whole System solutions. Our full proposal includes three key components:
  - an upfront small-scale development funding proposal, as a catalyst to the exploration of Whole System opportunities;
  - a regulatory 'sandbox' environment, allowing Ofgem oversight and streamlined licence and code adjustments; and
  - a strengthened Whole System incentive, reflecting the material risk licensees will face in developing multi-party network solutions with no guarantee that they will reach maturity.

This later component is our bespoke financial ODI. We propose the application of a minimum 50% Totex Incentive Mechanism (TIM) sharing factor to successful Whole System solutions which reach maturity. This is a 'win-win' outcome for consumers – the strengthened incentive is only applied to Whole System solutions which have proven to deliver consumer benefit. Benefits arise through both lower Totex and increased information on the potential future network solutions.

## Our delivery commitment for all stakeholders

- 1.12 Citizens Advice set out five principles that it thinks need to be met for the next price control to really deliver for consumers.<sup>3</sup> We support Citizens Advice's principles and our draft Business Plan was developed to implement them.
- 1.13 The second principle guarantees delivery of outcomes equivalent to the funding received or a return of allowances to consumers. It is a fundamental component of RIIO and the design of the Total Expenditure (Totex) principle.

"The value of any unspent funding for infrastructure projects is returned to consumers promptly and in full. Through their bills, consumers are paying for significant infrastructure investment. However, if energy

<sup>&</sup>lt;sup>3</sup> <u>https://www.citizensadvice.org.uk/about-us/policy/policy-research-topics/energy-policy-research-and-consultation-responses/energy-consultation-responses/citizens-advice-riio-2-framework-consultation-response/</u>

network companies defer these projects or decide not to undertake them, they are sometimes able to keep a portion of that funding. This can drive up costs for consumers."

- 1.14 Our plan goes well beyond the minimum requirements expected of a good business plan and delivers additional value for consumers. An overwhelming majority of stakeholders (89%) felt that our draft Business Plan was ambitious.<sup>4</sup> We are working with our User Group and with external third parties to independently substantiate the evidence of additional consumer value and our Consumer Value Proposition (CVP) will be presented in full in our final Business Plan. At this point in time we believe our plan offers consumers additional value in the following areas:
  - **environment and sustainability**: stretching science-based targets to reduce carbon and contribute to Net Zero ambitions.
  - connections: on time and quicker connections resulting in better service including more information, products and services throughout the customer experience incorporating the post connection stage.
     Resulting in more low carbon technology connected to the network efficiently and reducing carbon.
  - **innovation:** ambitious efficiency savings through innovation including capex and opex efficiencies, carbon savings and reduced constraint costs.
  - whole system: delivering whole system solutions to connections and network development that delivers consumer benefits through efficiency savings.
  - local energy development: working with communities to develop local energy plans to reduce the reliance on diesel generation in remote locations, promote the electrification of heat and transport and increase local generation connections, with the intention to reduce the impact of fuel poverty and to provide local economic, social and health benefits.
  - **stakeholder engagement**: bespoke outputs that deliver measurable consumer benefits.
  - **uncertainty mechanisms**: ensuring consumers only ever pay for work required and embedding efficiencies within those mechanisms.
- 1.15 We will hold ourselves to account through financial and reputational consequences if we fail to deliver on our outputs. These consequences are detailed in Figure 1.3 and Appendix 2. Our stakeholders will be able to see the result of our performance through Enhanced Reporting Framework and are given the assurance of output delivery through the measures summarised in Figure 1.3. This provides them with the necessary confidence to support our proposed allowances for RIIO-T2.

<sup>&</sup>lt;sup>4</sup> Consultation on our July draft plan, 2019 summer road shows

# Figure 1.3 Our Commitment to Output Delivery

Ofgem	Our	Outputs	Assurance of output delivery			
Output Category	Strategic					
	Theme					
			Financial –	Financial –	Financial -	Reputational
			penaity/no	allowance	enforcement	
Meet the needs of	Stakeholder-led	Timely Connections	reward	allowance	1	1
Consumers and	Strategy	Satisfaction Survey	1			1
Network Users	00100087	Stakeholder Engagement Commitment (KPIs, Assurance and Surveys)		1		✓
		Enhanced Reporting Framework			1	✓
Maintain a safe &	Safe & secure	Energy Not Supplied (ENS): 0-90 MWh pa	✓			
resilient network	network operations	Faults: <72 interruptions by 2026				✓
		Smart monitoring: 61 critical plant items with smart monitoring				✓
		NARMS: risk profile, tbc*	✓			✓
		Benchmarking: ITOMs and ITAMs upper guartile by 2026				✓
		Network Access Policy (NAP)				✓
		NAP Accountability Report				✓
	Sector Leading	Shared use infrastructure capacity increase: 1327 MVA		✓		
	Efficiency	T1/T2 cross-over schemes: 329.7 MW and 607 MVA		✓		
		Boundary transfer capability: 1090 MW		✓		
		Reactive power: +325/-75 MVA		✓		
		Innovation benefits: £100 efficiency savings				✓
		Large capital project delivery		✓		
		Early engagement on FES and network development				✓
		Whole System Mechanism	✓			
Deliver an	Leadership in	Projects assessed through our new Cost Benefit Analysis framework:				1
environmentally	Sustainability	100%				
sustainable network		BCF scope 1 and 2: 33% reduction by 2026	✓ (if ODI)	✓ (it PCD)		✓
		SF <sub>6</sub> and other IIGS: <1% leakage	A 100 0	146		
		Biodiversity no net loss: 100% through T2	✓ (if ODI)	(if PCD)		✓
		Environmental incident rate: 0.45 by 2026	✓ (if ODI)	✓ (if PCD)		
		Waste to landfill: 0% by 2026	(if ODI)	(if PCD)		<b></b>
		Recycling, recovery and reuse: 70% by 2026	V (IT ODI)	✓ (If PCD)		<b>√</b>
		Employees trained to recognise & support vulnerable customers & communities: 100% by 2026	🗸 (if ODI)	🗸 (if PCD)		
		Approved suppliers located in licence area: >25% by 2026	🗸 (if ODI)	√ (if PCD)		
		Employees trained to promote inclusion & diversity: 100% by 2026	(if ODI)	(if PCD)		
		Apprentice, graduate and technical staff trainee intake				
		representative of local demographic: 100% by 2026	✓ (if ODI)	✓ (if PCD)		× 1
		Annual Sustainability Report			×	×
		Visual amenity: efficient delivery of projects & outputs				<ul> <li>Image: A second s</li></ul>
Innovation		Network Innovation Allowance (NIA)		1		✓
		Strategic Challenge Fund				✓

# **Stakeholder-Led Strategy**

- 1.16 Our Stakeholder-Led Strategy encompasses our proposals for stakeholder engagement, connections and innovation, all created in conjunction with stakeholders and our RIIO-2 User Group. It aligns with Ofgem's output category to "meet the needs of consumers and network users".
- 1.17 Putting stakeholder engagement at the centre of our strategy development, planning and decision making is essential in making real progress through the energy transition challenge; this is affirmed in our Business Plan and in our Stakeholder Engagement Strategy<sup>5</sup>. We have set a clear goal that every connection is delivered on time. This means that we commit to providing a tailored service to meet every connection customers' needs and that we deliver on time and on budget to agreed requirements. Our fifth clear goal spans all four of our strategic themes; we will look to make £100m in efficiency savings through innovation.
- 1.18 Our goals under this theme are supported by 4 output mechanisms, including reputational and financial incentives.

Every connection delivered on time				
£100 million in efficiency savings through innovation				
		2018/19	2025/26	Output type
Timely Connections				
Proportion of offers for connections to the transmission network made to	Percentage			
customers within the time periods set out in the industry code, currently 60	proportion delivered			
days.	on time	100%	100%	LO
Satisfaction Survey				
Measures connection customer satisfaction through the results of targeted				
surveys throughout the customer experience. As well as a qualitative	Percentage			
measure of stakeholder satisfaction of those affected by new transmission	proportion delivered			
infrastructure	on time	N/A	TBC	ODI (F)
Stakeholder Engagement Commitment				
Measure of our commitment and ability to understand, include and meet				
our stakeholders needs that combines the results of our performance on	KPIs: Percentage score	87%	>95%	
KPIs agreed with stakeholders, an independent audit of our engagement	AA1000 Health Check	N/A	TBC	
activities, and a stakeholder survey that will target all stakeholder groups.	Stakeholder Survey	TBC	TBC	PCD
Compliance with our Enhanced Reporting Framework				
Publication of a reporting package that covers service performance,				
financial performance and performance for society. All reporting must be				
easy to understand and accessible , consistent and comparable over time	Compliant/Non			
where appropriate.	compliant	N/A	Compliant	ODI (R)

Figure 1.4 Stakeholder-Led Outputs and Incentives

1.19 Each of our outputs and associated incentives are expanded in the following sections and in the form directed by Ofgem (Appendix 1).

<sup>&</sup>lt;sup>5</sup> Stakeholder Engagement Strategy (SSEN Transmission) available at <u>https://www.ssen-</u> <u>transmission.co.uk/media/3560/shet-stakeholder-engagement-strategy-final-document.pdf</u>

#### Timely Connections – a common LO

- 1.20 The **Timely Connections** licence obligation, with an associated financial penalty, requires us to provide quotations to the Electricity System Operator (ESO) within 60 days for a prospective connection customer. We support the continuation of this from RIIO-T1 to RIIO-T2.
- 1.21 While providing timely quotations is important, it is only one part of ensuring a high-quality service for connection customers. As we detail in our Commercial and Connections Policy<sup>6</sup> and page 63 of our draft Business Plan, we learnt in RIIO-T1 that customers' expectations go beyond the timely provision of offers and even beyond the connections delivery.



Figure 1.5 The Connection Customer Experience

1.22 To meet the complex and diverse needs of our customers we need to be innovative and adapt our services and products throughout the whole customer experience, providing a service that goes beyond the application and connecting stage, to include scoping, energisation and review.

#### Satisfaction Survey – a common ODI

- 1.23 The **Satisfaction Survey** incentive, common to all TOs and set by Ofgem, will ensure we meet expected service levels across the full customer experience. Connection customers will be surveyed annually to understand the level of satisfaction with the service they receive from us. Depending on the score, we will receive a financial reward or penalty.
- 1.24 As noted in <u>paragraph 1.11</u>, prior to Ofgem's SSMD we proposed a **bespoke Quality of Connections** incentive to Ofgem, which is now fully aligned with Ofgem's common **Satisfaction Survey**. This incentive will help ensure a quality service is provided for our connection customers in RIIO-T2.
- 1.25 We will always seek to make service improvements and commit to ambitious targets. However, it is not yet possible to set the detail of those targets. As this exact type of survey has not been undertaken in RIIO-T1 there is no suitable data to set a baseline for RIIO-T2 targets. To produce a baseline, we will work with the other TOs and Ofgem to conduct a survey in the final year of RIIO-T1 from which to set a baseline.

<sup>&</sup>lt;sup>6</sup> RIIO-T2 Commercial and Connections Policy (SSEN Transmission, June 2019), available at <u>https://www.ssen-transmission.co.uk/media/3405/ssen-riio-t2-commercial-connections-policy-paper-28pp-22782-artwork.pdf</u>

- 1.26 The common Satisfaction Survey also requires us to engage with those affected by new transmission infrastructure. This part of the incentive is not subject to a financial reward or penalty and industry discussions are ongoing on exactly what that entails, which ultimately may not result in a survey at all.
- 1.27 Ofgem are yet to determine the cap and collar of the financial reward. We will continue to work with Ofgem over the coming months, presenting evidence for an appropriate calibration. We believe this should be based on the value supporting connections customers delivers, and/or the value they place on good quality service. We also believe that the importance of the connection process to delivering Net Zero goals may warrant an incentive rate materially higher than intimated by Ofgem to date; at least not lower than the RIIO-T1 level that was set for the RIIO-T1 Stakeholder Satisfaction Output (SSO) incentive.

#### Stakeholder Engagement Commitment (SEC) – a PCD

- 1.28 Our stakeholders extend much wider than our connections customers and those affected by new transmission infrastructure. We have strategic level stakeholders through to end consumers (see page 52 of our draft Business Plan) who may not be affected by a particular connection project or transmission investment project. It is vital that they or their representatives have opportunities to continually influence the decisions we make. As we move towards a whole system approach it is crucial that we continue to capture and enhance our engagement with stakeholders. With this in mind, and the decision from Ofgem to remove the RIIO-T1 Stakeholder Engagement Incentive, we propose a bespoke PCD our Stakeholder Engagement (SEC).
- 1.29 Through engaging on our new stakeholder strategy<sup>7</sup>, our stakeholders told us they want to see our commitment to and our progress on improving our stakeholder engagement. Because of this we need to have open and transparent means of reporting clear information. KPIs, external assurance and a means of measuring performance scored solely by stakeholders allows us to do that. This has led us to conclude that continuing with a) wider and specific stakeholder performance KPIs, b) external assurance, and c) wider assessment of engagement, is critical. We will develop the structure and role of these three components of our commitment further as part of our Stakeholder Action Plan, provided in the final December Business Plan.
- 1.30 Through our SEC we will:
  - undertake key stakeholder initiatives in RIIO-T2 and commit to measuring our performance through KPIs. These will be reviewed annually and will evolve as we implement our new Stakeholder Engagement Strategy<sup>8</sup> to ensure that they are fit-for-purpose and deliver equivalent outcomes.

 <sup>&</sup>lt;sup>7</sup> Stakeholder Engagement Strategy Consultation Report (SSEN Transmission) available at <u>https://www.ssen-transmission.co.uk/media/3559/stakeholder-engagement-strategy-consultation-report.pdf</u>
 <sup>8</sup> Stakeholder Engagement Strategy (SSEN Transmission) available at <u>https://www.ssen-</u>

transmission.co.uk/media/3560/shet-stakeholder-engagement-strategy-final-document.pdf

- aim for external assurance against AccountAbility's Stakeholder Engagement Standard (AA1000SES, 2015) to periodically assess our engagement with all our stakeholders. This assessment is used across multiple industries and is an effective too to achieve best practice in stakeholder engagement.
- propose a stakeholder survey, the detail of which is being refined through discussion with external specialists. We are considering all options at this stage including a high-volume survey, bespoke one-to-one interviews or both. We recognise that one-size does not fit all. Only by having the right methodology for each stakeholder group will we gather meaningful and useful information. Through the development of our KPIs we will identify how this intelligence will be used to inform and improve our ongoing stakeholder engagement. The determination of the measurement of the survey score will depend on the method.

## Enhanced Reporting Framework (ERF) – a bespoke ODI

- 1.31 Our stakeholder specific PCD and the common ODI will keep us on track to provide the best service for all. In addition, we propose a final output mechanism, our Enhanced Reporting Framework (ERF). This bespoke reputational ODI will mean that stakeholders will also have the opportunity to hold us to account across a complete performance package service performance (including against stakeholder outputs), financial performance and performance for society. This follows our consultation<sup>9</sup> on one of the five of Citizen's Advice principles that it thinks should be met for RIIO-2 to really deliver for consumers<sup>10</sup>; that companies are required to publish complete information on their performance, financial structures, gearing and ownership.
- 1.32 Further detail of our ERF is provided in page 71 and 72 of the draft Business Plan.

#### Commitment to delivery

- 1.33 Failure to deliver on our stakeholder outputs will have both reputational and financial consequences as set out in Figure 1.3 above and Appendix 2. We may face a penalty and Ofgem could take enforcement action if we breach our licence obligation on Timely Connections; we can receive financial penalties for poor performance on the Stakeholder Satisfaction survey; and failure to deliver on our SEC will see our reputation damaged, particularly as we have committed to the ERF.
- 1.34 In line with our funding commitment (see <u>section 1.12</u>) we commit to returning the baseline costs of any initiative set out in our Stakeholder Action Plan that we do not deliver and do not replace with a materially equivalent initiative.
- 1.35 Stakeholders have told us that it is important to have flexibility whilst we develop and test new initiatives to improve. We need to easily adapt and respond to stakeholder needs which may change, therefore it is essential we have the ability to substitute funded initiatives for more appropriate solutions during the

<sup>&</sup>lt;sup>9</sup> https://www.ssen-transmission.co.uk/media/3224/reform-in-riio\_transparency.pdf

<sup>&</sup>lt;sup>10</sup><u>https://www.citizensadvice.org.uk/about-us/policy/policy-research-topics/energy-policy-research-and-consultation-responses/energy-consultation-responses/citizens-advice-riio-2-framework-consultation-response/</u>

price control. It is our view that it is acceptable to do something different, but it is not acceptable to do nothing and retain the allowance. We believe returning unspent allowances is not only about the large cost items. Some activities may be low cost and make up a tiny proportion of our Totex baseline allowances but are of most importance to certain stakeholders. We commit to delivering on everything in our plan – big and small.

## Safe and Secure Network Operation

- 1.36 Under this strategic theme, our principal goal is to deliver 100% network reliability for homes and businesses. It aligns with Ofgem's output category to "maintain a safe and resilient network. We believe this ambitious goal will be met if we deliver on the four-Rs of resilience reliability, redundancy, response & recovery, and resistance. Through extensive stakeholder engagement we see the four-Rs as BAU and the costs of delivering these are set out in our baseline ex ante allowances and delivered under our Certain View. Our fifth clear goal spans all four of our strategic themes; we will look to make £100m in efficiency savings through innovation.
- 1.37 Seven outputs support delivery of this goal, one LO, five PCDs and two ODIs.

100% network reliability for homes and businesses				
£100 million in efficiency savings through innovation				
		RIIO-T1	2025/26	Output type
Energy Not Supplied				
The volume of electricity that is not supplied to homes and businesses due				
to interruptions of longer than three minutes on the transmission network			0-90MWh	
Excludes specified events	MWh pa.	46†	p.a.	ODI (F)
Faults				
Total number of unplanned interruptions, of all durations and with no				
exclusions, on the transmission network	Number pa.	131†	72	PCD
Coverage of smart monitoring				
Critical plant items with smart monitoring equipment installed and				
operational	Number of critical sites	0‡	61	PCD
Network monetised risk				
Value of asset-driven interventions as assessed by the Network Asset Risk				
Methodology (delta target)	£ billion	N/A	TBC	PCD
International benchmarking - Operations		Quartile 3	Quartile 4	
Out-turn position in the composite service-cost metric in the International		(Lower	(Upper	
Transmission Operations and Maintenance Study (ITOMS)	Relative position	right)‡	right)	PCD
International benchmarking – Asset Management			Quartile 4	
Out-turn position in the composite service-cost metric in the International		Quartile 1	(Upper	PCD
Transmission Asset Management Study (ITAMS)	Relative position	(Lower left)‡	right)	
Network Access Policy				
Production and compliance with NAP	Compliant/non compliant			LO
Accountability reporting	Publication of report			ODI (R)
† Average of full six years completed \$\prescript{At end 2018/19}	-			

Figure 1.6 Safe and Secure Network Operation Outputs and Incentives

Network Asset Risk Metric (NARMs) – a common PCD

1.38 The most significant network reliability output is the **Network Asset Risk Metric (NARM)**, a PCD to deliver the risk profile target by the end of RIIO-T2. This measures our approach to intervening efficiently on the right assets at the right time to reduce the risk of network failures and the resulting impact. As with all large projects, if associated equivalent PCDs are not delivered we commit to returning appropriate allowances to consumers. Failure to deliver the NARMs risk target may result in an end of price control penalty. It is not currently possible to estimate the potential downside penalty for NARMs as the methodology is still in development with Ofgem. However, this provision of this protection ensures consumers can rely on receiving the network benefits for which they are also paying.

#### Other bespoke PCDs

- 1.39 We further commit to reducing faults to less than 72 per annum and installing and operating smart monitoring at 61 critical sites by the end of the price control. These two key outputs are measurable KPIs on our reliability performance and our response and recovery performance, with smart monitoring also aligning with the Energy Data Task Force report<sup>11</sup> recommendations around the digitalisation of the energy system to support the energy transition. All our KPIs will be subject to our Enhanced Reporting Framework (see section 1.31).
- 1.40 We also commit to stronger network performance while providing value for money. This is reflected in our final PCDs. We will achieve upper quartile in the benchmarking in International Transmission Operations and Maintenance Study (ITOMS) and International Transmission Asset Management Study (ITAMS). While we currently benchmark well on costs in ITOMS, we aim to improve on network service while retaining low cost. For ITAMS while we only participated in 2018 for the first time, we commit to ongoing participation and want to improve, reaching the upper quartile on asset management performance and on operational performance. This is an ambitious commitment; we are currently in the lower quartile for ITAMS.

#### Network Asset Policy – an LO and a bespoke ODI

- 1.41 In addition to our four PCDs, we have a licence obligation to comply with a common TO **Network Access Policy (NAP)**. We support this common obligation and we will continue to take the lead in setting out a proposal to develop a single consolidated TO NAP agreed with the ESO in our final December Business Plan.
- 1.42 The NAP will only work optimally if it is reviewed periodically and if the benefits are measured and monitored. We are committed to demonstrating continuous improvement of NAP implementation throughout RIIO-T2 and propose to hold ourselves to account publicly through our **bespoke NAP** Accountability Report ODI, as well as being accountable to connections customers impacted by outages through the Satisfaction Survey (see section 1.23).
- 1.43 The key principle of the NAP is to demonstrate consumer value whilst delivering a high value customer service for new and existing users of our network, as reflected in our Commercial and Connections Policy<sup>12</sup>. Through the NAP Accountability Report, we will:

<sup>&</sup>lt;sup>11</sup> <u>https://es.catapult.org.uk/news/energy-data-taskforce-report/</u>

<sup>&</sup>lt;sup>12</sup> RIIO-T2 Commercial and Connections Policy (SSEN Transmission, June 2019), available at <u>https://www.ssen-transmission.co.uk/media/3405/ssen-riio-t2-commercial-connections-policy-paper-28pp-22782-artwork.pdf</u>

- report on innovative and whole system approaches which have been implemented and the consumer benefit of these initiatives;
- report on common TO and bespoke KPIs, e.g. delivery of outage plans against the Final Year Ahead plan as agreed with the ESO; and
- report on the use of procedure STCP 11-4, which enables the ESO to buy a service from the TO where that service assists the ESO in reducing operating costs on the UK Grid System, ultimately providing whole systems savings for consumers.

## Energy Not Supplied (ENS) – a common ODI

- 1.44 Finally, the Energy Not Supplied (ENS) incentive encourages us to maintain strong performance in reliability. We support the continuation of this RIIO-T1 mechanism in RIIO-T2. Reliability remains a principle concern for our consumers. There is strong stakeholder support for availability (generators) and resilience (government) and a recent Willingness to Pay study<sup>13</sup> revealed that the average GB electricity consumer is willing to pay £7.70 to get back on supply quicker even when the probability of going off supply due to an issue on the transmission network is very low. As such, we aspire to our goal of **100%** reliability. To support this, we propose a target of 0 90 MWh (Megawatt hours) lost per annum through the ENS incentive, with an aspiration to reach 0 MWh by the end of the price control. To achieve this, it is vital that the incentive continues to be calibrated appropriately to drive the behaviour to meet our stakeholder-led ambition.
- 1.45 ENS sets a limit on the amount of MWh of energy we can lose from our network in any given year. If we remain below that threshold we will receive a reward, but if we lose more than that threshold we will be penalised.
- 1.46 Ofgem will decide on the RIIO-T2 ENS target and the calibration of the reward/penalty and we continue to engage with it on this. It is recognised that ENS has worked well in driving short-term reliability by incentivising us to manage short-term risk and the day-to-day operations of our network.

<sup>&</sup>lt;sup>13</sup> Estimating Electricity and Gas Transmission Consumers' Willingness to Pay for Changes in Service during RIIO2

#### Figure 1.7 Our long term ENS performance



- 1.47 Figure 1.7 clearly demonstrates the benefit of the ENS incentive, managing short-term risk and the dayto-day operations of our network, and justifies an enduring incentive to cover the cost of our ongoing network interventions. The incentive will continue to drive strong reliability performance and deliver value for consumers. The calibration of the incentive should consider the following:
  - its introduction in RIIO-T1 has driven our very strong performance;
  - this performance has been achieved through discretionary spending, not ex ante allowances;
  - we are committed to maintaining and improving at this level, for which continuation of discretionary spending will be required;
  - for these reasons, the value of the incentive must be tied to the ongoing costs;
  - it is appropriate that we are stretched, and we recognise that we have improved our performance in RIIO-T1. This should be reflected in a tighter target in RIIO-T2. As such we propose a tightening of the incentivised range by a third so that the energy we can lose per annum falls from 120 MWh in RIIO-T1 to 90 MWh in RIIO-2;
  - we recognise the need to stretch our RIIO-T2 performance but believe it would be wrong to penalise
    us when investing in the 120 MWh to 90 MWh range. We therefore propose a dead band between
    120 MWh and 90 MWh and a reward only when we are below 90 MWh and penalty when we are
    above 120 MWh; and
  - the reward/penalty is the mechanism that will drive us to meet our 0 MWh target throughout RIIO-T2; we are not seeking ex ante allowances for this.
- 1.48 We support the continued use of Value of Lost (VoLL) as the core of the measure that captures the value of reliability to consumers. This needs to be adjusted up as the measured targets reduce and for changes in price base. This induces the network to 'work harder' to generate the necessary revenue stream to fund its day to day network interventions. At this stage, we estimate this incentive could be calibrated at a minimum of +/- £8m over the full RIIO-T2 price control period.

# **Sector Leading Efficiency**

- 1.49 Our Certain View baseline allowance will enable us to deliver one of our essential Five Goals to transport the renewable electricity that powers 10 million homes. Our fifth goal - £100m in efficiency savings through innovation - spans all four of our strategic themes but with the majority of it being delivered under Sector Leading Efficiency. Our Sector Leading Efficiency strategic theme broadly aligns with Ofgem's output category to "maintain a safe and resilient network".
- 1.50 Our Certain View includes all load related schemes where there is a clear and well justified need along with robust cost forecasts. This includes load related schemes covering:
  - strategic upgrades with a strong NOA proceed signal, and in some cases responding efficiently to additional non-load related drivers by concurrent investment;
  - offshore connections for schemes with a high level of certainty in RIIO-T2; and
  - connection schemes (sole and shared use transmission connection assets (TCA)) for schemes already in flight from T1 (i.e. T1/T2 cross over schemes).
- 1.51 These schemes will help deliver the outputs set out below and ultimately the overarching goals.

Figure 1.8 Sector Leading Efficiency	y Outputs and Incentives
--------------------------------------	--------------------------

Transport the renewable energy that powers 10 million homes						
£100 million in efficiency savings through innovation						
				-		
		RIIO-T1	RIIO-T2	Output type		
Renewable Energy						
Installed renewable generation capacity directly or indirectly connected to						
the north of Scotland transmission network by the end of the period.	Total GW*	6.8GW	9.9GW	N/A		
Shared Use Infrastructure Capacity						
Increase in shared use infrastructure capacity facilitating the connection of						
new renewable generation during the period.	Total MVA	4166MVA	1327MVA	PCD		
Energy Transport Capability						
Increase in boundary transfer capability due to strategic network		2717MW				
investment during the period.	MW (Boundary)	(B0,B1,B3)	1090MW (B4)	PCD		
Reactive Capacity						
Increase in reactive capacity during the period.	Total MVAr	N/A	+325/-75MVAr	PCD		
Innovation Benefits						
Innovation projects underway or completed, and estimated benefits during	Number	41 projects /				
the period.	Benefits (£m, NPV)	£29m benefit	£100m benefit	PCD		
Early Engagement						
Number of regional and community engagement events on north of						
Scotland future energy scenarios and strategic network development	Number of events per					
planning.	annum	N/A	5	PCD		
Whole System projects						
Whole system projects/solutions evident during the period.	Number of projects	N/A	2-4	ODI (F)		
*1.3GW non-renewable also connected						

#### Our bespoke PCDs

1.52 We commit to delivering the essential network outcomes defined by the PCDs set out above. If we do not deliver on the these or materially equivalent outputs, we will return a proportionally equivalent allowance associated with the outputs for the projects not delivered at the close out of the RIIO-T2 price control. This commitment ensures consumers only pay for outputs delivered (see section 1.12).

1.53 The proposed outputs are the minimum additional capacity, boundary uplift and reactive power that will be delivered during RIIO-T2. They relate only to the outputs associated with our Certain View allowance; i.e. where we have 100% confidence in the need for this investment. We are confident that this minimum forecast will be exceeded and that we will need to deliver more projects, and therefore more outputs, during the price control period. However, the scope and scale of those are not yet certain. Therefore, we will not seek allowances until they become certain. We propose that such projects are subject to the Uncertainty Mechanisms discussed in <u>Chapter 3</u> of this paper.

#### Whole System Mechanism – a bespoke ODI

- 1.54 Consumers expect Whole System solutions to deliver benefits through reduced network expenditure. We identified that the complexity of designing a RIIO-2 framework that could accommodate the range and scale of Whole System solutions was itself a barrier to realising these opportunities. We have experience exploring and advocating Whole System solutions (see examples in <u>Appendix 3</u>). This demonstrates the significant cost of developing a workable multi-party solution as well as the risk that the solution does not reach maturity and deliver the required outputs.
- 1.55 Recognising the need for a solution which removes this challenge, we approached Ofgem with a Whole
   System incentive proposal in April 2019.
- 1.56 We are encouraged that Ofgem adopted much of the content of this proposal in its SSMD<sup>14</sup>. Our core proposal is:
  - initial small-scale ex ante funding: to act as a catalyst to give networks the confidence to progress and develop solutions;
  - **regulatory "sandbox approach"**: where we bring our whole system proposals to Ofgem for approval setting out the need, counterfactual of continuing with traditional/ex ante funded approach, parties involved etc, code modification; and
  - **the incentive**: the financial reward we receive for realising the material benefit to consumers for the solution. We propose approved solutions attract a high-end sharing factor (50% or more).
- 1.57 However, we believe that these core elements of an effective Whole System framework are still missing from the RIIO-2 proposals. Further detail of our proposal is set out in <u>Appendix 3</u>.
- 1.58 We recognise that the Co-ordinate Adjustment Mechanism (CAM) proposed by Ofgem achieves elements of our 'sandbox' approach. However, it omits key characteristics such as a means to propose, and have considered, modifications or derogations to codes.
- 1.59 Importantly, in its SSMD Ofgem acknowledges that an incentive on the successful application of Whole System solutions would be considered. We have advocated for the inclusion of a strong incentive-based

<sup>&</sup>lt;sup>14</sup> RIIO-2 Sector Specific Methodology – Core document: Appendix 2

mechanism as a fundamental catalyst to the emergence of successful Whole System solution. An enhanced TIM sharing factor counterbalances the considerable risk networks take in exploring new and novel network solutions; the potential impact on its output obligations as it seeks to deliver outcomes through new multi-party arrangements; and, as an encouragement to networks to identify and then reveal alternative solutions which, ultimately, will establish lower future price control allowances.

- 1.60 We do not anticipate significant volumes of projects coming forward during RIIO-T2 but those that do may represent significant value to consumers compared to the counterfactual (i.e. continuing with the transmission only solution). In our draft Business Plan we have modelled the upper end incentive value as £20m over the five-year period. This is for illustrative purposes only. However, it is important to reflect that incentive returns only ever arise where we have managed to identify, develop and deploy a Whole System solution which, in turn, has secured up to £20m benefit for consumers too. **Our proposal ensures network and consumer benefits go hand in hand.**
- 1.61 Whole System stakeholder engagement has not been included as part of this ODI as it is included in our proposed Stakeholder Engagement Commitment PCD (see <u>section 1.28</u>).
- 1.62 Finally, at the heart of our strategic theme of "Sector Leading Efficiency" is the Totex Incentive Mechanism (TIM). This is the mechanism whereby any efficient underspend or overspend against our controllable allowance will be shared with consumers through an efficiency sharing factor.
- 1.63 For our core controllable costs, we believe an appropriate sharing factor is 50%, where 50% of any underspend or overspend is shared between us and consumers. However, as set out in Ofgem's Decision, the final sharing factor will depend on Ofgem's view on how confident it is on the certainty of our cost forecasts. The final sharing factor may be in the range of 15% to 50%. In the case of the lowest sharing factor of 15%, if we underspend on allowances, 85% will be returned to consumers and we will retain 15% efficiency savings. Conversely, if we overspend, consumers will pay for 85% of the overspend and we will pay for 15% of the overspend.
- 1.64 We believe our cost justification will provide Ofgem with confidence to set a high sharing factor. We think a strongly calibrated efficiency incentive places the onus on us to manage the total expenditure risk.

#### Leadership in Sustainability

1.65 Our fourth and final strategic theme of Leadership in Sustainability encompasses our stakeholder-led ambitions to lead in all areas of sustainability. It aligns with Ofgem's output category to "deliver an environmentally sustainable network". Our core goal under this strategic theme is to deliver a one third reduction in our greenhouse gas emissions. The goal of transporting renewable energy that powers 10 million homes also crosses into this strategic theme, as does our fifth goal of securing £100m in efficiency savings through innovation.

1.66 Our draft Business Plan is clear, our approach to sustainability is much wider than carbon reduction. It incorporates a range of environmental, social and economic considerations, encompassing the natural environment, waste management, supporting local communities, delivering societal benefits and growing careers (see Figure 1.9 and our Sustainability Strategy<sup>15</sup>).

#### Figure 1.9 Our Sustainability Ambitions



1.67 Given the breadth and depth of our sustainability ambitions the output mechanisms to support delivery of our sustainability goals expand across LOs, PCDs and ODIs, including both reputational and financial incentives.

#### Figure 1.10 Leadership in Sustainability Outputs

. , ,								
One third reduction in our greenhouse gas emissions								
Transport the renewable energy that powers 10 million homes								
f100 million in officiency savings through innovation								
riough minor in enciency savings through innovation								
		2018/19	2025/26					
Connecting for Society		2010/15	2023/20	Output type				
Projects assessed through our new Cost Renefit Analysis framework GB homes	Percentage	0%	100%					
novered by renewable energy transported through our network	Number	5.3m	10m	PCD				
Tackling Climate Change		5.511	10111	100				
Reduction in scope 1 and 2 greenhouse gas emissions from 2018/19 baseline	Percentage	Baseline	33%	PCD or ODI*				
SF6 and other IIG leakage target	Leakage Rate (%/kg)	TBC	<1%/kg TBC	ODI(F)				
Promoting the Natural Environment								
Biodiversity 'No Net Loss' outcome in projects gaining consent from 1 April 2020	Percentage	N/A	100%	PCD or ODI*				
Environmental Incident rate	Annual Target	0.58	0.45	PCD or ODI*				
Optimising Resources								
Waste sent to landfill (excluding compliance waste) across all waste streams	Percentage	TBC*	0%	PCD or ODI*				
Recycling, recovery and reuse rate across all construction and demolition waste	Percentage	TBC*	70%	PCD or ODI*				
Supporting Communities								
Employees trained to recognise and support vulnerable consumers and communities	Percentage	0%	100%	PCD or ODI*				
Approved suppliers located in licence area	Percentage	27%	>25%	PCD or ODI*				
Growing Careers								
Employees trained to promote inclusion and diversity								
Apprentice, Graduate and Technical Staff Trainee intake is representative of local	Percentage	0%	100%	PCD or ODI*				
demographics	Percentage	Unknown	TBC	PCD or ODI*				
Annual Environment/Sustainability Report	Compliance/Non							
Production and publication of report in line with licence requirements	compliance	N/A	Complaint	LO				
Visual Amenity			Meet project					
Efficient delivery of projects as agreed	TBC – project by project	N/A	outputs	PCD				
,								

\*options being considered with decision following the production of the Sustainability Action Plan

<sup>&</sup>lt;sup>15</sup> Delivering a smart, sustainable energy future: The Scottish Hydro Electric Sustainability Strategy (Scottish Hydro Electric Transmission plc, May 2018), available at <a href="http://www.ssen-transmission.co.uk/media/2701/sustainability-strategy.pdf">http://www.ssen-transmission.co.uk/media/2701/sustainability-strategy.pdf</a>

#### Annual Environmental Report – a common LO

1.68 We welcome Ofgem's LO to produce an Annual Environment Report. We will adhere to this condition, including collaborating with the other TOs on its format and content, and expand on it by reporting on our own wider sustainability performance – our Annual Sustainability Report. Recognising the importance of sustainability to consumers and society, we will also include a summary of our performance in our Enhanced Reporting Framework (see section 1.31).

#### Our sustainability output options - incentivised ODI or PCD

- 1.69 The Leadership in Sustainability section of our draft Business Plan provides the basis for our Sustainability Action Plan annex. In collaboration with our stakeholders, we are in the process of developing this well justified plan to meet Ofgem's Environment Action Plan requirements. A plan that delivers the best value for GB consumers and society and contributes towards our strategic objective of enabling the transition to a low carbon economy and our goal to reduce greenhouse gas emissions by a third. We will submit this annex and the supporting Environmental Action Plan (EAP) data table in our final business plan submission.
- 1.70 We are considering two output mechanisms that will monitor the delivery of the goals and targets set out within our Sustainability Action Plan. The decision on the best mechanism will be possible following the production of the Action Plan.

**Option 1:** Sustainability ambitions are subject to a bespoke balance scorecard ODI, like the RIIO-T1 Environment Discretionary Reward (EDR), known as EDR+. We do not receive upfront allowances but receive a reward or penalty (+/-£4m per annum) depending on how we perform against a breath of measures across five of the six segments of the wheel (Connecting for Society being covered in the Satisfaction Survey ODI – see <u>section 1.23</u>).

We will hold ourselves to account through our incentive performance and through our



reporting – the Annual Environment/Sustainability Report and our Enhanced Reporting Framework (see <u>section 1.31</u>).

This also excludes any science-based business carbon footprint targets under the "Tackling Climate Change" segment of the sustainability wheel. Under this option we propose these are either subject to a bespoke Low Carbon ODI or a PCD. As a PCD they can be subject to a Consumer Value Proposition.

We are currently refining our approach to determine for option 1 (and for a bespoke Low Carbon ODI) if:

- a) targets are suitably stretching to justify being subject to an ODI by reviewing external benchmarks (a challenge our User Group set for us);
- b) targets can be baselined and tracked through the price control by an industry-recognised measure (a challenge Ofgem set us); and
- c) we can meet all other criteria for a bespoke ODI as set by Ofgem.

**Option 2:** All sustainability ambitions will be PCDs with associated baseline funding as set out in our Sustainability Action Plan. We will also clearly demonstrate, through a sustainability Consumer Value Proposition, how our ambitions create significant consumer value and seek recognition of this through the Business Plan Incentive (BPI). We will hold ourselves to account in three ways.

- Reputationally: through the Environment/Sustainability Annual Report (see section 1.68) and ERF (see section 1.31).
- Delivery commitment: through the return of costs allowed for initiatives not delivered under our Stakeholder Action Plan (see <u>section 1.12</u>).
- Close out: through an assessment at the end of RIIO-T2 on the delivery of our CVP. We
  recognise that any BPI reward should be contingent on delivery of our Consumer Value
  Proposition sustainability commitment. Therefore, the proportionate value of the
  Consumer Value Proposition not delivered should be returned to consumers.
- 1.71 Further detail is provided in <u>Appendix 4</u>.

#### SF6 and other IIGs – a common ODI

- 1.72 We welcome Ofgem's commitment to continue an incentivised ODI for SF<sub>6</sub> and other insulation interruption gases (IIGs) leakage.
- 1.73 We will be publishing our SF<sub>6</sub> Strategy in December which will set out our plans to manage leakage from our SF<sub>6</sub>-filled assets. We have worked hard during RIIO-T1 to reduce our leakage and have made significant progress through improved day to day operational practices. In RIIO-T2, we will examine other areas of the asset lifecycle, including procurement and project development, to advance further in this area.
- 1.74 Our SF<sub>6</sub> asset base will continue to grow during RIIO-T2 due to the growth of our network and the readiness of technologies available to us. Despite this growth, we are committed to managing the levels of leakage from these assets and commit to less than 1% leakage from our total holdings over the course of RIIO-T2. We will continue to engage with Ofgem on targets for the leakage of other IIGs.

- 1.75 It is our view that the calibration of the incentive must be strong enough to minimise leakage through continued recurring intervention while also encouraging the use of SF<sub>6</sub> alternatives as they become available. The final incentive rate must reflect the ongoing and increasing cost of delivering this.
- 1.76 We also fundamentally believe that the best way to reduce or remove the risk of leakage is to reduce the volume of SF<sub>6</sub> held on the network. During RIIO-T1, we have led the way in deploying new and innovative technologies which provide alternatives to SF<sub>6</sub>, including being the first network operator in the UK to install Siemens "Clean-Air" technology. We will continue to drive this innovative development during RIIO-T2 and beyond. We have not yet finalised our new technology options for every project and, as such, our RIIO-T2 commitments and targets in relation to SF<sub>6</sub> will be confirmed in our final Business Plan in December 2019.

#### Visual Amenity – a common PCD with bespoke commitments

- 1.77 Finally, we fully support the continuation of the Visual Amenity funding pot in RIIO-T2 to efficiently reduce the impacts of pre-existing infrastructure on the visual amenity of National Parks and National Scenic Areas.
- 1.78 Our stakeholders are benefiting, and will continue to benefit, from its application in RIIO-T1. Schemes currently approved by Ofgem include two technical schemes in the Cairngorms National Park to underground 12km of overhead lines, and one non-technical scheme at Loch Tummel incorporating tower painting and woodland planting.
- 1.79 We are also in the process of submitting two further technical undergrounding schemes to Ofgem, again following extensive stakeholder engagement. We envisage these starting in the RIIO-T1 period and finishing in RIIO-T2. If approved, the associated 7.5km of overhead line being undergrounded will be RIIO-T2 outputs.
- 1.80 During RIIO-T2 we will engage continuously with stakeholders to identify and then develop further technical schemes within National Parks and National Scenic Areas (including those which impact on the setting of such designated sites). An initial review has identified several potential undergrounding projects.<sup>16</sup> Collectively if these go ahead, we could underground a minimum of 12km. The final length is subject to further stakeholder engagement, the outcome of our optioneering and Ofgem approval. It is provided as an illustration of our ambition to build on the successes of RIIO-T1. This initial current list of visual amenity projects in no way limits or prohibits further projects being considered during the period.
- 1.81 In relation to non-technical schemes, we welcome and support the proposal to allocate 2.5% of the overall visual amenity fund (to each TO). To ensure efficient management of this allocation, we propose

<sup>&</sup>lt;sup>16</sup> Glen Strathfarrar (Undergrounding 3km of single circuit 132kV on the Beauly-Deanie circuit – 33kV strung on other side); Killin (undergrounding 9km of a double circuit 132kV OHL, and a single circuit 132kV OHL - 33kV strung on other side).

that each TO will have discretion to administer these funds. The output of which will be reported on an annual basis in the regulatory reporting pack submitted to Ofgem and in our Annual Environment Report.

- 1.82 Our stakeholder engagement activities also supported our proposal to test the appetite and develop potential methodologies for extending the Visual Amenity policy to areas out with National Parks and National Scenic areas (due to the unique sensitives of many Scottish landscapes in the North of Scotland out with designated sites). This could lead to potential projects being incorporated into RIIO-T3. As a result, we will update our VISTA policy to include a commitment to developing potential methodologies and where appropriate, outline potential future schemes that may be appropriate to include in future price controls.
- 1.83 We will work with stakeholders and local communities to identify opportunities to improve the visual landscape in our National Parks and National Scenic Areas.

# 2 Innovation: supporting efficient output delivery

- 2.1 We support Ofgem's decision to retain a strong innovation stimulus for both large transformational R&D projects (through the Strategic Challenge Fund SCF), as well as smaller scale process or technological innovations (by retaining the Network Innovation Allowance NIA). The quality of our innovation proposals will form part of our overall Business Plan Incentive (BPI) assessment, through our Consumer Value Proposition. One of our five clear goals is to ensure that we deliver £100m of efficiency savings or benefits through innovation during RIIO-T2. Delivery of this will support our overarching objective to support the transition to a low carbon economy.
- 2.2 As part of this commitment we have already identified four focus areas that are aligned with our strategic themes:
  - 1. Stakeholder-led Strategy: which captures our desire to support our customers, enable wider energy system changes (whole system and EST) and explore enhanced connection approaches.
  - 2. Safe and secure network operation: developing our asset and network management, how we monitor and operate our network and also our planning and development.
  - 3. Sector-leading efficiency: looking at supply chain for efficiencies, modernising network opportunities and also how we monitor and operate our network.
  - 4. Leadership in sustainability: we are committed to reducing our impact on the environment, mitigating climate change and supporting vulnerable customers.
- 2.3 Under each focus area we have identified a number of topical issues which, if trials prove successful, will deliver benefits to our stakeholders, including efficiency savings passed to consumers, carbon savings and avoided constraint costs. Examples include: supporting development of whole system thinking across technical standards/codes and processes; big data; safety; and supporting vulnerable customers. We will also continue to explore additional opportunities as they present themselves during the period, as we want to find new and more efficient ways to operate our network. We are confident that our approach to innovation and our past successes will secure these benefits, as we build on the successes from RIIO-T1. These themes are developed further in our Innovation Policy<sup>17</sup>.
- 2.4 The NIA can deliver significant benefits by progressing innovation concepts towards market ready concepts, at which point business as usual allowances can take over and deliver monetised benefits. Our strategy is to maximise benefits to enable the transition to a low carbon economy. To support this our plan looks to secure NIA funding of £8m over the five-year regulatory period in a 90:10 shared commitment with consumer cost, where we will supplement the £8m requested with business as usual

<sup>&</sup>lt;sup>17</sup> Our Innovation Thinking for the Future (Scottish Hydro Electric Transmission plc), April 2019, available at <u>https://www.ssen-transmission.co.uk/media/3396/our-innovation-thinking-for-the-future-final.pdf</u>

funding and other third-party funding as appropriate. We propose that this funding is specifically allocated to our strategy areas as totalled in Figure 2.1 below.



Figure 2.1 RIIO-T2 NIA Theme Allocation

2.5 We will apply this funding to projects where associated benefits will either accrue after the RIIO-T2 price control period (thus avoid duplication with the TIM), or accrue to parties other than ourselves, or are simply high risk or very uncertain. We recognise that our innovation focus areas are our current view and that things change. Should these focus areas either increase or decrease in relevance then we propose that we can reallocate the phasing or totals between themes but remain within the overall £8m.

- 2.6 In line with both our Innovation Policy<sup>18</sup> and Stakeholder Engagement Strategy<sup>19</sup> we will finalise our funding proposals for the NIA in conjunction with our stakeholders. We will decide upon our formal approach to the SCF, which will replace the RIIO-1 Network Innovation Competition (NIC), after further stakeholder engagement is completed. The rational for its revision revolve around refreshed focus on the energy system transition, increased third party involvement and better alignment with wider public sector innovation funding. These are principles we support and are in line with our practices. Our commitment to involving third parties is already demonstrated; we were the first company to have a third party manage one of our Low Carbon Network Fund (LCNF) Tier 2 projects My Electric Avenue.
- 2.7 We believe our approach to innovation is optimal for two reasons: the continued adoption of a Cost Benefit Analysis (CBA) approach alongside our bespoke Funding Model approach to innovation.

## **Innovation Cost Benefit Analysis (CBA)**

2.8 We continue to focus on a CBA approach to measure, assess and evaluate our innovation projects across the project lifecycle, adapting each project CBA to account for the maturity of the innovation, its technology readiness level (TRL), the types of benefits it might deliver, the types of beneficiaries, projected and actual performance at trials etc. The large number of variables being input to the CBA highlights the importance of working collaboratively with third parties in conducting our CBAs, particularly where there are levels of risk and uncertainty.

 <sup>&</sup>lt;sup>18</sup> Our Innovation Thinking for the Future (Scottish Hydro Electric Transmission plc), April 2019, available at <a href="https://www.ssen-transmission.co.uk/media/3396/our-innovation-thinking-for-the-future-final.pdf">https://www.ssen-transmission.co.uk/media/3396/our-innovation-thinking-for-the-future-final.pdf</a>
 <sup>19</sup> Stakeholder Engagement Strategy (SSEN Transmission) available at <a href="https://www.ssen-transmission">https://www.ssen-transmission.co.uk/media/3396/our-innovation-thinking-for-the-future-final.pdf</a>

transmission.co.uk/media/3560/shet-stakeholder-engagement-strategy-final-document.pdf

# **Innovation Funding model**

2.9 Our innovation funding model approach describes how we make decisions and, crucially, identify the most appropriate funding source. We are clear in our approach that if there are benefits derived for ourselves within the RIIO-T2 period, or where the TRLs are higher, then this activity will be a BAU funded activity; we will not access external funding mechanisms. Conversely, where there are accrued benefits to others, or if the TRL is low, or if there is high risk or great uncertainty, then it is more appropriate to look at third party funding.



Figure 2.2 SHE Transmission Innovation Funding Model

## **Reporting on innovation stimuli**

- 2.10 Where we do access customer funded Ofgem innovation mechanisms, the NIA or SCF, we commit to transparent reporting of this. We will report on the benefits of innovation consistent with the other TOs and the ESO. This will ensure best practice and success is shared, highlighting what innovations have worked and how they might roll out across other companies and other networks. It will also report on what has not worked and how we, as an industry can learn collective lessons.
- 2.11 We have worked collaboratively with the TOs and ESO to develop a reporting methodology to report on Ofgem innovation mechanisms and inform the wider industry of the adoption of a benefit tracking methodology that delivers a wide range of benefits to our customers and wider stakeholders. Full details of this are provided in <u>Appendix 5</u>.

# 3 Uncertainty Mechanisms - developing efficient responses to risk

- 3.1 We have built our Business Plan base allowances on the Certain View because we are able to identify the need, justify the solution or option proposed and forecast the cost with certainty. Consumers have confidence that the activity is necessary and the cost is efficient.
- 3.2 Our Certain View investment amounts to £2.2 billion and includes:
  - growth related capital expenditure where we have high certainty of new renewable generation proceeding e.g. NG ESO driven schemes, schemes that cross over from the RIIO-T1 price control into RIIO-T2;
  - asset-driven capital expenditure covering major scheme replacements and refurbishment based on condition;
  - capital expenditure relating to maintaining network resilience;
  - capital expenditure relating to IT system upgrades; and
  - operational costs covering a wide range of aspects such as asset inspection and maintenance activities, business support costs, control room, network planning etc.
- 3.3 Beyond the Certain View the need for investment is driven by external influence or the justification of the adopted solution is contingent on factors outside our control. It is then not possible to forecast the future cost requirements with the requisite certainty prior to the start of the price control.
- 3.4 Basing our Business Plan proposals on scenarios where the need is not clearly established can pose a material risk to both consumers and companies. Either base allowances are included which may transpire not to be required (a windfall to the network company) or no allowance is included, and the investment need materialises (a material risk to the network company's returns and delivery of consumer outcomes). A good price control would wish to avoid both these outcomes.
- 3.5 Uncertainty mechanisms provide the solution to managing many of the events outside our control. Such mechanisms allow for controlled changes to our allowed revenues to be made during the price control once the uncertainty has reduced. This ensures that consumers only pay for necessary investment and for the outputs that are delivered.
- 3.6 Stakeholders have consistently told us that managing uncertainty is a key priority for them. This view was strongly reinforced when we consulted on our draft Business Plan. We have been careful to identify uncertain cost activities and propose appropriate mechanisms to manage this uncertainty, balancing our risk and that of consumers (see Figure 3.1).
- 3.7 Our Certain View combined with our commitment to output delivery go beyond the requirements of Citizens Advice's principle 2 (see our commitment above in section 1.12 and Appendix 2).

- 3.8 Our proposed approach to uncertainty ensures upfront funding is only for known need and known outputs; consumers are not at risk of funding outputs that might not happen. We believe that funding for infrastructure investments should not be released until the need has been demonstrated. This protects consumers from uncertain costs and avoids the complicated clawback of funding that has not been used.
- 3.9 We will continue to develop and refine the methodology for these mechanisms in the coming weeks with Ofgem and will set them out in detail in our final Business Plan.<sup>20</sup>

Volume and n	eed uncertainty		Unknown external costs	
Volume drivers	NOA driven	Reopeners	Pass-through	Other
Generation connections		Cyber resilience	Ofgem licence fees	Pre-construction
GSP upgrades		Physical security	Business rates	Significant consent changes
OFTO driven works		Whole System Co- ordinated Adj		
		Landowner compensation		
		Subsea cable faults		
		Legislative/ standard/policy changes		
		ESO-driven work incl. blackstart		

Figure 3.1 RIIO-T2 Proposed Uncertainty Mechanisms

#### 3.10 As detailed above uncertainty mechanisms fall into two broad categories:

- uncertain volume / need; and
- unknown external costs.

<sup>&</sup>lt;sup>20</sup> There are ongoing workshops with Ofgem's Cost Assessment team on Uncertainty Mechanisms.

# Uncertain volume / need

#### Volume drivers

- 3.11 Some expenditure which will be incurred in RIIO-T2 to meet new generation and demand network requirements is certain. These are projects that are already known and under development. Forecast costs are therefore included in our Certain View. However, most of the connection potential is uncertain.
- 3.12 As we look later in the RIIO-T2 period, we either cannot identify particular projects or projects are illdefined at this stage. The actual level of capacity required is very sensitive to external factors such as economic growth, the response of generators to the energy market and the speed of electrification of heat and transport, as set out in our Net Zero paper<sup>21</sup>. We see this clearly in the possible ranges in our North of Scotland Scenarios and the System Operator's Future Energy Scenarios (see Sector Leading Efficiency section of the draft Business Plan and Net Zero paper).
- 3.13 We propose that these less certain costs are accommodated under three categories of volume driver:
  - connection volume driver for the associated infrastructure when connecting new renewable generation;
  - Grid Supply Point (GSP) volume driver for upgrades to grid supply points to accommodate increases in generation or demand connections; and
  - OFTO works volume driver for additional works/changes in scope to accommodate OFTO connections.
- 3.14 The detail for each is set out in <u>Appendix 6</u>.

#### Network Options Assessment (NOA) work

- 3.15 This relates to the large strategic projects that will be necessary to accommodate the increased flows of renewable energy across the main transmission boundaries on our network. These projects are driven by the wider system need rather than specific generation projects and are reviewed annually as part of the NOA process.
- 3.16 We only proceed with these projects once a robust needs case has been justified based on the background generation projections and associated project costs. We do not want to build too soon, or too late. Both these outcomes carry costs for consumers (underutilised assets) and connecting parties (opportunity costs).
- 3.17 Some NOA-driven projects are certain and set out in our Certain View (e.g. East Coast Phase 1 and Phase 2 see pages 123-125 of the draft Business Plan), but some will arise during RIIO-T2. We propose a within period determination mechanism to allow funding for these projects when the needs case can be demonstrated. By waiting until the needs case is made, customers are not asked to pay for these schemes

<sup>&</sup>lt;sup>21</sup> Network for Net Zero – Scenarios (SSEN Transmission), October 2019.

too early. This mechanism should build on the current RIIO-T1 Strategic Wider Works (SWW) mechanism which has been demonstrated to be a powerful tool in accommodating uncertain and material network investments. We will work with Ofgem on proposals for evolving the RIIO-T1 mechanism.<sup>22</sup>

#### **Operating costs impact**

- 3.18 The mechanisms identified above address how the necessary capital allowances can be identified and adjusted during the price control. For the same reasons that investment requirements are uncertain, it is also difficult to accurately assess our future operating costs associated with these new assets.
- 3.19 We have made a distinction between our BAU operating costs and the additional operating costs that are incurred following the completion of uncertain projects. We propose that an Operating Cost Escalator is automatically built into our uncertainty mechanisms to address these additional operational costs.
- 3.20 For large projects we propose to include an automatic cost escalator of 1% of the gross asset value of the new assets, which would be triggered in the year following completion. We believe that because this mechanism applies automatically and will therefore reflect the actual outturn, it will cover for the uncertainty of timing and future level of operating costs associated with new large value assets. This design of cost escalator is currently used in the volume drivers and NOA projects in RIIO-T1 and effectively and efficiently accommodates the uncertainty.

## **Uncertain external costs**

- 3.21 The drivers of uncertain external costs are decisions by or actions of third parties, hence, not in our direct control. For example, a decision by the UK Government to require networks to comply with enhanced cyber security standards. There is a clear need for mechanisms that can effectively respond to material changes in certain cost drivers and which the regulator, stakeholders or network company could not know in advance. These comprise:
  - **reopeners**: re-setting allowances during a price control when the driver of costs become more certain; and
  - **pass-through costs**: costs which can vary annual revenue in line with the actual cost, either because they are outside our control or because they have been subject to separate price control measures.
- 3.22 For completeness, a further uncertainty mechanism that may be used in RIIO-T2, where appropriate, is **indexation**. Where an element of price control costs, such as the cost of labour, is linked to an independent driver, e.g. the rate of inflation or average labour rates, then changes in that driver also adjusts the dependent cost.

<sup>&</sup>lt;sup>22</sup> Ofgem has scheduled a first TO wide meeting for 1 October 2019.

#### Reopeners

- 3.23 We believe there is a case in RIIO-T2 to include re-openers for efficiently incurred costs in a limited number of areas where the costs and level of activity are outside our control.
- 3.24 It is better to determine cost allowances when the need and associated cost is more certain. To do so prematurely during the price control review can introduce a risk premium as the continued uncertainty may result in consumers paying more than is necessary to efficiently delivery the required output in each of these areas.
- 3.25 We believe the case for reopeners is justified; the RIIO-T2 control has no mid-period review, unlike RIIO-T1, and the pace of change and level of uncertainty is high. We set out our case below with further detail in <u>Appendix 7</u>, in line with Ofgem business plan guidance.
- 3.26 Our current proposals are aligned with the three reopeners proposed by Ofgem:
  - Cyber resilience: A reopener prior to RIIO-T2 commencing to allow companies the ability to submit a Cyber Resilience Plan and a reopener at the mid-point of the price control. The latter reflects the amount of work still required to clarify the cyber resilience scope following the EU Network and Information Systems (NIS) Directive being transposed into UK Law. We are supportive of this approach to reduce cost uncertainty for the networks and ensure the efficient delivery of cyber resilience for consumers.
  - 2. Physical Security: Changes in government policy during the price control can result in changes to the investment required for the Physical Security Upgrade Programme (PSUP). There is uncertainty regarding the list of Critical National Infrastructure (CNI) sites which will require security upgrades and the scope of works required at each site. Changes to the site list or requirements at each are not within our control. Ofgem proposed a reopener mechanism to deal with such changes to ensure that all CNI sites are appropriately protected.
  - 3. Whole System 'Coordinated Adjustment Mechanism': The mechanism will work cohesively to improve whole system planning and operation, improve support for new whole system approaches to ensure the price control is not a barrier to the efficient allocation of projects across networks. It would be triggered by two or more cooperating networks. A single network could also trigger the mechanism if they were able to meet the threshold requirements. This protects consumers, only funding network companies where whole systems approaches and benefits and demonstrable. We support this while advocating expansion as set out in our Whole System Mechanism (see <u>Appendix 3</u>).
- 3.27 We are proposing a further four reopeners at this stage and these will be refined as we continue discussions with Ofgem prior to our final submission in December.
  - 4. Landowner/wayleave compensation: We require permission to install our electric lines and associated equipment on, over or under private land. We also require access to that land for the
purposes of inspecting, maintaining or replacing the line or equipment. We propose a reopener to deal with injurious affection claims, wayleave terminations and challenges to our land rights that landowners may lodge with the business for existing assets. These claims are inevitable as there is provision for grantors to claim for losses however, the number of claims and quantum of claims are very difficult to forecast. This is a continuation of a RIIO-T1 reopener.

- 5. Exceptional subsea faults: We have significant volumes of subsea cables on our network, with the potential for that to increase in RIIO-T2. Given the planned investment in subsea cables, faults in the RIIO-T2 period are unlikely to be any reflection of the asset age or wear and tear. Rather, they will be the result of third-party damage/interference or unforeseen environmental damage, both of which are outside our control and unpredictable. These are known as high impact low probability (HILP) events. While unlikely, they have the potential to be costly and drawn out given the global demand for the vessels, equipment and expertise necessary for their repair and the location of the cables. Neither the need nor the cost is certain enough to accurately forecast an ex ante allowance. This is a continuation of a RIIO-T1 reopener.
- 6. Legislative, policy or engineering standards changes: We are governed by legislation and engineering standards when developing our network. We must be able to respond to substantively changed outputs as a direct consequence of changes in legislation, policy and standards in order to meet the needs of consumers and other network users, and in a way that will still allow us to deliver the schemes and projects required and avoid delaying key projects to the detriment of network users and consumers. There is no Mid-Period review in RIIO-T2 which would consider material changes to outputs driven by external influence, so we propose a reopener mechanism. Examples of this include the cost impact of the ongoing significant code review to access and charging being led by Ofgem, the energy code review being led by the Department for Business, Energy and Industrial Strategy (BEIS), further recommendations around digitisation from Ofgem following the Energy Data Task Force recommendations.
- 7. Electricity System Operator (ESO) driven works (including Black Start): through the Planning Request mechanism under System Operator Transmission Owner Code Procedures (STCP), the ESO can directly ask us, as the TO, to undertake work for which no ex ante allowances have been set. For example, during RIIO-T1, we had several inter-trip projects that the ESO asked us to progress through this mechanism. Given the changing and evolving nature of the network giving rise to new system requirements and the widening scope of the ESO to look at wider system issues and solutions, we believe such requests are likely to continue, if not increase. We do not have certainty of what the projects or requests will involve but it is important that we are able to respond to the ESO and efficient cost allowances are provided to meet the requests.

#### Reopener principle: materiality

- 3.28 We believe it is necessary to establish a materiality threshold for each individual reopener mechanism to control the number and frequency of changes to allowances. We suggest 1% of Base Revenue in line with that applied in RIIO-T1.
- 3.29 We also propose consideration of collective materiality threshold for all reopeners. The threshold may never be met for each of the individual reopener mechanism but, together, they may collectively result in significant additional expenditure, for example if many are close to the 1% threshold.
- 3.30 We propose costs should be logged-up and if the costs of all reopeners reach a threshold of 3% of base revenue then the incurred costs should be subject to an efficiency review at the end of the price control period. Where costs are deemed to have been efficiently incurred, a one-off Regulatory Asset Value (RAV)/cash adjustment should be made at the end of the price control and should also reflect the costs of financing this expenditure during the period. This should not limit the option to apply for a re-opener and to recover these costs within the period where the materiality threshold has been exceeded.
- 3.31 We believe this is a pragmatic solution to managing risk. Overall our approach to reopeners will help ensure only necessary and efficient costs are allowed for network companies while maintaining a strong incentive to control expenditure levels through the price control.

#### Pass through costs

3.32 We believe it is appropriate to maintain the current RIIO-T1 pass through arrangements for licence fees and network rates. This includes the obligation to use reasonable endeavours to minimise the amount payable for network rates.

#### Other

3.33 There are two other areas that are uncertain at this stage in the price control and require an uncertainty mechanism to manage them. None fit neatly into the above categories, so we have classified them as 'other'. These relate to: pre-construction works and exceptional consent changes.

#### Pre-construction works

- 3.34 Our overarching Certain View approach is based on the fundamental principle that funding for infrastructure investments should not be released until the need has been demonstrated. This protects consumers from uncertain costs and avoids the complicated clawback of funding that has not been used. However, the risk associated with this approach is that funding is not released on time and potentially infrastructure investment is delayed, thus hindering Net Zero ambitions. To mitigate this risk, there are two key elements in our draft Business Plan:
  - First, a suite of flexible regulatory mechanisms that release funding for investment when it is required, as set out in this section (volume driver, NOA-driven mechanism, reopeners and pass-through mechanisms described above).

- Second, is a clear commitment to undertake pre-construction works to ensure that investments are ready for construction when the need is certain. This includes the design and consent of connections for new generation developments.
- 3.35 The costs that have been included in our Certain View already include a provision for the development phase, i.e. the project pre-construction pot. Our proposal for uncertain projects in RIIO-T2 is as follows:
  - For new generation schemes funded under the generation connection volume driver, to include the pre-construction costs as part of the overall unit cost used to design the uncertainty mechanism.
  - For the development of large strategic NOA and ESO driven schemes, our proposal is to set out a
    baseline allowance based on an estimate of required pre-construction funding for such schemes
    during the RIIO-T2 period. Given the uncertainty associated with predicting the actual levels of
    required expenditure in this area, our proposal is to include a mechanism to reconcile efficiently
    incurred costs at the end of the price control period with an adjusting mechanism to hand back
    unused allowances. This will be what is known as a "use it or lose it pot".
  - We anticipate there will be a requirement for us to incur pre-construction expenditure on projects that will be constructed in RIIO-T3. This spend relates to both generation-driven and asset upgrade projects. There is a high level of uncertainty associated with these projects and our proposal is to include an ex-ante allowance for such projects based on our Certain View (i.e. calculating the typical percentage of pre-construction costs that make up total project costs) with a 'true up' mechanism to adjust allowances at the end of the price control period.
- 3.36 It is important that the preconstruction pot has flexibility for output substitution. While we may be able to identify some large schemes and RIIO-T3 schemes, our experience in RIIO-T2 has shown that (beyond our control) things change. We must be able to adapt to these changes.
- 3.37 Our key strategic theme of Sector Leading Efficiency in delivering our capital program requires substantial focus in the project development phase. This phase is not only critical in avoiding delay but is also critical in delivering early value by ensuring we develop the most efficient solutions and carry out preliminary design activities to minimise unnecessary cost exposure during the delivery phase. It is this phase that unlocks the potential for efficiency savings, driving considerable consumer benefit.

#### Exceptional consent changes

3.38 In determining the efficient cost of a project, we forecast costs based on consents approved and typical consenting risk. However, we do not factor in costs for exceptional changes to consenting. One such risk is where we have costed for overhead lines rather than underground cables and it transpires that consents require the network, or a significant part of the network, to be undergrounded. We do not propose it is appropriate to submit a general reopener for consents as we should be able to manage this risk within our Totex allowance but, the scale of the cost differential between overhead lines and underground cables is atypical. To avoid a high-risk premium in ex ante costs which may result in consumers paying more than is necessary we propose for such exceptional changes in consents, a logging

up of the incremental additional costs of undergrounding subject to an efficiency review at the end of the price control period. Where costs are deemed to have been efficiently incurred, a one-off Regulatory Asset Value (RAV)/cash adjustment will be made at the end of the price control and will reflect the costs of financing this expenditure during the period.

#### **Uncertainty during the Business Plan Process**

3.39 While we have been developing our draft Business Plan the environment in which we operate continues to change and will continue to do so until Ofgem reaches its Final Determinations on our final business plan late in 2020. We set out two areas below which are of particular significance to us: Brexit import charges and our network investment plans in Skye.

#### Brexit import charges

- 3.40 The potential impact of Brexit on import charges is uncertain as we draft our Business Plan and go through Ofgem's Draft and Final Determination process. Our costs will be submitted based on current import charges. The UK is due to leave the EU on 31 October 2019 and there is potential for significant changes to import charges and other cost drivers.
- 3.41 We can be exposed to costs not accounted for in our ex ante allowances and given the uncertainty, an unnecessary and high-risk premium may result in consumers paying more than is required. Between October 2019 and the start of the RIIO-T2 price control in April 2021, the impact Brexit will have on import charges is likely to be clearer (provided the UK does leave the EU). Therefore, we propose a mechanism whereby a significant impact on import charges can be reflected in our final allowances subject to an independent assessment, prior to Ofgem Final Determinations.

#### Large Capital Project: Skye

- 3.42 In our July draft Business Plan we noted that recent generation connection requests in the Skye region had led to a review of our network development plans for the Fort Augustus to Skye overhead line. This review considered future generation requirements along with the need to ensure security of supply, and the risk associated with the condition of the existing equipment.
- 3.43 Our provisional findings from this review are:
  - Comprehensive analysis of efficient pathways for long-term network development demonstrates
    that there is a strong case for the replacement of the existing wood pole overhead line between
    Broadford and Ardmore. Our initial view is that this replacement would be a wood pole overhead
    line along a similar route with works completed during RIIO-T2. The current asset would then be
    dismantled. The key benefits of this investment are improved security of supply to Skye and the
    Western Isles, along with some additional capacity for generation connections.
  - Risk based assessment of the condition and performance of the existing steel tower overhead line between Quoich and Broadford demonstrates that intervention will be required by around 2030.

There are strong drivers for an upgrade to the capacity of this line (and between Fort Augustus and Quoich) to accommodate new generation connections and increase security of supply on Skye. Our next step will be to conclude on the preferred investment option and timing, and to submit an application for planning permission during 2020.

- 3.44 We will be discussing the findings of our review with stakeholders over the coming weeks before putting forward an updated position in our final Business Plan. At this time these investments remain out with the Certain View.
- 3.45 For ease of reference we note below what was detailed for Skye in our July Draft Business Plan.

#### Skye: position in July 2019

While we have been developing our July draft, we have experienced material changes in the drivers for a large capital project required on Skye, west Scotland. While it does not form part of the July draft Business Plan, ongoing development in the investment drivers may shift this into our Certain View by December, equally, it may not. But it is important to flag such a large project at this point.

This is a clear example of where we want to ensure we have certainty that we are doing the right thing, taking a holistic approach to our investment decisions. We want to minimise any risk to consumers of over or underfunding important RIIO-T2 network investment opportunities. It will also demonstrate how responsive we can be to changes in our network and the needs of our customers.

The Skye project was initially part of our certain load programme but its complexity and recent changes in the generation drivers has meant the right thing to do is to take more time to consider the right approach, rather than form a view ahead of the July draft submission.

The island of Skye is currently served on a single radial 132kV circuit with a subsea cable to Harris. This current arrangement is subject to a derogation which allows approximately 10MW of small generation to connect in lieu of Security and Quality of Supply Standards (SQSS) section 2 compliance which requires the Western Isles HVDC link. The initial reinforcement of Skye was triggered by two windfarm connections (42MW for 2024 and 25MW for 2027). The original scope was to construct a new 132kV circuit. A further load driver was a GSP upgrade following a request from the distribution network operator. At the same time, there were asset condition issues to be addressed.

Two key issues affecting our decision to any intervention on the existing Skye infrastructure are:

- its radial nature which requires that diesel generation be run on the Western Isles to maintain supplies during any outage. This generation runs at a cost of c. £1m/week; and
- the area covers the Cullins National Scenic Area (NSA), owned by the John Muir Trust. This means that there is a very narrow corridor through the island which already contains several overhead lines.

This was an already challenging environment, requiring decisions on how best to approach the combined generation and asset-driven works, along with the uncertainty of Western Isles connections and the location of being in an NSA.

Added to this, in the past 2 months, a 40.8MW generation scheme has applied for a connection. It has been offered an October 2027 connection date. This has required us to take a step back.

There is an optioneering exercise ongoing to consider all the above. This may require a different approach to the original reinforcement option and we will need to consider the impact on all stakeholders on the Island. Also reflecting the concurrent assessment of the Western Isles HVDC Needs Case, it is right at this point we take a step back and consider the optimal holistic solution considering this new generation scheme. If we have certainty by December, we will submit as part of our Certain View, submitting the required justification papers. If not, we are likely to propose an uncertainty mechanism.

# Appendix 1: Snapshot tables for Outputs, Uncertainty Mechanisms and CVP proposals

In support of our overall Business Plan submission, and as required by the Business Plan guidance, we have completed the following snapshot tables in the excel workbook "Appendix 1 - Ofgem Snapshot Tables".

## **Appendix 2: Our Commitment to Output Delivery**

Ofgem Output	Strategic	Outputs	Assurance of output delivery
Category	Theme		
Meet the needs of Consumers and Network Users	Stakeholder- led Strategy	Timely Connections	Financial: incentive fine and enforcement action fine Reputational: due to enforcement action Impact on survey score under Satisfaction Survey (and resulting knock on consequence)
		Satisfaction Survey	Financial: annual penalty or no reward for survey of connection customers within Satisfaction Survey Reputational: through our ERF and Ofgem reporting
		Stakeholder Engagement Commitment (KPIs, Assurance and Surveys)	Financial: return of base costs for Stakeholder Engagement Initiatives identified in Stakeholder Action Plan, or materially equivalent initiatives, not undertaken Reputational: through our ERF
		Enhanced Reporting Framework	Reputational
Maintain a safe &	Safe &	Energy Not Supplied (ENS): 0-90 MWh pa	Financial: annual penalty or no reward
resilient network	secure network operations	Faults: <72 interruptions by 2026	Reputational: through our ERF and Ofgem reporting
		Smart monitoring: 61 critical plant items with smart monitoring	Reputational: through our ERF and Ofgem reporting
		NARMS: risk profile, tbc*	Financial: penalty for risk not delivered Reputational: through our ERF and Ofgem reporting
		Benchmarking: ITOMs and ITAMs upper quartile by 2026	Reputational: through our ERF and ITOMS/ITAMS study reports
		Network Access Policy (NAP)	Financial: enforcement action fine Reputational: due to enforcement action
		NAP Accountability Report	Reputational: through our ERF and Ofgem reporting
	Sector Leading Efficiency	Shared use infrastructure capacity increase: 1327 MVA	Financial: project by project return of allowance where MVA, or materially equivalent, output not delivered
		T1/T2 cross-over schemes: 329.7 MW and 607 MVA	Financial: automatic T1 volume driver adjustments for lower output delivery
		Boundary transfer capability: 1090 MW	Financial: project by project return of allowance where MW, or materially equivalent, output not delivered
		Reactive power: +325/-75 MVA	Financial: project by project return of allowance where MVA, or materially equivalent, output not delivered
		Innovation benefits: £100 efficiency savings	Reputational: through our ERF

		Large capital project delivery	Financial: automatic RRP adjustments for no net gain or project delays
		Early engagement on FES and network development	Reputational: through our ERF
		Whole System Mechanism	Financial: no upside reward if no projects brought forward
Deliver an environmentally	Leadership in Sustainability	Projects assessed through our new Cost Benefit Analysis framework: 100%	Reputational: through ERF and Annual Sustainability Report
sustainable			Option 1 Financial: if ODI, incentive penalty
network			Option 2 Financial: if PCD, return of base costs for Initiatives
			identified in Sustainability Action Plan, or materially equivalent
			initiatives, not undertaken
		BCF scope 1 and 2: 33% reduction by 2026	Reputational: through ERF and Annual Sustainability Report
			Financial: annual penalty or no reward
		SF <sub>6</sub> and other IIGs: leakage <1%	Reputational: through ERF and Annual Sustainability Report
		Biodiversity no net loss: 100% through T2	Financial: return of base costs for Initiatives identified in
		Environmental incident rate: 0.45 by 2026	Sustainability Action Plan, or materially equivalent initiatives, not
		Waste to landfill: 0% by 2026	undertaken
		Recycling, recovery and reuse: 70% by 2026	Reputational: through ERF and Annual Sustainability Report
		Employees trained to recognise & support vulnerable	
		customers & communities: 100% by 2026	
		Approved suppliers located in licence area: >25% by 2026	
		Employees trained to promote inclusion & diversity: 100% by 2026	
		Apprentice, graduate and technical staff trainee intake	
		representative of local demographic: 100% by 2026	
		Visual amenity	Reputational: through ERF and Annual Sustainability Report
		Annual Sustainability Report	Reputational: through ERF and Annual Sustainability Report
Innovation		Network Innovation Allowance (NIA)	Financial: NIA allowance can only be drawn down following Ofgem
			approved audit/governance process
			Reputational: through ERF and Ofgem NIA governance reporting
		Strategic Challenge Fund*	Financial: SCF funding likely only drawn down following Ofgem
		*no ex ante allowance but may receive stimulus funding	approved audit/governance process, but tbc
		during the price control	Reputational: through ERF and Ofgem SRF governance reporting

## **Appendix 3: Whole System Development Proposal**

#### Creating the right environment for successful Whole System solutions

Consumers have a reasonable expectation that whole system solutions will deliver benefits through reduced network expenditure. We identified that the complexity of designing a RIIO-2 framework that could accommodate the range and scale of whole system solutions was in itself a barrier to realising these opportunities. We have experience exploring and advocating whole system solutions (see examples which follow). These demonstrates the significant cost of developing a workable multi-party solution as well as the risk that the solution does not reach maturity and deliver the required outputs.

Recognising the need for a solution which removes this challenge, we approached Ofgem with a whole system incentive proposal in April 2019; this built upon our Sector Specific Methodology consultation response. The three core components of our Whole System Mechanism proposal are:

- 1. **Development Funding Pot:** initial small-scale ex ante funding: to act as a catalyst to give networks the confidence to progress and develop solutions;
- Regulatory "sandbox approach": where we bring our whole system proposals to Ofgem for approval setting out the need, counterfactual of continuing with traditional/ex ante funded approach, parties involved etc, code modification; and
- 3. Whole System Incentive: the financial reward we receive for realising the material benefit to consumers for the solution. We propose approved solutions attract a high-end sharing factor (50% or more).

In addition, a key characteristic of our mechanism was **flexibility.** While we do not anticipate significant volumes of projects coming forward during RIIO-T2, those that do come forward may represent significant value to consumers but are also likely to represent a wide range of network solutions. The RIIO-2 whole system framework must therefore be able to flex with this.

Our stakeholders view whole system outcomes as a 'must have' RIIO ambition and our consumers would expect the continued focus on securing potential benefits. This is confirmed by stakeholder engagement prior to and as part of our RIIO-T2 business plan development.<sup>23</sup>

This proposal builds upon our response to Ofgem's consultation and decision document<sup>24</sup> and proposes an incentive framework to enable whole system thinking across networks.

 <sup>&</sup>lt;sup>23</sup> In the workshop we held to focus specifically on SHE Transmission's approach to whole system arrangements, the majority (62%) of stakeholders strongly agreed or agreed that there is a funding gap in relation to progressing such projects. Source: SHE Transmission RIIO-T2 sustainability, whole systems and competition stakeholder workshop, September 2019
 <sup>24</sup> <u>https://www.ofgem.gov.uk/publications-and-updates/riio-2-sector-specific-methodology-consultation</u>; SSEN Response -

Enabling Whole System Solutions Questions – CSQs 8 to 18

Our aim is to deliver a realistic RIIO-T2 Whole System Mechanism which acts as the catalyst for the acceleration of real network solutions; while the goal is simple and obvious, the solutions to reach it can be considerably more complex.

#### A3-1. Summarising Ofgem's proposal

Ofgem recognises the risk that the prospective benefits offered by whole system solutions 'may not be fully realised, at the long-run expense of consumers'<sup>25</sup>. We are encouraged that Ofgem adopted much of the content of our proposals in its Sector Specific Methodology Decision (SSMD)<sup>26</sup>. Ofgem's proposals included:

- Whole system aspect in the Business Plan Incentive (BPI);
- Whole system aspect in the innovation package; and
- Coordinated Adjustment Mechanism (CAM) a whole system revenue and responsibility realignment mechanism.

**Gaps in mechanism:** We believe that core elements of an effective whole system framework are still missing from Ofgem's RIIO-2 proposals. The CAM proposed by Ofgem achieves elements of our 'sandbox' approach. However, it omits key characteristics such as a means to propose, and have considered, modifications or derogations to codes.

**Missing incentive properties:** Our response to Ofgem's RIIO-2 Sector Specific Methodology Consultation noted that a strong incentive package is the most compelling driver of behaviour, particularly where change is required. Importantly, in its SSMD Ofgem acknowledges that an incentive on the successful application of whole system solutions would be considered. We have advocated for the inclusion of a strong incentive-based mechanism as a fundamental catalyst to the emergence of successful whole system solutions. An enhanced Totex incentive counterbalances the considerable risk networks take in exploring new and novel network solutions; the potential impact on its output obligations as it seeks to deliver outcomes through new multi-party arrangements; and, as an encouragement to networks to identify and then reveal alternative solutions which, ultimately, will establish lower future price control allowances.

#### A3-2. Our experience of Whole System solutions – Case Studies

The following case studies demonstrate our real-life RIIO-T1 experience in developing whole system solutions and, importantly, where this has informed the development of our RIIO-T2 proposals. These are examples of the resource commitments required to fill industry gaps or develop alternative, more effective physical or process solutions. In each, there is a leading entity, but all require an investment from each party.

<sup>&</sup>lt;sup>25</sup> <u>RIIO-2 Sector Specific Methodology – core decision document</u>, May 2019, clause 8.2

<sup>&</sup>lt;sup>26</sup> RIIO-2 Sector Specific Methodology – Core document: Appendix 2

#### Case study 1: Shetland Whole System proposal

The Shetland electricity distribution network is owned and operated by Scottish Hydro Electric Power Distribution (SHEPD). The Shetland archipelago has no connection to the GB mainland transmission or distribution networks but is supplied from Lerwick Power Station (LPS) supported by Sullom Voe Terminal and renewable wind. LPS was constructed in the 1950's and as a result of new environmental legislation and its advanced age, will have to close in the 2020's. Over the past ten years SHEPD has been actively exploring a range of options to secure and enduring energy supply solution for its customers in Shetland. This provides an illustration of the range and depth of additional work we may have to undertake to develop viable Whole System solutions.

*Development:* Since early 2018, SHEPD has been working on creating a whole system solution that integrates the distribution customer needs with our activity in developing a transmission link solution to meet the export requirements of large remote island wind developers. This has involved and is likely to continue to involve:

- charging solutions: our teams working together and with NG-ESO to identify solutions for integration, alternative Connection and Use of System Code (CUSC) charging arrangements, impacts on Transmission Network Use of System (TNUoS) for developers, licence modification etc.
- economic analysis: a substantial range of economic analysis to derive a new value sharing methodology for this whole system solution.
- **legislative analysis**: has required analysis of the impact of its proposals on relevant legislation, cross checked impacts on the CUSC and other codes.
- **other:** the requirement for revised licence conditions and extensive stakeholder engagement and feedback.

*Stakeholders:* This process has involved a wide range of parties. In this instance we are invited to participate in the solution with SHEPD and integrate the ESO, developers and local stakeholders. The work, led by SHEPD, has taken over 18 months to progress through concept, development, assessment and review, recommendation, consultation, associated modifications and is now approaching decision. In parallel, we have coordinated engagement with our stakeholders to confirm that the solution is complementary and consistent.

*Timescales and costs:* In all, we believe that this will take 24 months from inception to the start of the code modification process. SHEPD has been clear that the cost of this stage is considerable. Allowances of £3.3m were provided by Ofgem in its Extended Interim Energy Solution<sup>27</sup> to continue the progression of the enduring solution. SHEPD's submission confirms that this represents project management, legal support, economic modelling, industry engagement, and accounts for a substantive proportion of the £3.3m allowance.

*Benefits:* The solution, developing a fair valuation of distribution services from a transmission link, will enable SHEPD distribution consumers, and GB wide consumers, to benefit from **over £140m of benefits** compared to the next best alternative.

<sup>&</sup>lt;sup>27</sup> https://www.ofgem.gov.uk/system/files/docs/2018/06/decision\_on\_shetland\_interim\_solution\_-\_final\_1.pdf

Case study 2: Orkney Alternative Approach

In 2018 Scottish and Southern Electricity Networks (SSEN) proposed an Alternative Approach (AA) for Orkney to address barriers to connection faced by customers on the islands.

*Development:* The AA comprised a technical and commercial policy solution. The commercial solution included two parts: the 'Ready to connect process (Part 1)' trial and a 'Temporary adjustments to securities and liabilities (Part 2)' trial.

- The Ready to Connect process (Part 1) set out to trial alternative arrangements for allocating capacity and managing the connection queue. In comparison to current arrangements the AA will ensure capacity is allocated more efficiently and utilised fully, from the earliest date.
- The Temporary adjustment to securities and liabilities (Part 2) was a response to Island customers that have repeatedly raised concerns regarding the significant barrier to entry created by current security and liability arrangements.

This development of the whole system solution, unblocking barriers to investment, has involved extensive stakeholder workshops, legal advice, modification of code and licence derogations and economic analysis of the GB consumer impact.

*Stakeholders:* These proposals were developed in direct response to concerns raised by customers on Orkney over several years and are the result of extensive stakeholder engagement and consultation. It was a solution intended to unblock what has been described as a 'catch-22' problem of demonstrating need for material investments.

*Timescales and costs:* In all, from inception through the code modification development, consultation and decision, this process has taken approximately 12-18 months. Costs have been driven by the need to engage external professional advisors in the legal, code and economic fields, in addition to devoting internal resource time and the logistical costs for events.

*Benefits:* The AA sought to remove current barriers, create a level playing field and unlock Orkney's renewable potential. Learning would also inform wider industry developments in this area e.g. modifications to arrangements set out under CMP192 under Ofgem's Significant Charging Review (SCR). Unblocking the 'catch-22' issue would enable construction of commercially viable renewable generation projects, playing a part in GB meeting its Net Zero ambitions.

#### A3-3. Our Whole System proposal

We expand on each component of our proposal in turn, beginning with the need for initial development funding.

#### A3-3.1. Development Funding Pot: Initial small-scale ex ante funding

To stimulate whole system outcomes, we first need to identify and scope potential solutions and then develop the engineering, commercial and economic justification necessary to progress to deployment. This is an intensive and costly process, both in terms of time and external support. Both case studies unquestionably demonstrate this. Reference to Ofgem's initial list of requirements in its SSMD, Appendix 2, supports this conclusion. We need to be able to access RIIO-T2 allowances to cover the cost of seeking out and fully assessing potential whole system opportunities.

### We proposed a simple use it or lose it funding mechanism to bridge the gap from concept up to the stage where they are ready for implementation. We propose that this is allowance is set in advance and access to it is governed by clear criteria and subject to effective reporting of how and where it has been deployed.

To demonstrate the proposed approach is justified we have considered a range of alternative sources of revenue, each within Ofgem's RIIO-2 SSMD. None overcome the barriers to funding whole system development. We expand on each in the following sections and summarise in the accompanying table.

#### A3-3.1.1. Alternative funding options considered

#### Business Plan Incentive (BPI)

In its assessment of business plans, Ofgem will consider whole system planning when making determinations on rewards through the BPI. This rewards the accurate forecasting of Totex requirements, and the quality of justification provided to Ofgem to enable it to set effective RIIO-2 price controls.

The incentive is not 'in place of' the base allowance for activities which we need to undertake. This mechanism does not cover the costs incurred by us in the development of whole system opportunities. Ofgem itself identifies in its provisional CAM design that these will be whole system events which we could not reasonably have forecast at the price control stage.

#### Co-ordinated Adjustment Mechanism

Ofgem's proposed CAM is designed to allow for cost-effective realignment of revenues and responsibilities within the price control period. This takes account of some of the points we raised during RIIO-2 Sector Specific Methodology consultation, highlighted above, and proposed in its 'sandbox' approach. It does ensure that the solution proposed is justified, can be funded through the realignment of allowances and balances the enduring responsibility for network outputs. However, it does not have any provision for the material cost of developing whole system solutions and therefore is not an appropriate substitute for our proposed initial small-scale exante funding mechanism.

#### **Innovation Funding**

Ofgem will incorporate a whole system aspect in the innovation stimulus package through development of whole system criteria to qualify for additional stimulus funding. However, this is designed to fund whole system projects which networks would not undertake without innovation funding support. To be eligible for innovation funding, a project is likely to be required to relate to new technology. The current criteria for the Network Innovation Allowance (NIA) would preclude use for wider network whole system solution development. Furthermore, the NIA objectives and whole system outcomes are not currently well aligned; it is unlikely that

NIA could be deployed in the whole system environment. Relying on this as a source of whole system development funding will stagnate potential progress.

If the NIA mechanism was to be used to fund whole system development, we would propose modification of the criteria and expansion of the revenue allowances to cover both the original core NIA objectives along with the potential for RIIO-T2 whole system solution development opportunities.

#### A3-3.1.2. Summary of whole system development funding gap

The following table summarises this position and highlights the need for small-scale, use it or lose it, allowances.

RIIO2	Potential Whole System costs – identifying development funding gap					
Stages of a successful Whole System approach	ΤΟΤΕΧ	BPI	Innovation	CAM	SHE-T Proposal	
Whole system ambition and strategy	n/a	х	n/a	n/a	n/a	
Development - design/ analysis/ commercial/ legal stage. May lead to project progressing – or not. Construction capital (inc procurement)	n/a Network exposed to Totex overspend X Only ex-ante need	n/a incentive does not replace Totex n/a	X potential – but only where WS is novel / new X only novel/new	n/a X only if realigned from other Network	YES Use it or lose it n/a	
Operation & Maintenance	X Only ex-ante need	n/a	n/a	n/a	n/a	
Decommissioning	X Only ex-ante need	n/a	n/a	n/a	n/a	
Stakeholder engagement & sustainability	X Only ex-ante need	n/a	n/a	uncertain	n/a	

We are proposing a **Development Funding Pot** as part of our Whole System Mechanism to appropriately remunerate us when seeking to progress whole system outputs where those are not eligible under the innovation stimulus or forecast within our Business Plan. This proposal is designed to provide us and stakeholders with confidence that the relevant costs associated with the development of whole system approaches can be efficiently recovered under RIIO-T2.

Many emerging whole system options are not yet well defined and no formal framework for carrying out whole system assessments has yet been agreed. We have therefore identified an alternative incentive mechanism to stimulate investment.

#### A3-3.1.3. Design of funding mechanism

The industry recognised that to create a culture of innovation it was necessary to introduce a framework that acted as a catalyst to the development of innovative behaviours. Under RIIO-1 this became the NIA. Ofgem noted during a RIIO-1 consultation on innovation stimuli<sup>28</sup>:

"...we recognise that for innovation related to the wider sustainable energy sector where the commercial benefit of the innovation may not be clear, network companies may not have a **strong motivation to pursue** innovation in a timely way. Therefore, the RIIO model also includes a time-limited innovation stimulus package to **supplement the incentives** in the price control framework."

Successful whole system outcomes require a similar cultural change within RIIO-2. The NIA guidance provides a useful illustration of how our development funding under our Whole System Mechanism proposal might be structured. We have only reflected on the characteristics / structure of the mechanism as the specific criteria would not be applicable to whole system activity.

The framework for each development scheme should:

- target solutions that are relevant to the challenges faced by network licensees;
- generate whole system outcomes that may lead to knowledge sharing amongst licensees and with Ofgem;
- adopt a design which is informed by that of the NIA stimulus (e.g. a % of network Totex or a fixed allowance per project); and
- have the potential to deliver consumer value and GB societal benefits.

We believe it is appropriate for the Whole System Mechanism to be available to all parties whose development work meets its criteria. Unlike for the previous innovation stimulus (e.g. the Network Innovation Competition) it is not appropriate to establish competition where the overarching aim is to promote coordination and joint working.

We are proposing that the mechanism be applied on a 'self-certification' basis within clearly defined and reportable criteria for whole system development costs. In its sector decision, Ofgem rejected the idea of it managing whole system discretionary funding due to the additional administrative burden against the potential consumer benefit. However, a 'self-certification' approach removes this issue and, through the NIA experience, has been demonstrated to be workable.

We propose that the specific criteria will be developed through industry / Ofgem / stakeholder working groups ahead of the Draft Determinations. We would expect these to contain criteria such as a maximum spend per whole system project, permissible expenditure areas (e.g. legal, commercial, code development – but not capital procurement), RIIO-2 reporting requirements, assurance guidance and cost sharing amongst licenced

<sup>&</sup>lt;sup>28</sup> https://www.ofgem.gov.uk/sites/default/files/docs/2010/10/innovation-stimuli--12102010-open-letterpdf.pdf

participants. These can and should be developed to demonstrate the legitimacy of network activity as it develops whole system solutions.

#### A3-3.2. Regulatory 'sandbox' approach

Our proposal is similar to that adopted by Ofgem in its CAM. However, we propose that to provide the flexibility needed by individual projects the principles of a 'sandbox' environment should be adopted. This will enable bespoke arrangements to be proposed, reviewed and the put into effect project by project, without delaying progress and while maintaining governance and transparency. The characteristics of this mechanism would include:

- submission to, review by and decision from Ofgem on **modifications or derogations** to existing licence conditions or relevant industry codes;
- submission to, review by and decision from Ofgem on the structure of intra-industry payments (e.g. service payments, RAV split, alternative TNUoS /DUoS<sup>29</sup> charging routes);
- submission to, review by and decision from Ofgem on **calibration of incentive rate** (see below), where the minimum whole system outcome will attract a 50% TIM sharing factor;
- licence direction to realign output / outcome responsibilities (already part of CAM);
- licence direction to realign **existing ex-ante allowances** between parties (subject to decision on intraindustry payments);
- reporting to ensure **learning** is shared and **lessons** learned from whole system project to whole system project; and
- the rolling out across sectors of the Mechanism as they proceed through price control windows.

#### A3-3.3. Whole System Incentive

Under RIIO-2, each network will predict a certain level of output and efficient costs within its Business Plan. Ofgem is proposing a 'confidence-dependent incentive rate' which in effect calibrates the incentive rate to how robustly future costs can be forecast. By its very nature this is contradictory to encouraging investment in activities where the potential return is a driver for the network adopting higher risk during development and delivery.

We consider that willingness to invest in innovative or unknown solutions is incentivised / driven by a strong TIM sharing factor which ensures we can share the benefits of efficiencies as a result.

Many of the whole system costs will not be known at the Business Plan stage potentially leading to a lessened incentive rate (due to a low confidence in forecasts). To encourage innovation activity the TIM sharing factor strength must be maintained. We propose that successful whole system solutions that deliver consumer benefit,

<sup>&</sup>lt;sup>29</sup> Distribution Use of System.

which have been submitted through the sandbox route, are subject to a minimum incentive sharing factor of 50%.

#### A3-3.4. Flexibility

The pace and scale of change in the energy industry is considerable and increasing. We emphasise that a whole system mechanism for RIIO-2 must be able to flex with this change and facilitate solutions rather than inhibit. Our proposals can achieve this result as summarised below.

- There is continuing uncertainty regarding wider governmental policy decisions which will affect the speed and extent of cross-sector coordination. These will include policies on the decarbonisation of heat, achieving climate change targets, and the electrification of heat and transport. The initial Development Funding Pot component of our Whole System Mechanism **dampens the risk** a network perceives as it considers developing a solution is such uncertain environments. In doing so, it is supporting the Government's ambition of Net Zero.
- The Development Funding Pot and stronger TIM Sharing Factor components of the Mechanism will provide networks and their shareholders with confidence that efficiently incurred whole system development costs can be reasonably recovered and shared with other licenced parties where predefined outputs are met.
- Strong and clear incentives prevent a perverse scenario whereby a network company is reluctant to invest in a whole system approach due to the potential impact on its regulated asset value (RAV). For example, the lowest cost-approach via whole system could lead to a reduction in the required investment on the transmission (and/or) distribution network. The Whole System Incentive would seek to mitigate this behavioural risk.
- The initial funding component of our Whole System Incentive will **protect the enduring innovation stimulus**, allowing it to focus on truly innovative projects. Failing to introduce the initial funding component could lead to networks trying to divert innovation funding to mitigate cost exposure.
- When a project under the Mechanism exceeds the minimum threshold, for example CAM proposes £20m, then it will be subject to the review and scrutiny of the regulator. This would provide Ofgem with **full oversight** to test and measure the proposed consumer benefit being delivered.

## **Appendix 4: Sustainability Output Options**

In RIIO-T2 we want to become leaders in sustainability. Our overarching aim is to support the transition to a low carbon economy. We are taking the positive steps needed to ensure that we achieve this. Our sustainability strategy, published in May 2018<sup>30</sup>, puts in place our framework to deliver this which will meet Ofgem's minimum requirements for the production of an Environmental Action Plan. We believe that our sustainability ambitions, developed in conjunction with our stakeholders, take significant steps to realising long-term benefits for society, the economy, and the environment.

To meet the aspirations of our stakeholders we will set out under the six ambitions in our Sustainability Action Plan annex, to be published with our December Business Plan, clear goals, the actions/initiatives we will undertake to achieve the goals, the associated costs (where appropriate) and the outputs with measurable targets. We are testing each of these actions/initiatives to ensure they are sufficiently stretching and valued.

In light of this ongoing work, we are presenting two output options for sustainability at this stage in the draft Business Plan.



#### A4.1. Option 1: EDR+ balance scorecard bespoke ODI and bespoke Low Carbon ODI or PCD.

Under this option most sustainability ambitions and associated targets are subject to a bespoke balance scorecard ODI like the RIIO-T1 Environment Discretionary Reward (EDR) known as EDR+. We do not receive ex ante allowances but receive a reward or penalty (+/-£4m per annum) depending on how we perform across a breath of measures across five of the six segments of the wheel (with Connecting for Society being covered in the Satisfaction Survey ODI - see section 1.23). We will hold ourselves to account through our incentive performance and through our reporting the Annual \_

Environment/Sustainability Annual Report (see section 1.68) and ERF (see section 1.31).

This excludes any science-based business carbon footprint targets under the "Tackling Climate Change" segment of the sustainability wheel. Under this option we propose these are either subject to a bespoke Low Carbon ODI or are PCD. As a PCD they can be subject to a CVP.

<sup>&</sup>lt;sup>30</sup> Delivering a smart, sustainable energy future: The Scottish Hydro Electric Sustainability Strategy (Scottish Hydro Electric Transmission plc, May 2018), available at <a href="http://www.ssen-transmission.co.uk/media/2701/sustainability-strategy.pdf">http://www.ssen-transmission.co.uk/media/2701/sustainability-strategy.pdf</a>

Our current view: We believe there could be justification for our sustainability ambitions to remain within a balanced scorecard approach, forming an EDR+ type measure, but only if the incentive can be calibrated appropriately. An ODI encourages the right behaviours in driving exceptional performance, by removing ex ante allowances (unlike a PCD) and funding only through performance rewards/penalties places greater risk on us. Rewards, or even cost recovery, under this option are not guaranteed, so the incentive needs to be carefully calibrated to ensure the desired outcome is achievable, i.e. the risk-reward is such that we actually take a risk. Any such metric needs to have a reward level that exceeds the costs involved, to continue to drive the right behaviours. This is particularly important as Ofgem see no mixing of incentives – there is no opportunity to seek a reward via the Business Plan Incentive (through the CVP) in this area if we pursue a bespoke ODI.

We also consider that the balance scorecard needs to reflect both the breadth of challenges within our sustainability ambitions, and crucially the areas where stakeholders place the highest value. The precise mechanics of the weighting and calibration of the individual metrics, against the respective targets, needs to be clear and understandable to all. This will be completed following the conclusion of our ongoing external benchmarking.

Finally, in order to be held accountable, we need to ensure the ODI remains simple to understand and is transparent to all that is being delivered.

We are working with consultants to identify the precise metrics, appropriate baselines, what is considered stretch ambition, and where appropriate what should be consistently applied across the TOs.

We are currently refining our approach to determine for option 1, and for a possible bespoke Low Carbon ODI, if:

- a) targets are suitably stretching to justify being subject to an ODI by reviewing external benchmarks (a challenge our User Group set for us);
- b) targets can be baselined and tracked through the price control by an industry-recognised measure (a challenge Ofgem set us); and
- c) we can meet all other criteria for a bespoke ODI as set by Ofgem.

#### A4.2. Option 2: sustainability PCDs

In this option all sustainability ambitions will be PCDs with associated baseline funding as set out in our Sustainability Action Plan. We will also clearly demonstrate through a sustainability CVP how our ambitions add significant consumer and societal value and seek recognition of this through the BPI. We will hold ourselves to account in three ways. First, reputationally through the Environment/Sustainability Annual Report and ERF. Second, through the return of costs allowed for initiatives not delivered under our SAP. Third, an assessment at close out on the delivery of our CVP. We recognise that any BPI reward should be contingent of delivery of our CVP sustainability commitment. Therefore, the proportionate value of the CVP not delivered should be returned to consumers.

Our current view: This is more in line with Ofgem's SSMD. We would include baseline funding within our Business Plan and commit to deliver against them. Our focus at the moment is on demonstrating cost of efficient delivery of our PCDs. As above, similar to the ODI, we will also have suitable evidence to demonstrate the value to demonstrate a CVP and justify a reward through the BPI, but there is less weight placed in this option on setting baselines and targets upfront, as there is for ODIs. This is largely because there is a mechanism for returning funding for the non-delivery of PCDs.

As per Option 1, we remain strongly committed to our science-based Business Carbon Footprint targets and would like, in the event of a move towards excluding as a PCD, to retain the option to propose a bespoke ODI in this area. We believe that it fits strongly with both our ambition and that of our stakeholders.

We believe all our sustainability ambitions will meet our stakeholder expectations, but the design of the output mechanisms to deliver those ambitions needs a little more time to get it right.

#### A4.3. Criteria for bespoke outputs

With regards to point c above, Ofgem has presented the criteria for consideration of bespoke outputs, noting that it will consider whether proposals deliver value for money and are backed by robust evidence and justification. Ofgem will assess against the following criteria:

Ofge	em Criteria	Our position	
1.	whether the output reflects a service that consumers expect to receive from a network company and that is not already being provided or funded;	All outputs presented have been requested by our stakeholders. We have only presented items as ODIs where they have not been explicitly funded from elsewhere in the price control.	
2.	whether the activity in question is best dealt with through the price control, rather than through a government body responsible for the public interest in that area (e.g. Highways Authorities for matters relating to the occupation of the highway);	We accept that some areas might sit outside of a price control, but we only present those that are relevant at this time.	
3.	the value that consumers will receive from a proposed new service level, and by extension the potential associated reward and/ or penalty, and the extent to which these are symmetrical, in terms of value and likelihood of outcome; and	We believe that this is critical to ensuring that consumer value is placed at the heart of any bespoke output. There must be both a need and a value in delivering it. Where value is more challenging to define, then we consider outputs might more comfortably sit within PCD rather than ODI remit.	
4.	the extent to which an independent measure of the existing level of service that consumers receive is available, and the degree to which the target level being proposed represents an improvement on this.	Work is currently being undertaken to ensure that all measures proposed are independently measurable and are also benchmarkable.	
5.	whether it is appropriate that the cost of delivering the bespoke output should be	We believe that there are societal benefits from these bespoke outputs which will deliver benefits	

	socialised across all the network's customers through the price control	for all of GB consumers, therefore it should be socialised across all through consumer bills.
	Ofgem may also consider supplementary information that may be relevant, such as:	
6.	the level of service provided by other companies/comparators (where available);	Whilst we believe that it is sensible that where areas of cross over are identified there is harmonisation of measures, bespoke ODIs might not be requested by stakeholders consistently across TOs and therefore there might be regional differences. ODIs that are consistent across TOs should be comparable and use the same definitions, etc.
7.	the activities (and indicative cost) associated with achieving the targeted level of service; and	Where available, it is expected that costs will be provided.
8.	proposals for licence conditions and/or penalties if performance falls below existing service levels.	We agree that there needs to be a balance in reward/penalty terms. If targets are not met and performance falls below required levels, then if ODIs penalties could be incurred. If within PCDs, then money could be recovered from non-delivery.

#### A4.4. Potential metrics

We remain mindful about doing the right thing (in everything we do), and although it is becoming clearer we are not yet at the stage where we can provide clarity on exactly what is the right thing to do – in terms of metrics, baselines, targets and output mechanism(s) - the above illustrates considerable development in our thinking. In addition, below provides **examples** of the types sustainability measures that may form part of a PCD or an ODI. This is for illustrative purposes only.

- 1. Connecting for society
  - a. Captured in the Satisfaction Survey ODI
- 2. Tackling climate change
  - a. Reducing scope 1 & 2 GHG emissions
  - b. Working with supply chain to reduce scope 3 GHG emissions
  - c. Reducing the volume of SF<sub>6</sub> being added to our network captured in SF<sub>6</sub> ODI
- 3. Promoting Natural Environment
  - a. Net biodiversity gain at new sites from 2025
  - b. Woodland and forestry management
  - c. Visual amenity
  - d. Oil and noise management
- 4. Optimising resources
  - a. Zero waste to landfill ambition
  - b. Waste Recycling target
  - c. Water consumption reduction
  - d. Embedded carbon reporting and management e.g. adopting PAS 2080

#### 5. Supporting communities

- a. Supporting vulnerable consumers
- b. Supporting local supply chains
- c. Volunteering and giving back to communities
- 6. Growing careers
  - a. This will be aligned to our Sustainability Workforce Plan, which will be submitted in December.

# **Appendix 5: Proposal for Managing Innovation Benefits Throughout the Innovation Process**

Below is our current proposal as developed by the three TOs and the ESO. We plan to work with the Energy Networks Association (ENA) member companies to make it applicable to gas and to electricity distribution and we will update ahead of our December submission.

Industry ideas for the futuredevelopment of the IndustryFramework

## Contents

- 01. Introduction
- 02. Initial projected benefits
- 03. Yearly regulatory reporting how individual licensees report to Ofgem
- 04. Yearly industry reporting
- 05. Impact of project at the time of closure

# Proposal for managing innovation benefits throughout the innovation process.

Scottish Hydro Electric Transmission (SHE), Scottish Power Transmission (SPT), National Grid Electricity Transmission (NGET) and the National Grid Electricity System Operator (NGESO) have worked collaboratively in preparation for

RIIO-2 to inform the wider industry of the adoption of a benefit tracking methodology that delivers a wide range of benefits to our customers and wider stakeholders.

In order to manage the programme of works and the benefits they can bring, we believe the following should be considered at all stages of the innovation cycle:

- Initial project development Yearly
- regulatory reporting
- Yearly industry/stakeholder reporting
- Impact of the project at the time of closure
- Benefits to customers and wider stakeholders

In order to develop this proposal, we have analysed the industry framework, which combines decades of operational excellence experience together with 'lean thinking', innovation and exceptional service design.

We have also analysed industry regulatory reporting systems and industrial reports, such as the Pathways for the Great Britain Electricity Sector to 2030 and the Wholesale Market Report 2019.

This short document summarises our findings and proposals for RIIO-2 the next price control period starting 1 April 2021 until 31 March 2026.



# Ensuring financial success and value is delivered for all

Every functional idea that comes out of our innovation pipeline will need to be assessed for its potential to deliver benefits. This is both for the licensee proposing the project and also for all the other network operators, stakeholders, the wider energy supply chain and for network customers impacted by the potential results of the work. Otherwise, we may struggle to determine where best to focus our efforts, especially in the context of whole-energy systems.

In order to deliver this piece of work, we propose individual licensees apply the Cost-Benefit Analysis model produced for RIIO-2 to estimate the potential benefits of the innovation project if it is successfully transferred to business as usual. There might be circumstances where some benefits cannot be described as part of the Cost-Benefit Analysis model tool and in those circumstances, narrative and approximations will be developed.

## Developing proxies to approximate the wider impact.

To provide the holistic view of the benefit forecast for each specific innovation, we propose to develop proxies to approximate the wider impact and ensure benefits are accounted accordingly. These will allow one networks' benefit to be quantified and related to other British networks.

The output of the developed Cost-Benefit Analysis, supporting Ofgem funded innovation, will be circulated either by mail or discussed by exception at the System Operator and Transmission Owner meetings to ensure that the outputs are realistic and supported by other licensees.



#### **Summary**

Before the publication of an innovation project, Electricity Transmission Owners and the Electricity System Operator will perform a Cost-Benefit Analysis considering the whole of Great Britain. We will:

- Use RIIO-2 Cost-Benefit Analysis model for identifying costs and benefits for innovation project.
- Do a quantitative analysis for Technology Readiness Level 6 and above. Do a
- qualitative analysis For Technology Readiness Level 5 and below.
- We will discuss and agree the analysis at the SO-TO group or via email circulation to all members.
- We will use proxies to expand individual forecast benefits from each licensee to the whole of Great Britain, including 132kV East and West areas to allow utilities to keep confidential information whilst still performing a national analysis. We will develop both technical and commercial proxies. For example:
  - Technical length of overhead, underground and submarine circuits and number of substations. Also, number of 132kV substations at distribution level in East and West.
  - Commercial: These include constraint costs, ancillary service costs, DSO transition costs and benefits, large outage impacts and associated mitigation value as well as the impact on potentially vulnerable customers.

# Yearly regulatoryreporting - how individual licensees report toOfgem

We believe it is important to report on costs and benefits through the Regulatory Reporting Process (RRP), in particular if we are to embed innovation into the usual activity of a business. Currently we report through the RRP tables **4.1 (opex), 4.2 (load) or 4.3 (non-load) for business as usual funded innovation benefits.** 

For innovation funded benefits we report in table 3.13 Network Innovation Allowance (NIA) or table 3.14 Network Innovation Competition (NIC) as part of our Regulatory Reporting Process. We propose to consolidate these tables and use the outputs of the Cost-Benefit Analysis, completed on completion of the innovation project, to populate new subtables in sections 4.1, 4.2 and 4.3 of our Regulatory Reporting Process and include narrative around non- technical, valueadd benefits as part of the Opex Table.

This would remove the two separate innovation tables, embed innovation into business as usual and allow the regulator to track the potential financial impact of the innovation portfolio. In the supporting narrative we will discuss any leverage funding.

#### Summary

- Use outputs from Cost-Benefit Analysis to populate new sub tables in 4.1 (opex),
   4.1 (load), 4.3 (non-load) to cover all technical innovation costs and benefits
- Report on benefits for individual transmission licensee only
- Remove tables 3.13 and 3.14



# Yearly Industry reporting

We believe there should be consistent, industry-wide public reporting across all utilities as well as consistent sharing of information between utilities to maximise value generated across the industry.

In order to achieve this, we propose that in RIIO-2, we improve our co-ordinated approach to the publication of challenges, communicating through various mechanisms and ensuring full transparency:

- Upon successful completion of any innovation project, the main licensee will write an overview on the innovation, it's application, estimated costs and benefits determined during the trial. This will be circulated to other licensees to see if they would implement it to their area and if so, how far. This will allow a Great Britain wide view of the achieved trial benefits and the forecast benefits from rolling out the innovation.
- We continue to organise one large, public, cross-vector, energy dissemination and collaboration event, working closely with all utilities and using the format of the current Low Carbon Networks Innovation Conference as a basis. Part of this event will be dedicated to idea generation and co-creation workshops as well as a Dragons' Den style session to review ideas and third-party proposals in line with key industry areas of focus. We will aim to take

successful ideas forward and deliver them using either NIA funding or through the Strategic Innovation Funding pot mechanism. A workshop agenda will be made available prior to the event and challenges opened at least three weeks prior to facilitate ideation. In order to maximise the value of the event and showcase what we have achieved. We will develop an Energy Networks Association (ENA) innovation report and publish this annually.

- This annual report will contain:
  - Evidence of key pieces of industry collaboration to allow the roll-out of a proven innovation programme to different companies. We will also include examples of best practice and learning associated with the innovation process, including unsuccessful projects, to maximise learning opportunities.
  - An innovation stakeholder overview framework based on the work both gas and electricity companies have commissioned through the Energy Innovation Centre (EIC). The EIC is a non-profit organisation that acts as a single gateway for all innovators to access the industry. We will publish all aspects proposed in the sector specific methodology decision document published by Ofgem



The table below contains the industry framework proposal with each box containing a view on suitability and associated considerations.

Strategy & Vision	An organisational and transmission innovation strategy is in place and approved by Ofgem	organisational and sion innovation strategy ace and approved by Ofgem Extend to which strategy focusses on what consumers value and alignment with energy system transition		Number of innovation projects that are aligned with strategy. (Use industry innovation strategy as basis)
Organisation & Culture	<b>000</b> Number of external parties involved in trials	<b>000</b> Additional funding leveraged from other sources		<b>000</b> Percentage of annual revenue spent on innovation (at company level)
Capability & Technology	<b>00% : 00%</b> Percentage split of live projects may come from external and internal sources	00% Distribution of TRL of projects by volume and funding	£/TRL Average cost per TRL increase	<b>000 days</b> Average time taken to deploy projects from TRL8 to BAU
Results & Outputs	Tracked and fore	<b>00</b> cast innovation ber	0 nefits (Informed by	y other licensees)



# Impact of the project at the time of closure

The benefits of innovation projects in all circumstances vary significantly year-on year and are impacted by various operational aspects. We believe that creating a cottage industry to track the financial benefits of innovations across a regulatory period does not add value.

Considering the nature of our innovations, we will perform a review of the potential value of the innovation on the delivery plan at the time of closure across all the utilities as a one-off exercise. This will quantify the captured benefits of the individual project and an assessment of the potential GB wide benefits.

We propose we update the Smarter Networks portal (https://www.smarternetworks.org) to include improved portfolio overview pages and benefits with each licensee having their own table



## **Appendix 6: Volume Drivers – Key Information**

This appendix sets out the key information, including our proposed methodology for the three volume drivers – **generation connections, Grid Supply Point (GSP) upgrades** and **OFTO driven works**. It relates directly to the information as requested in the Ofgem Business Plan Guidance.

#### **Key information**

Issue	Information
What is the issue/risk that the proposed mechanism addresses?	For <b>generation connections</b> , there's uncertainty regarding the volume and scope of generation projects seeking to connect to our network. We cannot accurately forecast the timing and scope of new local generation connections and therefore the associated construction of shared and sole use infrastructure across a price control period.
	The volume and type of new generation connections, which give rise to the infrastructure investment, is dependent on factors outside our control, including economic growth and the response of generators to the energy market, over which there is no certainty on which to set any baseline allowances in an ex ante regime with confidence.
	For <b>grid supply point (GSP) upgrades</b> there's uncertainty regarding the volume and scope of works at GSPs triggered by both demand or generation connections. This will be largely dependent on economic growth and the speed of the electrification of heat and transport.
	For <b>OFTO driven investment</b> we are at the early stages of our thinking but there is a risk of additional shared infrastructure works if new OFTO schemes (unknown at this time) seek to connect or current OFTOs seek a change in scope, e.g. an increase in capacity.
	This is an industry wide issue but as we note in pages 37-38 of our draft Business Plan, from our future energy scenarios analysis we have seen developments that have not always matched the prevailing GB trends; there are regional variations. For example, the continued growth in onshore wind generation, greater proportion of decentralised generation, and the slower, highly clustered uptake of electric vehicles. This tells us that while the uncertainty is industry-wide, how it will manifest in RIIO-T2 is likely to be regional-specific.
	Our experience in RIIO-T1 supports the above arguments. In RIIO-T1 there was:
	<ul> <li>a high degree of change and variability of connection schemes and associated configurations; and</li> </ul>
	<ul> <li>deviations from original schemes used to define ex ante baseline allowance to set share and sole use infrastructure (less than a third of the identified RIIO-T1 schemes that were predicted actually went ahead. Instead different scheme proceeded in the period).</li> </ul>
Where does the ownership of the risk lie in relation to the uncertainty?	The volume drivers are in place to minimise the risk on both consumer and company. It protects the consumer from both over-investment and under- delivery by only providing allowances when the need arises, and protects the company from financial distress by ensuring revenues are adjusted in line with investments made.
	The volume driver removes the risk entirely with regard to need, as only when the need materialises will revenues be adjusted and importantly, those

	revenues are output dependent. Consumers therefore only pay for outputs actually delivered. This is a fundamental principle of our RIIO-2 plan.
	The risk that does remain is one that applies in any ex ante regulation; that the actual costs (in this case the unit cost allowance (UCA) set) might be different to the allowed UCA set at the beginning of the price control.
	Nevertheless, it is important to set this at the start of the price control for two key reasons. First, to allow us the ability to respond quickly and with confidence to changes in infrastructure investment required due to changes in generation or demand connections in order to meet Net Zero ambitions. Second, to set a UCA to outperform in order to continue to find efficiency savings.
	The balance of that risk will depend where Ofgem set the Totex Incentive Mechanism (TIM) sharing factor. If Ofgem set a 50/50 sharing factor the risk of any over or underspend will be shared equally between us and consumers. A movement away from this will shift that balance.
	We believe we have reduced the risk of consumers paying more than what is efficient for the UCA by basing our UCA substantively on historical costs which have embedded efficiencies. As a direct comparison, the UCA for sole and shared use infrastructure lower in T2 than in T1. The T2 rates have embedded T1 efficiencies within them. Therefore, consumers can be confident that the rate set is efficient and if we were to outperform that rate it will be due to finding further innovations in T2 driving down costs further for T3.
Materiality of issue	The value will be material. Our best estimate is based on our Likely Outturn Assessment, under which we believe the volume driver will support in the region of:
	<ul> <li>1400MW of generation requiring ~£150m of investment in sole use infrastructure;</li> </ul>
	• 2489MVA of generation requiring ~ £260m of investment in shared use infrastructure;
	• £50m of GSP upgrades; and
	OFTO additional works to be confirmed.
Frequency and probability of issue over the price control period	The probability of the issue arising during the price control is certain. All our scenarios (see Net Zero paper) and our bottom-up analysis suggest that the only outcome from our Certain View is up. We anticipate the use of the volume driver from year 1 of RIIO-T2 but the exact frequency is yet to be determined.
What is the proposed	Generation connections volume driver
mechanism?	This mechanism refers to load related investment for the sole and shared use infrastructure necessary to accommodate the connection of new renewable generation. When the volume of generation seeking to connect to the network increases, funding for the resultant investment in local enabling works will be available to us through an automatic adjustment to our Base Revenue. We propose that this automatic adjustment will be based on an ex ante unit cost allowance (UCA) basis, i.e. a £/cost driver. The cost drivers we propose are as follows:
	<ul> <li>shared use infrastructure: £/MVA. This is the cost of additional capacity being added to the network. It is a broad output-based measure;</li> </ul>
	• sole use infrastructure: we have two options:

<ul> <li>option 1: £/MW. The cost of providing the connection and a broad output-based measure.</li> </ul>
<ul> <li>option 2: £/asset category. These assets include: substation (£/MW), overhead line (132kv, 275kv - £/km), underground cable (132kv - £/km) and subsea cable (£/km).</li> </ul>
Our proposals are currently being discussed with Ofgem.
For <b>shared use infrastructure</b> we are proposing a per UCA of £/MVA. We are confident that this is broad output-based approach, used in RIIO-T1, is the right approach as:
<ol> <li>The UCA is based predominately on actual historical costs incurred in RIIO-T1 for the delivery of shared use infrastructure. These actual costs are lower than the allowed costs in RIIO-T1 and as such have embedded efficiencies. This offers value for money for consumers versus the RIIO- T1 approach.</li> </ol>
<ol> <li>Linear regression analysis of RIIO-T1 typical projects show that the R<sup>2</sup> of projects is relatively high, highlighting the strong causal relationship between £ spent and MVA delivered.</li> </ol>
3. There are a complex and varying range of solutions available to us to deliver the capacity uplift, for example, mesh corners, reconductoring rather than new build new overhead line or significant substation works. Therefore, it is more suited to a wider rather than narrower output UCA; a narrower defined UCA being asset based UCA. To do so could stifle innovation and drive us to adopt a less efficient solution in order to "fit" the cost recovery mechanism.
4. The variability in solutions would add significant complexity, which is against the principle of simplifying the price control.
The above applies for typical shared use schemes. However, as in RIIO-T1 a different UCA allowance and approach is required for atypical schemes – both atypically high UCA schemes (to protect the company) and atypically low UCA schemes (to protect the customer).
We propose an atypical scheme is one where the UCA is above or below the typical UCA by a defined significant level (e.g. double or half the typical UCA). When the threshold is breached, those projects receive the actual atypical UCA for a defined proportion of the output delivered and the ex ante typical UCA for the remainder of the output. We need to consider the appropriate levels in conjunction with Ofgem, but unlike in RIIO-T1 this would be symmetrical protecting customers from atypically low-cost interventions and protecting us from atypically high-cost interventions. We are not asking for all atypical costs to be passed through as incurred. The key reason is that while it is important to balance risk, it is also important to retain an incentive to find efficiencies. Therefore, leaving a proportion subject to the ex ante allowance and therefore the TIM sharing factor will continue to drive cost efficiencies.
For <b>sole use infrastructure</b> we are considering the two options noted above.
The first benefit – use of actual historical costs – applies for both options. The key reasons for debating the two options and considering a move away from $\pounds/MW$ used in T1 are:
There is less "degree of fit" between MW and cost, so point 2 is weaker. There is also less scope in the types of solutions adopted in sole use infrastructure (it typically involves a 132kv overhead line or underground cable connection) so points 3 and 4 are less pertinent here.

	We would propose the same approach for atypical schemes above if option 1 ( $f/MW$ ) is adopted. If the $f/asset$ UCA is adopted, the approach also removes the requirement for an atypical UCA.			
	GSP upgrades volume driver			
	The main objective of the RIIO-T1 volume driver was to enable the recovery of costs for sole and shared use works associated with new, local generation connections. Such increases in generation, coupled with increasing demand, have also triggered several GSPs upgrades in RIIO-T1. Looking ahead to RIIO-T2, where further growth in generation and demand is forecasted, analysis carried out by Element Energy shows further GSPs upgrades works throughout the RIIO-T2 period will be required.			
	Our experience from the T1 period highlights several factors that should be considered for any proposed recovery mechanism for GSP upgrades in the RIIO-T2 period:			
	The scope of work required for GSP upgrades can vary from a straightforward in situ replacement of the existing transformers to a full offline build including land purchase, groundworks plus full installation of new transformers, switchgear and all ancillary works including new control building;			
	The extreme variability of scope, and associated variability in £/MW output described highlights the challenge of designing a linear and predictable recovery mechanism for GSP upgrades;			
	For the RIIO-T1 period, all GSP upgrades were classified as sole use infrastructure with the associated recovery based on the additional level of generation (MW) connected;			
	Our design for RIIO-T2 needs to consider the requirement for demand driven upgrades which means a recovery mechanism based on MW uplift won't be suitable for a design covering both generation and demand driven upgrades.			
	Our proposal for the RIIO-T2 period is therefore based on recovering allowance based on the scope required for each GSP upgrade. This will be based on agreed allowance recovery rates for pre-defined modular building blocks for GSP upgrades e.g. transformer, switchgear bays, land purchase (m2), ground consolidation works (m2) etc. Work is underway to define the specification of each modular building block as well as determining the associated unit costs based on historical analysis from GSP projects delivered during the T1 period. This approach means there will be less chance of variability in recovery rates versus actual outturn costs and will result in a standard recovery mechanism that can cater for both generation and demand driven schemes.			
	OFTO driven works volume driver			
	For <b>OFTO driven investment</b> we are at the early stages of our thinking but are proposing a similar approach to the GSP upgrades.			
What are the justifications for the mechanism?	The volume driver mechanism builds on established processes in RIIO-T1 but makes changes in order to build on efficiencies and learning. Key benefits include:			
	<ul> <li>responding quickly and flexibly to the changing energy market and the volume and type of generation and demand connections to meet the Net Zero challenge</li> </ul>			
	• avoids anticipatory investment - customers only paying for local enabling works as and when required and not before			
	• <b>output-based</b> – consumers only pay when output is delivered			

	٠	Reduces need to cost assess every project
	•	avoids project by project approval thus delaying connection for customers and meeting Net Zero targets
	•	<b>UCA is based largely on efficient historical costs</b> which have embedded cost efficiencies ensuring value for money for consumers and provides confidence in both typical and atypical schemes
	•	as it is subject to the <b>TIM sharing factor</b> provides an <b>incentive to find cost</b> <b>savings</b> that any works undertaken will be done so efficiently in order to share in the cost saving, helping to ensure ongoing efficiency.
What are the drawbacks of the proposed mechanism?	•	Bills will be impacted but it not possible to accurately set out the impact on bills upfront. However, if we had perfect certainty that's when allowances would be profiled. Therefore, the volume driver mechanisms are not wildly different to perfect knowledge so consumers are no worse off in reality. For the reasons set out above, consumers are better off with the volume driver mechanism than in the absence of one.
	•	The main drawback is that the UCA may not accurately reflect the costs. However, to mitigate this, unlike in T1, the UCAs are based on actual historical costs which provides a high degree of certainty over the costs and also embeds T1 cost efficiencies. This represents value for money. Any further attempt to remove the potential variation is likely to create spurious accuracy.
Can the drawbacks be reduced?	•	As above, the main drawback on the certainty of UCA has been mitigated using actual historical cost dat.
	•	Use of an alternative mechanism such as logging up or cost pass-through will not be in consumers interests as they do not have the TIM sharing factor incentivising us to find further cost efficiencies in T2.
Explanation of how on balance, the mechanism delivers value for money while protecting the ability to finance efficient delivery.	•	RIIO-T2 must ultimately enable us to meet our stakeholder needs, aligned with Ofgem's output categories. This mechanism is at the heart of this – ensuring we can respond flexibly to the market requirements and customers only pay when the need materialises and not before. It delivers value for money by not only ensuring that consumers only pay when the need is certain and not before, but the cost of doing so is based on efficient historical rates with embedded efficiencies. By retaining the TIM sharing factor (strength of which is to be determined by Ofgem), this will help ensure the incentive remains to find further efficiencies in T2 to embed for T3.
# **Appendix 7: Reopeners – Key Information**

#### A7.1. Cyber Security

SHE Transmission and the other network companies are becoming increasingly dependent on business IT systems and operational technology. This dependency will only increase as the electricity networks become smarter, more automated and more digitalised.

Over the last decade, cyber-attacks have become more frequent and sophisticated, being used as a means of political statement or terrorist attack. The most obvious example on a network operator in recent years occurred in the Ukraine where a cyber-attack resulted in over 200,000 consumers being left without power. Unless network companies improve their cyber resilience then they will remain at risk of a similar, if not worse, attack.

This significant risk is reiterated by the Government's National Cyber Security Strategy<sup>31</sup>. The Government specifies the minimum requirements for cyber security which all network companies must comply. The need for the significant increase in cyber security investment when compared with the RIIO-T1 period is driven by new regulations and the increasing cyber threat. The Government implemented the new Network and Information Systems (NIS) Regulations in May 2018. They aim to increase the overall level of cyber-security across operators of essential services in the EU. We are working with the NIS Competent Authority (a joint role held by Ofgem and BEIS) to ensure our plans reflect the investment required to meet these new regulations. We are currently in the process of developing our cyber plans for the T2 period and therefore expect our proposals and costs to change prior to final submission in December 2019. However, the current NIS requirements are new and may change. In addition, new cyber risks and threats may emerge. If they do this will impact our costs during RIIO-T2. We therefore support Ofgem's proposal to introduce a reopener mechanism to adjust our funding during the price control period should things change that are beyond our control.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\_data/file/567242/national\_cyb er\_security\_strategy\_2016.pdf

Issue	Why a re-opener is necessary		
Where does the ownership of risk lie in relation to the uncertainty?	• Where the costs and level of activity are outside our control it is better to determine cost allowances when the need and associated cost is more certain.		
	• To do so prematurely during the price control review can introduce a risk premium as the continued uncertainty may result in consumers paying more than is necessary to efficiently deliver the required output in each of these areas.		
	• The risk of cyber-attacks on our network operations has increased significantly since the start of the RIIO-T1 price control and the government has introduced new regulations in relation to cyber resilience which we must comply with. Cyber-attacks place risk on both the consumer and the network companies and could have detrimental impacts to the industry and its consumers, from the leak of customer information, to the potential shutting down the network resulting in black outs. These are risks that we, as the network operator, are best placed to manage because our customers and consumers do not have the ability to manage them.		
Materiality of issue	• Ofgem has only recently, 13 September 2019, published a consultation on draft guidance which it has developed to support network operators in formulating these plans. It is currently too early and difficult to quantify the materiality of the issue. We are in the process of developing our Cyber Resilience plans for submission as part of our final December Business Plan. These plans will include our forecasted costs required in meeting these minimum standards.		
	• However, cyber resilience requirements are likely to increase as the risk of cyber-attacks increases, evolves and becomes more sophisticated and as a result the costs we incur in T2 could potentially increase significantly and therefore a reopener mechanism will be necessary.		
Frequency and probability of issue over the price control period	• Cyber resilience refers to the measures we take as a Network Operator to prevent cyber-attacks from occurring. Many cyber-attacks aim to cause disruption such as loss of electricity supply. Effective protection and capability to respond minimises the impact of any incident on consumers.		
	• The frequency and probability of issue is unknown but must be kept under review as business IT systems and operational technology continue to increase as networks become smarter, more automated and more digitised.		
What is the proposed mechanism?	The proposed mechanism for cyber resilience includes:		
	• Ex ante funding for certain projects - allowances would be provided as part of allowed revenues to deliver the agreed level of cyber security and resilience set out in these plans. For the Business IT Security plan, baseline allowances will be provided and subject to the TIM sharing factor.		
	• For the Cyber Resilience Plan, allowances will be provided on a 'use-it-or-lose it' basis, with expenditure subject to ongoing monitoring as part of an outcome based PCD. For the Cyber Resilience Plan, a re-opener mechanism will also be available at the beginning of RIIO-T2 to companies who are unable to submit these plans by December 2019.		
	• For both plans, a mid-period re-opener mechanism will be included to deal with uncertainty. This will be designed to cover new risks/threats, as well as new statutory/regulatory requirements, reflecting the amount of work still required to clarify the cyber resilience scope following the EU Network and Information Systems (NIS) Directive being transposed into UK Law. A		

	materiality threshold will be consulted on for this re-opener as part of Ofgem's Draft Determinations.
	• We are currently in the process of drafting our Cyber Security plans with the intention of submitting this in December along with our final Business Plan. On this basis, we do not intend to utilise the reopener mechanism which will be available at the beginning of the T2 price control but may need to utilise the re-opener mechanism during or at the end of the T2 price control to deal with any uncertainty that may arise.
	<ul> <li>It is necessary to establish a materiality threshold for each individual reopener mechanism to control the number and frequency of changes to allowances. We suggest 1% of Base Revenue in line with that applied in RIIO-T1.</li> </ul>
	• The costs should be logged-up and if the costs of all our reopeners reach a threshold of 3% of Base Revenue then the incurred costs should be subject to an efficiency review at the end of the price control period. Where costs are deemed to have been efficiently incurred, a one-off Regulatory Asset Value (RAV)/cash adjustment should be made at the end of the price control and should also reflect the costs of financing this expenditure during the period. This should not limit the option to apply for a re-opener and to recover these costs within the period where the materiality threshold has been exceeded.
What are the justifications for the mechanism? Set out the benefits of the mechanism.	• Uncertainty mechanisms, such as reopeners, allow changes to a company's allowed revenues to be made in light of what happens during the price control period and help to ensure that consumers only pay for the outputs that are delivered.
	• It is better to determine cost allowances when the need and associated cost is more certain. To do so prematurely during the price control review can introduce a risk premium as the continued uncertainty may result in consumers paying more than is necessary to efficiently delivery the required output in each of these areas
	• Reopeners allow us to deal with changes within the price control which could not be assumed or forecasted at the outset and is outside our control. These changes could lead to considerable investment and a reopener can adjust allowed revenue to cover these costs.
What are the drawbacks of the proposed mechanism?	<ul> <li>Additional process for network companies to make a reopener submission, for Ofgem to assess the submission and then to make the revenue adjustments.</li> </ul>
	• Uncertain costs also have an impact on consumers bills as they lead to changes to network companies allowed revenue.
Can the drawbacks be reduced?	• The drawbacks are minimal. The alternatives would be either greater compensation for the company to manage the additional risk (e.g. larger cost of equity) or the provision in ex ante allowances. The former would then require a mechanism for unspent allowances to be returned (a strong possibility), thus not removing the drawback of additional process noted above as a drawback.
	• An alternative uncertainty mechanism to a reopener could be pass through but when the need becomes certain the costs are within our control to manage efficiently. As such, it is better that they are subject to the TIM sharing factor whereby we will be incentivised to find cost efficiencies.
Explanation of how on balance, the mechanism delivers value for money while protecting the ability to	<ul> <li>On balance, adjusting the Totex allowances when the need becomes certain but ensuring the costs are subject to an efficiency assessment and to the ongoing efficiency incentive (TIM sharing factor) provides the optimal solution</li> </ul>

### A7.2. Physical site security

As the owner of electricity transmission assets in Great Britain, we are responsible for a number of assets that are deemed by government as Critical National Infrastructure (CNI). Working with the responsible government department, i.e. BEIS, network operators agree and implement the Physical Security Upgrade Programme (PSUP), which involves measures required to enhance physical security at CNI sites. They advise us on the appropriate security measures we are required to implement. These confidential sites may change over the course of the RIIO-T2 price control which therefore creates uncertainty for both the network companies and consumers, as the network companies will need to recover the costs of upgrading these sites.

Ofgem is proposing to provide baseline allowances for physical security investment mandated by government as it considers there to be enough clarity of government requirements. To deal with the uncertainty, Ofgem is proposing a re-opener at both the mid-period and end of the price control to adjust allowed revenues if government mandates changes to the scope of work required during RIIO-T2.

Issue	Why a re-opener is necessary	
Where does the ownership of risk lie in relation to the uncertainty?	• Where the costs and level of activity are outside our control, it is better to determine cost allowances when the need and associated cost is more certain.	
	• To do so prematurely during the price control review can introduce a risk premium as the continued uncertainty may result in consumers paying more than is necessary to efficiently delivery the required output in each of these areas.	
	• CNI are assets identified by the Centre for the Protection of National Infrastructure (CPNI) and BEIS as necessary for the country to function, and therefore likely to be at higher risk of attack with the intention to cause detrimental impacts to the country and the consumers. These are risks that we are best placed to manage because our customers and consumers do not have the ability to manage them.	
	• It is up to the network companies to deliver these strategic investment plans and, in the same way as in RIIO-T1, Ofgem will ensure appropriate and proportionate security measures are being put in place and inform where any funding adjustments may be required. There is currently enough clarity of government requirements to allow Ofgem to provide us with baseline allowances for security investment mandated by government. However, the uncertainty surrounds any potential changes to this plan over the course of RIIO-T2 and some form of mechanism needs to be implemented to deal with this risk should it arise.	
Materiality of issue	• As there is currently enough clarity from the government on the required security upgrades, unlike other areas such as cyber security, we hope that the materiality of the issue will be low. However, it is impossible for us to predict the materiality of the issue as the PSUP requirements are mandated by government.	
	• To give an indication of the level of expenditure for known schemes, we have two schemes spanning RIIO-T1 and RIIO-T2 costing on average £3m each per	

	price control period (total £12m). However, schemes that may come forward in RIIO-T2 can be entirely different in number and scope.
Frequency and probability of issue over the price control period	<ul> <li>Physical site security refers to the measures we take to prevent physical attacks occurring to some of the most important infrastructure on our network, as identified by government. Physical attacks aim to cause disruption such as loss of electricity supply. Effective protection and capability to respond minimises the impact of any incident on consumers. The frequency and probability of issue is unknown but must be kept under review as the risk and threats of attack may increase depending on a number of external factors.</li> </ul>
	• In RIIO-T1, we were instructed by Government to improve the physical site security of two schemes. However, the frequency and probability of such requests is out of our control, and therefore it is impossible for us to forecast the frequency and probability of the issue during RIIO-T2.
What is the proposed	The proposed mechanism for physical site security includes:
mechanism?	• Baseline allowances for physical security investment mandated by government as Ofgem considers there to be sufficient clarity of government requirements. These schemes will become a (confidential) PCD.
	• A re-opener mechanism at both the mid-period and end of the price control to adjust allowed revenues if government mandates changes to the scope of work required during RIIO-T2. The re-opener will consider any changes in the threat landscape within scope and may adjust allowed revenue either up or down.
	<ul> <li>It is necessary to establish a materiality threshold for each individual reopener mechanism to control the number and frequency of changes to allowances. We suggest 1% of Base Revenue in line with that applied in RIIO-T1.</li> </ul>
	• The costs should be logged-up and if the costs of all our reopeners reach a threshold of 3% of Base Revenue then the incurred costs should be subject to an efficiency review at the end of the price control period. Where costs are deemed to have been efficiently incurred, a one-off Regulatory Asset Value (RAV)/cash adjustment should be made at the end of the price control and should also reflect the costs of financing this expenditure during the period. This should not limit the option to apply for a re-opener and to recover these costs within the period where the materiality threshold has been exceeded.
What are the justifications for the mechanism? Set out the benefits of the mechanism.	• Uncertainty mechanisms, such as reopeners, allow changes to a company's allowed revenues to be made in light of what happens during the price control period and help to ensure that consumers only pay for the outputs that are delivered.
	• It is better to determine cost allowances when the need and associated cost is more certain. To do so prematurely during the price control review can introduce a risk premium as the continued uncertainty may result in consumers paying more than is necessary to efficiently delivery the required output in each of these areas.
	• Reopeners allow us to deal with changes within the price control which could not be assumed or forecasted at the outset and is out with our control. These changes could lead to considerable investment and a reopener can adjust allowed revenue to cover these costs.
What are the drawbacks of the	• Additional process for network companies to make a reopener submission, for Ofgem to assess the submission and then to make the revenue adjustments.
proposed mechanism?	• Uncertain costs also have an impact on consumers bills as they lead to changes to network companies allowed revenue.

Can the drawbacks be reduced?	•	The drawbacks are minimal. The alternatives would be either greater compensation for the company to manage the additional risk (e.g. larger cost of equity) or the provision in ex ante allowances. The former would then require a mechanism for unspent allowances to be returned (a strong possibility), thus not removing the drawback of additional process noted above as a drawback.
	•	An alternative uncertainty mechanism to a reopener could be pass through but when the need becomes certain the costs are within our control to manage efficiently. As such, it is better that they are subject to the TIM sharing factor whereby we will be incentivised to find cost efficiencies.
Explanation of how on balance, the mechanism delivers value for money while protecting the ability to finance efficient delivery.	•	On balance, adjusting the Totex allowances when the need becomes certain but ensuring the costs are subject to an efficiency assessment and to the ongoing efficiency incentive (TIM sharing factor) provides the optimal solution for both the company and for consumers balancing risk, process, keeping costs down, and funding only when the need is more certain.

## A7.3. Whole System 'Coordinated Adjustment Mechanism'

In order for us to safely and efficiently operate a co-ordinated and economical system of electricity transmission.

The mechanism will work cohesively to improve whole system planning and operation, improve support for new whole system approaches to ensure the price control is not a barrier to the efficient allocation of projects across networks. It would be triggered by two or more cooperating networks. A single network could also trigger the mechanism if they were able to meet the threshold requirements. This protects consumers, only funding network companies where whole systems approaches and benefits are demonstrable. We support this.

Issue	Why a re-opener is necessary	
Where does the ownership of risk lie in relation to the uncertainty?	• The concept of whole-system solutions is still in its infancy and therefore many whole-system outcomes are uncertain and could be subject to change due to circumstances and/or information, or also due to the different timings of the electricity distribution price control.	
	• Where the costs for each party are uncertain, a reopener mechanism is required to protect consumer interests by supporting the reallocation of project revenues and responsibilities to the relevant network owner(s).	
	• The ownership of the risk lies with the network operators. It is up to the network operators and wider industry parties to work together in order to identify and then deliver whole system solutions. The price control itself should not act as a barrier to the efficient allocation of projects across networks.	
Materiality of issue	• The concept of whole-system solutions is still in its infancy and the definition and clarity of what is expected is still being developed by Ofgem. The idea of whole system thinking has only been developed during the RIIO-T1 price control period and no direct expenditure has been incurred in T1. It is very difficult for us to predict the materiality of the issue for the T2 period.	

<b>Frequency</b> and probability of issue over the price control period	•	It is widely accepted at this stage that many whole system outcomes are uncertain and could change due to circumstances and/or information, or also as a result of different timings of the electricity distribution price control. This 'unknown' could lead to uncertainty. Therefore, it is highly likely for this issue to occur over the RIIO-T2 period and there will be a need for the reallocation of project revenues and responsibilities for network companies.
What is the proposed mechanism?	•	Ofgem will develop and implement a whole system re-opener, referred to as 'Coordinated Adjustment Mechanism', which will protect consumer interests by supporting the reallocation of project revenues and responsibilities to us, as the relevant network owner.
	•	Unlike some of the other reopener mechanisms, this mechanism will not allow for new funding, instead this reopener mechanism will allow for the realignment of revenues and responsibilities of projects where doing so is in the interests of consumers. The projects should already have ex ante funding or reopener mechanisms in place from other areas, such as Load Related Expenditure or non-Load related expenditure, and therefore the reopener CAM focusses on the realignment of revenues and responsibilities of projects rather than providing new funding.
	•	However, to trigger CAM, the network is required to provide evidence that the overall value of the project meets a pre-specified threshold of £20m (to sufficiently justify the administrative cost) and can only be triggered within specific windows during the price control period. It is widely accepted at this stage that many whole system outcomes are uncertain and could change due to circumstances and/or information. This 'unknown' could lead to uncertainty and a lack of progress in developing whole system outcomes that do not meet the relevant thresholds required to trigger CAM.
What are the justifications for the mechanism? Set out the benefits of the mechanism.	•	The appropriate reallocation of revenues and responsibilities will improve in- period cooperation and make the price controls more resilient to changes arising from the energy system transition. However, the mechanism must be designed such that it cost-effectively achieves appropriate reallocations.
	•	To help balance the needs of flexibility and certainty, Ofgem is designing threshold requirements to ensure focus on projects that will produce the most value for consumers at reasonable administrative cost.
	•	It is better to reallocate project revenues and responsibilities to the relevant network owner when the need and associated costs for the relevant network owners is more certain. This reopener mechanism will allow network companies to deal with changes within the price control which could not be assumed or forecasted at the outset. These changes could lead to considerable investment and the reopener mechanism can reallocate the project revenues and responsibilities to the relevant network owner.
What are the drawbacks of the proposed mechanism?	•	Additional process for network companies to make a reopener submission, for Ofgem to assess the submission and then to make the revenue adjustments.
Can the drawbacks be reduced?	•	The drawbacks are minimal. As whole system thinking is still in its infancy, it is essential that there is flexibility in the price control to allow network companies to work together and deliver the most optimal solution for the customer ensuring that the relevant network company is allocated the correct revenues and responsibilities.
	•	This reopener mechanism should only have a positive impact on consumers. This mechanism is simply encouraging network companies to work together to

		identify the most economic solution for the consumer and ensuring that the revenues and responsibilities can be allocated to the correct network owner.
Explanation of how on balance, the mechanism delivers value for money while protecting the ability to finance efficient delivery.	•	On balance, the appropriate reallocation of revenues and responsibilities will improve in-period cooperation and make the price controls more resilient to changes arising from the energy transition. There is a clear need to ensure that the mechanism must be designed to ensure it cost-effectively achieves appropriate reallocations. The mechanism will help ensure that the most optimal solution for both the company and for consumers balancing risk, process, keeping costs down, and funding only when the need is more certain.

## A7.4. Landowner/Wayleave compensation

SHE Transmission needs permission to install our electric lines and associated equipment on, over or under private land. We also require access to that land for the purposes of inspecting, maintaining or replacing the line or equipment.

SHE Transmission needs permission to install our electric lines and associated equipment on, over or under private land. We also require access to that land for the purposes of inspecting, maintaining or replacing the line or equipment.

Issue	Why a re-opener is necessary	
Where does the ownership of risk lie in relation to the uncertainty?	• Where the costs and level of activity are outside our control it is better to determine cost allowances when the need and associated cost is more certain.	
	• To do so prematurely during the price control review can introduce a risk premium as the continued uncertainty may result in consumers paying more than is necessary to efficiently delivery the required output in each of these areas.	
	• It is our obligation to ensure that we operate and maintain a safe, secure and resilient network throughout our licences area, this includes ensuring that we have robust land rights. These are risks that we, as the network operator, are best placed to manage because our customers and consumers do not have the ability to manage them.	
	• Efficient land management ensures that costs, budgeting and clean delivery are achieved. Clear negotiation of rights makes certain that our assets are best placed to provide longevity and reduces risk in the long-term whilst ensuring efficient costs for consumers.	
Materiality of issue	<ul> <li>Through the RIIO-T2 period we have a robust strategy for ensuring that we secure the required land rights that provide land rights in perpetuity, to make sure that we can develop and operate the network guaranteeing the security of supply without the risk of expensive diversion works if we must reroute the network elsewhere.</li> </ul>	
	• Our best view based for potential claims in RIIO-12 is in the region of £30m.	
Frequency and probability of issue over the price control period	<ul> <li>We propose a reopener to deal with injurious affection claims (compensation for the reduction in the value of the claimant's land as a result of the interference e.g. our assets being on the land), wayleave terminations (termination of agreements that allows us access to land) and challenges to our land rights that landowners may lodge with the business for existing</li> </ul>	

	assets. These claims are inevitable as there is provision for grantors to claim for losses however, the number of claims that are likely to be lodged with the business are difficult to forecast as is the quantum of the claims.
What is the proposed mechanism?	The proposed mechanism for wayleaves includes:
	• A re-opener mechanism at both the mid-period and end of the price control to adjust allowed revenues to deal with injurious affection claims, wayleave terminations and challenges to our land rights that landowners may lodge with the business for existing assets. The re-opener will consider any changes in the threat landscape within scope and may adjust allowed revenue either up or down.
	• It is necessary to establish a materiality threshold for each individual reopener mechanism to control the number and frequency of changes to allowances. We suggest 1% of Base Revenue in line with that applied in RIIO-T1
	• The costs should be logged-up and if the costs of all our reopeners reach a threshold of 3% of Base Revenue then the incurred costs should be subject to an efficiency review at the end of the price control period. Where costs are deemed to have been efficiently incurred, a one-off Regulatory Asset Value (RAV)/cash adjustment should be made at the end of the price control and should also reflect the costs of financing this expenditure during the period. This should not limit the option to apply for a re-opener and to recover these costs within the period where the materiality threshold has been exceeded.
What are the justifications for the mechanism? Set out the benefits of the mechanism.	• Uncertainty mechanisms, such as reopeners, allow changes to a company's allowed revenues to be made in light of what happens during the price control period and help to ensure that consumers only pay for the outputs that are delivered.
	• It is better to determine cost allowances when the need and associated cost is more certain. To do so prematurely during the price control review can introduce a risk premium as the continued uncertainty may result in consumers paying more than is necessary to efficiently delivery the required output in each of these areas.
	• Reopeners allow us to deal with changes within the price control which could not be assumed or forecasted at the outset and is out with our control. These changes could lead to considerable investment and a reopener can adjust allowed revenue to cover these costs.
What are the drawbacks of the proposed mechanism?	• Additional process for network companies to make a reopener submission, for Ofgem to assess the submission and then to make the revenue adjustments.
	• Uncertain costs also have an impact on consumers bills as they lead to changes to network companies allowed revenue.
Can the drawbacks be reduced?	• The drawbacks are minimal. The alternatives would be either greater compensation for the company to manage the additional risk (e.g. larger cost of equity) or the provision in ex ante allowances. The former would then require a mechanism for unspent allowances to be returned (a strong possibility), thus not removing the drawback of additional process noted above as a drawback.
	• An alternative uncertainty mechanism to a reopener could be pass through but when the need becomes certain the costs are within our control to

		manage efficiently. As such, it is better that they are subject to the TIM sharing factor whereby we will be incentivised to find cost efficiencies.
Explanation of how on balance, the mechanism delivers value for money while protecting the ability to finance efficient delivery.	•	On balance, adjusting the Totex allowances when the need becomes certain but ensuring the costs are subject to an efficiency assessment and to the ongoing efficiency incentive (TIM sharing factor) provides the optimal solution for both the company and for consumers balancing risk, process, keeping costs down, and funding only when the need is more certain.

# A7.5. Exceptional subsea cable faults

SHE Transmission has subsea cables as part of our network, with potential projects during RIIO-T2 that will increase the length of subsea cable in our network, through the island projects.

Issue	Why a re-opener is necessary	
Where does the ownership of risk lie in relation to the uncertainty?	<ul> <li>It is our obligation to ensure that we operate and maintain a safe, secure and resilient network throughout our licences area, ensuring this through inspection, operating and maintenance expenditure to cover routine maintenance of subsea cables. SHE Transmission take on this business as usual operational risk of sub-sea cables.</li> </ul>	
	• However, the ownership of risk for exceptional faults lie with both the network operators and consumers, due to the highly uncertain probability and nature of a subsea event occurring, the ability to mitigate this risk is out with the control of SHE Transmission.	
	• Where the costs and level of activity are outside our control it is better to determine cost allowances when the need and associated cost is more certain.	
	• To do so prematurely during the price control review can introduce a risk premium as the continued uncertainty may result in consumers paying more than is necessary to efficiently delivery the required output in each of these areas.	
Materiality of issue	<ul> <li>It is difficult to quantify the materiality on expenditure as there has not been an exceptional fault event in the RIIO-T1 period and therefore no historic costs to benchmark against. However, given the nature of the potential subsea works involved, the global demand for the specialist boats and equipment the cost may be materially significant.</li> </ul>	
Frequency and probability of issue over the price control period	• Given that this proposed reopener is to deal with 'exceptional' faults are high impact low probability (HILP) events, the likelihood of an exceptional fault is low but with a potentially significant impact on both the network and consumers. The potential increase in subsea cables on our network through the RIIO-T2 period does increase the probability.	
What is the proposed mechanism?	• The mechanism we propose for exceptional subsea cable faults a re-opener mechanism at both the mid-period and end of the price control to adjust allowed revenues with no ex ante baseline allowances.	
	• It is necessary to establish a materiality threshold for each individual reopener mechanism to control the number and frequency of changes to allowances. We suggest 1% of Base Revenue in line with that applied in RIIO-T1	
	• The costs should be logged-up and if the costs of all our reopeners reach a threshold of 3% of Base Revenue then the incurred costs should be subject to an efficiency review at the end of the price control period. Where costs are	

	deemed to have been efficiently incurred, a one-off Regulatory Asset Value (RAV)/cash adjustment should be made at the end of the price control and should also reflect the costs of financing this expenditure during the period. This should not limit the option to apply for a re-opener and to recover these costs within the period where the materiality threshold has been exceeded.
What are the justifications for the mechanism? Set out the benefits of	• Reopeners allow us to deal with changes within the price control which could not be assumed or forecasted at the outset and is out with our control. These changes could lead to considerable investment and a reopener can adjust allowed revenue to cover these costs.
the mechanism.	• Without the reopener mechanism Network Operators would need to include baseline expenditure to cover the cost of an exceptional subsea fault. This would be based on uncertain cost and to do so prematurely during the price control review can introduce a risk premium as the continued uncertainty may result in consumers paying more than is necessary to efficiently delivery the required output, if the output is required at all.
What are the drawbacks of the proposed mechanism?	• Additional process for network companies to make a reopener submission, for Ofgem to assess the submission and then to make the revenue adjustments.
	• Uncertain costs also have an impact on consumers bills as they lead to changes to network companies allowed revenue.
Can the drawbacks be reduced?	• The drawbacks are minimal. The alternatives would be either greater compensation for the company to manage the additional risk (e.g. larger cost of equity) or the provision in ex ante allowances. The former would then require a mechanism for unspent allowances to be returned (a strong possibility), thus not removing the drawback of additional process noted above as a drawback.
	• An alternative uncertainty mechanism to a reopener could be pass through but when the need becomes certain the costs are within our control to manage efficiently. As such, it is better that they are subject to the TIM sharing factor whereby we will be incentivised to find cost efficiencies.
Explanation of how on balance, the mechanism delivers value for money while protecting the ability to finance efficient delivery.	<ul> <li>On balance, adjusting the Totex allowances when the need becomes certain but ensuring the costs are subject to an efficiency assessment and to the ongoing efficiency incentive (TIM sharing factor) provides the optimal solution for both the company and for consumers balancing risk, process, keeping costs down, and funding only when the need is more certain.</li> </ul>

### A7.6. Legislative, policy or engineering standards changes

We are governed by legislation and engineering standards when developing our network. We must be able to respond to substantively changed outputs as a direct consequence of changes in legislation, policy and standards in order to meet the needs of consumers and other network users, and in a way that will still allow us to deliver the schemes and projects required and avoid delaying key projects to the detriment of network users and consumers. There is no Mid-Period review which would consider changes to outputs available in RIIO-T2, but a reopener mechanism is proposed to deal with the uncertainty to continue to deliver for consumers.

lssue	Why a re-opener is necessary
Where does the ownership of risk lie in	• Where the costs and level of activity are outside our control it is better to determine cost allowances when the need and associated cost is more certain.
relation to the uncertainty?	• To do so prematurely during the price control review can introduce a risk premium as the continued uncertainty may result in consumers paying more than is necessary to efficiently delivery the required output in each of these areas.
	• There is huge uncertainty in the current political climate, with the threat of Brexit and the unknown implications and costs associated with being removed from Europe. Other potential legislative, policy or engineering standards changes which may create uncertainty during the RIIO-T2 period includes: System Operator-Transmission Owner Code (STC), the Energy Code Review, Significant Code Review, the Security and Quality of Supply Standard (SQSS) flood resilience requirements, HSE's Electricity Safety, Quality and Continuity Regulations (ESQCR), and the Energy Data Taskforce data requirements (BEIS).
Materiality of issue	• We must be able to respond to substantively changed outputs as a direct consequence of changes in legislation, policy and standards in order to meet the needs of consumers and other network users, and in a way that will still allow us to deliver the schemes and projects required and avoid delaying key projects to the detriment of network users and consumers.
	• We are undertaking analysis of the potential implications and costs associated with a potential Brexit deal or no-deal. However, due to the uncertainty around this event it is impossible for us to outline the materiality of the issue at this point in time. There is potential for further legislative, policy or engineering changes which may result in a cost for network companies with no associated allowances, again as these are uncertain it is impossible for us to identify the materiality of the issue.
Frequency and probability of issue over the price control period	• Given the current uncertainty around the political landscape in the UK at the moment there is high potential for network companies to experience unforeseen costs resulting from changes to legislation, policy or engineering standards during the RIIO-T2 price control.
What is the proposed mechanism?	• There is no Mid-Period review which would consider changes to outputs available in RIIO-T2, but a reopener mechanism is proposed to deal with the uncertainty to continue to deliver for consumers. A re-opener mechanism at both the mid-period and end of the price control to adjust allowed revenues to deal with any costs resulting from legislative, policy and engineering standards changes. The re-opener will consider any changes in the threat landscape within scope and may adjust allowed revenue either up or down.
	<ul> <li>It is necessary to establish a materiality threshold for each individual reopener mechanism to control the number and frequency of changes to allowances. We suggest 1% of Base Revenue in line with that applied in RIIO-T1</li> </ul>
	• The costs should be logged-up and if the costs of all our reopeners reach a threshold of 3% of Base Revenue then the incurred costs should be subject to an efficiency review at the end of the price control period. Where costs are deemed to have been efficiently incurred, a one-off Regulatory Asset Value (RAV)/cash adjustment should be made at the end of the price control and should also reflect the costs of financing this expenditure during the period. This should not limit the option to apply for a re-opener and to recover these costs within the period where the materiality threshold has been exceeded.

What are the justifications for the mechanism? Set out the benefits of the mechanism.	<ul> <li>Uncertainty mechanisms, such as reopeners, allow changes to a company's allowed revenues to be made in light of what happens during the price control period and help to ensure that consumers only pay for the outputs that are delivered.</li> </ul>
	• It is better to determine cost allowances when the need and associated cost is more certain. To do so prematurely during the price control review can introduce a risk premium as the continued uncertainty may result in consumers paying more than is necessary to efficiently delivery the required output in each of these areas
	• Reopeners allow us to deal with changes within the price control which could not be assumed or forecasted at the outset and is out with our control. These changes could lead to considerable investment and a reopener can adjust allowed revenue to cover these costs.
What are the drawbacks of the proposed mechanism?	<ul> <li>Additional process for network companies to make a reopener submission, for Ofgem to assess the submission and then to make the revenue adjustments.</li> </ul>
	• Uncertain costs also have an impact on consumers bills as they lead to changes to network companies allowed revenue.
Can the drawbacks be reduced?	• The drawbacks are minimal. The alternatives would be either greater compensation for the company to manage the additional risk (e.g. larger cost of equity) or the provision in ex ante allowances. The former would then require a mechanism for unspent allowances to be returned (a strong possibility), thus not removing the drawback of additional process noted above as a drawback.
	• An alternative uncertainty mechanism to a reopener could be pass through but when the need becomes certain the costs are within our control to manage efficiently. As such, it is better that they are subject to the TIM sharing factor whereby we will be incentivised to find cost efficiencies.
Explanation of how on balance, the mechanism delivers value for money while protecting the ability to finance efficient delivery.	<ul> <li>On balance, adjusting the Totex allowances when the need becomes certain but ensuring the costs are subject to an efficiency assessment and to the ongoing efficiency incentive (TIM sharing factor) provides the optimal solution for both the company and for consumers balancing risk, process, keeping costs down, and funding only when the need is more certain.</li> </ul>

# A7.7. Electricity System Operator (ESO) driven works (including Black Start)

Through the Planning Request mechanism under System Operator - Transmission Owner Code Procedures (STCP), the ESO can directly ask us, as the TO, to undertake work for which no ex ante allowances have been set. For example, during RIIO-T1, we had several inter-trip projects that the ESO asked us to progress through this mechanism. Given the changing and evolving nature of the network giving rise to new system requirements and the widening scope of the ESO to look at wider system issues and solutions, we believe such requests are likely to continue, if not increase. We do not have certainty of what the projects or requests will involve but it is important that we are able to respond to the ESO and efficient cost allowances are provided to meet the requests.

lssue	Why a re-opener is necessary
Where does the ownership of risk lie in relation to the uncertainty?	• Where the costs and level of activity are outside our control it is better to determine cost allowances when the need and associated cost is more certain.
	• To do so prematurely during the price control review can introduce a risk premium as the continued uncertainty may result in consumers paying more than is necessary to efficiently deliver the required output in each of these areas.
Materiality of issue	• Given the uncertainty surrounding the number of potential requests from ESO it is difficult to fully quantify the materiality on expenditure.
	• In RIIO-T1, Ofgem provided a baseline allowance through the Transmission Support Services (TSS) to allow TO's carry out schemes aimed primarily at improving the efficiency of system operation. This pot was for relatively small investments on the network and is driven by the System Operator (SO). SHE Transmission received £2.5m to deliver generator management through inter- trips. However, throughout the period received a number of requests from the ESO to deliver schemes to provide reactive power for voltage control.
Frequency and probability of issue over the price control period	• The frequency and probability of ESO requests are also difficult to quantify. However, given the number of requests received through the RIIO-T1 period and the potential for accelerated decarbonisation through RIIO-T2, these ESO requests for Black Start, reactive power and inter-trip solutions are likely to increase.
	• With the GB energy industry decarbonising, large power stations have been closing and being replaced with renewables. This will increase the probability that the ESO will need TO's to provide network solutions/systems to ensure that the network has the Black Start capability in the decarbonised world. This is of concern in Scotland, where the ESO, TOs and Government have been working to establish a new Black Start procedure.
	• Reactive power is required for voltage control. As the GB energy industry transitions to a greater decentralised and decarbonised electricity system, the ESO has indicated that it needs access to new sources of reactive power. The ESO will test regulated network solutions for reactive power against other commercial options.
What is the proposed mechanism?	• A re-opener mechanism at both the mid-period and end of the price control to adjust allowed revenues for ESO driven works.
	<ul> <li>It is necessary to establish a materiality threshold for each individual reopener mechanism to control the number and frequency of changes to allowances. We suggest 1% of Base Revenue in line with that applied in RIIO-T1</li> </ul>
	• The costs should be logged-up and if the costs of all our reopeners reach a threshold of 3% of Base Revenue then the incurred costs should be subject to an efficiency review at the end of the price control period. Where costs are deemed to have been efficiently incurred, a one-off Regulatory Asset Value (RAV)/cash adjustment should be made at the end of the price control and should also reflect the costs of financing this expenditure during the period. This should not limit the option to apply for a re-opener and to recover these costs within the period where the materiality threshold has been exceeded.
What are the justifications for the mechanism? Set out the benefits of the mechanism.	<ul> <li>Uncertainty mechanisms, such as reopeners, allow changes to a company's allowed revenues to be made in light of what happens during the price control period and help to ensure that consumers only pay for the outputs that are delivered.</li> </ul>

	<ul> <li>It is better to determine cost allowances when the need and associated cost is more certain. To do so prematurely during the price control review can introduce a risk premium as the continued uncertainty may result in consumers paying more than is necessary to efficiently delivery the required output in each of these areas</li> </ul>
	• Reopeners allow us to deal with changes within the price control which could not be assumed or forecasted at the outset and is outside our control. These changes could lead to considerable investment and a reopener can adjust allowed revenue to cover these costs.
	• Rather than a volume driver based on a £/per output delivered, e.g. a reactor for voltage control, the reopener mechanism allows for innovative solutions to be implemented that would be to the benefit of consumers.
What are the drawbacks of the proposed mechanism?	• Additional process for network companies to make a reopener submission, for Ofgem to assess the submission and then to make the revenue adjustments.
	• Uncertain costs also have an impact on consumers bills as they lead to changes to network companies allowed revenue.
Can the drawbacks be reduced?	• The drawbacks cannot be mitigated as network companies. The alternative would require greater compensation for the company to manage the additional risk (e.g. larger cost of equity) or provision in ex ante allowances which Ofgem would need to clawback unspent or inefficient expenditure or provide further allowances for justified expenditure, thus not removing the process point above.
	• An alternative uncertainty mechanism to a reopener could be pass through but when the need becomes certain the costs are within our control to manage efficiently. As such, it is better that they are subject to the TIM sharing factor whereby we will be incentivised to find cost efficiencies.
Explanation of how on balance, the mechanism delivers value for money while protecting the ability to finance efficient delivery.	<ul> <li>On balance, adjusting the Totex allowances when the need becomes certain but ensuring the costs are subject to an efficiency assessment and to the ongoing efficiency incentive (TIM sharing factor) provides the optimal solution for both the company and for consumers balancing risk, process, keeping costs down, and funding only when the need is more certain.</li> </ul>



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