RIIO-ED2 Methodology Decision: Annex 1 - Delivering value for money services for consumers

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The next electricity distribution price control (RIIO-ED2) will start on 1 April 2023. This is our decision on the methodology we will use to set this price control.

This document sets out our decisions for the outputs we expect companies to deliver in RIIO-ED2. This document is an Annex to the RIIO-ED2 Methodology Decision Overview document and should be read alongside it.

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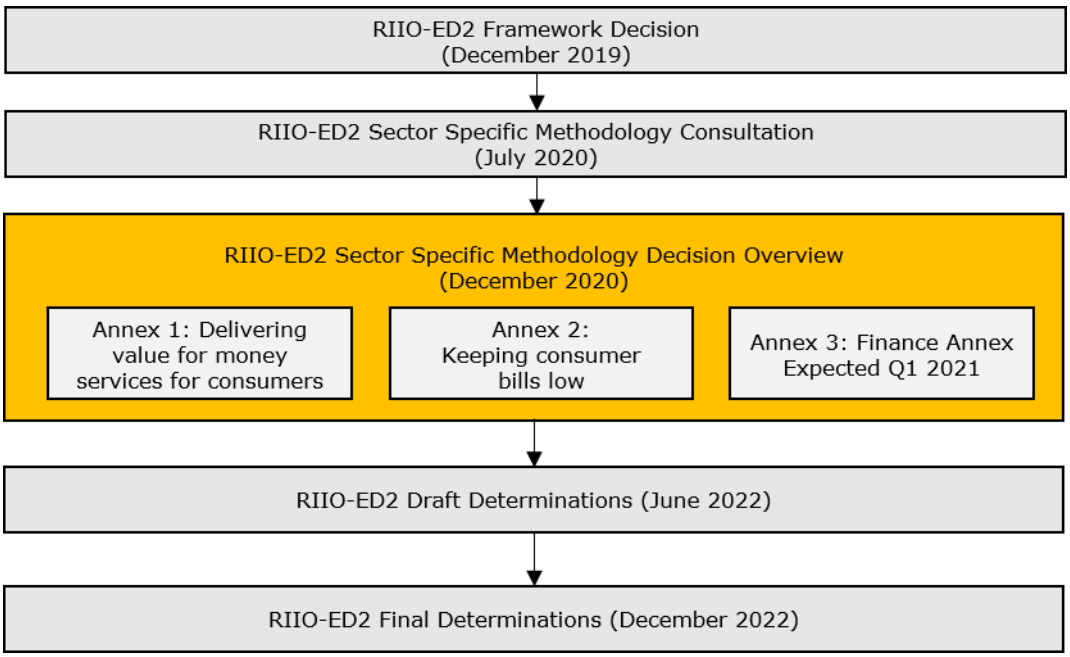
1. Introduction

1.1 In July 2020, we published our Methodology Consultation which set out our proposed approach to the RIIO-ED2 price control.[1] Annex 1 of our Consultation focused on the application of the RIIO-2 Framework with a specific regard to the outputs we expect the Distribution Network Operators (DNOs) to deliver.

1.2 This document forms part of our decision on the RIIO-ED2 methodology and focuses on the output and incentive arrangements we will apply.

1.3 Figure 1 sets out how this document fits in with the wider RIIO-ED2 Methodology Decision.

Figure 1: RIIO-ED2 Sector Methodology document map



[1] RIIO-ED2 Sector Specific Methodology Consultation: https://www.ofgem.gov.uk/publications-and-updates/riio-ed2-sector-specific-methodology-consultation

2. Overview of outputs and incentives

2.1 Table 1 outlines the output and incentive arrangements that will apply to the DNOs during RIIO-ED2, grouped based on output categories and defined by output type. Table 1 also sets out the chapters of this document that include our decisions for each output.

Table 1: Summary of outputs and incentives

Output name	Output type	Location in document
Deliver high quality customer service		
Customer Satisfaction Survey	Financial Output Delivery Incentive (ODI-F)	Chapter 4
Complaints Metric	ODI-F	Chapter 4
Provide a quality service for consumers seeking a connection		
Time to Connect	ODI-F	Chapter 5
Improving Service Standards for Major Connection Customers	ODI-F	Chapter 5
Connections Guaranteed Standards of Performance	Licence obligation (LO)	Chapter 5
Support consumers in vulnerable situations		
Obligation to treat customers fairly, including those in vulnerable situations	LO	Chapter 6
Improving Service Standards for Vulnerable Customers	ODI-F	Chapter 6
Maintain world class levels of reliability		
Interruptions Incentive Scheme	ODI-F	Chapter 7
Guaranteed Standards of Performance	LO	Chapter 7
Worst Served Customers	Price Control Deliverable (PCD)	Chapter 7
Ensure long term safety and resilience		
Network Asset Risk Metric	PCD, ODI-F	Chapter 8
Workforce Resilience	N/A	Chapter 8
Cyber Resilience IT	PCD, LO	Chapter 8

Cyber Resilience OT	Use-it-or-lose-it allowance (UIOLI), PCD, LO	Chapter 8
Environmental Resilience	LO	Chapter 8
Deliver an environmentally sustainable network		
Environmental framework, including Environmental Action Plans, Annual Environmental Report and Environmental Scorecard	LO, Reputational Output Delivery Incentive (ODI-R) and ODI-F	Chapter 9
Environmental Re-opener	Re-opener	Chapter 9
Undergrounding in Areas of Outstanding Natural Beauty (AONBs) and National Parks (NPs)	UIOLI	Chapter 9

3. Overarching decisions for RIIO-ED2 outputs and incentives

Chapter summary

In this chapter, we outline the overarching methodology decisions we will implement to ensure that RIIO-ED2 delivers what consumers want and value from their DNOs.

Introduction

3.1 In our RIIO-ED2 Framework Decision,[2] we confirmed that we would continue to use outputs and incentives to ensure DNOs deliver projects and services that are valued by consumers.

3.2 These output and incentive arrangements will take the form of licence obligations (LOs) and price control deliverables (PCDs) to ensure delivery of projects and services that companies are funded for. We will also use output delivery incentives (ODIs) to ensure DNOs are encouraged to deliver performance improvements in areas that are of most value to current and future consumers. These ODIs may be financial (ODI-F) or be reputational (ODI-R).

3.3 The remainder of this chapter sets out our decisions on the application of bespoke outputs for RIIO-ED2.

[2] https://www.ofgem.gov.uk/publications-and-updates/riio-ed2-framework-decision

Bespoke outputs

Table 2: Bespoke outputs decision table

Purpose	Ensures output arrangements reflect the individual characteristics of the electricity distribution networks and drive service quality that is of most value to current and future consumers.
Decisions	We ask that DNOs only submit proposals for bespoke outputs on issues that are of material importance to consumers. To reflect this, we expect DNOs to consider proposals for bespoke outputs that are likely to have the following values: • For bespoke ODI proposals, between 0.25% and 1% of base revenue • For bespoke PCD proposals, above a threshold of £15m per project.

Our Consultation position

3.4 We want to ensure output and incentive arrangements for RIIO-ED2 deliver value for money for consumers. In our Consultation, we proposed that there would be opportunities for DNOs to suggest bespoke outputs that reflect the individual characteristics of their network, and which drive service quality that is of most value to current and future consumers. We proposed that we would assess bespoke proposals as part of our review of companies' business plans.

3.5 We set out that DNOs' bespoke proposals should be underpinned by robust analysis (eg cost benefit analysis (CBAs)), demonstrating value for money for consumers. DNOs should also provide evidence on the extent to which proposals have been scrutinised by stakeholders, such as through the enhanced engagement process.

3.6 We acknowledged that some bespoke proposals may only be appropriate in the specific circumstances of the DNO making the proposal. However, where proposals may have wider applicability - such as across the whole electricity distribution sector - we encouraged DNOs to collaborate on proposals. Further, we outlined that we may be more likely to accept proposals that we expect to drive performance for all, or wider groups of, consumers.

Bespoke ODIs

3.7 We proposed setting upper and lower limits on the value of bespoke ODIs of 0.25% up to 1% of base revenue (ie the maximum reward or penalty available under a bespoke ODI should be at least 0.25% but not more than 1% of base revenue). We considered that the upper value would help to ensure focus on core, common output areas while limiting the potential cost to consumers that might come from rewards on performance in new output areas where there is no significant track record. We considered that the lower value would help to ensure that only sufficiently material proposals are brought forward.

Bespoke PCDs

3.8 We proposed a minimum value for bespoke PCDs of £15m. We considered that the provision of a minimum value would help to promote a consistent approach between DNOs in their approach to bringing forward bespoke PCD proposals, whilst also ensuring proposals are sufficiently material.

Responses to our Consultation

3.9 Most respondents were supportive of the introduction of bespoke outputs in RIIO-ED2. Some respondents, however, noted that they do not think bespoke outputs should play a significant role in the price control. One respondent noted that Ofgem is already covering all key areas and that bespoke outputs will deliver limited benefits to customers, whilst adding complexity and administrative burden.

3.10 One respondent urged Ofgem to ensure the design of bespoke outputs encourages DNOs to bring forward proposals that can be applied across the electricity distribution sector.

3.11 Some respondents expressed their view that few bespoke outputs had been provisionally accepted in the RIIO-2 Draft Determinations for the gas distribution and transmission network operators. They urged Ofgem to provide more clarity on our expectations for the level of supporting evidence required to justify proposals in business plans. One respondent added that this would be needed to ensure that DNOs do not spend disproportionate time developing bespoke outputs that Ofgem considers to be of limited value and are ultimately not accepted.

Bespoke ODIs

3.12 Most respondents agreed with our proposal to set upper and lower limits on the value of bespoke ODIs. Some DNOs, however, noted that it may be too early in the process to set definitive values on these limits. One DNO suggested that Ofgem should retain some flexibility in its application of a minimum value approach to allow for a package of measures that deliver significant benefits but may include individual elements of less than 0.25% base revenue. Another noted that Ofgem should still assess bespoke ODI proposals that exceed the upper limit and that these proposals should be evaluated on their merits. Another DNO suggested that the upper limit should not apply where Ofgem deems a bespoke ODI to be applicable to all companies.

3.13 One DNO noted that Ofgem should cross-check the lower limit for ODI-Fs to ensure the bespoke limits do not end up being higher than any of the common ODI-Fs. For example, if a common ODI-F has a financial exposure of 0.2% of base revenue, then Ofgem should consider lowering the bespoke ODI lower limit to align with this.

Bespoke PCDs

3.14 Most respondents agreed with our proposal to set a minimum value for bespoke PCDs, with many highlighting that doing so provides greater clarity and would help drive consistency in DNOs' approaches to developing proposals for their business plans. Some respondents highlighted that bespoke PCDs will require a level of additional administration from both Ofgem and the DNO and that a minimum threshold ensures that the cost of administration is proportionate to the size of a project.

3.15 As with bespoke ODIs, some DNOs felt that it is too early in the process to set a lower limit for bespoke PCDs and that the need for any minimum value should be reviewed once the overall package of incentives is clearer.

3.16 One DNO sought clarity on whether the threshold would apply per licensee or per DNO. For instance, where there is support for the work across all DNO's licensees, but the value is below the threshold for one licensee.

3.17 One DNO agreed with the limit of £15m on the condition that it is clear not all projects greater than £15m in value would be a PCD. The DNO urged Ofgem to

develop a clear framework for when PCDs will be applied and the extent to which they will be defined as an outcome or as an input or specific solution.

3.18 One DNO disagreed with the minimum value of £15m and suggested that the value should instead be 1% of base revenue, to align with materiality threshold for re-openers. This would mitigate the risk of inadvertently excluding or disincentivising PCD proposals.

3.19 One DNO considered £15m to be an arbitrary value. It noted that alongside a value, other factors (such as what type of work lends itself to PCD assessment) should be considered in developing PCD eligibility criteria.

Reasons for our decision

3.20 For RIIO-ED2, there will be an opportunity for DNOs to submit proposals for bespoke outputs on issues that are of material importance to consumers. We will assess bespoke proposals as part of our review of companies' business plans.

3.21 We recognise that some bespoke proposals may only be appropriate in the specific circumstances of the DNO making the proposal. However, where proposals have wider applicability, we encourage DNOs to collaborate on proposals. We may be more likely to accept proposals that we expect to drive performance for all, or wider groups of, consumers.

Bespoke ODIs

3.22 For RIIO-ED2, we will ask that licensees propose bespoke ODIs in their business plans that are likely to fall within the parameters of 0.25% and 1% of base revenue (ie the value of the reward or penalty under a bespoke ODI should be at least 0.25% but not more than 1% of base revenue).[3]

3.23 We consider the provision of parameters to be a useful guide which should help avoid a situation where companies and stakeholders are surprised or disappointed if we subsequently reject a proposal.

3.24 We consider that proposals below 0.25% base revenue may either concern services that are not of material importance to consumers or, where this is the

[3] We recognise that companies will not know the exact monetary value of 0.25% or 1% of base revenue when developing bespoke proposals in their business plans. We will, therefore, ask that DNOs exercise their judgement by referring to RIIO-ED1 and incorporating assumptions for RIIO-ED2 when attributing values to bespoke ODI proposals.

case, that the incentive strength may not be sufficient to attract management focus away from other more strongly incentivised activities.

3.25 Performance against proposals over 1% base revenue could have a material impact on a company's financial performance and consumer bills. We would therefore require significant evidence of consumer value, historical and current performance, as well as the relative level of performance currently being delivered by one DNO in relation to other DNOs. We think this level of evidence is unlikely to be provided in relation to a proposal for a bespoke output.

3.26 We are, therefore, indicating that proposals that are significantly higher or lower than these parameters are likely to be rejected unless there is strong and compelling evidence of their value.

3.27 We will assess all proposals on their merits in accordance with our principal objective and statutory duties. Our decision in this document is in relation to what we expect licensees to submit in their business plans to minimise the risk of redundant effort on the part of DNOs and stakeholders.

3.28 In their Consultation responses, a number of DNOs sought further clarity from Ofgem regarding our expectations of the type and level of supporting evidence and justification of bespoke ODIs in business plans. We expect bespoke proposals to be underpinned by robust analysis (eg CBAs) demonstrating value for money for consumers. DNOs should also provide evidence on the extent to which proposals have been scrutinised by stakeholders, eg through the enhanced engagement process.

3.29 In addition, we consider that DNOs should include as part of their justification an explanation as to why the bespoke ODI is required in addition to the common RIIO-ED2 arrangements. This should include DNOs setting out why the suite of RIIO-ED2 outputs and incentives will not drive the outcomes to be delivered by the bespoke proposal. DNOs may wish to engage with Ofgem to discuss the development of bespoke ODI proposals in the run up to the submission of business plans.

Bespoke PCDs

3.30 For RIIO-ED2, we will ask that DNOs propose bespoke PCDs valued in excess of £15m per project. As with bespoke ODIs, we consider setting a threshold will

ensure DNOs and stakeholders focus on issues that are material in the overall context of the price control and will also promote a consistent approach between DNOs when developing proposals for business plans.

3.31 In RIIO-ED2, we will use PCDs to capture outputs that are directly funded through the price control and where the funding is not transferrable to a different project or output. The purpose of PCDs is to ensure that the conditions attached to the funding of an activity are clear up-front. In some cases, allowances will be recovered automatically through a formula defined in the licence. For others, depending on the complexity of the PCDs, we will undertake ex post reviews to determine the delivery status and extent of associated claw back (if any). We recognise that bespoke PCDs will require a level of additional administration during the price control by both Ofgem and DNOs. We, therefore, need to ensure that the benefit to consumers of accepting a proposal as a bespoke PCD is not outweighed by the costs associated with its administration. We are therefore indicating that proposals that are significantly lower than £15m are likely to be rejected, unless there is strong and compelling evidence of their value.

3.32 We consider the provision of a threshold to be a useful guide which should help to avoid a situation where companies and stakeholders are surprised or disappointed if we subsequently reject a proposal.

3.33 We will assess all proposals on their merits in accordance with our principal objective and statutory duties. Our decision in this document is in relation to what we expect licensees to submit in their business plans and for the purpose of minimising the risk of redundant effort on the part of DNOs and stakeholders.

3.34 A number of stakeholders sought clarity on how the £15m threshold will be calculated and whether it will apply per licensee or per DNO group. We recognise that some projects may be specific to a DNO's licence area, whereas others may be applicable to all DNO's licensees. In bringing forward proposals for bespoke PCDs, we expect DNOs to consider the appropriate level at which to pitch their proposal, for example as a specific project or as an aggregated volume of activity to be delivered across several projects. PCD proposals may be specific to one of a DNO's license or applicable across all licensees.

4. Deliver high quality customer service

Chapter summary

In this chapter, we outline the output and incentive arrangements we will implement to ensure DNOs respond to the needs of their customers in RIIO-ED2. This includes customers who experience a supply interruption, have a general enquiry or are seeking a new connection to the electricity distribution network. It also includes our approach to ensuring DNOs manage customer complaints effectively.

Introduction

4.1 We expect DNOs to deliver high quality services that meet customers' needs. For RIIO-ED2, we expect DNOs to continue to improve the quality of service provided to customers that require a new connection, seek information from the network in the event of a supply interruption or have made a general enquiry. We also expect DNOs take the necessary steps to ensure that complaints are dealt with quickly and effectively.

4.2 The decisions in this chapter set out how our RIIO-ED2 methodology will achieve this by capturing key interactions with customers, embedding the significant gains the DNOs have made in these areas in the current price control, and ensuring targets are set to reflect improvements in service provided in RIIO-ED1.

4.3 This chapter sets out our decisions in areas outlined in Figure 2.

Figure 2: Overview of customer service

Customer Satisfaction Survey

Table 3: Customer Satisfaction Survey decision table

Purpose	To encourage DNOs to continue to improve the quality of customer service delivered to customers and to reward exceptional performance.
Decisions	• Retain the Customer Satisfaction Survey as an ODI-F in RIIO-ED2, including the scope and associated weightings for each of the three surveys, as well as the overall incentive strength of +/-1% base revenue. • Require separate reporting of the levels of satisfaction awarded by Priority Service Register (PSR) customers who experience a supply interruption, and low carbon technology (LCT) customers who seek a new connection or have a general enquiry. • Set RIIO-ED2 targets, and minimum and maximum reward and penalty scores, that reflect RIIO-ED1 performance improvements: - Apply fixed targets using industry average performance data over the most recent years of RIIO-ED1. - Apply an upside and downside deadband around new target scores.

Our Consultation position

Scope of surveys, associated weightings, and overall incentive strength

4.4 We proposed to retain the Customer Satisfaction Survey (CSS) as a financial ODI for RIIO-ED2. We proposed to retain the interruptions, connections and general enquiries surveys, as well as the weightings attributed to each of the surveys, which in RIIO-ED1 are 30%, 50% and 20% respectively. We proposed to retain the overall financial exposure of the incentive of +/-1% base revenue.

4.5 We consulted on whether to extend the existing connections survey to include certain small to medium connection customers that are not currently captured. Responses to this proposal, our decision and rationale are covered in Chapter 5, which sets out our decisions to ensure DNOs provide a quality service to customers seeking a connection.

Separate reporting of PSR and LCT customers

4.6 For RIIO-ED2, we want to ensure the survey captures the experience of different types of customers. We therefore proposed to require DNOs to separately report on the satisfaction scores awarded by PSR customers who experience a supply interruption, as well as satisfaction scores awarded by customers who are installing or operating LCTs connected to the distribution network.

Target setting and calculating rewards and penalties

4.7 To ensure that poor performance is penalised in RIIO-ED2 and that excellent performance is rewarded, we:

- proposed to set initial targets using industry average performance data from RIIO-ED1 and consulted on whether static or dynamic targets should be used. Our preferred option was to apply static targets because we recognised the significant gains that have already been made in RIIO-ED1. We considered that improvements in RIIO-ED2 could be incremental, meaning that any recalibration within period could result in little to no changes to targets

- consulted on options for how rewards and penalties should be calculated. Our preferred approach was that rewards and penalties should be available based on performance against a target score, and that rewards

should apply to scores in the upper quartile, while penalties should apply to scores below the average. We proposed to introduce a deadband between the RIIO-ED1 average score and the upper quartile score where no financial incentive would apply. This would allow us to bank RIIO-ED1 performance and only reward the top performers in RIIO-ED2.

4.8 We also proposed to continue to factor in the number of unsuccessful calls when calculating DNO performance under the interruptions survey in RIIO-ED2. This would ensure DNOs are driven to answer customer calls quickly and minimise the number of calls that are "unsuccessful".[4]

Responses to our Consultation

Scope of surveys, associated weightings, and overall incentive strength

4.9 There were mixed views on the proposed weightings for each customer category. Most non-DNO respondents supported the proposals, but some DNOs felt that retaining the weighting of the connections survey (at 50%) would detract focus away from interruptions and general enquiries, including LCT and PSR customers.

4.10 Respondents who commented on the current incentive strength were supportive of retaining the +/- 1% incentive rate.

Separate reporting of PSR and LCT customers

4.11 Most respondents were supportive of our proposal to require separate reporting of the levels of satisfaction experienced by PSR and LCT customers. Several stakeholders highlighted that enhanced visibility of the satisfaction of these customers would ensure these customers are not left behind and, where needed, would enable DNOs to identify areas for improvement.

4.12 One non-DNO respondent cautioned that requiring separate reporting of satisfaction scores awarded by PSR customers experiencing supply interruptions

[4] During supply interruptions, DNOs receive calls from customers asking when their supply will be restored and during large outages customers may be unable to reach the DNO because the number of calls significantly increases. Customers that are unable to reach the DNO during these periods are not interviewed as part of the customer satisfaction survey because they have not engaged with the DNO. However, we think it is important that DNOs answer customer calls quickly and minimise the number of calls that are 'unsuccessful'. Under the interruption element of the customer satisfaction survey in RIIO-ED1, DNOs are penalised 0.02% of annual base revenue for each 1% of calls to the DNO that are unsuccessful.

might disincentivise companies from registering as many eligible people as possible on the PSR.

4.13 One DNO queried our rationale for requiring the separate reporting of LCT customer satisfaction. They noted that in the near-term, LCTs are likely to be taken up by more affluent customers and that driving enhanced focus on this group could be at odds with identifying and removing blockers for customers who are more likely to be left behind by the energy system transition.

4.14 For connections and general enquiries, whether the customer has an LCT or not can be identified by the nature of the customer's request. Two DNOs noted that accurately identifying whether a customer who is experiencing an interruption is an LCT customer would be more difficult and require asking the customer for additional information.

4.15 Some DNOs considered that scores awarded by PSR and LCT customers should be separately financially incentivised to cover anticipated costs of providing a tailored service to meet their requirements.

Target setting and calculating rewards and penalties

4.16 All respondents broadly agreed that RIIO-ED2 targets should be set to maintain the high levels of customer satisfaction achieved in RIIO-ED1.

4.17 Most respondents supported our preferred option to set static targets for the RIIO-ED2 surveys commonly across all DNOs and there was broad support for using average historical performance from RIIO-ED1 to set targets.

4.18 Some DNOs, however, expressed a preference for the approach used in RIIO-ED1 to use UK Customer Satisfaction Index (UK CSI) data to set targets. These DNOs expressed concerns that the use of sector performance data with comparatively higher customer satisfaction scores, may lead to setting very high targets that are too difficult to achieve, which subsequently may discourage companies from investing in further improvements. In contrast, three non-DNO respondents agreed with our proposal to use sector performance data to set targets in RIIO-ED2. One respondent suggested this was appropriate as outperformance in the sector in first half of the price control indicated that 'good' levels of service for the sector are higher than for the gas distribution sector. Two DNOs suggested that data obtained during COVID-19 years should be

discounted due to customer satisfaction standards being unrepresentative during this period.

4.19 One non-DNO respondent (a consumer body) supported targets being based on the most recent few years of average performance in the sector. Another non-DNO respondent (industry body) was of the view that to avoid out-performance of targets before the price control begins, a target-setting methodology should be set out at Draft Determinations and updated at Final Determinations, with targets then being updated once out-turn RIIO-ED1 performance data becomes available.

4.20 Some DNOs expressed concern that in addition to setting targets too high, the proposed deadband could weaken the incentive in RIIO-ED2. These DNOs suggested that the introduction of an upside deadband would reduce the incentive for average performing companies to improve. Another DNO suggested care would need to be taken to ensure that the incentivised range is not too narrow resulting in an incentive rate that is too sensitive to relatively small changes in performance. One DNO suggested the use of a symmetric deadband to provide protection against penalties for scores that fall within a threshold below the average target which reflect a 'good' standard of performance.

Reasons for our decision

Scope of surveys, associated weightings, and overall incentive strength

4.21 We have decided to adopt our Consultation position and retain the survey weightings as applied in RIIO-ED1. The surveys and associated weightings are set out in Table 4. We consider that the weightings attributed to the surveys reflect their relative priority. While DNOs are meeting their survey target scores, DNOs' performance under the connections survey is consistently poorer than under the other two surveys. We therefore consider it appropriate that the connections survey continues to be weighted at 50% (ie +/-0.5% base revenue) to drive further performance improvements in RIIO-ED2.

4.22 We also consider that the financial exposure of +/-0.5% of base revenue for the connections element of the survey is appropriate for RIIO-ED2 as we are retaining the time to connect (TTC) incentive. It is important that overall customer satisfaction is attributed more weighting than timescales for

connection in order to ensure that DNOs do not prioritise speed at the expense of quality in respect of connections services.

4.23 We will adopt our Consultation position and retain the RIIO-ED1 incentive rate of +/-1% base revenue. As outlined in our Consultation, we consider this has been sufficiently strong to drive companies to make significant performance improvements in RIIO-ED1 and that maintaining this incentive should ensure that DNOs improve their services where this is valued by customers and it is cost effective to do so.

Table 4: Survey and customer categories and associated weightings

Surveys and customer categories	Associated weighting
Interruptions (including separate reporting of PSR customers)	30%
Connections (including separate reporting of customers connecting LCTs)	50%
General enquiries (including separate reporting of customers with general enquiries about LCTs)	20%

Separate reporting of PSR and LCT customers

4.24 We have decided to adopt our Consultation position and require separate reporting of the levels of satisfaction experienced by PSR customers who experience an interruption.

4.25 We recognise that customers on the PSR may be more likely to suffer detriment when they experience a loss of supply. We therefore consider that enhanced visibility through separate reporting of the scores awarded by these customers will help drive DNOs to identify specific areas of improvement for consumers in vulnerable situations. We also consider that it will assist us in monitoring DNOs' performance against their Standard Licence Condition (SLC) 10 licence obligation, which requires DNOs to promptly notify and keep PSR customers informed of the time at which their interrupted supply is likely to be restored, as well as keeping them informed of any help that may be available.

4.26 We consider that separate reporting of performance should not discourage companies from referring customers to the PSR. This is because we are not introducing a separate financial incentive for the service provided to this group,

and so a company's performance should not be impacted by the volume of customers on their PSR.

4.27 We have decided to adopt our Consultation position to require separate reporting of the scores awarded by LCT customers who seek a new connection or have a general enquiry, but not of scores awarded by LCT customers who experience a supply interruption. As with PSR customers who experience a supply interruption, we consider it valuable to increase the visibility of the levels of satisfaction experienced by customers who invest in LCTs. The uptake of LCTs is expected to increase in the next price control period, in line with the electrification of heat and transport. We want to ensure there is sufficient visibility of the customer experience when the DNO is delivering services associated with new LCTs.

4.28 We disagree that enhanced visibility could lead to differentiated services that are at odds with identifying and removing blockers for the most likely to be left behind. While we consider it will enable DNOs to identify areas for improvement, there is no separate financial weighting on LCT customers.

4.29 With specific regard to LCT customers who experience a supply interruption, we acknowledge that DNOs may have difficulty in accurately identifying LCT customers. We have therefore decided not to require DNOs to separately report on the satisfaction scores of LCT customers experiencing a supply interruption at this time. We will continue to work with DNOs to establish whether there are alternative ways to identify the service provided to LCT customers during a supply interruption.

4.30 We will not separately incentivise the satisfaction of PSR and LCT customers under the CSS. There is no data available that indicates significantly lower levels of satisfaction for these customers to merit changes to the weightings at the expense of other customers. Additionally, we do not consider that a separate financial incentive is required as PSR and LCT customers are already captured within scope of the incentive and therefore DNOs are incentivised to improve services. Notably, we are introducing a separate financial incentive for DNOs to ensure they provide an appropriate level of support for vulnerable customers. More information on this can be found in Chapter 6.

Target setting and calculating rewards and penalties

4.31 As noted in our Consultation, in many cases DNOs are outperforming the RIIO-ED1 targets and receiving the maximum reward possible under the CSS. For RIIO-ED2, we want to ensure that the high levels of satisfaction are maintained and that targets for rewards continue to encourage excellent performance.

4.32 To embed performance improvements achieved to date, we will set fixed, or "static" targets individually for each of the three surveys, using industry average data from RIIO-ED1. We consider that the use of static targets will embed improvements in performance over RIIO-ED1 and will continue to drive performance to a standard considered to be 'good' at a national level. We will apply these targets for each survey commonly across all DNOs in RIIO-ED2 as we consider all customers should expect to receive the same high level of service.

4.33 We believe it is appropriate to use industry average data over the most recent years of RIIO-ED1 to set survey targets. We are inclined to use the latter four years of the RIIO-ED1 price control but will consult on our use of historical data to set RIIO-ED2 targets at Draft Determinations. Additionally, to ensure we are setting targets using the most recent available data, we will consult on targets at Draft Determinations and update final scores at Final Determinations when more recent performance data is available.[5] We think this will help to ensure targets remain ambitious throughout RIIO-ED2.

4.34 We disagree that using performance data from other industries to set RIIO-ED2 targets would be more appropriate than using RIIO-ED1 performance data. We believe that industry performance standards achieved in the current price control more accurately reflect customer satisfaction levels that are specific to the sector and the methodology used to assess performance.

4.35 As set out above, we will use average performance data from RIIO-ED1 to set new target scores. For RIIO-ED2, we want to ensure that DNOs earn rewards at a level that reflects the consumer benefit delivered through notable service improvements. We consider that there is a level of performance that represents business as usual (BAU) standards that should be neither rewarded nor

[5] At Draft Determinations we will consult on targets using the most recent available data which will include performance data up to the sixth Regulatory Year for RIIO-ED1, 2020-21. We will confirm targets at Final Determinations when we will use performance data up to 2021-22.

penalised in RIIO-ED2. To ensure consumers do not pay for levels of average performance they are already receiving in RIIO-ED1 or small improvements above this, we will introduce a deadband above the new RIIO-ED2 target scores. Similarly, we want to ensure DNOs only incur penalties at a level that reflects the consumer detriment associated with service degradation. Sector-wide performance is currently high, and we consider that if in RIIO-ED2 companies achieve scores just below the targets this will not result in consumer detriment. We will therefore introduce a deadband both above and below the RIIO-ED2 targets. We will consult on exact scores at Draft Determinations.

Next steps

4.36 DNOs have been working together to research potential changes to the methodology and content of all three surveys, focusing primarily on:

- survey channels (the different methods DNOs could use to conduct the survey, such as via email or SMS)
- survey questions (including the types of questions asked, how many and the approach to generating a survey score)

4.37 We will review the research results submitted by the DNOs early next year to consider if changes to the survey channels or questions should be implemented for RIIO-ED2. Should we consider changes to be appropriate, a trial would be necessary to understand any impact of the proposed changes on DNOs' scores.

4.38 We may consider a potential change to our target setting methodology following the results of any new survey trial. If the data is available, we will take into account the trial results in setting RIIO-ED2 targets as part of the process of issuing Draft and Final Determinations.

Complaints Metric

Table 5: Complaints Metric decision table

Purpose	To incentivise DNOs to improve their handling of customer complaints.
Decision	• Retain the Complaints Metric as a penalty only financial ODI in RIIO-ED2. Retain the existing indicators and financial exposure of -0.5%.

	• Set RIIO-ED2 targets and maximum penalty scores that reflect RIIO-ED1 performance improvements. Apply fixed targets using industry average performance data over the most recent years of RIIO-ED1.

Our Consultation position

4.39 We proposed to retain the Complaints Metric in order to improve, performance in RIIO-ED2. We proposed to retain the incentive as penalty-only; with an incentive strength of up to -0.5% of base revenue and using the existing indictors as applied in RIIO-ED1.

4.40 We proposed to set common targets using historical RIIO-ED1 performance, consistent with the target setting approach in RIIO-ED1.

4.41 We also sought views on using static and dynamic approaches for target setting. The use of static targets would mean targets remain consistent throughout RIIO-ED2 whereas dynamic targets would be adjusted annually to include the previous years' score, giving a rolling average of industry performance. Both options would use average industry performance data from RIIO-ED1 to set the initial target. We noted our preferred approach was to use static targets.

Responses to our Consultation

4.42 Overall, respondents were supportive of the proposal to retain the Complaints Metric as a penalty-only financial ODI. It was widely agreed amongst the respondents that retaining an incentive was important to maintain RIIO-ED1 performance levels, whilst noting that DNOs should not financially gain from their performance.

4.43 There was broad agreement with using a static target based on average historical performance data. However, one respondent disagreed that targets should be based upon the average of RIIO-ED1 performance from all available years. They considered that the inclusion of performance in the earlier years may result in an increasingly less relevant benchmark of what consumers currently expect. Instead, they considered that static targets should be set using average performance in more recent years.

4.44 One DNO suggested an indicator measuring the number of complaints on a standardised basis, eg per 10,000, would encourage DNOs to reduce the absolute number of complaints they receive.

Reasons for our decision

4.45 Based on the broad support from respondents for the proposals included in our Consultation, we consider that the Complaints Metric remains fit for purpose for limiting poor performance in RIIO-ED2. We consider a penalty-only design remains suitable because it is inappropriate for a company to earn additional revenue for performance in relation to their complaint handling service and consider the incentive strength to have been sufficient to drive performance improvements in RIIO-ED1. We will therefore retain the Complaints Metric as a penalty only financial ODI in RIIO-ED2 and maintain the incentive strength (up to -0.5% base revenue).

4.46 We consider that the four indicators used to assess performance in RIIO-ED1 are still appropriate for assessing the quality of complaints handling and that changes to the target scores are more appropriate for driving faster complaints resolution, than introducing new indicators. The purpose of the Complaints Metric is to target how DNOs handle complaints they receive and it works alongside the CSS, which targets improvements to customer service. We therefore consider an indicator driving reductions in the absolute number of complaints is unnecessary as the CSS should be incentivising DNOs to keep complaints to a minimum.

4.47 With regards to the target setting methodology, we will adopt a static target using average historical performance data in RIIO-ED1. We consider that setting targets using most recent available RIIO-ED1 performance data will ensure they embed performance improvements gained to date. It will also ensure that DNOs performing below average (at the time the target is set) have a strong incentive to improve.

4.48 We are also mindful of the need to consider the latest performance data that we have available when setting a target. We believe it is appropriate to use industry average data over the most recent years of RIIO-ED1. We are inclined to use the latter four years of RIIO-ED1 but will consult on our use of historical data to set RIIO-ED2 targets at Draft Determinations. Additionally, to ensure we are setting targets using the most recent available data, we will consult on targets

at Draft Determinations and update final scores at Final Determinations when more recent performance data is available.[6]

Removal of Stakeholder Engagement and Consumer Vulnerability Incentive

Table 6: Stakeholder Engagement and Consumer Vulnerability Incentive

Name	RIIO-ED1 licence condition
Stakeholder Engagement and Consumer Vulnerability Incentive	CRC 2C

Our Consultation position

4.49 In our Consultation, we set out that while stakeholder engagement will be critical to effective network operation in RIIO-ED2, we now consider high quality stakeholder engagement to be a business as usual activity for which DNOs are funded through baseline allowances. It is therefore not clear that an output is needed or that DNOs should receive additional reward payments for engaging with stakeholders in RIIO-ED2.

4.50 With specific regards to consumer vulnerability, we set out that we are proposing a package of measures to ensure DNOs embed the progress they have made in addressing vulnerable customers' needs in RIIO-ED2.

Responses to our Consultation

4.51 Most respondents, including the majority of DNOs, were supportive of removing the incentive, with many DNOs noting that stakeholder engagement is now embedded into business as usual operations.

4.52 Two respondents suggested that an amended stakeholder engagement incentive should be retained for RIIO-ED2 as they consider there remains a variation in approaches to engagement across the sector. Of these two respondents, one suggested that we could assess companies against the Accountability Standard AA1000 for Stakeholder Engagement, with all DNOs needing 'advanced' as a

[6] At Draft Determinations we will consult on targets using data for the most recent available data which will include performance data up to the sixth Regulatory Year for RIIO-ED1, 2020-21. We will confirm targets at Final Determinations when we will performance data for 2021-22.

minimum. The other respondent suggested a reformed stakeholder engagement incentive could be developed and incorporated within our wider regulatory approach to strategic investment.

4.53 Many respondents also acknowledged and welcomed our proposal to introduce an ODI-F to drive DNOs to address the needs of consumers in vulnerable circumstances in RIIO-ED2.

Reasons for our decision

4.54 We have decided to adopt our Consultation position and remove the Stakeholder Engagement and Consumer Vulnerability incentive for RIIO-ED2. Stakeholder engagement is a central part of the RIIO-ED2 framework. It is essential for developing a good business plan, and our assessment of business plans through the Business Plan Incentive (BPI) will take account of the quality of engagement carried out by DNOs in developing their plans. We expect companies to submit a clear strategy for stakeholder engagement during the price control period. This strategy for ongoing engagement should be informed by the DNO's Customer Engagement Group (CEG), and should describe how DNOs will incorporate best practice from RIIO-ED1 into their activities.

4.55 Similarly, we think addressing consumer vulnerability issues should be a business as usual activity in RIIO-ED2. With regards to consumer vulnerability, we are proposing a package of measures to ensure DNOs embed the progress they have made in the current price control in RIIO-ED2. More detail on this can be found in Chapter 6.

5. Provide a quality service for consumers seeking a connection

Chapter summary

This chapter describes our decisions for the connections arrangements that we will apply in RIIO-ED2. These are designed to ensure DNOs provide quality services to all customers seeking to connect to the electricity distribution network.

Introduction

5.1 Customers seeking a new connection rely on the DNO to provide them with an efficient, high quality service. However, the type of services a customer requires may depend on the size or type of connection they seek. This in turn may impact upon how performance should be measured and incentivised.

5.2 For connections at the lower voltages - also known as 'minor connections' - the connections process can be reasonably straightforward. For these customers, we think the most important areas to incentivise and measure DNO performance are customer satisfaction and timescales for receiving a quote and a connection to the electricity distribution network.

5.3 For connections at higher voltages and for generation and other unmetered connections - also known as 'major connections' - customers' requirements can be different and more bespoke to individual projects. We also note that some larger customers, depending on their location, may be able to choose between using a DNO or an alternative connections provider. The type of services that customers require, and the presence (or otherwise) of competition, are relevant considerations to take into account when setting price control outputs and incentives.

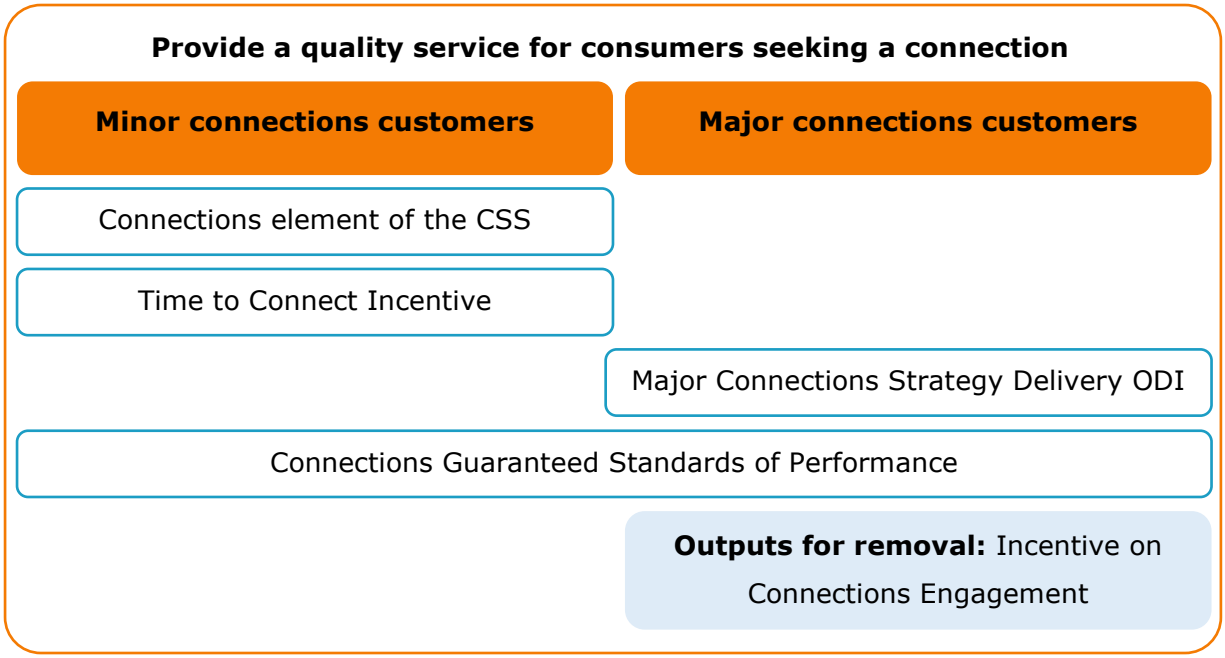
5.4 Where there is effective competition in the provision of a connections service, we do not expose the DNO to incentives on their performance.[7] This is because we consider the presence of competition to be sufficient to ensure consumers in

[7] We introduced, and conducted, the Competition Test assessment process in 2012. DNOs were able to apply to us to have price regulation lifted if they could demonstrate that competition was sufficiently effective to constrain prices in its absence. DNOs had until the end of 2013 to apply to pass the Competition Test.

these market segments receive efficient and high-quality connection services, either from the DNO or from a competitor. Appendix 1 provides more detail on our approach to assessing the level of competition in connections market segments and the impact on setting connection output and incentive arrangements.

5.5 The remainder of this chapter sets out our decisions for RIIO-ED2 to ensure DNOs provide a quality service for consumers seeking a connection. Our decisions cover the areas set out in Figure 3.

Figure 3: Decisions on connections output and incentive arrangements for RIIO-ED2



Connections element of the Customer Satisfaction Survey (minor connection customers)

Table 7: Connections element of the customer satisfaction survey decision table

Purpose	The connections element of the customer satisfaction survey helps to drive improvements in the quality of service DNOs provide to customers seeking a small, or minor, connection.

Decision	Retain the connections survey as part of the Customer Satisfaction Survey for RIIO-ED2, including the scope applied in RIIO-ED1.

Our Consultation position

5.6 We proposed to retain the connections element of the Customer Satisfaction Survey (CSS) RIIO-ED2.

5.7 For RIIO-ED1, we decided that the connections element of the CSS would apply only to those who requested a 'minor connection'. This is because these customers were high in volume, considered to have similar requirements in terms of their connection requests, and because they may not receive a good service from the DNO due to the absence of competition in this part of the market. For RIIO-ED1, these customers were defined as those requiring single service low voltage connections (LVSSA) and small project demand connections (LVSSB).[8] In our Consultation for RIIO-ED2, we proposed to extend this to include some larger, or major, connection customers who have similar characteristics as those requesting LVSSA and LVSSB connections and who form part of a market segment where there is no competition.

Responses to our Consultation

5.8 Most respondents agreed in principle with our proposal to expand the connections element of the survey to capture customers in market segments where there is no competition. These respondents agreed that some major connection customers have more in common with smaller, or minor, connection customers and it could therefore be more appropriate for them to be surveyed under the RIIO-ED2 CSS.

5.9 One respondent noted that the survey should also include non-contestable connections services that DNOs provide to incentivise DNOs to improve their

[8] The connections market segments describe the nature and volume of the work required to complete a customer connection. LVSSA means a small low voltage demand connection to single premises, involving a single-phase connection and no significant other work. LVSSB means a low voltage demand connection, where the scheme requires i) more than one but less than five single-phase connections at domestic premises ii) fewer than five single-phase connections at domestic premises and an extension of the existing network, or iii) single premises requiring a two-phase or three-phase connection.

performance in the services offered to Independent Distribution Network Operators (IDNOs) and Independent Connection Providers (ICPs).[9]

5.10 Some respondents, however, highlighted risks and challenges with expanding the scope of the connections element of the survey. To determine which customers should be captured by the survey, respondents stated that Ofgem would have to review the level of competition in the connections market segments for each DNO. While respondents were broadly supportive of Ofgem reassessing the level of competition in connections, some noted that using the results of a review to amend the scope of the survey would not be without its challenges. Introducing new customers into the survey without historical performance data may mean that targets are set either too high or too low. Additionally, in some DNO regions customers considered for inclusion may be exposed to effective competition. This would mean that we could not apply a common approach to the inclusion of these customers in the survey, thus reducing the comparability of performance between DNOs.

Reasons for our decision

5.11 We have decided to retain the RIIO-ED1 scope of the connections element of the survey and not to expand it beyond LVSSA and LVSSB customers. We recognise that expanding the scope of the survey would involve trade-offs. An absence of historical data on the satisfaction levels of customers in other market segments would make it more difficult to set targets for the survey for RIIO-ED2. Additionally, an amended survey scope would be established by reviewing the level of competition in the connections market segments of each DNO and we consider that the results of such a review would likely differ between DNOs. This means that bespoke targets could be required, thus adding complexity and reducing the comparability of DNOs' performance under the survey in RIIO-ED2. It would also reduce the comparability of DNO performance in RIIO-ED2 compared to RIIO-ED1.

5.12 We consider that the scope of, and proposed approach to, the Major Connections Strategy Delivery ODI will ensure DNOs deliver quality services to major connections customers in RIIO-ED2. Our decision and rationale for introducing

[9] Non-contestable activities are activities that can only be carried out by the DNO. Non-contestable activities currently include determining the point of connection to the distribution system and undertaking upstream reinforcement to the distribution system.

the Major Connections Strategy Delivery ODI can be found in this chapter, from paragraph 5.44 to paragraph 5.79.

5.13 We consider that the same difficulties around target setting and in comparing performance across the sector and across price controls would apply if we were to include non-contestable services provided to ICPs and IDNOs in the connections survey. Additionally, the scale of work required by ICPs and IDNOs seeking non-contestable services from the DNO can be significantly different to the work required to connect LVSSA and LVSSB customers. We therefore do not think that the connections survey is the most appropriate way to incentivise and measure DNOs' performance in the provision of non-contestable services to ICPs and IDNOs. We consider that other arrangements are more appropriate, such as the obligation on DNOs to comply with the Competition in Connections (CiC) Code of Practice.[10] This obligation also requires DNOs to publish a report annually to demonstrate compliance with the CiC Code of Practice. We intend for this obligation to continue to apply in the next price control and our decision is based on that understanding.

Time to Connect Incentive (minor connection customers)

Table 8: Time to connect (TTC) incentive decision table

Purpose	To incentivise DNOs to reduce connection times for customers seeking a small, or minor, connection to the distribution network.
Decision	• Retain the TTC incentive as a financial ODI in RIIO-ED2, including the scope applied in RIIO-ED1. • Introduce penalties and set symmetrical financial exposure of +/-0.4% base revenue. • Set RIIO-ED2 targets, and minimum and maximum reward and penalty scores, that reflect RIIO-ED1 performance improvements:

[10] The CiC Code of Practice describes the services that DNOs must provide to support ICPs & IDNOs (these incorporated best practice identified through the Competition Test process).

	- Apply common static targets using industry average performance data from the most recent four years of RIIO-ED1. - Apply an upside and downside dead-band around a new target score.

Our Consultation position

Scope of the TTC incentive

5.14 In our Consultation, we proposed amendments to the scope of the TTC incentive. As with the connections element of the CSS, we consulted on whether to include additional customers, beyond those requiring LVSSA and LVSSB connections, in the scope of a RIIO-ED2 TTC incentive. We proposed to include larger, or major, connection customers who have similar characteristics as those requesting LVSSA and LVSSB connections and who form part of a market segment where there is no competition.

Introduction of penalties and financial exposure

5.15 While DNOs have improved their performance in RIIO-ED1, we considered there to be room for improvement in RIIO-ED2 and that DNOs should be rewarded where they are able to connect customers in timescales that are on average shorter than they are now. We also considered that penalties should apply to companies whose performance deteriorates in RIIO-ED2.

5.16 We proposed to defer the introduction of penalties until we have more clarity on the impact of any reforms implemented as a result of our review of Access and Forward-looking charges ('Access SCR'). For more information on the potential impacts of the Access SCR on the RIIO-ED2 price control, see Chapter 2 of the Overview document. Under this approach, targets would be set at the beginning of the price control period with reference to RIIO-ED1 performance and a re-opener would enable the resetting of targets within the RIIO-ED2 period.

5.17 We proposed to retain the value of this incentive at +0.4% of base revenue for RIIO-ED2. This recognised that the TTC incentive has been sufficiently strong to drive performance improvements in RIIO-ED1. We also considered this to be appropriate as the incentive rate applied to the connections element of the CSS

is +/-0.5% base revenue, ensuring that a DNO's main priority is satisfying customers.

Target setting approach

5.18 In our Consultation, we proposed to use average DNO performance data to set the minimum reward score. To ensure RIIO-ED2 targets reflect RIIO-ED1 performance improvements, we proposed that this minimum reward score would be set at or below the level applied for the four final years of RIIO-ED1. We considered this would be appropriate to ensure frontier performers would be driven to continue to improve, whilst also driving up the industry average and lead to better performance through baseline funding over time.

5.19 We proposed to adopt the RIIO-ED1 methodology of setting the maximum reward score at 30% below the minimum reward score. We considered that this would allow for a good range to be maintained between the minimum and maximum reward scores.

5.20 We consulted on whether the incentive scale for the TTC in RIIO-ED2 should be linear between the minimum and maximum reward scores, or on a 'hockey stick', so that rewards start small and get bigger as performance moves from the third quartile to the upper quartile.

Responses to our Consultation

Scope of the TTC incentive

5.21 There were mixed views regarding our proposal to expand the scope of the TTC incentive, with a number of stakeholders citing issues with setting targets and reducing the ability to compare performance levels both between RIIO-ED1 and RIIO-ED2 and between DNOs.

Introduction of penalties and financial exposure

5.22 The majority of respondents broadly agreed that there remains room for improvement across the sector and that DNOs will need to continue to seek efficiencies in the connections process in RIIO-ED2 in order to facilitate the transition to Net Zero. One DNO did not support the retention of the TTC in RIIO-ED2, arguing that the rationale for retaining the mechanism is unclear as

customer outcomes would be reflected in the survey scores for the connections element of the CSS.

5.23 The majority of DNOs did not agree with our proposal to introduce penalties. These DNOs cited the success of the RIIO-ED1 mechanism as a reward-only incentive and that other mechanisms in the price control, such as the CSS and Connections Guaranteed Standards, protect customers from receiving poor levels of service. In contrast, non-DNO respondents were supportive of our proposal to introduce penalties, highlighting that this would provide protection for customers in RIIO-ED2 by acting as a deterrent to worsening performance.

5.24 There were mixed views, however, regarding the use of a re-opener to defer the introduction of penalties, with some stakeholders favouring penalties being applied from the beginning of RIIO-ED2. These stakeholders noted that re-openers can be complex, administratively burdensome and add regulatory uncertainty for companies. One respondent commented further that the uncertainty of a re-opener could undermine the TTC incentive and dissuade companies from making improvements from the beginning of RIIO-ED2. Another stakeholder queried our reasoning for deferring penalties, arguing that the outstanding decision on Access SCR should not have a significant impact on the volume and type of connections work that is captured by the TTC incentive in RIIO-ED2, and therefore should not significantly impact connection timescales.

Target setting approach

5.25 In regards to target setting, some stakeholders were supportive of our proposal to use average DNO performance data to set the minimum reward score and to set the maximum reward score at 30% below the average, provided the scope of the incentive was not expanded to additional market segments. One DNO cautioned that setting a maximum reward score at 30% below the average level could make targets virtually unobtainable in some cases where the DNOs are already performing well, particularly in relation to the time to quote (TTQ) element of the incentive.

5.26 One DNO suggested that separate targets would be needed for any new market segments included in the scope of the TTC incentive and another suggested that shadow data on additional market segments would need to be collected for the remaining years of RIIO-ED1 to establish any differences in connection timescales and to inform targets.

5.27 Some DNOs highlighted that common static targets would be appropriate, noting that company-specific targets could result in top performing DNOs in RIIO-ED1 being penalised for a score that a poorer performing DNO could be rewarded for.

5.28 Recognising that there are some factors outside of DNOs' control, one stakeholder suggested that a two-sided dead-band could ensure DNOs are not unduly penalised for slight dips in performance whilst also providing customer protection from significant deteriorations in performance from the beginning of the period. Some DNOs also argued that exemptions should be applied, in particular if additional market segments are included in scope for RIIO-ED2. This is because additional market segments will include customers who have more specific requirements regarding connection timescales, ie they may not want the connection to be completed as quickly as possible, but at a preferred date in the future.

5.29 Some DNOs did not support the "hockey stick" option for calculating rewards and penalties. One DNO noted that this would add complexity to the calculation of the incentive and to the evaluation of benefits for developing improvements. Another DNO highlighted that this could discourage performance improvements; in particular, if additional market segments were included in the scope of the incentive.

Reasons for our decision

Scope of the TTC incentive

5.30 We have decided not to expand the scope of the TTC incentive for RIIO-ED2. We recognise that expanding the scope of the incentive would involve trade-offs. An absence of historical data on quotation and connection timescales in additional market segments would make it difficult to set robust targets. As the scope of the incentive would likely differ between DNOs, it may be that bespoke targets would be required, and this would add complexity and reduce the comparability of DNOs' performance in the price control period and in relation to performance in RIIO-ED1.

5.31 We consider that the scope of, and proposed approach to, the Major Connections Strategy Delivery ODI will ensure DNOs deliver quality services to these connection customers. Our decision and rationale for introducing the Major Connections Strategy Delivery ODI can be found later in this chapter.

Introduction of penalties and financial exposure

5.32 We consider DNOs to be delivering acceptable outcomes under the TTC incentive in RIIO-ED1. For the regulatory year 2019-20, the industry average time to quote was 4.11 days and 6.26 days for LVSSA and LVSSB respectively. For this same year, the industry average time to connect was 33.99 days and 41.34 days for LVSSA and LVSSB respectively. As shown in Table 9, this represents performance improvements from the first year of RIIO-ED1. In absolute terms we consider this to be an acceptable level of performance. However, we do not want to see this deteriorate as in RIIO-ED1 consumers have paid rewards to companies for improving their performance to reach these levels.

Table 9: Industry average Time to Connect (working days) in RIIO-ED1

	Average Time to Quote (LVSSA)	Average Time to Connect (LVSSA)	Average Time to Quote (LVSSB)	Average Time to Connect (LVSSB)
2016	4.91	35.72	7.44	43.16
2017	4.64	43.51	7.18	53.14
2018	4.98	38.63	8.91	47.52
2019	4.83	36.18	8.00	44.72
2020	4.11	33.99	6.26	41.34
Improvement 2016-2020	0.81	1.73	1.18	1.82
Percentage improvement 2016-2020	16%	5%	16%	4%

5.33 RIIO-ED2 will be a period of significant transition and price control arrangements will need to support this. We therefore consider a reward and penalty scheme to be appropriate for RIIO-ED2 to ensure DNOs are driven to reduce connection timescales whilst also providing a deterrent against worsening performance. While there appears to be some correlation between reducing connection timescales and increased satisfaction scores under the CSS, the trend is not consistent over time or across all DNOs. It is not clear that this alone would be sufficient to ensure performance does not deteriorate in RIIO-ED2.

5.34 We will therefore adopt a reward and penalty TTC scheme in RIIO-ED2 but will not defer the introduction of penalties with a re-opener. This will remove the regulatory uncertainty associated with using a re-opener to introduce targets, whilst also ensuring consumer protection from the beginning of RIIO-ED2.

5.35 We will retain the upside value of this incentive at +0.4% of base revenue for RIIO-ED2 but will set financial exposure symmetrically, at +/-0.4%. This recognises that the incentive applied to the connections customer satisfaction survey is +/-0.5% base revenue, ensuring that a DNO's main priority is satisfying customers.

Target setting approach

5.36 For RIIO-ED1, we set performance targets and associated rewards for quotation and connection timescales at a level we considered to be valued by consumers. During RIIO-ED1, consumers have benefitted from performance improvements and have paid for these through bills in the form of reward payments. For RIIO-ED2, we consider that deteriorations in performance should be penalised at an equivalent level as performance improvements were awarded in RIIO-ED1. This is because we consider the cost to consumers of a decline in performance to be equal to the benefit enjoyed from performance improvements. For RIIO-ED2, therefore, we will set reward and penalty targets at levels that reflect performance improvements achieved in RIIO-ED1.

5.37 We will use average performance data from RIIO-ED1 to set new target scores. We will set targets at the beginning of RIIO-ED2 and they will remain in place for the duration of the price control. We are mindful of the need to consider the latest performance data that we have available when setting targets. We believe it is appropriate to use industry average data over the most recent four years of RIIO-ED1.[11] We think this will help to ensure targets remain ambitious throughout RIIO-ED2.

5.38 We will apply common targets across all companies for RIIO-ED2. We recognise that in RIIO-ED1 quotation and connection timescales differ across DNOs, however we consider common reward and penalty targets to be appropriate as all customers deserve good service and should not receive differing levels of

[11] At Draft Determinations we will consult on targets using the most recent available data which will include performance data up to the sixth Regulatory Year for RIIO-ED1, 2020-21. We will confirm targets at Final Determinations when we will use performance data up to 2021-22.

service because of where they live. Moreover, there do not appear to be justifiable reasons why performance is different across the DNOs. Seeking efficiencies in processes to improve connection timescales in RIIO-ED2 should not be optional and we need to protect against further disparities in performance in RIIO-ED2.

5.39 For RIIO-ED2, we want to ensure DNOs earn rewards where they deliver consumer benefit through service improvements. Similarly, we want to ensure DNOs incur penalties at a level that reflects the consumer detriment associated with the any decline in service performance. We recognise, however, that there are some factors outside of DNOs' control in regard to the timescales to complete customers' connection requests and we therefore consider it appropriate to introduce a deadband both above and below the RIIO-ED2 targets.

5.40 While we do not consider that Access SCR reforms should have significant impacts on the volume and type of work requested by LVSSA and LVSSB customers such that they will materially impact DNOs' performance in RIIO-ED2, we consider the application of a deadband would also mitigate any risk of any windfall gains or losses as a result of any changes.

5.41 We will not apply exemptions in RIIO-ED2. We acknowledge some respondents' views that if the scope of the incentive was being extended to other market segments, exemptions or bespoke targets may be needed to ensure DNOs are not unduly penalised for delays outside of their control. We are, however, retaining the scope as applied in RIIO-ED1 and while we recognise that there will be a proportion of customers that require particularly long timescales for connections, we consider that these are likely to be equally present in the base data used to set targets. Additionally, we consider the introduction of a deadband will help to mitigate the impact of small changes in performance. As in RIIO-ED1, therefore, the RIIO-ED2 incentive will measure the time taken from initial application received to the issue of a quotation and the time taken from quotation acceptance to connection completion. We will start measuring from the date of initial application (as opposed to the date on which the application was accepted by the DNO), to ensure that DNOs are incentivised to help customers identify the minimum information required to progress their application, prior to its submission.

5.42 We have decided to apply a linear scale between minimum and maximum reward and penalty scores to ensure that within these scores, DNOs are equally driven to shorten timescales for quotation and connection completion.

5.43 Regarding the calculation of minimum and maximum reward and penalty scores, we acknowledge one stakeholder's concern that setting the maximum reward score at 30% below the average level could make targets difficult to achieve for DNOs that are already performing well, particularly in the area of TTQ. In RIIO-ED1, we set the maximum reward scores at 30% below the target so that there was a sufficient incentivised range, whilst also ensuring maximum reward scores were obtainable by DNOs. We have decided not to confirm the exact level at which we will set the maximum reward and penalty scores at this time, but we will set this to ensure that we maintain a good range between minimum and maximum reward scores whilst also ensuring that it is feasible that a DNO could achieve the maximum reward score. We will consult on our approach at Draft Determinations.

Improving Services for Major Connections Customers (major connection customers)

Table 10: Improving Services for Major Connections Customers decision table

Purpose	To ensure DNOs deliver quality services to customers seeking major connections in RIIO-ED2.
Decision	Adopt a Major Connections incentive framework for RIIO-ED2, which includes: • Requiring DNOs to submit major connections strategies that will be subject to the BPI. DNOs' strategies that do not meet our baseline expectations could be penalised under the BPI while strategies that exceed baseline expectations could receive a reward through the Consumer Value Proposition (CVP). • Introducing an ODI-F in the form of an ex post assessment to assess companies' delivery of their strategies.

Our Consultation position

Major connections strategies and baseline expectations

5.44 We proposed to require DNOs to submit a Major Connections Strategy as part of their business plans. The strategy would set out the activities each DNO plans to undertake to improve the services provided to major connections customers in RIIO-ED2. We set out that major connection customers would comprise customers in market segments where there is an absence of effective competition and which are not captured by the CSS or TTC incentives.

5.45 To ensure major connections customers receive an appropriate baseline level of service, we outlined key principles and baseline expectations that DNOs must align their service provision to. As a minimum requirement of Stage 1 of the BPI, we set out that DNOs would need to produce a complete and quality strategy and this must align to the baseline expectations we introduce.

5.46 Companies that fail to include a complete and quality strategy, demonstrating how the DNO will deliver connections services in line with our baseline expectations, could be subject to a penalty under Stage 1 of the BPI. We also noted that we wanted to encourage ambitious strategies that exceed our expectations. In our Consultation, we proposed that if in the Draft or Final business plan, a DNO reveals information that allows us to improve the baseline expectations for all companies, we proposed that we would revise the baseline expectations to reflect these improvements.

5.47 We set out that we expected DNOs to deliver their connections strategies through baseline allowances.

Strategy Delivery ODI

5.48 We proposed to hold DNOs to account for the delivery of their strategies through an ex post evaluation, in the form of a financial ODI. We set out that where companies do not meet our baseline expectations they could be penalised and that those who outperform could be rewarded. We proposed to undertake the ex post assessment during and at the end of the RIIO-ED2 price control.

5.49 To support our assessment of performance and ability to compare DNOs, we noted our intention to use common metrics where possible and that DNOs would need to propose specific, quantifiable and well-justified performance measures

within their business plans. We invited DNOs to work together to develop metrics to facilitate our assessment of their performance. Companies would be required to report annually on the delivery of their strategy, including performance against any metrics.

5.50 We set out that we were still considering what the incentive strength of this ODI should be, but proposed that it could be appropriate to apply an incentive rate of 0.1% of base revenue for each of the market segments in scope of the incentive. This approach would ensure that the financial exposure for each DNO was proportionate to the number of market segments in scope.

Responses to our Consultation

Major connections strategies and baseline expectations

5.51 Respondents broadly agreed with our principles and associated baseline expectations. Some DNOs noted that not all expectations should apply to all market segments and that these should be reviewed to ensure they are appropriate and relevant for the customers the DNOs would be serving.

5.52 One respondent cautioned that the baseline expectations should avoid broad requirements that could potentially be difficult or costly to implement effectively, which they considered could risk going well beyond the existing statutory and licence-based connection requirements.

5.53 One respondent noted that ICPs and IDNOs do not appear to be considered connection customers in the definition of major connections customers and suggested that incentives should capture all connections to the DNOs' networks, irrespective of the party undertaking the final connections work. This respondent also noted that the incentive framework should not only apply to non-contestable works in market segments which have not passed the Competition Test, but also to non-contestable works in market segments that have passed the test. This respondent suggested that we develop a fourth principle to apply to non-contestable works across all market segments which would centre around the facilitation of competition.

5.54 Regarding our proposal to use the BPI to encourage companies to reveal higher standards of performance and to apply this, where appropriate, to all DNOs, responses were mixed. Most respondents supported our proposal to use the BPI

to encourage ambitious strategies, but some DNOs felt that it would not always be appropriate to apply different, and higher standards to all companies if one company committed to delivering against this enhanced standard in their business plan. Applying enhanced expectations could result in increased costs for some DNOs and therefore consumers. These respondents also noted that engagement with stakeholders throughout the business planning process may have revealed that some DNOs' customers do not value, or are not willing to pay for, these enhanced expectations and therefore applying these across the sector could be at odds with putting consumers at the heart of the business planning process.

5.55 One DNO noted that connections strategies should not be subject to Stage 1 of the BPI assessment, arguing that penalties would not be appropriate due to uncertainty around the impact of any reforms introduced through the Access SCR.

5.56 One DNO cautioned against providing additional funding for DNOs to deliver their connections strategies as this could create a perverse incentive to not facilitate competition in connections and may also disadvantage companies that have actively supported competition in the past. This DNO explained further that the funding of strategies through allowances could introduce cross-subsidy issues and a potential distortion of competition as this funding is not available to other parties competing in these markets.

Strategy Delivery ODI

5.57 Most respondents, including some DNOs, were supportive of our proposals to introduce an ex post assessment of DNOs' performance.

5.58 Of those respondents that supported an ex post assessment, many highlighted the successes of RIIO-ED1 mechanisms such as the Stakeholder Engagement and Consumer Vulnerability Incentive (SECV) and the Incentive on Connections Engagement (ICE), noting that Ofgem should build upon the successes of these in developing the new approach. This should include providing clarity up front on our expectations such as by establishing evaluation criteria and objective measures of performance. Some stakeholders cautioned that such clarity upfront should not come at the expense of allowing DNOs to respond with agility to evolving customers' needs and that the framework should recognise that DNOs may face different issues within their customer base.

5.59 Several stakeholders also welcomed our proposal to encourage DNOs to work together to identify and develop common metrics to assess performance. This would aid consistency in DNOs' approaches and in reporting of performance.

5.60 Some DNOs, however, were cautious of the proposed approach and sought additional clarity on how ex post assessments would be carried out. One DNO noted that the success of the mechanism would rely on the ability of DNOs and Ofgem to develop a suite of robust, consistent, tangible metrics. Another noted that while the proposed approach could make sense in theory, clarity on the baseline expectations and how performance would be evaluated against them could be required to mitigate the risk of subjective assessments.

5.61 One DNO noted a preference for the use of licence obligations and reputational incentives, rather than a financial incentive. This DNO noted that this approach would be less resource intensive and free up Ofgem's time at the mid and end of period. There were mixed views regarding the frequency of assessment, with some respondents noting that it is too early to make a decision at this stage and that it would be more appropriate to wait until the ex post assessment process has been fully established.

5.62 One DNO cautioned against a reward and penalty ODI, as rewards could create the opportunity for funding that is not available to third parties competing in these market segments and therefore potentially distort competition. This DNO also urged Ofgem to make a decision on the incentive rate prior to business plans being submitted.

Reasons for our decision

Major connections strategies and associated principles and baseline expectations

5.63 We have decided to require major connections strategies as part of DNOs' business plans. The DNO's strategy will need to set out the activities the DNO plans to undertake to improve the services provided to major connections customers in RIIO-ED2.[12] Major connection customers include those connections customers in market segments where there is an absence of effective

[12] For the purpose of defining output types, the connections strategy is a common requirement and will form part of the common financial ODI. We therefore expect the activities proposed will not be bespoke outputs but instead specific activities akin to the commitments designated in the other RIIO-2 sectors Environmental Action Plan (EAPs). By exception we may apply a PCD.

competition (ie they have not passed the Competition Test) and which are not captured by the CSS or TTC incentives.

5.64 We note that the DNOs are still responsible for completing non-contestable connection activities in market segments that have passed the Competition Test. To ensure that DNOs deliver best practice in the provision of non-contestable activities, DNOs' strategies should capture these activities, even where these have passed the Competition Test. As set out in more detail in paragraph 5.73, the application of the financial ODI will differ with regard to the provision of non-contestable activities.

5.65 We will assess DNOs' strategies through the BPI. As a minimum requirement of Stage 1 of the BPI, DNOs will need to produce a complete and quality Major Connections Strategy and this must align to the baseline expectations we have introduced. Strategies that do not meet minimum requirements could fail and be penalised under Stage 1 of the BPI.[13] Under Stage 2 of the BPI, DNOs could be rewarded for developing ambitious strategies that exceed baseline expectations.

5.66 In our Consultation, we proposed to revise the baseline expectations once we had received the business plans and to hold DNOs to account to these revised expectations during the RIIO-ED2 period. We expect DNOs to deliver efficient and high-quality services to their connection customers and consider the progress companies have made in RIIO-ED1 should now serve as the minimum expected levels of service DNOs should provide in RIIO-ED2. However, we want to achieve a balance between driving a degree of standardisation in DNOs' approaches to delivering connections services whilst also ensuring DNOs can develop ambitious plans that respond to the needs of the customers in their regions. We consider that the baseline expectations we consulted on and have updated for our decision, combined with the opportunity for penalties or rewards under the BPI and the in-period ODI where these expectations are not met or exceeded, to achieve this balance. Therefore, we do not intend to update the baseline expectations as part of our assessment of DNOs' business plans.

5.67 We acknowledge some DNOs' views that not all baseline expectations should apply to all market segments in scope of the ODI. Through the RIIO-ED2 working groups, therefore, we have worked with stakeholders to redraft the baseline expectations to ensure they are appropriate and relevant for the

[13] Where this is the case, the company would not be eligible for any reward under stages 2 or 4 of the BPI but could still be penalised under Stage 3.

customers the DNOs would be serving. The revised baseline expectations can be found in Appendix 2. The high-level major connections principles that underpin the baseline expectations are set out in Table 11.

Table 11: RIIO-ED2 Major Connections Principles

Connection Principles	
Connection Principle 1	Support connection stakeholders prior to making a connections application by providing accurate, comprehensive and user-friendly information
Connection Principle 2	Deliver value for customers by ensuring simplicity and transparency through the applications process
Connection Principle 3	Facilitate the delivery of timely and economical connections that meet customers' needs

5.68 We do not agree with one stakeholder's suggestion to introduce a fourth principle which would centre around the facilitation of competition. The DNOs have a licence obligation to maintain and comply with the CiC Code of Practice which sets out the standard of service DNOs should provide to third parties such as ICPs and IDNOs. We consider this to be a more effective mechanism to facilitate competition in connections market segments.

5.69 One respondent argued that connections strategies should not be subject to Stage 1 of the BPI assessment due to uncertainty around Access SCR and that penalties would not be appropriate. In Chapter 2 of the Overview document, we explain the guidance we will provide to the DNOs on how they should reflect Access arrangements in their draft and final business plans. DNOs' connections strategies may need to evolve over time, however given the baseline expectations set out the minimum expected levels of services to connection customers, we do not expect uncertainty on the Access SCR should impact DNOs' ability to meet these expectations.

5.70 In their strategies, DNOs will need to set out the activities and deliverables that will contribute to meeting customers' needs in RIIO-ED2, as well as how these activities and deliverables meet the baseline expectations. We expect the majority of activities in DNOs' strategies to be delivered through BAU baseline funding and do not expect DNOs to request additional funding to deliver their strategies.

Strategy Delivery ODI

5.71 For RIIO-ED2, we will introduce an ex post evaluation to assess companies' performance against our baseline expectations and in delivering their strategies. This will enable us to ensure companies remain accountable for delivering their strategies in line with baseline expectations within-period and incentivise them to develop ambitious and best practice initiatives which exceed the levels of service we would expect from an economic and efficient DNO.

5.72 We are not yet deciding on the timing of assessment as we consider it will be better to confirm this once the approach to assessing performance has been developed more fully. However, regardless of the exact timings of assessments during the price control, we consider that annual reporting will be key to ensuring DNOs are both accountable and ambitious in the delivery of their strategies. We will consult on the timings of assessment at Draft Determinations.

5.73 We have decided to apply an incentive rate of 0.1% of base revenue for each of the market segments in scope of the incentive. For example, if four of a DNO's market segments passed the Competition Test, but five did not, the financial exposure of the ODI would be 0.5% base revenue. This will ensure that the financial exposure for each DNO is proportionate to the number of market segments in scope. We acknowledge concerns regarding the application of an upside incentive for the Major Connections Strategy Delivery ODI, in particular due to the risk of distorting competition. The extent to which rewards will or will not be available will depend on the level of competition present in the market segments of each DNO. Another factor for determining the upside incentive rate will be the extent to which metrics and other measures of performance are in place to robustly measure DNOs' performance. We will therefore consult on the incentive rate for the Strategy Delivery ODI as part of Draft Determinations. We note that the financial incentive will not apply for non-contestable works in market segments that have passed the Competition Test. We consider that existing licence arrangements ensure that DNOs deliver specified standards of performance for these customers. However, to ensure that DNOs deliver best practice in the provision of non-contestable activities, our assessment of DNOs' performance with regards to these activities will apply on a reputational basis only.

Next steps

5.74 We are not yet deciding on the operation (including frequency of assessment) of the Major Connections Strategy Delivery ODI. We plan to consult on this at Draft Determinations. Between now and then we will be engaging with stakeholders to develop options and consider lessons from similar regulatory regimes including the ESO incentive framework and existing RIIO-ED1 incentives.

5.75 In their Consultation responses, some stakeholders including DNOs sought further clarity on our approach to assessing DNOs' performance, noting that clarity would be needed to mitigate concerns that DNOs may take a risk averse approach to developing their business plans. In our engagement with stakeholders, we will seek to ensure there is alignment in expectations between Ofgem and DNOs on our approach to assessment, including how we will determine what levels of performance would merit either a reward or penalty. We think it is important that the ODI balances predictability with the flexibility to reflect ongoing identification of best practice, changing stakeholder needs and innovation and will apply these principles in developing the approach.

5.76 We are inviting companies to propose metrics and performance benchmarks to be used in assessments within their strategies and we will engage with DNOs and wider stakeholders through the RIIO-ED2 working group to develop the assessment approach.

Connections Guaranteed Standards of Performance (all connection customers)

Table 12: Connections Guaranteed Standards of Performance (GSoPs) decision table

Purpose	The Connections GSoPs help protect customers against unacceptable levels of connections service.
Decision	• We will retain the existing Connections Guaranteed Standards of Performance (GSoPs) for all connections customers in RIIO-ED2.

	• We will adjust the payment amounts to account for inflation to the start of RIIO-ED2, and we will then index payments to inflation against a baseline level of January 2023. • Once the index has moved sufficiently, the payment amounts will be rounded (up or down) to the next multiple of £5, and the associated payment caps will be adjusted at a commensurate rate.

Our Consultation position

5.77 We proposed to retain the existing Connections GSoPs for all connection customers in RIIO-ED2. Based on evidence we have seen in RIIO-ED1, we do not consider that the existing standards need to be changed, or that new standards should be introduced. We believe they cover the appropriate scenarios and provide suitable expectations of minimum service levels that DNOs should deliver. We do, however, remain open to views on whether any amendments need to be made to some elements of the standards.

5.78 We proposed to adjust the payment levels to account for inflation (using CPIH) at the start of RIIO-ED2. We proposed to index payments to inflation (CPIH) against a baseline of February 2023.[14] Once the index has moved sufficiently, we proposed that DNOs should round the payment amounts to the nearest multiple of £5, and the associated caps would be adjusted at a commensurate rate.

Responses to our Consultation

5.79 All respondents agreed that Connections GSoPs should be retained, with responses noting they had worked well and were an important back stop for protecting consumers. The proposed approach to uplifting payments was considered appropriate, however DNOs noted they would like additional clarity on how often the reviews of payments would take place within the price control. Half of the DNOs suggested that reviewing prices once in the price control would be sufficient and would avoid additional complexity.

[14] This will refer to a monthly index published by the Office for National Statistics, and allow for changes (if required) to be implemented for the new financial year. The February 2023 CPIH monthly index would be used as this will be the latest available index before the 2023-24 financial year.

Reasons for our decision

5.80 Based on the broad support from stakeholders to retain the Connections GSoPS, we consider they remain fit for purpose for RIIO-ED2 and an important protection for customers against unacceptable levels of connections service. We note there were no suggestions to change the existing standards or introduce new ones. Additionally, we did not receive any evidence to suggest the payment amounts need updating beyond the proposed adjustment to account for inflation and therefore consider the payment levels appropriate.

5.81 We believe it is appropriate to update the payment amounts to account for inflation to the start of the price control. In line with the approach taken in the RIIO-GD2 price control, we will index payments against a baseline level of January 2023, to allow DNOs more time to revise payment levels for the new financial year. We consider that the approach will ensure a revision to the payment levels will continue to take place once there has been sufficient inflation, and that the caps will be increased in line with this. Current inflation forecasts suggest that these changes should not occur so frequently as to become burdensome, but by indexing payments and caps we will ensure that they remain up to date and reflective of consumer expectations.

5.82 We recognise that indexing payments to inflation during the price control may add a level of complexity to the GSoPs. However, we consider that this can be mitigated if there is a clear process for adjusting payments outlined within the Statutory Instrument. This will ensure that DNOs and their customers have clarity over the appropriate payments should a DNO fail any of the GSoPs.

Next Steps

5.83 We will work with DNOs to establish the text that will form part of the GSoP Regulations for updating payment amounts and the associated caps, taking learnings from the equivalent process in RIIO-GD2.

RIIO-ED1 output to be removed

Table 13: Incentive on Connections Engagement

Name	RIIO-ED1 licence condition
Incentive on Connections Engagement	CRC 2E

Our Consultation position

5.84 In our Consultation, we acknowledged that the ICE proved to be an effective mechanism for ensuring DNOs identify connection customers' concerns and priorities, but that we were not convinced that all DNOs have sought to address these effectively. We proposed to remove the ICE and replace it with a new framework to ensure DNOs deliver quality services to major connections customers in RIIO-ED2.

Responses to our Consultation

5.85 Most respondents agreed with our proposal to remove the ICE, with the majority of those noting the successes of the ICE in RIIO-ED1 but also their view that it had served its purpose (ie that DNOs' performance has improved). One stakeholder noted that the ICE has led to increased disparity in DNO performance over time. Of those that supported the removal of the ICE, the majority supported our proposal to introduce a new RIIO-ED2 mechanism.

5.86 Two stakeholders disagreed with our proposed removal of the ICE. Both felt that the incentive should be retained and strengthened for RIIO-ED2, with assessment criteria updated, and targeted outcomes identified, to make it more objective. They said that rather than creating a new incentive that would face the same challenges in terms of being able to accurately measure performance in a consistent manner, Ofgem and the DNOs should work collaboratively to address existing issues.

Reasons for our decision

5.87 In RIIO-ED1, the ICE has proved to be an effective mechanism for ensuring DNOs identify connection customers' concerns and priorities, however we are

not convinced that all DNOs have sought to address these effectively. Stakeholder feedback on DNOs' performance through the ICE assessment process has highlighted an absence of ambitious performance targets and the delivery of meaningful outputs in their Forward Workplans.

5.88 Moreover, it has proved difficult to quantify the benefits generated by DNO actions in RIIO-ED1 due to a lack of consistent performance metrics that would allow a measure of improvement over time, or comparison between DNOs. We expect DNOs to innovate and develop different tools and initiatives to meet the needs of their customers; however, we also consider that a common adoption of best practice should take place to ensure all consumers receive a high quality of service, irrespective of which DNO serves them.

5.89 We will therefore introduce a new incentive framework for RIIO-ED2 to ensure DNOs deliver high quality services to major connections customers. Our decision and rationale for the Major Connections Strategy ODI is set out in the section above.

6. Support consumers in vulnerable situations

Chapter summary

DNOs must deliver a high quality and reliable service to all network users and consumers, including those in vulnerable situations. This chapter outlines our approach to ensuring DNOs provide the appropriate support and services to consumers in vulnerable situations in RIIO-ED2.

Introduction

6.1 Ensuring energy companies support and protect consumers in vulnerable situations is a priority for Ofgem.[15,16] Traditionally, the key vulnerability priorities associated with the DNOs' activities have been to protect those whose wellbeing is most at risk to a loss of supply and to help those in, or at risk of, fuel poverty; these services will remain central to DNOs' activities in RIIO-ED2. We believe that DNOs will also need to consider how their role in protecting the interests of vulnerable consumers may change as the energy system becomes smarter, cleaner and more flexible.

6.2 While the changes in the energy system are expected to bring a range of benefits overall, some consumers, especially those in vulnerable situations, may be at risk of being excluded from accessing the benefits and therefore suffer new forms of detriment. For instance, paying for some of the costs associated with the transition of the energy system while being either unlikely or unable to access the associated benefits.

6.3 The vulnerability package for RIIO-ED2 will ensure DNOs provide appropriate support and services to consumers in vulnerable situations and address the key priorities.

[15] Consumer Vulnerability Strategy 2025
[16] We define vulnerability as when a consumer's personal circumstances and characteristics combine with aspects of the market to create situations where he or she is: significantly less able than a typical domestic consumer to protect or represent his or her interests; and/or significantly more likely than a typical domestic consumer to suffer detriment or that detriment is likely to be more substantial.

Table 14: Vulnerable consumers decision table

Purpose	Ensure DNOs provide appropriate support and services to consumers in vulnerable situations in RIIO-ED2.
Decision	• We will introduce a principles-based LO for DNOs to treat customers fairly, especially those in vulnerable situations. • We will introduce a minimum requirement in the BPI for DNOs to have vulnerability strategies, which address the priority areas of focus for RIIO-ED2 and align to the vulnerability principles and baseline expectations. • We will introduce a financial ODI to assess the delivery of companies' strategies.

Framework for supporting consumers in vulnerable situations

Our Consultation position

Vulnerability Principles-Based Licence Obligation

6.4 We proposed to introduce an overarching principles-based licence obligation on DNOs to treat their customers fairly, including those in vulnerable situations, throughout their operations. This LO would be comparable to Condition 0 of the Gas and Electricity Supply Licences and the LO introduced in RIIO-GD2.[17] We also proposed to retain the existing licence condition requiring DNOs to maintain a PSR and provide support in a supply interruption.

[17] See Chapter 2, Outputs: Meet the needs of customers and network users in the RIIO-GD2 SSMD

Vulnerability strategies and associated principles and baseline expectations

6.5 We proposed to require companies to have a vulnerability strategy that sets out the activities they will undertake to deliver positive outcomes for consumers in vulnerable situations.

6.6 We considered the three primary areas of focus for RIIO-ED2 which companies should address within their strategies are:

- vulnerability to a loss of supply
- being in, or at risk of, fuel poverty
- risk of being left behind by the energy system transition towards Net Zero.

6.7 To ensure that all consumers in a vulnerable situation receive an appropriate baseline level of service from the DNOs, we outlined key principles and baseline expectations that DNOs must align their service provision to.

6.8 As a minimum requirement of Stage 1 of the BPI, we proposed DNOs would need to produce a complete vulnerability strategy of sufficient quality that demonstrates how it will deliver in line with our baseline expectations as articulated through the vulnerability principles and baseline expectations. Our guidance for what we would expect to see in a complete vulnerability strategy was included in the draft Business Plan Guidance. We also noted that if in their Draft or Final business plans, DNOs reveal information that allow us to improve the baseline expectations, they may be rewarded through the CVP element of the BPI. We proposed that where appropriate we would revise our baseline expectations to reflect these improvements and hold all DNOs to account to these revised expectations during RIIO-ED2.

6.9 We proposed to fund companies to deliver their strategy through baseline allowances.

Strategy Delivery ODI

6.10 We proposed to hold DNOs to account for the delivery of their strategies through an ex post evaluation, underpinned by a financial ODI. We proposed to evaluate the DNOs' performance within and at the end of the price control period. Where companies do not meet our baseline expectations, they will be penalised. Where a company can robustly demonstrate they have exceeded our baseline

expectations and delivered additional value for consumers, there will be the opportunity for reward.

6.11 To support assessment and the comparability of performance, we noted our intention to use common metrics where possible and that DNOs would need to propose specific, measurable and well-justified performance measures within their business plans.

6.12 We considered that the financial exposure to the companies should remain similar to the SECV within RIIO-ED1.[18] This approach would see penalties, and potentially rewards, of up to +/- 0.5% of base revenue. However, we noted the opportunity for rewards will depend, in part, on our ability to assess DNO performance in a consistent and where possible, comparable, way. We therefore proposed to determine the incentive rate for the reward element of the incentive at Draft or Final Determinations, once the framework is developed and we have reviewed the DNOs' business plans.

6.13 Companies would be required to report annually on the delivery of their strategy, including performance against any metrics.

Responses to our Consultation

Vulnerability Principles-Based Licence Obligation

6.14 There was broad support from respondents, particularly consumer groups, for the principles-based LO. It was noted by a couple of DNOs that they had yet to see the informal consultation on licences for RIIO-GD2, which would include the gas distribution network operators' (GDNs) equivalent LO, and therefore they could only offer support in principle at this stage.

6.15 One consumer group noted that the focus on fairness in the LO needs to be accompanied by commonly applicable principles that set out for networks and for stakeholders what activities DNOs should be undertaking to enable maximum clarity and consistency.

[18] We outline our decision to remove the SECV in chapter 4 and our rationale.

Vulnerability strategies and associated principles and baseline expectations

6.16 Respondents welcomed the focus on consumer vulnerability provided by the package of proposed measures and in particular having a vulnerability strategy linked to a financial ODI framework. Stakeholders were pleased to see an emphasis placed on how the DNOs' role would need to evolve in light of the energy system transition to respond to new and evolving challenges and the reflection of this in the proposed primary areas of focus for the strategy. There were no responses which disagreed with the primary areas of focus proposed.

6.17 One respondent, a consumer group, noted strong support for activities and targets to be outcomes focussed and welcomed the reference to how strategies must clearly articulate the outcomes they would deliver. They noted that our decision and Business Plan Guidance should outline that companies must set out targets, which focus on outcomes and how this will be measured.

6.18 With regards to the proposal to fund the strategy through baseline allowances, one DNO noted that they welcomed this approach as it gives greater cost certainty and allows longer-term initiatives to be developed, but they considered it may have a limitation in only funding initiatives outlined in the business plan and therefore being inflexible. They suggested that an additional use-it-or-lose-it allowance (UIOLI) pot should be included to cater for in period flexibility.

6.19 There was strong support for the approach to articulating expectations in this output area through the proposed principles and baseline expectations. It was noted, by a consumer group, that Ofgem should be explicit in its expectation that the baseline expectations are to be delivered from the first year of the price control and throughout. The DNOs generally considered the principles and baseline expectations were appropriate for RIIO-ED2 and for establishing an appropriate minimum level of service, with some minor amendments proposed to the wording. One DNO however noted that clearer guidance was needed on the scale required from the tasks within the baseline expectations to meet the level of ambition Ofgem expects. They also considered there was a lack of detail on fuel poverty and the energy system transition. It was noted by other respondents that these areas of focus could be drawn out more explicitly in the principles and baseline expectations. One consumer group noted they welcomed the focus on affordability within the proposed approach. However, they sought clarity on how the consumer voice would be taken into account and local priorities.

6.20 Consumer bodies welcomed the principles and baseline expectations but noted areas where they could be enhanced:

- One respondent considered there needed to be a greater focus on inclusive service provision and wider safety needs within the principles and baseline expectations. They consider the current PSR based approach to service provision may miss the majority of customers with additional needs.
- For Principle 1, it was suggested that it should be clear that the dedicated lines for PSR customers should be open 24/7 and that the baseline expectation referring to translation services should also include Braille and British Sign Language.
- For Principle 2, it was suggested the drafting needed to better reflect the transient nature of vulnerability. Furthermore, it was suggested that the expectation should include the need to create a financial vulnerability PSR flag.
- For Principle 3, there were amendments to the wording suggested to make it clearer DNOs should have partnerships with multiple organisations, including other utility sectors. It was also suggested that a baseline expectation could be included regarding supporting suppliers to deliver the smart meter rollout.
- For Principle 4, it was noted that DNOs should demonstrate that a consideration of vulnerability is embedded within a company's culture. It was also suggested, and for Principle 3 also, that there needed to be a more explicit link to how Distribution System Operation (DSO) functionality can support customers in vulnerable situations and how the development of DSO functions must focus on ensuring changes to the distribution network are inclusive.

Strategy Delivery ODI

6.21 Whilst being supportive of the overall framework, DNOs had mixed views on the proposed ex post evaluative financial incentive. One DNO disagreed with the introduction of a financial incentive, proposing instead that licence requirements should be introduced for the baseline expectations, an annual reporting reputational incentive introduced and the RIIO-ED3 BPI used to reward DNOs for developing new propositions.

6.22 Other DNOs were broadly supportive of the proposal to maintain a financial incentive but wished for more clarity. For example, one noted that they supported the proposal, providing that the assessment criteria and methodology were transparent and well defined. One DNO noted they had concerns regarding fairness and objectivity within the assessment approach and how the approach would facilitate regular feedback, without becoming burdensome. Another considered there was a risk that the introduction of penalties for DNOs which fail to deliver their strategies could result in less ambitious, lower risk plans. They considered our approach should involve the benchmarking of performance across companies to ensure those who are more ambitious are not penalised.

6.23 Three of the DNOs, who were supportive of the proposal in principle, suggested that a robust qualitative assessment would be needed within the framework alongside quantitative metrics. They noted their willingness to work with Ofgem on developing such measures to ensure robust assessment. It was noted that the activities a DNO undertakes to support those at risk of suffering adversely from the low carbon transition would be suitable for qualitative assessment. One DNO suggested that ensuring DNOs had clarity on the assessment approach we would take, should not come at the expense of restricting their ability to respond to changing circumstances. They noted the approach should recognise that DNOs may choose different delivery solutions to common issues and that each DNO will face an individual set of issues within their region. As such, a mix of ex ante measures and ex post qualitative assessment may be applicable.

6.24 One DNO commented on the scope of the incentive, suggesting that a separate CSS category should be introduced for PSR customers. This would mean that support provided in relation to supply interruptions would be out of the scope of a separate vulnerability financial incentive.

6.25 Consumer bodies strongly supported the introduction of a financial incentive and the emphasis it would place on vulnerability within a DNO's priorities. However, one consumer group sought further clarity on how Ofgem will return unspent allowances under this incentive and another noted a risk that DNOs may be risk averse with their activities. To address this, they suggested there must be clear assessment of the strategy at the Draft Determinations stage to highlight where rewards may come.

6.26 The use of quantitative metrics where possible was supported, alongside the ongoing work on common metrics and tools, such as the common approach to

measuring social return on investment (SROI) which the DNOs have been developing.

6.27 Stakeholders had mixed views on the timing of assessment, although it was widely considered that only assessing DNOs once at the end of the price control would not be appropriate because it would reduce transparency, run the risk that poor performance is not rectified within-period and not support the sharing of best practice. Some respondents, a mix of DNOs and consumer groups, considered that the proposed mid and end of year assessments were proportionate and would enable the impact of initiatives across multiple years to be measured. It would also ensure performance remained transparent and that DNOs had an opportunity to receive feedback and change their approach, if necessary. However, clarity was sought on how performance would be assessed across the period and if performance targets would be on an annual basis or assessment period. One DNO suggested there may be merit in having the mid-period assessment without financial reward or penalty. One DNO noted the mid-period assessment may clash with the RIIO-ED3 review process.

6.28 Two DNOs thought assessment should be more regular, alongside some of the consumer bodies which responded. More regular or annual assessment was considered appropriate to ensure that performance remained transparent to stakeholders and to ensure any shortcomings in performance was identified and rectified quickly. This was noted as particularly important in light of the impacts of COVID-19 and the energy system transition. Aside from the timing of assessment, the inclusion of annual reporting within the framework was strongly supported.

6.29 Of the stakeholders who commented, the majority considered that a financial exposure of up to +/- 0.5% base revenue to be appropriate for driving the right outcomes in this area, but could see the merit in waiting until Draft Determinations to consult on the exact exposure. One DNO commented that the financial exposure should be decided on in the Decision to give confidence to DNOs that rewards would be available.

Reasons for our decision

Vulnerability Principles-Based Licence Obligation

6.30 By introducing a principles-based LO, we consider the DNOs will be more accountable for the minimum service they provide consumers in vulnerable situations and ensure support for these consumers is embedded throughout their business as usual operations. We also consider that by adopting a comparable licence condition to suppliers and GDNs, we can drive greater consistency in the support vulnerable consumers receive across the sector. We acknowledge that the DNOs had yet to see the draft licence obligation for GDNs at the time of publication of our Consultation, however an informal licence consultation was issued in the time since and the DNOs have not raised any issues to us. Additionally, whilst we intend for the licence obligation to be comparable to the other sectors it will be developed within the RIIO-ED2 licence drafting process and the DNOs will be fully engaged in this process.

6.31 Furthermore, it will work to complement the licence obligation to maintain a PSR and offer support to these customers and strengthen the overall minimum standard DNOs must comply with. When considered with the other elements of the vulnerability package, discussed below in this chapter, such as the requirement to have a vulnerability strategy and the increased accountability focus from the financial ODI, we believe this will be an enhanced minimum level of service in RIIO-ED2.

Vulnerability strategies and associated principles and baseline expectations

6.32 We have decided to require vulnerability strategies as part of DNOs' business plans. The DNO's vulnerability strategy will need to set out the activities the DNO plans to undertake to fulfil its role in supporting vulnerable customers in RIIO-ED2.[19] We will fund DNOs to deliver their strategies through baseline allowances.

6.33 Strategies that do not meet our expectations could be penalised under Stage 1 of the BPI, whereas strategies that exceed our expectations could be rewarded

[19] For the purpose of defining output types, the vulnerability strategy is a common requirement and will form part of the common ODI F. We therefore expect the activities proposed will not be bespoke outputs but instead specific activities akin to the commitments designated in the other RIIO-2 sectors Environmental Action Plan (EAPs).

through the CVP. We are also introducing the principles and baseline expectations proposed in our Consultation.

6.34 We expect DNOs to support vulnerable consumers where the DNO's competence and opportunity for consumer interaction puts them in the best-placed position to deliver that support. In carrying out this role, we consider DNOs should address three priority areas of focus:

- vulnerability to a loss of supply
- being in, or at risk of, fuel poverty
- risk of being left behind by the energy system transition towards Net Zero.

6.35 We consider that defining three primary areas of focus for DNOs' strategies, alongside the Business Plan Guidance of what a complete and quality strategy should address, provides DNOs with clear parameters in which to define their approaches to supporting vulnerable customers.

6.36 Our principles and baseline expectations further expand on the level of service DNOs should deliver in fulfilling this role and ensure that RIIO-ED1 performance improvements form the baseline for RIIO-ED2. These baseline expectations are our view of the minimum level of service DNOs should now deliver in the context of an overarching strategy for consumers in vulnerable situations in RIIO-ED2. In meeting our baseline expectations, DNOs must also ensure that they are complying with licence conditions that may apply, such as the need to have and maintain a PSR. Our assessment of compliance with these licence conditions may extend beyond an assessment of whether they have in place a vulnerability strategy that meets our baseline expectations.

6.37 We welcome stakeholders' support for the baseline expectations and principles and have made some minor changes based on stakeholder feedback to ensure maximum clarity. We have incorporated the proposed changes to Principle 1 which we considered were appropriate additions to increase the clarity in articulating good practice. Additionally, we have made revisions throughout the principles to further draw out the emphasis we expect to be placed on considering how vulnerability may evolve with regards to the transition of the energy network and have reflected the feedback on emphasising that vulnerability can be transient.

6.38 We have not included all enhancements that were suggested, following further consideration of the principles and the baseline expectations through the RIIO-ED2 policy working group. We consider some suggestions were a type of activity the DNO could undertake in delivering the baseline standard of service or in demonstrating ambition beyond it, but it would not be appropriate to prescribe this as best practice. For example, the suggestion for Principle 2 that a financial vulnerability flag should be created or for Principle 3 that a DNO could support the smart meter roll out.

6.39 Regarding the suggestions to add further links to DSO within Principle 3 and 4, we have not made any changes within the vulnerability principles. We consider that the link to DSO capabilities is sufficiently evident within Principle 4, where we note our expectations that DNOs should seek opportunities to support customers in vulnerable situations throughout their capabilities. Additionally, we note that the stakeholders raised similar comments in relation to the proposed DSO baseline expectations and principles. The DSO baseline expectations and principles have been revised to clarify our expectations for how DNOs, in developing their DSO capabilities, must consider the needs of vulnerable customers and ensure coherence with their vulnerability strategy.

6.40 Overall, we consider the baseline expectations should provide a foundation for DNOs' vulnerability strategies and represent the minimum level of service they should provide, but they should not preclude DNOs from developing new services or evolving the existing baseline practice where improvements are possible.

6.41 In our Consultation, we proposed to revise the baseline expectations once we had received the business plans and to hold DNOs to account to these revised expectations during the RIIO-ED2 period. We want to ensure that improvements made within RIIO-ED1 and known best practice are embedded within the baseline to ensure all consumers, regardless of their region, can rely on an appropriate minimum level of service. However, we want to achieve a balance between driving a degree of standardisation in DNOs' approaches to support customers in vulnerable situations whilst also ensuring DNOs can develop ambitious plans that respond to the needs of the customers in their regions. We consider that the baseline expectations we consulted on and have updated for our decision, combined with the opportunity for penalties or rewards under the BPI and the in-period ODI where our expectations are not met or exceeded, to

achieve this balance. Therefore, we do not intend to update the baseline expectations as part of our assessment of DNOs' business plans.

Strategy Delivery ODI

6.42 For RIIO-ED2, we will introduce a financial ODI in the form of an ex post evaluation to assess companies' performance against our baseline expectations and in delivering their strategies. This will enable us to ensure companies remain accountable for delivering their strategies and the baseline expectations within-period and incentivise them to develop ambitious and best practice initiatives which exceed the levels of service we would expect from a DNO.

6.43 As the baseline expectations have embedded RIIO-ED1 performance improvements, we consider it appropriate for penalties to apply where DNOs performance falls demonstrably below this. However, we recognise this is an area where significant performance improvements can still be made and DNOs need to continue to evolve their service provision to respond to new challenges and therefore a financial reward is appropriate where it can be demonstrably shown the DNO has exceeded the baseline expectation.

6.44 We welcome stakeholder support for this approach and their agreement that a financial exposure consistent with that of the SECV in RIIO-ED1 would be appropriate. To ensure DNOs have as much clarity as possible at this stage, we expect that the financial exposure will be up to +/- 0.5% of base revenue but will confirm this at Draft Determinations, once the assessment approach has been developed.

6.45 We are not yet deciding on the timing of assessment due to the issues raised in responses which we consider we will be best able to consider fully once the approach has been developed in full. However, regardless of the frequency of assessment during the price control, we consider that annual reporting is an important facet of the approach to ensuring DNOs are both accountable and ambitious in the delivery of their strategies and the baseline expectations. Notwithstanding the timings of assessment, DNOs should ensure they are delivering in line with baseline expectations from the beginning of RIIO-ED2. We will consult on the timings of assessment at Draft Determinations.

Next steps

Vulnerability Principles-Based Licence Obligation

6.46 We will include in the statutory consultation on the RIIO-ED2 licence a new principles-based LO. Ahead of this, we will work with stakeholders on the development of this.

Strategy Delivery ODI

6.47 We are not yet deciding on the operation (including frequency of assessment) of the Vulnerability Strategy Delivery ODI. We plan to consult on this at Draft Determinations. Between now and then we will be engaging with stakeholders to develop options and consider lessons from similar regulatory regimes including the ESO incentive framework and existing RIIO-ED1 incentives.

6.48 In their Consultation responses, some stakeholders including DNOs sought further clarity on our approach to assessing DNOs' performance, noting that this would help to mitigate against DNOs taking a risk-averse approach to developing their business plans. In developing the approach further ahead of Draft Determinations, we will seek to ensure there is alignment in expectations between Ofgem and DNOs on our approach to assessment, including how we will determine what levels of performance would merit either a reward or penalty. We think it is important that the ODI balances predictability with the flexibility to reflect ongoing identification of best practice, changing stakeholder needs and innovation and will apply these principles in developing the approach.

6.49 In our Consultation we noted our intention that the assessment should use common metrics where possible. We believe good metrics will be clearly related to consumer outcomes, performance should be within the DNOs' control, and they should aid comparative assessment (unless there is evidence this would be inappropriate). We are inviting companies to propose metrics and performance benchmarks to be used in assessments within their strategies but we will engage with DNOs and wider stakeholders through the RIIO-ED2 working group to develop the assessment approach.

7. Maintain world class levels of reliability

Chapter summary

This chapter sets out our decisions to ensure the DNOs continue to drive improvements in network reliability.

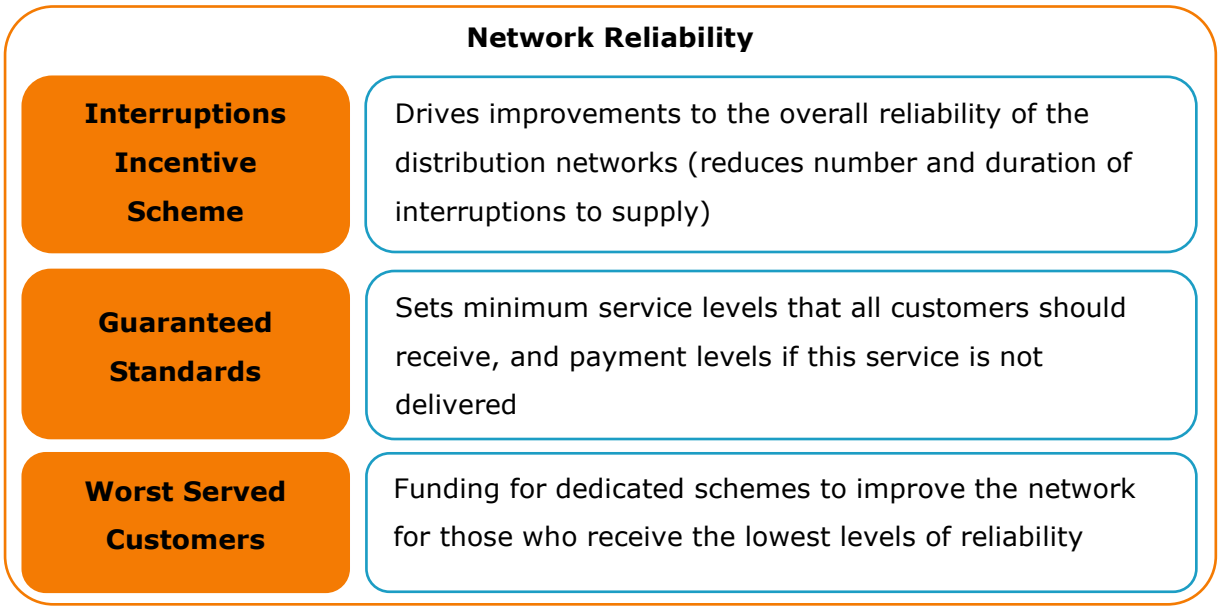
Introduction

7.1 The most valuable service that DNOs provide to consumers is an uninterrupted supply of electricity. Reliability has therefore been a key focus for Ofgem over recent price controls, which included a range of measures to ensure DNOs continue to improve their performance. We outlined our proposed arrangements and outputs for RIIO-ED2 in our Consultation, which built on the approach taken in RIIO-ED1.[20]

7.2 Our approach to ensuring high levels of network reliability in RIIO-ED2 has three key components (Figure 4): the Interruptions Incentive Scheme (IIS); the Guaranteed Standards of Performance (Guaranteed Standards or GSoPs); and how DNOs improve the service provided to their 'worst served customers'. In this chapter, we outline our decision for each of these areas in turn, including their component parts (where appropriate).

[20] Chapter 7 of Annex 1 – Delivering value for money services for consumers

Figure 4: Measures in place to ensure high levels of network reliability



Interruptions Incentive Scheme

7.3 The IIS drives DNOs to improve the overall reliability of their networks by setting target levels of performance for the price control. It covers all interruptions that are three minutes or longer in duration,[21] including any planned interruptions to supply.[22]

7.4 We considered the different elements of the IIS and the options for reform for each of these ahead of RIIO-ED2 in our Consultation. Table 15 gives a summary of the decisions we are taking for each element; these are discussed further in this chapter.

[21] Interruptions of less than three minutes are known as Short Interruptions, and are not incentivised through the IIS.
[22] In RIIO-ED1, planned interruptions are weighted at 50% of the value of unplanned interruptions, recognising that customers are forewarned of the loss of supply.

Table 15: Key decisions for the Interruptions Incentive Scheme

Unplanned interruptions target setting	• Use the RIIO-ED1 target setting model to set unplanned interruptions targets. • Targets will be set at the lower of the modelled values and a DNO's latest performance. • Provisional targets will be published at Draft Determinations, and finalised with 2021-22 performance data when available.
Planned interruptions target setting	• Retain a financial ODI on planned interruptions, using the RIIO-ED1 approach to set targets. • Continue to weight planned interruptions at 50% of unplanned interruptions.
Value of Lost Load	• Introduce a single figure for VoLL across Great Britain (GB) for the IIS, updating the VoLL figure in line with inflation. • Translate VoLL into IIS incentive rates using the RIIO-ED1 calculation, and the latest views of average consumption and GB Customer Minutes Lost (CML).
Short Interruptions	• Not incentivise short interruptions in RIIO-ED2. • Introduce a minimum standard for short interruptions, which will form part of the Guaranteed Standards.
Exceptional Events	• Retain both the Severe Weather Exceptional Event mechanism and the Other Exceptional Event mechanism. • Tighten the definition of Other Exceptional Events.

Unplanned interruptions target setting

Table 16: Unplanned interruptions target setting decision table

Purpose	To set challenging targets that drive improved reliability across all DNOs for both Customer Interruptions and Customer Minutes Lost

Decision	• We will use the RIIO-ED1 target setting model to set unplanned interruptions targets. • Unplanned interruptions targets will be set at the lower of the modelled values and a DNO's latest performance. • We will provide provisional targets at Draft Determinations, which will be finalised with 2021-22 performance data when available.

Our Consultation position

7.5 We proposed to use the RIIO-ED1 methodology for setting unplanned interruptions targets for RIIO-ED2, correcting for minor errors, and to fix the targets for the whole of the price control. We also proposed to include an additional step in the process, setting each DNO's target at the lower of its current performance (at the time of setting targets) and the target produced by the methodology.[23]

7.6 We outlined that targets would be set at either Draft or Final Determinations (expected to be in quarter two or quarter four of 2022 respectively), and that targets will be set using the latest data that we have available at that time. We proposed not to add additional convergence to a single position for DNO targets for RIIO-ED2.

Responses to our Consultation

7.7 Most respondents agreed with our proposal to retain the RIIO-ED1 approach to setting unplanned interruptions targets, acknowledging that the approach has led to notable performance improvements over time. Many respondents recognised the complexity of the current approach and that alternatives are available, but agreed with our conclusion that the potential benefits of any other approach would likely be outweighed by their own complexity and/or a loss of consistency with historical targets and performance.

7.8 Several respondents wanted further clarity on when targets would be set for RIIO-ED2, noting that the timing of the Draft and Final Determinations would

[23] If a DNO's performance at the time of setting targets (ie the latest finalised performance value) is lower than the target produced by the methodology, that current performance will be taken as the target for the first year of RIIO-ED1, and annual improvement factors will be applied to that value.

likely mean that no further information is available for the Final Determinations and, therefore, that targets should be set at Draft Determinations. One respondent, however, considered that provisional targets should be set at Draft Determinations, before being finalised once the full RIIO-ED1 performance is available.

7.9 A number of respondents also sought further clarity on what we mean by "latest performance" in relation to the proposal that targets would be set at the lower of a DNO's latest performance and the targets produced by the methodology. Several suggested that this view of latest performance should be an average of multiple years, in line with the target setting methodology.

7.10 Most respondents supported our proposal to fix unplanned interruptions targets for the duration of the price control; some respondents, however, favoured regular updates to targets to take account of the most recent DNO performance. In relation to our proposal not to introduce an element of convergence, most respondents agreed with the position in our Consultation, though two respondents suggested there may be a need to introduce specific approaches for those DNOs that consistently deliver worse performance than others.

Reasons for our decision

7.11 As outlined in our Consultation, we consider that the RIIO-ED1 methodology for setting unplanned interruptions targets will produce challenging targets that continue to drive DNOs to improve the reliability of their networks. This methodology has produced targets which have resulted in DNOs delivering notable reliability improvements since the beginning of RIIO-ED1; Customer Interruptions (CIs) have reduced by 15%, and Customer Minutes Lost (CMLs) have reduced by 10% in the first five years of RIIO-ED1. We consider that retaining the RIIO-ED1 methodology will build on and use these improvements to produce challenging targets in RIIO-ED2.

7.12 In considering possible methodologies for setting unplanned interruptions targets for RIIO-ED2, we have not identified any alternative that did not carry the risk of introducing its own drawbacks. One disadvantage of using an alternative methodology, such as setting targets on a rolling-average basis, would be the loss of comparability of performance over time. Setting targets on an alternative basis would mean both targets and performance in RIIO-ED2 would not be directly comparable with targets and performance in previous price

controls. This would make it harder for all stakeholders to assess and track DNOs' progress in delivering reliability improvements and identify the driver(s) of any changes in performance.

7.13 While the existing methodology is complex and includes the risk of frontier DNOs outperforming their targets ahead of the price control starting, we believe it will remain effective in driving DNOs to deliver reliability improvements in RIIO-ED2. We also believe that the risk of targets for frontier performers being set at a level which is the same as, or higher (ie easier) than, their existing performance can be managed to avoid the DNOs being rewarded a second time for performance improvements that have already been achieved.

7.14 We consider that modifying the final step in the target setting process, by setting a DNO's target at the lower of the target produced by the methodology and the DNO's latest performance (taken as an average of that DNO's performance over the last four years of available data),[24] will ensure that customers only pay for reliability improvements once. Through this approach, if a DNO's latest CI performance is lower than the CI target produced by the methodology, this latest performance will be the target for the first year of RIIO-ED2, and the 0.5% annual improvement factor will be applied to set the CI targets for the remainder of the price control.

7.15 We will apply this same principle for CML targets, taking each DNO's latest CML performance (averaged over the same four-year period as for CIs) and comparing that with the CML targets produced by the methodology. Where the DNO's latest performance is lower than the CML target produced by the methodology, the first year's target will be the DNO's latest performance, and an annual improvement factor of 2% will be applied to set the CML targets for the remainder of the price control.[25]

7.16 In determining a DNO's latest performance, we believe it is appropriate to take the average of a DNO's performance over the last four years of available data. This minimises the risk of a particularly stormy (or calm) year distorting the view of a DNO's performance, whilst maintaining consistency with the unplanned

[24] A DNO's performance will be taken at the total CI and CML level for unplanned interruptions, rather than at different voltage levels. This CI/CML performance level will be compared against the final unplanned interruptions targets generated by the target setting model.
[25] Through the RIIO-ED1 methodology, the improvement factors used to set CML targets vary by voltage level (1% for LV, EHV, and 132kV, and 3% for HV). When looking at CML targets for all DNOs in RIIO-ED1, the average annual improvement is 2% per year. Therefore, we consider a 2% annual improvement in targets is in line with the improvement driven by the modelled targets.

target setting methodology (where DNOs' historical performance at LV and HV is taken as a four year average). On this basis, we will consider a DNO's latest performance as their average performance over the four years up to and including the 2021-22 reporting year.[26]

7.17 We consider that fixing the unplanned interruptions targets for the duration of RIIO-ED2 will deliver improvements in network reliability and build on the progress made during RIIO-ED1. As outlined in our Consultation, revisiting unplanned interruptions targets is a resource intensive process that takes time to complete and, given that the methodology uses DNOs' performance over four or ten year periods, it would require significant and sustained outperformance from several DNOs to produce notably different targets for the price control. Given that RIIO-ED2 is a five-year price control, we do not consider the benefit of revisiting the unplanned interruptions targets would outweigh the cost of producing updated targets.

7.18 We recognise that DNOs' business plans are informed by the unplanned interruptions targets that we set, since DNOs are expected to deliver this level of reliability using their baseline allowances. In this respect, having sight of the targets ahead of developing and submitting their business plans helps DNOs plan their investment programmes for the price control. However, we also recognise that DNOs do not need the exact, finalised targets to be able to develop their business plans for RIIO-ED2. Instead, deciding on the methodology we will use to set unplanned interruptions targets will allow DNOs to anticipate their expected targets for RIIO-ED2 and develop plans accordingly.

7.19 We are also mindful of the need to consider the latest performance data that we have available when setting unplanned interruptions targets. This, in combination with the recommendations from the National Audit Office and our own review of the approach taken at RIIO-ED1, means we believe it is appropriate to provide a provisional view of unplanned interruptions targets at Draft Determinations based on DNOs' performance up to and including the 2020-21 reporting year.

7.20 We consider that this, in combination with our decision on the methodology we will use to set the targets, will give DNOs sufficient sight of the expected trajectory of targets, and will allow them to plan their investment programmes

[26] This would be an average of the DNOs' performance over the 2018-19 to 2021-22 reporting years.

for the price control. We believe that finalising the targets (expected to happen around February 2023), once we have performance for the 2021-22 reporting year will ensure that targets are set using the latest RIIO-ED1 performance data that is available. As outlined above, given that the methodology uses averages over four or ten year periods, we expect that the provisional view of targets will be sufficient to allow DNOs to plan accordingly, and that the final targets will be broadly in line with these.

7.21 We recognise that there will be a final year of RIIO-ED1 performance that is, therefore, not used to set unplanned interruptions targets for RIIO-ED2. However, to include this extra year's data in setting targets would only produce targets that affect the final three years of RIIO-ED2,[27] which would mean targets could not be fixed for the duration of the price control. Additionally, we do not believe that including this final year's data would produce significantly different targets, due to the four and ten year averages used by the methodology.

7.22 We consider that our proposal to set targets on the lower of a DNO's latest performance or the modelled targets will ensure that a DNO's targets for RIIO-ED2 are challenging from the outset of the price control. Finally, if this methodology for setting unplanned interruptions targets in future price controls is retained, then the final year of RIIO-ED1 performance will feed into future targets.

7.23 We believe that the existing unplanned target setting approach already drives DNOs over time to achieve a level of reliability that is comparable across DNO regions when accounting for the customer density, environmental conditions, and network characteristics of each DNO region. We do not consider that adding an additional element of convergence to the DNOs targets would result in increased levels of network reliability at comparable, efficient costs to consumers.

[27] The target setting model uses performance to set targets at least two years in advance, based in part on the submission of the relevant performance data each November. For example, performance for the 2022-23 regulatory year will be received in November 2023 (which is in the 2023-24 regulatory year). The earliest this could be used to set a target would be the 2024-25 regulatory year. Historically, this performance data would have set a target for the 2025-26 regulatory year, meaning the performance in the final year of RIIO-ED1 (2022-23) would only affect the targets in the final three years of RIIO-ED2 (2025-26 to 2027-28).

Planned Interruptions

Table 17: Planned Interruptions decision table

Purpose	The IIS drives DNOs to reduce the number and duration of interruptions to supply. Targets are set to ensure planned interruptions to supply are kept to a minimum.
Decision	• We will retain a financial ODI on planned interruptions, continuing with the RIIO-ED1 approach to setting targets. • We will retain the RIIO-ED1 weightings for planned interruptions.

Our Consultation position

7.24 We proposed to retain an ODI-F on planned interruptions, continuing with the RIIO-ED1 approach to setting planned interruptions targets. We also sought views on potential amendments that could be made to either the weighting of planned interruptions or the way in which planned interruptions targets are set.

Responses to our Consultation

7.25 Overall, respondents broadly supported our proposal to retain the RIIO-ED1 approach to planned interruptions targets and weightings. Two DNOs highlighted that future expectations around specific work programmes driven by external requirements (such as the removal of Polychlorinated Biphenyls (PCBs) from the networks) could likely result in DNOs missing their targets early in the price control before outperforming the subsequent targets that are generated.

7.26 One respondent favoured the approach of DNOs having targets and incentive weightings that are based on stakeholder feedback; the remaining respondents broadly supported the application of the same weightings to all DNOs.

7.27 One respondent highlighted the importance of DNOs coordinating their planned projects with other infrastructure providers, and another suggested that the incentive should be set in a way that drives DNOs to use temporary supplies where possible. Finally, one respondent questioned whether DNOs' warnings of a planned interruption are effective in enabling customers to respond to them.

Reasons for decision

7.28 Based on the responses to our Consultation, and having further considered the options available, we believe that retaining the RIIO-ED1 approach to setting planned interruptions targets will deliver the best results for consumers. We consider that setting targets on a three-year rolling average basis (with a two-year lag) will ensure DNOs do not allow their performance to deteriorate without an associated penalty. We also consider that this approach to setting planned interruptions targets provides some flexibility for changes in work programmes that may arise from external requirements (such as the removal of PCBs). Where volumes of work increase due to external requirements, DNOs' targets in subsequent years will reflect this change; we believe that any reductions in revenue as a result of these increased work volumes will be offset by targets that are comparatively easier in later years.

7.29 We believe that continuing the RIIO-ED1 weighting on planned interruptions will help to deliver performance improvements, and that applying the same incentive weighting for all DNOs will help ensure DNOs are equally incentivised to keep planned interruptions to a minimum. We also believe that retaining an ODI-F on planned interruptions should continue to encourage DNOs to coordinate their activities with other parties, minimising the cost and disruption to customers.

Value of Lost Load

Table 18: Value of Lost Load decision table

Purpose	VoLL is a representation of the value that customers place on security of supply. It feeds into many areas of the price control, including the IIS, CBA and the Network Asset Risk Metric (NARM).
Decision	• We will introduce a single figure for VoLL across GB for the IIS, updating the RIIO-ED1 figure in line with inflation. • We will use the RIIO-ED1 calculation to translate VoLL into IIS incentive rates, using the latest view of average consumption and GB CMLs. • We will continue with the RIIO-ED1 symmetrical revenue cap for the IIS, set at 250 RoRE basis points.

Our Consultation position

7.30 We proposed to update the RIIO-ED1 VoLL figure in line with inflation as a minimum. We sought views on alternative options, such as greater disaggregation of the methodology in addition to inflation adjustments.

7.31 We proposed that, for the purposes of the IIS, a single VoLL figure would be set for the whole of GB. For other elements of the price control such as NARM and CBA models, we proposed to retain the option for more granular VoLL figures to be used. Finally, we proposed to maintain the revenue cap of 250 RoRE basis points per year for RIIO-ED2.

Responses to our Consultation

7.32 Respondents supported updating the VoLL figure, at a minimum in line with inflation. There were a range of views on further updates to the figure, with several respondents suggesting there was no clear case for any one approach. Several respondents noted that the VoLL figures developed through ENWL's research might need reviewing in light of the impact of the COVID-19 pandemic on customer expectations, particularly with changes to working patterns and energy use.

7.33 Respondents generally supported the use of a single VoLL figure for GB in relation to the IIS, with some favouring the option for DNO-specific values to be used in specific investment cases. There was also similar support for VoLL to be used consistently across the energy system, though several respondents highlighted that, where this is not possible, it is important to focus on ensuring the value for RIIO-ED2 is as accurate as possible.

7.34 Respondents also supported the retention of a revenue cap for the IIS, with a majority supporting the retention of the RIIO-ED1 caps for the next price control. One DNO suggested that the revenue cap should not include a DNO's performance in relation to planned interruptions, and another sought clarity on whether other RIIO-ED1 revenue caps for IIS-related elements would also be retained.

Reasons for decision

7.35 We believe that introducing a single VoLL figure across GB for the IIS will ensure that all DNOs are equally incentivised to deliver reliability improvements. This

reflects the fact that the data used to derive indicative VoLL figures is collected from across GB, and therefore represents the value that customers across GB place on security of supply. We also consider that using a single VoLL figure for the IIS will avoid unnecessary additional complexity and provide a baseline level of consistency through the process.[28]

7.36 We believe that updating VoLL in line with inflation, to produce a figure of £21,000 per megawatt-hour,[29] reflects customers' expectations around security of supply and the importance of maintaining high levels of network reliability. We also believe that aligning the value with that used in RIIO-T2 will help drive DNOs to work with the transmission owners to deliver whole systems solutions, since network companies in each sector (transmission and distribution) will be equally incentivised when it comes to identifying whole systems solutions to network issues.

7.37 In line with the approach taken in the transmission and gas distribution price controls, we will consider amending the incentive rate during RIIO-ED2 if there is new evidence that VoLL has materially changed from the current estimate. If a decision is taken in the RIIO-GD2 or RIIO-T2 price control to amend the incentive rates based on a change in VoLL, we will consider whether that change should also be applied to the RIIO-ED2 price control. We will take into account the impact on IIS incentive rates, as well as the balance of incentives across price controls and the impact that may have on network companies' ability and incentive to deliver whole systems solutions.

7.38 The work carried out by ENWL to establish an updated view of VoLL has highlighted the importance of understanding how VoLL varies by customer types, geographic region, and over time. While this research identified possible options for a new VoLL figure to be used for RIIO-ED1, it also highlighted the need for widespread, coordinated research into updated customer expectations to ensure any figure accurately reflects expectations from across GB. This is particularly true when considering the impact of the COVID-19 pandemic on working patterns and energy use. While the results from ENWL's study highlight how VoLL has changed, we do not believe that they conclusively identify a single figure that can be robustly used for RIIO-ED2.

[28] VoLL is used in setting IIS incentive rates for all DNOs, but this figure is translated into a DNO-specific value through the use of DNO customer numbers. Therefore, using a single VoLL for all DNOs helps provide an underlying level of consistency that would not be achieved through the use of DNO-specific VoLL figures.
[29] This figure is given in 2018-19 prices.

7.39 ENWL's research highlighted that the RIIO-ED1 VoLL figure should be updated for RIIO-ED2, and that the single most effective update would be through an inflation adjustment. The additional options that were considered as part of this research attempted to develop the VoLL figure further, but each step brought additional drawbacks. For example, using a disaggregated approach to establishing VoLL relies on data from multiple datasets, each of which represents sample populations at different levels of aggregation.[30] This means that the VoLL estimates for different parts of GB, and for GB as a whole when a single figure is produced, are likely to vary in relation to the accuracy of the populations they represent[31] and, therefore, that combining these estimates could result in a VoLL figure that is less reflective of customer expectations in regions with a higher level of aggregation. Similarly, ENWL's work used customer research carried out in 2019, meaning that changes in customer expectations and usage patterns since then are not accounted for.

7.40 We consider that the approach taken to translate VoLL into IIS incentive rates in RIIO-ED1 remains fit for purpose for RIIO-ED2. The formula uses VoLL, average customer demand, and the latest GB CML figure as its variables. Following stakeholder feedback, we considered the options available for the average customer demand and GB CML figures that should be used in determining incentive rates in RIIO-ED2.

7.41 In relation to average demand, we recognise that anticipated future changes in demand, generation, and energy use mean that current demand figures may not be representative of the future. Looking ahead to RIIO-ED2, we considered whether using a different view of demand (such as the value used to set RIIO-ED1 incentive rates, or a forecast of average demand over RIIO-ED2) would be more appropriate than using average demand across RIIO-ED1. We appreciate that, at this stage, demand is expected to increase over the course of RIIO-ED2, and that the current value of demand used may under-represent actual demand.[32] However, we do not consider that the alternatives to using the latest view of average demand (taken as an average over the course of RIIO-ED1)

[30] The datasets that provided the data that was used in the disaggregated approach used sample populations of different sizes. For example, data from the Office for National Statistics provided sample populations that represented around 1,500 customers, whereas data from other sources provided sample populations that represented higher volumes of customers.
[31] By this we mean that there is an assumption that VoLL figures for smaller population sizes are assumed to be more reflective of those customers' expectations than VoLL figures produced for larger population sizes, which may rely more on assumptions around customer types and/or energy use.
[32] The value of demand used in determining IIS incentive rates is drawn from the total energy distributed across the networks. This value is the net value of total energy demand and the amount of distributed generation (DG) on the networks, and is therefore lower than the total demand across the distribution networks.

would offer a more accurate picture of demand in RIIO-ED2. We also consider that using the latest view of average demand will mean IIS incentive rates are set at a level that is most representative of customers' latest experiences.

7.42 In relation to the GB CML figure that should be used in setting incentive rates, we recognise that the DNOs' efforts to improve reliability have led to a lower overall CML, and that this itself reduces the IIS incentive rate for CIs.[33] As with average demand, we considered whether an alternative approach would be more representative of customers' expectations. However, in considering the alternatives (retaining the CML value used to set RIIO-ED1 incentive rates, or choosing a nominal interruption length), we believe that the latest GB CML value is the most representative figure for the service that customers actually experience and is, therefore, the most suitable for setting incentive rates for RIIO-ED2.

7.43 Retaining the CML value used to set RIIO-ED1 incentive rates would mean future incentive rates are based on DNOs' performance from DPCR5; this would not reflect the current reliability that customers experience. Similarly, choosing a nominal interruption length would mean an arbitrary value is used that also fails to represent customers' actual experiences. Therefore, we consider that using the latest GB CML to set IIS incentive rates for RIIO-ED2 is the most appropriate.

7.44 We have provided an indicative view of IIS incentive rates for RIIO-ED2 in Appendix 5. We will update and finalise these incentive rates alongside the final unplanned interruptions targets once the performance for the 2021-22 reporting year is available. We will use the GB CML value from the 2021-22 reporting year in this calculation, and an average of demand across RIIO-ED1 up to and including the 2021-22 reporting year.

7.45 Finally, we believe that it is appropriate to retain a symmetric cap on IIS revenue exposure for both upside and downside exposure. We believe that the cap has worked well to protect consumers from DNOs earning excessive rewards under the IIS in RIIO-ED1, and that the downside cap provides sufficient protection for DNOs against excessive penalties. We will set this cap at 250

[33] The formula for translating VoLL into CI incentive rate multiplies the implied customer willingness to pay for one minute without electricity by the GB average CML to generate the CI incentive rate. Therefore, reductions in the GB CML value result in reductions in the CI incentive rate.

RoRE[34] basis points per year; we have provided indicative values in Appendix 5 using the latest view of regulatory equity.[35] We also believe it is appropriate to retain the severe weather guaranteed standards cap at 207 RoRE basis points, and the overall combined IIS and severe weather guaranteed standards cap of 413 RoRE basis points. We have provided indicative values for these in Appendix 5.

Short Interruptions

Table 19: Short interruptions decision table

Purpose	To ensure DNOs take action to minimise the frequency of interruptions to supply that last three minutes or less.
Decision	We will not introduce an incentive for short interruptions in RIIO-ED2, instead we will introduce a minimum standard that will form part of the GSoPs.

Our Consultation position

7.46 We proposed not to introduce an incentive on interruptions lasting less than three minutes (known as short interruptions), due to a lack of robust and comparable data across all DNOs. Instead, we proposed to begin work during RIIO-ED1 on a potential incentive that could be implemented in RIIO-ED3, alongside improvements to the quality of data collected on short interruptions. We proposed to establish a minimum standard of performance for short interruptions in RIIO-ED2 to ensure customers across GB can expect to receive the same minimum level of service.

Responses to our Consultation

7.47 Respondents generally supported not incentivising short interruptions for RIIO-ED2, noting that the lack of robust or consistent data would not allow targets to be set appropriately, though one respondent considered that an incentive could be introduced for RIIO-ED2. Almost all respondents agreed with our proposal to improve the quality and quantity of data collection in relation to short

[34] The Return on Regulated Equity (RoRE) is the financial return achieved by shareholders in a licensee during a price control period, based on its actual performance under the price control. One RoRE basis point is 0.01% (or one hundredth of 1%) of the DNO's financial return.
[35] Regulatory equity was taken from the 2019-20 Regulatory Financial Performance Reports.

interruptions over the remainder of RIIO-ED1 and through RIIO-ED2, with a view to establishing an incentive for RIIO-ED3. Some respondents suggested that the definition of a short interruption should change from three minutes to ten seconds. Two respondents suggested that further research into the impact of short interruptions on customer groups should be carried out to help establish the appropriate measures to put in place.

7.48 In general, most respondents supported the introduction of a minimum standard for short interruptions in the absence of an incentive. Many agreed that it was important to put protections in place to ensure customers do not experience a deterioration in performance.

7.49 Three respondents considered that the customer benefit (and funding implications) of a minimum standard needs to be evaluated alongside the improvements in data collection, with one noting that their customer research to date shows that short interruptions are not a material issue for their end users. Several respondents also highlighted that the introduction of a minimum standard would bring associated funding implications for DNOs.

7.50 Another respondent questioned why we consider there is a case for a minimum standard when the data is not robust enough for an incentive. A further respondent provided examples of equivalent standards that are used in other countries in their support for a minimum standard at this stage.

Reasons for decision

7.51 As outlined in our Consultation, while we recognise that the impact of short interruptions continues to grow with changes in customer behaviour, we do not consider that the current data provides a robust or consistent view of performance across the DNOs. We believe that introducing an incentive at this stage would likely result in a target being set at the wrong level, leading to either systematic outperformance (and, if it were a financial incentive, increased costs for consumers) or systematic underperformance.

7.52 We believe that it is important to understand how DNOs are performing in this area before establishing the need, if any, for improvements in that performance, alongside improving our understanding of the impact that short interruptions have on customers. We expect that the value customers place on short interruptions is likely to change with time, especially with the expected

increased uptake of LCTs and changes in working patterns as a result of the COVID-19 pandemic, and that this will mean we need to consider the balance between performance improvements in long and short interruptions.

7.53 However, we consider that there is a need to ensure customers do not suffer from poor performance while an incentive is being developed. We believe that introducing a minimum standard will provide a level of protection to customers that ensures DNOs continue to strive to maintain or improve their performance, without placing undue risk or cost implications on DNOs to deliver this minimum standard.

7.54 As was outlined in some Consultation responses, similar approaches to short interruptions have been taken in other countries. For example, Florida Power and Light report on their "Customers Experiencing Multiple Momentaries" metric which helps drive their performance in relation to those customers that are most affected by multiple short interruptions.[36] We therefore continue to believe it is appropriate to introduce a minimum standard, though we recognise that the development of the minimum standard itself will need to be considered in the context of the quality and robustness of the historical data that is available.

Next steps

7.55 We will consider the options for determining the minimum standard for short interruptions; at this stage, we consider that a starting point for the development of a standard could be set at eight times the GB average number of short interruptions per customer per year.[37] We expect to outline a proposed standard in the Draft Determinations, having been informed by DNOs' business plans, and will incorporate the development of this minimum standard into the GSoPs.

[36] https://www.sandc.com/globalassets/sac-electric/documents/sharepoint/documents---all-documents/technical-paper-100-t128.pdf?dt=637309315749384549

[37] This follows a similar approach to setting the threshold for a Severe Weather Exceptional Event, which is set at eight times the daily average number of faults on HV (or above) networks. The SWEE threshold is based on the DNO's average performance over a ten-year period; we would take the same approach for the short interruptions minimum standard. The original choice of eight times the daily average resulted from analysis of historical exceptional event and fault data used to determine an appropriate threshold.

Exceptional Events

Table 20: Exceptional Events decision table

Purpose	Some circumstances that are beyond a DNO's control can have significant impacts on the networks. Performance under the IIS in these circumstances is discounted to recognise the impact of these events.
Decision	• We will retain the RIIO-ED1 Severe Weather Exceptional Event mechanism, updating the threshold values based on the most recent performance. • We will retain the RIIO-ED1 Other Exceptional Event mechanism, redefining and tightening the definition for RIIO-ED2. • We will set thresholds in proportion to a DNO's size.

Our Consultation position

7.56 We proposed to retain the existing Severe Weather Exceptional Events (SWEE) mechanism, and to remove the Other Exceptional Events (OEE) mechanism for RIIO-ED2. We sought views on improvements that could be made to the OEE mechanism if it were to be retained.

Responses to our Consultation

7.57 Overall, respondents supported our proposal to retain the SWEE mechanism. The majority of respondents supported the retention of the RIIO-ED1 threshold for this mechanism, updated to reflect the DNOs' performance over the past ten years. Some respondents suggested work could be carried out to explore whether a sliding scale could apply to the threshold for SWEE. In contrast, other respondents supported having a single, clear threshold which provides simplicity for both DNOs and stakeholders.

7.58 There was mixed support for our proposal to remove the OEE mechanism for RIIO-ED2. Some respondents supported its removal unless there was evidence that making changes to it would provide a better outcome for consumers. A number of respondents did not support removing the OEE mechanism, outlining that the issues that had been identified through our Consultation could be better addressed by refining the existing mechanism.

7.59 Several changes to the mechanism were suggested, such as a tighter definition of what constitutes an OEE and a tiered approach to assessing whether an event has met the relevant criteria. In relation to the threshold for an OEE, there were mixed views as to how this should be defined should the mechanism be retained. Some respondents suggested that the existing thresholds are appropriate and others that they should be set with respect to the financial risk a DNO is exposed to.

7.60 Finally, several respondents noted that the removal of the OEE mechanism would have implications for setting unplanned interruptions targets, since the data that is used to set these targets does not include the DNOs' performance during OEEs.

Reasons for decision

7.61 We believe that it is appropriate to retain a mechanism that recognises the impact that adverse weather can have on the networks and the conditions in which DNOs must operate to restore supplies. As outlined in our Consultation, we do not consider that it would be economic to fund the measures that would be required to ensure networks are fully resilient in all weather conditions. Therefore, we consider that retaining the SWEE mechanism is appropriate for RIIO-ED2.

7.62 Additionally, we believe that the existing SWEE threshold values[38] provide clarity for Ofgem, DNOs and customers as to when the networks have been affected by adverse weather, and we believe it is right to update the thresholds based on the DNOs' latest performance.

7.63 We consider it appropriate to set provisional targets at Draft Determinations which will be finalised alongside the publication of the final unplanned interruptions targets, taking into account the DNOs' performance up to (and including) the 2021-22 year. We have provided indicative threshold values in Appendix 5.

7.64 For the OEE mechanism, we believe that, in the interests of simplifying the price control, there is a case for removing the OEE mechanism. This would also reflect the low volume of claims that have been received over the course of RIIO-ED1

[38] These are set at eight and thirteen times the daily average number of faults at HV and above for a Category 1 SWEE and Category 2 SWEE respectively.

to date, and the amount of risk that DNOs would have been exposed to without this mechanism in place. However, we have taken into consideration feedback from stakeholders that removing the OEE mechanism would have implications for the process of setting unplanned interruptions targets for the IIS, which could increase the risk that these targets are set at the wrong level. We therefore consider it is appropriate to retain the OEE mechanism for RIIO-ED2.

7.65 The type of claims submitted under the OEE mechanism in RIIO-ED1 has moved away from the circumstances that the mechanism was originally designed to cover. Therefore, we think it is appropriate to review and update the current licence definition of an OEE for RIIO-ED2. This will ensure that only those truly exceptional claims can be submitted for assessment under the mechanism.

7.66 At the same time, we believe that introducing a tiered approach to the threshold for an OEE could help Ofgem and DNOs determine those claims that are truly exceptional and reduce the administrative burden associated with each claim. We believe that introducing a first stage of assessment that would allow DNOs to carry out pre-determined checks would streamline the process and ensure that Ofgem can focus on those claims that pass that first assessment. We consider it appropriate to work with the DNOs (and other stakeholders where appropriate) to develop a tiered approach to the thresholds for the OEE mechanism.

7.67 Similarly, we are aware that the current thresholds for the OEE mechanism[39] mean some DNOs may never meet the criteria for an event to be classed as exceptional. We therefore believe that setting a threshold that is proportional to each DNO's size will ensure that all DNOs are offered the same protection by the mechanism.

Next steps

7.68 We will continue to explore the options for setting OEE definition and thresholds for RIIO-ED2, including on a tiered approach. We will work with DNOs to consider how such an approach might work in practice and look to ensure the process is streamlined where possible. We expect to provide an indicative approach to OEE thresholds as part of the Draft Determinations.

[39] The RIIO-ED1 thresholds for the OEE mechanism are set at 25,000 customers interrupted and/or two million customer minutes lost.

Guaranteed Standards of Performance

Table 21: Guaranteed Standards of Performance decision table

Purpose	To ensure a set of common, minimum standards apply to DNOs with respect to interruptions, voltage quality, and customer interactions.
Decision	• We will retain the existing Guaranteed Standards of Performance (GSoPs) for RIIO-ED2, adjusting payment amounts to account for inflation to the start of RIIO-ED2. • We will index payments and the associated caps to inflation during the price control and round payments to the nearest multiple of £5 (with the payment caps adjusted at a commensurate rate).

Our Consultation position

7.69 We proposed to retain the existing arrangements for the GSoPs in RIIO-ED2, adjusting payment levels to account for inflation and indexing them against a baseline level of February 2023. We sought views on any amendments that might be needed to the existing standards and proposed to review and update the drafting of the GSoP regulations to improve their clarity and transparency for all stakeholders.

Responses to our Consultation

7.70 There was uniform support from respondents to retain the existing GSoPs. Some respondents suggested that some standards may need to be reviewed to ensure they still reflect customer preferences, such as the notice period for planned interruptions.

7.71 There was broad support across most respondents for our proposal to uplift payments in line with inflation. However, views across respondents were mixed in relation to our proposal to index payments to inflation; some stakeholders suggested this would be administratively burdensome. There were suggestions that the process and timing of reviewing and/or updating the payment levels on this basis should be clearly set out within the Licence and/or the Statutory Instrument.

Reasons for decision

7.72 Based on the broad support within the responses to our Consultation, we believe that the existing GSoPs remain fit for purpose and should be retained for RIIO-ED2. While we recognise that some respondents suggested we review elements of the standards, we have not seen evidence that suggests the existing arrangements are unfit for purpose for RIIO-ED2 and need changing. We will consider whether any evidence presented through the DNOs' business plans warrants a change to any of the individual standards for RIIO-ED2, and will take an indicative view on whether any changes need to be made at Draft Determinations.

7.73 We believe it is appropriate to update the payment amounts to account for inflation to the start of the price control.[40] This ensures that, from the outset of the price control, the amount customers receive remains appropriate over time, and we believe that indexing payments (and the associated caps) to inflation during the price control will ensure this continues. We believe that rounding payments to the nearest £5 means payment levels remain clear for customers, and only change when there is a material impact due to changes in inflation.

7.74 We recognise that indexing payments to inflation during the price control may add a level of complexity to the GSoPs. However, we consider that this can be mitigated if there is a clear process for adjusting payments outlined within the Statutory Instrument. This will ensure that DNOs and their customers have clarity over the appropriate payments should a DNO fail any of the GSoPs.

Next steps

7.75 As outlined in our Consultation, we will review the drafting of the GSoP Regulations[41] with DNOs and other interested stakeholders to improve the clarity and transparency. We will conduct further consultations on the text as necessary. We will work with DNOs to establish the text that will form part of the GSoP Regulations for updating payment amounts and the associated caps, taking learning from the equivalent process in RIIO-GD2.

[40] In line with the approach taken in the RIIO-GD2 price control, we will index payments against a baseline level of January 2023, to allow DNOs more time to revise payment levels for the new financial year.
[41] https://www.legislation.gov.uk/uksi/2015/699/contents/made

Worst Served Customers

Table 22: Worst Served Customers decision table

Purpose	Reduce the number of interruptions experienced by those customers who experience an unusually poor service from their DNO.
Decision	• We will retain a Worst Serve Customer (WSC) mechanism, moving to providing ex ante funding for DNOs to deliver dedicated schemes that will improve reliability for specified groups of customers, and we will introduce an associated PCD. • We will retain the principles of the definition of a WSC, reducing the minimum number of faults in a year to two.

Our Consultation position

7.76 We proposed to retain some form of mechanism in relation to WSC, and we sought views on the options available for that mechanism.

Responses to our Consultation

7.77 Overall, respondents supported the proposal to retain a form of WSC mechanism in RIIO-ED2 to address the needs of those customers that receive the poorest service. Several respondents indicated that there is strong customer support for such a mechanism, though one respondent noted that the IIS should encourage improvements for these customers and that that mechanism should be removed for RIIO-ED2.

7.78 The majority of respondents supported Option 3 as presented in our Consultation – moving to funding WSC schemes through ex ante allowances. These respondents outlined that it would allow schemes to be more targeted, and additional relaxation of (or changes to) the WSC criteria could encourage even greater uptake of funding and delivery of schemes to benefit customers. Of the changes to the criteria that were suggested, there was most support for the inclusion of LV faults and the relaxation of the three year qualification period, since the latter is seen as a barrier to investment under the current arrangements.

Reasons for decision

7.79 Ensuring the reliability of the networks, particularly for those who currently experience poor levels of service, will be crucial to the successful transition to Net Zero. DNOs will need to ensure that all customers are able to rely on the networks as low carbon technologies become more engrained in everyday life and working patterns change (as has been seen through the impact of the COVID-19 pandemic). Network reliability is especially important for those customers who are in vulnerable situations, as a loss of supply for them often has a bigger impact than on customers who are not in vulnerable situations.

7.80 We recognise that the RIIO-ED1 WSC mechanism has not resulted in the widespread uptake of funding or solutions that was expected. We understand that this is due, in part, to the definition of a WSC and the parameters that must be met for DNOs to recover the relevant funding. We also understand that the way funding is provided (on a use-it-or-lose-it basis) has contributed to the low uptake of funding or solutions in RIIO-ED1, since DNOs are only able to recover their costs in delivering schemes to improve reliability for WSCs when the parameters have been met. This can be seen when comparing the totals spent by DNOs in RIIO-ED1 to date: where we provided ex ante allowances for dedicated schemes (as was the case for Scottish and Southern Energy's licensee in the north of Scotland), a greater proportion of these allowances have been spent than where they were provided on a use-it-or-lose-it basis.

7.81 We therefore consider that providing allowances on an ex ante basis will give DNOs greater certainty of funding to deliver these improvements. Similarly, by relaxing the minimum number of interruptions per year, we believe that DNOs will have greater flexibility to use the allowances to deliver schemes that result in reliability improvements for those customers that currently experience poor reliability.

7.82 We understand that many customers are classified as being worst served because they experience interruptions caused by faults on the HV network. This often occurs where the cost of improving the reliability of this part of the network outweighs the benefit the investment would bring, in part due to the low volume of customers served by that part of the network. We recognise that, from a customer's perspective, the origin of the fault does not change the level of service they receive.

7.83 The IIS is in place to drive overall improvements to network reliability across all voltage levels; the WSC mechanism is designed to provide funding to improve the service experienced by those customers who receive the poorest levels of performance. We believe that the IIS provides the incentive to DNOs to carry out investment to improve reliability at lower voltages (where the cost of this work is often lower) and that the WSC mechanism should remain focused on higher voltages. This will maintain the boundaries between the IIS and the WSC mechanism and, we believe, lead to more efficient solutions to network reliability than if we were to include faults on the LV network within the WSC mechanism.

7.84 We believe that it is important to have a central definition of a WSC that applies across GB, so that all customers can expect their DNO to explore options for improvements in network reliability, regardless of their location in the country. We will therefore set the definition of a worst served customer in RIIO-ED2 as a "customer experiencing on average at least four higher voltage interruptions per year, over a three year period (ie 12 or more over three years, with a minimum of two interruptions per year)". However, we also believe that DNOs, through their engagement with stakeholders and consumer groups, are best placed to establish the appropriate level of performance improvement that should be delivered through the dedicated schemes.

Next steps

7.85 We will consider the performance improvements proposed by DNOs alongside the requests for ex ante funding as part of the process of assessing DNOs' business plans. We will work with DNOs to refine the definition of a WSC, based on the findings from their stakeholder research.

8. Ensure long-term safety and resilience

Chapter summary

This chapter sets out our decisions to ensure the DNOs maintain asset resilience, support workforce planning and support the networks in improving their cyber resilience and the physical security of key sites.

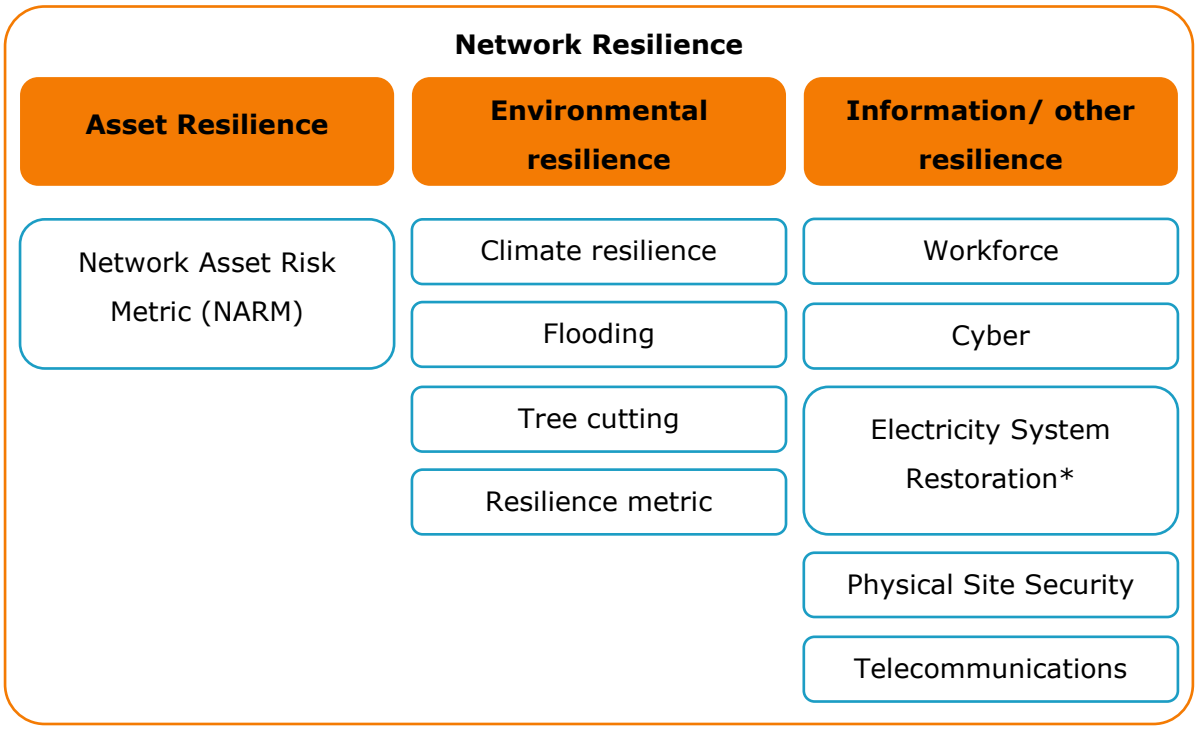
Introduction

8.1 DNOs must deliver safe and resilient network services to ensure the distribution networks can meet the needs of consumers, both now and in the future.

8.2 The networks need to remain resilient to a range of existing and emerging threats. This resilience encompasses the physical condition of the assets, as well as the capacity to withstand external threats such as flooding of key sites or cyber-attack. We have a range of measures in place in the current price control that ensure DNOs manage and mitigate the risks to their networks and our arrangements for RIIO-ED2 build on these measures as well as learn from progress in other RIIO sectors. Each element is discussed in detail in this chapter.

8.3 There are three main strands to our approach to ensuring DNOs deliver safe and resilient networks (Figure 5): asset resilience (as measured through the NARM); environmental resilience; and information and other resilience. Activities carried out under one strand of our approach to delivering resilient networks may also cover other strands of resilience. For example, asset resilience activities may also deliver environmental resilience benefits. In this chapter, we discuss our decisions for each of these areas in turn, including their component parts (where appropriate).

Figure 5: Key elements of resilience in RIIO-ED2



*Previously referred to as Black Start

Asset Resilience: Network Asset Risk Metric

8.4 The NARM considers the probability and impact of an asset failing and is used to set outputs for DNOs' asset management activities, such as asset replacement and refurbishment. The NARM should ensure that the risk to consumers of asset failure is maintained within reasonable bounds.

8.5 In our Consultation, we considered the different elements of the NARM and the options for reform for each of these ahead of RIIO-ED2 in our Consultation. Table 23 gives a summary of our decisions in respect of each element; these are discussed further in this chapter.

Table 23: NARM decision table

Adoption of long-term risk	• Adopt a long-term risk measure as the NARM output measure. • Calculate the long-term risk measure by assigning typical 'cumulative discounted future Probability of Failure (PoF)' weightings to each Health Index Band.

Commonality of reporting	• Retire the concept of Health Index Asset Category and instead require DNOs to report against the Asset Register Category models only. • Require DNOs to report against all Asset Register Categories with the current Common Network Asset Indices Methodology (CNAIM). • Maintain the requirement for DNOs to produce Information Gathering Plans (IGPs). • Review specific IGP arrangements around governance, revisions and reporting.
Production of a guidance document	• Require DNOs to develop an Engineering Guidance document to support data input for all condition points and for all asset classes covered by the CNAIM. • No introduction of an Asset Data Quality Incentive.
Revision of methodology	• The revised methodology, CNAIM v2.0, reflects our current requirements for the NARM framework. • Key input values to the methodology will be set at the same level as the equivalent parameters in the business plan CBAs and in Engineering Justification Papers (EJPs). • Revision of the key input values to the methodology will not require formal consultation by the Energy Networks Association (ENA) at this stage.
Expansion to other assets not currently within the methodology	• We will not introduce any of the proposed options for extending the coverage of the methodology to Non-NARM assets at this stage. • We will develop an uncertainty mechanism to manage Non-NARM related expenditure in RIIO-ED2.
Incentives associated with NARM	• We will use the equivalent RIIO-ED1 arrangements as the basis for development of the NARM incentive mechanism in RIIO-ED2. • Monetised risk improvements delivered through investments funded under other mechanisms will not be included in NARM for RIIO-ED2.

	• Material changes to NARM output delivery that are unrelated to DNO asset interventions will be excluded from the incentive mechanism. • We intend to hold DNOs neutral for NARM methodology changes. • We intend to introduce a deadband around NARM output delivery.
Use of NARM in justifying investment decisions	• NARM will be part of a wider toolkit for the assessment and justification of asset intervention investment decisions.

Adoption of long-term risk

Table 24: Adoption of long-term risk decision table

Purpose	To ensure the outputs that DNOs are set reflect the long-term benefit of the work that they are being funded to carry out, and thus reflect the full benefit to consumers of that work.
Decision	We will adopt a long-term risk measure for the setting of outputs as part of the NARM framework. The methodology for calculating the long-term risk measure, will build on the CNAIM and assign typical 'cumulative discounted future PoF' weightings to each Health Index Band, enabling the introduction of the long-term risk measure into the already established and robust reporting framework.

Our Consultation position

8.6 In our Consultation, we proposed that in setting outputs, the full value of a company's work should be captured and that the NARM output measure should take account of the long-term benefit of the work that the companies are funded to deliver during RIIO-ED2 through the estimated present value of future benefits.

8.7 Our proposed methodology for the estimation and reporting of long-term risk for RIIO-ED2 was to assign a typical 'cumulative discounted future PoF' weighting to each Health Index Band.

Responses to our Consultation

8.8 All respondents to our Consultation were supportive of our approach to introduce a long-term risk measure into the NARM framework. Respondents noted that the introduction of the long-term risk measure would be more reflective of the true value of the benefit delivered and that it improved comparability of the relative benefits of refurbishment and asset replacement activities, thus better ensuring the delivery of efficient and effective asset interventions to manage overall long-term risk of the network.

8.9 All respondents were supportive of our proposals to use the RIIO-ED1 approach and the existing CNAIM as the basis for developing a robust and implementable approach to calculating the long-term risk measure for RIIO-ED2.

8.10 One DNO noted concerns around the timings of the introduction of the long-term risk measure, specifically around the fixed input reference costs to the methodology and the implications that this would have on the business plan submission for each DNO.

Reasons for decision

8.11 In line with our Consultation position we consider the adoption of a long-term risk measure for the NARM framework will be an improvement for RIIO-ED2. Using a long-term risk measure in setting outputs for NARM in RIIO-ED2 will better ensure that DNOs deliver efficient and effective asset interventions, and that the true value of the benefit of the work that DNOs are funded to deliver is captured.

Next steps

8.12 We will continue to work with stakeholders through the Safety, Resilience and Reliability Working Group (SRRWG) and the ENA's NOMs Electricity Distribution Working Group (NEDWG) on the implementation of the methodology for calculating the long-term risk measure, setting input reference costs for the methodology, and in setting outputs for the NARM framework.

Commonality of reporting

Table 25: Commonality of reporting decision table

Purpose	To ensure commonality and consistency of approach across the electricity distribution sector to the reporting of assets covered by the CNAIM. We want DNOs to increase assets within the scope of their CNAIM-reported assets, and we want all DNOs to report on the same types of assets.
Decision	• We will retire the concept of Health Index Asset Category and will instead require DNOs to report against the Asset Register Category models only. • We will require that all Asset Register Categories with the current CNAIM should be declared against a company's NARM monetised risk target, with a 'NIL return' provided for assets that a licensee does not own. • We will maintain the requirement for DNOs to produce IGPs for RIIO-ED2. We will continue our review of specific IGP arrangements around governance, revisions, and reporting.

Our Consultation position

8.13 For RIIO-ED2, we set out our proposal for all DNOs to report against a common set of asset categories in order to improve commonality of reporting and to ensure a consistent scope of NARM across the sector.

8.14 While we recognised concerns from some DNOs on the reporting of some of the Asset Register Category models, notably models concerned with non-pressurised cable assets, our proposal was that all Asset Register Category models within the current CNAIM should be declared against a company's NARM monetised risk target, with a 'NIL return' provided for assets that a licensee does not own.

8.15 We also noted our intention to review the role of IGPs, which set out how DNOs gather and record information required for implementation of the CNAIM. This included review of the requirements on DNOs, through SLC 51 (Network Asset

Indices Methodology), to keep their IGPs under review, and where necessary to modify them to ensure they continue to align with reporting requirements.

Responses to our Consultation

8.16 All respondents were supportive of our proposals to improve the commonality of reporting and consistency of scope of NARM across the sector. Some DNOs added that the retirement of Health Indices Asset Categories and replacement with a more granular level of reporting (ie at the Asset Register Category level), will provide greater transparency in the setting of the NARM outputs. This would allow for clearer demonstration of the linkage to the Business Plan Data Table (BPDT) volumes and to any adjustment to allowed volumes introduced within allowance setting.

8.17 Some DNOs questioned the appropriateness of requiring reporting against all Asset Register Category models, and not excluding non-pressurised cable assets until companies were able to gather sufficiently robust data or a more suitable mechanism is built into the methodology for RIIO-ED3. Other DNOs noted the benefit of requiring all DNOs to report against all Asset Register Category models is that it will create an incentive for DNOs to improve asset data and/or to apply asset risk management approaches to new asset types. In these instances, it was argued that there may well be associated data collection arrangements that need to be implemented, the detail of which could be within scope for future IGP requirements.

8.18 One DNO questioned the benefit of a requirement to report against Asset Register Category models where asset volumes are exceptionally low, such as EHV Submarine Cables, where 96% of the industry population is reported by two licensees, with the remaining 4% reported by 5 licensees. The DNO suggested that an option should be retained to allow DNOs to opt out of the requirement to report against all Asset Register Category models, where reasonable justification can be provided.

8.19 One respondent supported having a clear goal, during RIIO-ED2, to gather data in order to extend NARM to cover those asset cohorts that are currently out of scope of CNAIM. In particular, overhead line conductors and pole-mounted equipment.

8.20 One DNO was open to discussing options for reviewing the role of IGPs in RIIO-ED2, adding that they will continue to keep their IGP under review, making amendments as appropriate and in line with reporting requirements. The DNO stressed that any formal framework for making changes to IGPs should recognise that these are DNO-specific.

Reasons for decision

8.21 In RIIO-ED1, while the CNAIM covered twenty-five different Health Index Asset Categories, DNOs were only required to report Network Asset Indices for Heath Index Asset Categories where they had agreed Network Asset Secondary Deliverables (NASDs). This resulted in a varied and inconsistent approach across the sector, with significant differences between what some DNOs were reporting.

8.22 Improving the commonality of reporting and consistency of scope across the sector should improve the comparability of performance in delivery between companies. We note the concern of some DNOs with respect to reporting on assets on which they consider they do not have sufficiently robust data, such as non-pressurised cables, and concerns associated with the costs of operating and maintaining full asset models for asset classes where DNOs do not hold high volume of assets. In our view, this increased reporting requirement should, for some DNOs (ie those who say that they do not currently have sufficiently robust data), incentivise improvements in the collection of asset data and should result in the application of asset risk management approaches to new asset types, consistent with the rest of the sector.

8.23 We have decided that IGPs will remain an important part of the NARM framework in RIIO-ED2. We think there are a number of benefits to having clear requirements on DNOs to produce and maintain IGPs, notably: IGPs define the DNOs' commitments with respect to implementing the methodology; they provide a public statement of the DNOs' commitments, as the plans are approved by Ofgem and published; they are comparable across DNOs; and they allow for progress against commitments to be reviewed on an ongoing basis.

Next steps

8.24 At present, where changes to IGPs are identified by DNOs, there is no agreed process as to how these should be actioned, or how the revised plan will be approved by Ofgem. We will continue to work with stakeholders through the

SRRWG and the ENA's NEDWG on enhancing the requirements around the IGPs in RIIO-ED2, while recognising that these are DNO-specific plans. Specifically, we will focus our review on the governance around the revision of IGPs, and the requirements for reporting on progress against the delivery of the commitments in them.

Production of a guidance document

Table 26: Production of a guidance document decision table

Purpose	To improve the quality of asset data and to ensure the consistent application of the CNAIM across the electricity distribution sector.
Decision	• We will require DNOs to develop an Engineering Guidance document, also referred to as the Good Practice Guide (GPG), to support data input to cover all condition points for all asset classes covered by the CNAIM for RIIO-ED2. • We will not introduce an Asset Data Quality Incentive for RIIO-ED2.

Our Consultation position

8.25 As a result of concerns over the consistency of asset data and the application of the methodology, we proposed that DNOs work together to develop an Engineering Guidance document on data input to the CNAIM. The guidance document should improve the consistency of reported asset data and ensure better alignment across the sector on areas such as external asset condition and leaks.

8.26 It was our view that our proposals relating to commonality of reporting and the production of a guidance document sufficiently addressed any challenges relating to inconsistency between companies and poor quality asset data, and as such, we proposed not to introduce an Asset Data Quality Incentive for RIIO-ED2.

Responses to our Consultation

8.27 All respondents were clear in their support for the production of and need for a guidance document to support the methodology, considering that it would

improve consistency of application of the methodology and the commonality of reporting.

8.28 One DNO commented that is was clear that there remain some areas with scope for interpretation within the current CNAIM approach. Another DNO considered the development of a guidance document to be of considerable value as it would ensure that DNOs take a consistent approach to asset condition data collection.

8.29 All of the DNO respondents supported our view that the introduction of a guidance document in addition to our other proposals on the commonality of reporting, negated the need for an Asset Data Quality Incentive or for any wholesale asset inspections audits. Several DNOs stressed that there should be recognition from Ofgem that due to different inspection cycles on assets, it will take a number of years for the updated guidance, and thus greater consistency in reporting, to flow through the data inputs across a licensee's asset portfolios.

8.30 One other respondent welcomed the steps proposed for RIIO-ED2 to improve the quality of NARM data and to ensure better alignment and consistency across the sector, supporting the development of guidance to support this process. This respondent added that they would also support a clear goal, during RIIO-ED2, to gather data to extend NARM to cover those asset cohorts that are currently out of scope of CNAIM.

Reasons for decision

8.31 Robust and quality asset data is of critical importance to the NARM framework. In RIIO-ED1, there were concerns over the consistency of asset data and application of the methodology. In line with our Consultation position it is our view that the introduction of a guidance document to support the methodology, should improve the consistency of reported asset data and should ensure better alignment across the sector on areas such as external asset condition and leaks. We consider this, in addition to our decisions on the 'Commonality of reporting' as discussed above, will address our concerns around inconsistency of asset data and the application of the methodology.

8.32 We have decided not to introduce an Asset Data Quality Incentive for RIIO-ED2. As per our Consultation position, it is our view that the other measures we are putting in place should sufficiently address concerns around asset data quality.

Next steps

8.33 We will continue to work with stakeholders through the SRRWG and the ENA's NEDWG on the development of the Engineering Guidance document, including identification of appropriate delivery milestones and timelines, to ensure finalisation ahead of the start of RIIO-ED2.

Revision of methodology

Table 27: Revision of methodology decision table

Purpose	To revise the CNAIM, incorporating developments throughout RIIO-ED1, innovations in operation and maintenance, enhancements in measuring and monitoring of network risk and ensuring fitness for purpose for RIIO-ED2.
Decision	• The revised methodology, CNAIM v2.0, as consulted on by the ENA, reflects our current requirements for the NARM framework for RIIO-ED2. • We will set key input values to the methodology at the same level as, and consistent with, the equivalent parameters in the business plan CBAs and EJPs. • Revision of the key input values to the methodology will not require formal consultation by the Energy Networks Association (ENA) at this stage.

Our Consultation position

8.34 The CNAIM has been developed such that it can seamlessly incorporate future innovation in the operation and maintenance of network assets. Licensees are required, under SLC 51, to keep the methodology under continuous review, and we expect them to work together to identify areas for development and improvement.

8.35 For RIIO-ED2, in addition to updates that capture areas under review and developments based on innovations and experience from RIIO-ED1, we said that we expect the CNAIM to be updated to take into account proposals on the

development of the NARM output measures, and to be expanded to provide greater asset coverage and alignment across the sector.

8.36 We also noted that within the CNAIM there are a number of key fixed input values, on which the methodology is dependent. We recognised the importance of fixing some of these input values early, as they feed into key decision-making tools that DNOs require to build their business plans.

Responses to our Consultation

8.37 On the revision of key input values in the methodology, one DNO commented that these should be set at the same level as equivalent parameters in CBAs. Their view was that such a change would not constitute a formal change in methodology which would require a full consultation process and that a revised version could be issued directly by the ENA.

8.38 One DNO considered that if a material adjustment was required to update elements of the methodology within-period then this should be fulfilled and accompanied by a rebasing of licensee targets, if appropriate. The DNO added that the key point to consider was the need to fix the key input values that underpin the safety, environmental, financial and network performance factors used to calculate the Consequence of Failure (CoF). In its view, setting these values ahead of business plan submission is required to ensure companies can develop their planning and submit their draft and final business plans to Ofgem using accurate and representative numbers of risk. Waiting until after final business plan submission will result in licensees having to rebase their targets before even starting the price control. This DNO added that these values, once fixed, should also be those used within business plan CBAs and EJPs, for consistency.

8.39 One DNO outlined in detail the work that licensees have carried out in the development of the revised methodology, CNAIM v2.0, ahead of its application for RIIO-ED2. The DNO stressed that it would be inappropriate for any revised version of CNAIM to be utilised for the reporting of Network Output Measures (NOMs) in the remainder of RIIO-ED1 as this would risk destabilisation of NOMs performance close to the end of the price control period. The DNO noted that it will therefore be necessary for two versions of CNAIM to operate concurrently: the existing RIIO-ED1 CNAIM (v1.1), which will be retained for RIIO-ED1

regulatory purposes, and the revised CNAIM (v2.0) for use in the RIIO-ED2 price control.

8.40 Through the SRRWG, DNOs presented views on and options for the setting of the key input values to the methodology as well as highlighting the risks and sensitivities associated with the proposed options. One of the options included retaining key input values used in CNAIM v1.1 but adjusting for price base. In the DNOs' view, the key drawback of this option is that it would not capture changes in input factors since 2013. The second option proposed was for a 'best view' of key input values to be taken, based on currently available information.

8.41 DNOs added that network performance factors such as VoLL, and the cost of CIs and CMLs, are likely to have the most material impact on the CoF calculation for most asset types, with a significant risk of inconsistency between the CNAIM and RIIO-ED2 CBAs if these parameters are not set on a common basis.

Reasons for decision

8.42 Licensees are required under SLC 51 to keep the CNAIM under review and to work together to identify areas for development and improvement. For RIIO-ED2, in addition to updates that capture areas under review and developments based on innovations and experience from RIIO-ED1, we expect the CNAIM to be updated to take into account proposals on the development of the NARM output measures, and to be expanded to provide greater coverage and alignment across the sector. It is our view that the proposed updates and enhancements to the methodology, CNAIM v2.0, consulted on by the ENA, meet our requirements for the NARM framework in RIIO-ED2 and that we do not expect any further revision at this stage.

8.43 In our Consultation, we noted the dependency of the methodology, specifically the calculation of the CoF values, on several key fixed input factors. These include: modelling and financial inputs such as discount rates; carbon costs such as traded carbon prices; safety impacts such as the cost of Lost Time Accidents, or Death or Serious Injury to Public; and, environmental and societal inputs including the DEFRA[42] related Environmental cost per litre of oil, and Ofgem-related CIs and CMLs.

[42] Department for Environment, Food & Rural Affairs

8.44 It is our view that these values should be set at the same level as the equivalent parameters in the RIIO-ED2 business plan CBA templates, EJPs and innovation workstreams, and remain fixed for the RIIO-ED2 period to ensure comparability and consistency across the sector. We understand that the timing of the revision of the key input values can impact on the ability of DNOs to state their risk movements and hence their NARM output measure. As such, we consider it appropriate to set these values ahead of business plan submission to minimise the need to recalculate or rebase any NARM outputs following Final Determinations and seeks to ensure alignment with CBAs and supporting engineering justification.

Next steps

8.45 We will continue to work with stakeholders through the SRRWG and the ENA's NEDWG, in addition to other relevant working groups, on the setting of these key input values to the methodology ahead of business plan submission, in order to ensuring consistency with the RIIO-ED2 CBA templates, EJPs and innovation work streams.

8.46 We understand the need for two versions of the CNAIM to operate concurrently: CNAIM v1.1 for RIIO-ED1 regulatory purposes, and the revised CNAIM v2.0 for in RIIO-ED2. We will work with DNOs to review, and enhance where appropriate, any governance requirements around the CNAIM.

Expansion to other assets not currently within the methodology

Table 28: Expansion to other assets not currently within the methodology decision table

Purpose	To increase coverage of the methodology and, where appropriate, to link expenditure to outputs.
Decision	• We will not introduce any of the proposed options for extending the coverage of the methodology for Non-NARM assets in RIIO-ED2, at this stage. • We will develop an uncertainty mechanism to manage Non-NARM related expenditure in RIIO-ED2.

Our Consultation position

8.47 In our Consultation, we explained that through our proposals, as described in the 'Commonality of reporting' section, we were seeking to increase coverage of the methodology to approximately 75% of the Asset Replacement expenditure (excluding associated civil works).

8.48 We noted that there remained a number of asset categories that would not be covered by our proposed NARM framework, termed the 'Non-NARM assets', and explained that this was typically a result of lack of sufficient data or of sufficiently robust models.

8.49 For RIIO-ED2, we stated our ambition to improve coverage of the CNAIM, and as such, identified three high-level options as potential approaches to setting outputs for the Non-NARM assets not covered by the methodology:

- Option 1: Multi-asset Volume Driver
- Option 2: Notional Risk Weighting
- Option 3: Fault Rate Measure

8.50 We also noted that while our ambition was to improve coverage of the methodology, if we were not able to overcome some of the key challenges highlighted for the presented options, then we may decide to utilise other price control mechanisms to manage Non-NARM related expenditure, such as uncertainty mechanisms.

8.51 Finally, we noted our intention to develop the NARM framework for RIIO-ED3 and beyond. Specifically, we noted our intention to review the future needs of asset risk assessment and the 'risk trading' principle that underpins the NARM framework.

Responses to our Consultation

8.52 Two respondents supported our principle to extend coverage of the methodology to Non-NARM assets and to link expenditure to outputs. One of those respondents noted difficulty in assessing whether DNOs had been delivering volumes of work in RIIO-ED1 against Non-NARM assets as there were no specific outputs or delivery targets. The respondent argued that this could lead to material consumer detriment, and that it was therefore necessary to introduce

outputs to this proportion of asset health expenditure in RIIO-ED2. The respondent did not believe there was merit in the development at this stage of a parallel risk-based approach for this subset of assets, and that it would be more efficient to expand the scope of the NARM and to resolve any implementation issues ahead of RIIO-ED3.

8.53 The majority of DNO respondents, while acknowledging that there were assets yet to be covered by the methodology, did not support our proposals for expansion of the methodology to cover Non-NARM assets. One DNO noted that given the drawbacks associated with each the proposed options, there was likely to be considerable challenges in developing these into viable approaches for RIIO-ED2. Another DNO added that expansion of the coverage of the methodology required careful consideration because Non-NARM assets are typically assets where insufficient data is available to implement the type of PoF and CoF evaluation described in the existing CNAIM. In its view, to extend the NARM framework to these asset categories will likely require significant development.

8.54 The majority of DNOs agreed with our assessment of the disadvantages and potential drawbacks of the three proposed options, with several DNOs considering retaining the RIIO-ED1 approach for the treatment of Non-NARM assets the most appropriate approach for RIIO-ED2. They argued that the RIIO-ED1 approach, ie the use of cost benchmarking (including trend volumes, comparisons with other DNOs etc.) and application of the Totex Incentive Mechanism (TIM) to drive cost efficiency on volumes and unit costs, was the strongest incentive within the RIIO framework. Those DNOs added that the alternative options presented, and the available timescales represented a significant risk that could undermine our approach for the NARM framework, as they would introduce divergent practices between DNOs.

8.55 One DNO noted that Non-NARM assets contributed to a small proportion of typical investment and that they were often justified under separate programmes of work, eg PCB removal for Pole Mounted Transformers. In contrast, another respondent argued that the percentage of asset health expenditure that would otherwise not be within the scope of the NARM (approximately 25%) is still material.

8.56 While the majority of respondents did not support our proposed options for expanding the methodology to address Non-NARM assets, several respondents

commented that Option 1 may represent the best compromise, on grounds of simplicity and in providing assurance to customers that allowances in this area were linked with outputs. One DNO added that while none of the options provide an ideal solution, should Ofgem require a mechanism for non-NARM assets for RIIO-ED2 then as an interim approach, Option 1 would require less development than the other options.

8.57 One DNO explained in detail their views on how Option 1 could work in practice. Non-NARM intervention volumes agreed by Ofgem in Final Determinations should have a set efficient baseline unit cost per asset per intervention with an ex ante allowance to deliver these plans. Within-period, licensees are then free to deliver the plan or indeed amend their plan based on appropriate asset management and engineering decisions. At the end of the period, Ofgem can consider a licensee's delivery against the original plan, and if deviation from the plan is appropriately justified, Ofgem can adjust the final allowances using the agreed unit cost to ensure only justified delivered work is appropriately funded. Ofgem may consider the use of a deadband at an asset, voltage, or network level to avoid regulatory burden for small differences in actuals verses planned volume delivery. Any under or overspend against the revised allowance would be subject to the TIM.

8.58 One DNO supported exploring Option 2 to look at how the principles of risk assessment could be applied to Non-NARM assets without collecting the granular asset-specific data required for the CNAIM. They added that open source data and emerging analytic techniques could enable the development of this area for RIIO-ED2. They also noted that this was an area where EJPs may be a useful source of evidence to explore the engineering rationale behind proposed volumes.

8.59 On Option 3, several DNO respondents considered that this was a lagging output measure, influenced by other areas of expenditure and not directly linked to asset replacement or refurbishment expenditure, meaning that it could only be viewed as a 'backstop' measure.

8.60 One DNO was unsupportive of the proposed utilisation of uncertainty mechanisms to manage Non-NARM related expenditure, where Ofgem were not able to overcome some of the key challenges for the proposed options. The DNO argued that this approach would undermine the incentives in the original RIIO framework.

8.61 The majority of respondents welcomed our intention to develop NARM for RIIO-ED3 and were of the view that efforts would be better directed towards developing approaches for improved treatment of Non-NARM assets in RIIO-ED3. One DNO added that this would enable Ofgem and the DNOs to work together to further develop options for the treatment of these assets, recognising the challenges associated with collecting condition data. This detail could be incorporated into a published roadmap for the development of the CNAIM during RIIO-ED2 for RIIO-ED3 and beyond, incorporating all remaining asset classifications.

Reasons for decision

8.62 Our ambition remains to increase coverage of the methodology and where appropriate, to ensure the work that DNOs are funded to deliver is linked to specific outputs. However, that there are significant challenges and drawbacks associated with the proposed options set out in our Consultation. As such, we do not think that it would be appropriate to introduce any of the options to extend coverage of the methodology to Non-NARM assets at this stage.

8.63 We think the development of an uncertainty mechanism to manage Non-NARM related expenditure in RIIO-ED2 is more appropriate.

Next steps

8.64 We will continue to work with stakeholders through the SRRWG and the ENA's NEDWG on the development of an uncertainty mechanism to manage Non-NARM related expenditure ahead of our Draft Determinations.

Incentives associated with NARM

Table 29: Incentives associated with NARM decision table

Purpose	To ensure DNOs are incentivised to efficiently deliver their NARM outputs.
Decision	• We will use the equivalent RIIO-ED1 arrangements as the basis for development of the NARM incentive mechanism in RIIO-ED2. • Monetised risk improvements delivered through investments funded under other mechanisms will not be included in NARM for RIIO-ED2.

	• Material changes to NARM output delivery that are unrelated to DNO asset interventions will be excluded from the incentive mechanism. • We intend to hold DNOs neutral for NARM methodology changes. • We intend to introduce a deadband around NARM output delivery.

Our Consultation position

8.65 Our proposed incentive principles are summarised below.

Table 30: Proposed RIIO-ED2 NARM incentive principles

Delivery Scenarios		Proposed Approach
Over-delivery	Justified	Licensee to be made cost neutral.
	Unjustified	No funding adjustment.
On-target delivery	N/A	No funding adjustment.
Under-delivery	Justified	Unspent funding clawed-back.
	Unjustified	Unspent funding clawed-back. Penalty applied.

8.66 In addition, we proposed that monetised risk improvements delivered through investments funded under other mechanisms should not be included in NARM for RIIO-ED2, and thus should not count towards a DNO's delivery of their output targets.

8.67 We also proposed to hold the companies neutral for changes in the methodology, including lifetime risk of intervention and any fixed parameters for CoF. We proposed that network companies report to Ofgem the impact of any proposed methodology changes and also track the actual impact this has on their delivered risk reduction. This would be subject to Ofgem review and then appropriate adjustments to the delivered monetised risk would be applied to keep the companies neutral.

8.68 We encouraged DNOs and other stakeholders to review our Draft Determinations for the Transmission and Gas Distribution sectors and consider the applicability

of proposals to RIIO-ED2. Specifically, proposals relating to the NARM Funding Adjustment and Penalty Mechanism.

Responses to our Consultation

8.69 Several respondents commented that the principles behind the incentivisation of delivery of NARM outputs appear reasonable, acknowledging the need to hold companies to account for delivery of agreed programmes of work. However, the majority of DNOs raised concerns around the amount of ex post assessment that the proposals would require and around the removal of any upside incentives, which, in their view, would result in an asymmetric incentive. They also noted that this could reduce the likely pace of asset management improvement, damage long-term productivity of the sector and thus adversely impact customers. One DNO considered that our proposed principles turned what was an incentive mechanism in RIIO-ED1, to a PCD in RIIO-ED2.

8.70 Several DNO respondents agreed with our proposals to exclude monetised risk movements delivered through investments funded under other mechanisms, from delivery against the NARM output. There was also support from respondents for our proposals to exclude material changes unrelated to asset interventions, and for the principle that DNOs should be held neutral for methodology changes.

8.71 The majority of DNO respondents raised concerns about the NARM Funding Adjustment and Penalty Mechanism proposed for the Transmission and Gas Distribution sectors. Several DNOs argued that this introduced significant complexity to an already data-intensive and complex framework. One DNO commented that given the volume of electricity distribution assets, foreseeable in-period variations and tolerable levels of risk trading between asset categories, provision of additional justification for over/under-delivery that is not material would only add unnecessary burden to both Ofgem and to the network companies.

8.72 On the introduction of the proposed Delivery Adjustment Factor (DAF), a component of the NARM Funding Adjustment and Penalty Mechanism in the Transmission and Gas Distribution sectors, one DNO commented that this mechanism would dissuade licensees from switching investment decisions and seeking efficiencies, even when it would be in the best interests of its network and its customers. The DNO added that it its view, the TIM should be the vehicle

for addressing efficiencies in the delivery of NARM in RIIO-ED2 and that adjustments could be made at the end of the price control period, if appropriate. Another DNO added that the lower potential for 'windfalls' in the electricity distribution NARM mechanism should negate the need for a DAF.

8.73 On how NARM-related activities are forecast and delivered and thus the applicability of any cross-sector mechanisms, one DNO discussed the importance of recognising the differences between each of the sectors. The DNO noted that asset replacement and refurbishment activities undertaken in the electricity distribution sector are normally undertaken in response to issues identified with the condition of individual assets, meaning that asset interventions are continuously reprioritised throughout a price control period in response to the changing view provided by new condition information.

8.74 The same DNO added that, for the majority of asset types, the asset replacement and refurbishment forecasts submitted in each DNO's business plan do not represent a fixed programme of individually identifiable projects, but a view of the likely needs of the overall asset population. This is likely to be different in some of the other sectors, especially in transmission, where long lead times mean that the transmission owners' business plan proposals more closely represent a programme of clearly identifiable individual projects for delivery within the period. The DNO recommended that Ofgem develop sector-specific justification requirements for NARM performance for RIIO-ED2.

8.75 One respondent agreed with the principles of the proposed NARM Funding Adjustment and Penalty Mechanism but noted that implementation of those principles through mechanisms such as the DAF did not remove the opportunity for windfall gains or losses. They argued that ex post funding adjustments could encourage companies to invest in higher-value projects even when alternative investment would deliver greater consumer value. The respondent concluded that Ofgem should consider assessing RIIO-ED2 performance based on the volumes the companies will be funded to deliver instead of according to the risk benefit delivered.

8.76 Several DNOs recommended a deadband around NARM outputs for RIIO-ED2. One DNO argued that a deadband was key to ensuring that DNOs' efforts are focused on material deviations from the target, as opposed to less material deviations, which may not be in the interests of consumers.

Reasons for decision

8.77 Based on the significant differences in asset replacement and refurbishment activities across the sectors, the maturity of the electricity distribution framework, concerns over the applicability of the cross-sector NARM Funding Adjustment and Penalty Mechanism to electricity distribution, and reduced likelihood of windfall gains, we have decided not to align electricity distribution with the cross-sector approach to incentivising NARM delivery at this stage. Instead, we will use the RIIO-ED1 NASDs incentive arrangements as the basis for development of the NARM incentive mechanism in RIIO-ED2, while continuing to identify elements of the NARM Funding Adjustment and Penalty Mechanism that are being applied in the other sectors that may be relevant for electricity distribution.

8.78 For RIIO-ED2, we have been clear in our ambition for NARM, which is that we want the outputs that are set for DNOs to better reflect the work that they are funded to deliver. As such, we have decided that monetised risk improvements delivered through investments funded under other mechanisms will not be included in delivery of the NARM output. Similarly, changes to a DNO's NARM output delivery that are unrelated to asset intervention activities will be excluded before assessing a DNO's performance against its outputs.

8.79 Again, in line with our ambition to ensure that the outputs DNOs are set better reflect the work they are being funded to deliver, we have decided that changes in NARM methodology will not contribute to output delivery. While we accept that appropriate adjustments may be required to ensure cost neutrality in the event of legitimate changes to the methodology that incur costs, we think that it is in the interest of consumers that this does not contribute to output delivery.

8.80 To reduce the burden associated with less material deviations in delivery, we intend to introduce a deadband around the NARM output target. This will seek to ensure proportionality and that effort is focused on material deviations from the output target.

Next steps

8.81 We will continue to work with stakeholders through the SRRWG on the development of the NARM incentive mechanism ahead of our Draft Determinations.

Use of NARM in justifying investment decisions

Table 31: Use of NARM in justifying investment decisions summary table

Purpose	To ensure that asset replacement and refurbishment investment decisions are sufficiently justified.
Decision	NARM will be part of a wider toolkit for the assessment and justification of asset intervention investment decisions.

Our Consultation position

8.82 We proposed that NARM would be part of a wider toolkit for assessing and justifying investment decisions.

8.83 We set out an example where movements in the long-term risk measure due to asset interventions, shown through changes in the Risk Index, could be directly compared against intervention costs, thus allowing for some cost benefit analysis and the quantification of risk benefits.

8.84 We recognised the need for additional justification through CBAs and EJPs to provide the narrative for and to explain the DNO's investment decision-making process. We also recognised the important role that our cost assessment would play in setting the efficient level of asset replacement and refurbishment expenditure for DNOs to deliver their outputs.

Responses to our Consultation

8.85 All respondents supported the use of NARM in justifying investment decisions, while also accepting that proposals for investment should also be backed up with CBAs and EJPs.

8.86 One DNO, who supported our proposal, considered that NARM would be a useful tool to quickly and with a good degree of accuracy portray the benefits of asset interventions. Another DNO commented that by linking CBA and the measurement of long-term risk, justification for future volumes and consequent NARM output could be made relatively mechanistically. They acknowledged that there will be a role for EJPs to provide the additional justification where future volumes were not supported by historic trends.

8.87 One DNO argued that justification through NARM should negate the need for the submission of additional supporting information where clear justification for asset replacement or refurbishment activity is provided by the NARM cost-benefit. In its view, provision of additional justification should be proportionate to the absence of sufficient 'automatic' justification provided by NARM.

8.88 Another respondent commented that it was important to set clear expectations for DNOs on the requirements for submission of CBAs and EJPs and any supporting asset condition and criticality data.

8.89 Several DNOs noted that they would welcome further engagement with Ofgem to ensure that EJP and CBA templates are used appropriately and proportionally for the assets under consideration and that guidance documents are appropriately tailored to electricity distribution.

Reasons for decision

8.90 It is our view that the NARM framework should be used as a tool to justify investment decisions, as part of a wider toolkit that includes CBAs and EJPs. We think the NARM represents a robust decision-making framework that allows DNOs to carry out cost-benefit analysis and to transparently and mechanistically quantify monetised risk benefits. We also think that the use of NARM in justifying investment decisions will ease the regulatory burden associated with providing investment justification, where clear justification for asset replacement and refurbishment activity is provided through the NARM.

8.91 Where justification for future asset replacement and refurbishment volumes are not justified through the NARM, there will be a greater role for EJPs and CBAs and supporting information to provide the necessary additional justification.

Next steps

8.92 We will continue to work with stakeholders through the SRRWG ahead of business plan submission on the justification requirements for NARM-related expenditure in order to develop a proportionate approach to CBAs and EJPs.

Environmental resilience

Climate resilience

Table 32: Climate resilience decision table

Purpose	To ensure DNOs consider the risks and impacts of climate change to their networks and take appropriate steps towards mitigation and adaptation.
Decision	DNOs must produce a climate resilience strategy for RIIO-ED2, which will be assessed as part of the BPI and should be used to inform DNOs' programmes of work. We expect DNOs to establish a working group focusing on climate resilience.

Our Consultation position

8.93 We outlined that DNOs should establish a 'climate resilience' taskforce or working group that should consider the strategies and actions undertaken by DNOs across all resilience activities over the lifetime of their assets. We proposed that this working group would draw on wider climate change adaptation expertise to help DNOs develop and align their climate resilience strategies appropriately.

Responses to our Consultation

8.94 Respondents were broadly supportive of the proposal to establish a climate resilience working group. There were suggestions that this group could grow from the existing ENA working group that focuses on Climate Change Adaptation reporting for DEFRA. Several respondents welcomed the proposal and suggested that the group should be expanded to cover other topics (such as non-climate High Impact Low Probability events) or wider membership.

8.95 Two respondents did not agree with the introduction of this working group, instead suggesting the DNOs' business plans should set out the actions DNOs will take in relation to climate change mitigation, and that the existing framework is effective in driving DNOs to work collaboratively to establish best practice.

Reasons for decision

8.96 We recognise that there is an existing working group that focuses on reporting for DEFRA and highlights the steps that DNOs have already taken in relation to climate resilience, which could form the basis of the climate resilience working group. We believe that it is important to build on this progress and ensure there is an appropriate forum through which best practice and expertise can be established and shared across the industry, to help DNOs in developing and reviewing their climate resilience strategies. Therefore, we recommend that the DNOs establish a new, separate working group that focuses specifically on climate resilience. We believe it should be for the industry to decide the best way for this working group to be established, and the basis on which it operates.

8.97 We believe it is important for this working group to give consideration to how wider climate resilience experts, other industry sectors and/or local authorities can engage with the industry and input to the development of the DNOs' climate resilience strategies. We also believe it is important for this working group to consider and use opportunities that may arise from similar work programmes, such as the programme of work being launched by BEIS[43] that will look at informing BEIS' domestic (and international) workstreams. Where appropriate and feasible, we believe this working group could be extended or replicated for the transmission and gas distribution networks.

8.98 We encourage the DNOs to share a draft terms of reference for this group with us by quarter two of 2021; we will review the DNOs' progress on this and consider further steps as necessary as part of the Draft Determinations.

8.99 We consider that the development of a climate resilience strategy should be an integral part of the DNOs' business planning process, feeding into plans for actions that DNOs may need to take (and investments that may be needed) in the next price control and over the longer term. Therefore, we are introducing a requirement on DNOs to produce a climate resilience strategy as part of their RIIO-ED2 business plan; the inclusion of which will be considered at Stage 1 of the BPI. As part of this strategy, DNOs should outline how they will contribute to cross-sector work on climate resilience, such as through a climate resilience working group.

[43] Department for Business, Energy and Industrial Strategy

8.100 We believe that all DNOs' strategies should be built from a central case that includes a minimum range of plausible climate change scenarios, and DNOs should work with relevant stakeholders to agree the minimum range of these scenarios. For example, projections of global mean temperature rises already exist as a result of the Paris Agreement,[44] and some issues relating to infrastructure risk have been identified in the latest UK Climate Change Risk Assessment, which includes the risk of cascade failures of interconnected infrastructure.[45] These strategies should include the use of adaptation pathways[46] in recognition that there are various ways to achieve resilience to the range of risks the networks may face. Further guidance on what these strategies should contain is provided within the Business Plan Guidance.

8.101 We recognise that these requirements did not apply in the RIIO-2 price controls for transmission and gas distribution.[47] However, we consider that the anticipated impacts of climate change mean it is important that DNOs take these steps, to ensure their networks remain resilient over the course of RIIO-ED2 and beyond.

8.102 We expect that the climate resilience working group will help DNOs agree a common set of assumptions relating to the impacts of climate change on their networks. We believe that this working group and the development of climate resilience strategies will ensure the DNOs' planning for long-term climate change is clear and accessible for all stakeholders.

Flood resilience

Table 33: Flood resilience decision table

Purpose	To ensure DNO assets are protected against the risk of flooding to maintain security of supply.

[44] https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement
[45] https://www.theccc.org.uk/wp-content/uploads/2016/07/UK-CCRA-2017-Synthesis-Report-Appendix.pdf
[46] An adaptation pathway is a decision-making strategy that is made up of a sequence of manageable steps or decision points over time. These decision points are triggered by a change, and has a series of options or choices associated with it, which leads to the next pathway.
[47] Typically, the transmission and gas distribution network assets are more resilient to the expected impacts of climate change, such as increased wind speeds, higher average temperatures, and more severe/frequent flood events.

Decision	We will provide DNOs with ex ante allowances to manage the resilience of their networks to flooding. DNOs will be required to ensure the measures they put in place meet the ENA's technical requirements.

Our Consultation position

8.103 We proposed to continue with the RIIO-ED1 approach to flood resilience, by providing DNOs with an allowance to manage the risk of flooding on their network over the course of the price control. DNOs should ensure the measures they put in place meet the recommended specifications of Engineering Technical Report 138 (ETR 138).[48]

Responses to our Consultation

8.104 Respondents generally supported our proposal to retain the RIIO-ED1 approach to flood resilience. There was support for DNOs to be provided with ex ante allowances to manage the risk to their assets in line with the recommended specifications of ETR 138. There were, however, mixed views around how the allowances translate into outputs that DNOs should deliver, with one respondent noting that the 'risk-based' approach is no longer appropriate. The same respondent also suggested that DNOs should be considering the protection needed for HV sites, rather than being funded to focus purely on EHV or 132kV sites as in RIIO-ED1.

8.105 Finally, the link to the cost assessment process was also drawn out, with one respondent noting that DNOs' plans should be scrutinised for efficiency and to ensure that the plans and measures proposed by DNOs should reduce the consequence and likelihood of flooding occurring at substations.

Reasons for decision

8.106 We consider that providing DNOs with a baseline allowance for flood resilience will ensure they have the means to reduce and manage the risk of flooding over the course of RIIO-ED2. We believe that providing baseline allowances for DNOs to carry out a programme of works in line with the requirements of ETR 138 or its equivalent will allow them to determine the most efficient approach to managing the risk across their networks. This will allow DNOs to update or

[48] Engineering Technical Report 138 – Resilience to Flooding of Grid and Primary Substations

amend their work programmes in response to changes in risk across their network over the course of the price control.

8.107 We recognise that the RIIO-ED1 approach focused only on 132kV or EHV substations, since these are the voltage levels that are covered by ETR 138, and that there may be merit in considering solutions for flooding at HV substations as well. Where DNOs identify HV substations that would merit dedicated investment to ensure they are protected against flooding, these should be included within their business plan with sufficient justification and evidence for the solution they have identified; this solution should be developed in line with ETR 138.

8.108 We also consider that requiring DNOs to ensure the resilience measures they put in place meet the recommended specifications of ETR 138 will drive consistent approaches across GB.

Tree cutting

Table 34: Tree cutting decision table

Purpose	DNOs need to make sure their networks are resilient to the risk of trees coming into contact with their assets and interrupting supplies to customers.
Decision	We will provide DNOs with baseline allowances to manage the risk associated with trees and other vegetation surrounding their networks.

Our Consultation position

8.109 We proposed to continue to provide DNOs with an allowance to manage the risk of trees and other vegetation on their networks (known as 'tree cutting') over the course of the price control, and comply with the requirements of the Electricity Safety, Quality and Continuity Regulations (ESQCR).[49]

[49] These standards come in the form of Technical Specification 43-8 (ENA-TS 43-8) and ENA Engineering Technical Report 132 (ENA ETR 132).

Responses to our Consultation

8.110 There was general support for retaining the RIIO-ED1 approach to tree cutting, with a number of respondents supporting the provision of baseline allowances. Several respondents highlighted that additional challenges would need to be considered over the course of RIIO-ED2, including the cost of managing clearances associated with Ash dieback, and the potential increased importance of managing vegetation as more trees are planted to combat climate change.

Reasons for decision

8.111 We consider that providing DNOs with baseline allowances to manage the risk posed by trees and other vegetation surrounding their networks, in line with the requirements of the ESQCR, will ensure they take sufficient steps to minimise these risks. We believe that ENA-TS 43-8 and ENA ETR 132 reflect best practice as established by the industry and requiring DNOs to develop solutions in line with these standards will ensure the networks remain compliant with the ESQCR.

8.112 Through RIIO-ED1, we have seen that providing baseline allowances for tree cutting has enabled the DNOs to adapt to the changing nature of the challenges associated with vegetation management. We consider that this will also apply in RIIO-ED2, as the DNOs will be required to manage the risks associated with new or emerging challenges such as Ash dieback, changes in vegetation growth rates, and/or the creation of woodland to help reduce carbon emissions.

Resilience metric

Table 35: Resilience metric decision table

Purpose	DNOs carry out a range of activities make sure their networks are resilient against the variety of threats that face their networks. A 'resilience' metric would help track and understand the actions taken by each DNO in delivering improved resilience across the price control.
Decision	We will work with DNOs and other interested stakeholders to develop a wider resilience metric over RIIO-ED2, ready for implementation in RIIO-ED3.

Our Consultation position

8.113 We proposed that a wider resilience metric could be developed ready for implementation in RIIO-ED3. We proposed that it could cover, among other activities, flood resilience, tree cutting, and climate resilience.

Responses to our Consultation

8.114 There was mixed support for our proposal to develop a wider resilience metric. Several respondents supported its inclusion and made suggestions for it to be developed as a dashboard, noting that this could be an effective way for the industry to communicate with external stakeholders. One respondent proposed that a resilience metric should focus on co-dependent resilience with other infrastructure, in line with the National Infrastructure Commission's report.[50] Another respondent suggested it should cover all aspects of resilience, such as physical and cyber security, workforce resilience, and black start (now known as Electricity System Restoration (Black Start), or ESR). Several respondents supported the proposal on the basis that it is developed over time with DNOs and other stakeholders, to ensure clarity on how it will be used.

8.115 Some respondents, however, did not support the introduction of a wider resilience measure, outlining that there are a range of issues that can affect network resilience and that a single measure may not be able to capture the variety of activities DNOs undertake to manage resilience. They considered that the same outcome could be better achieved through annual reporting to stakeholders.

Reasons for decision

8.116 We believe that it is important to work towards developing a robust resilience metric that captures the wide range of resilience activities DNOs undertake. We recognise that many of these activities are dependent on external factors (such as government requirements, network characteristics, or DNOs' programmes of work), and that the resilience of one network cannot be compared with the resilience of another.

8.117 Despite this, we believe that developing a wider resilience metric will help understand the variety of risks that each DNO faces and the steps they are

[50] https://nic.org.uk/app/uploads//Anticipate-React-Recover-28-May-2020.pdf

taking to manage those risks. We also consider this metric will help wider stakeholders understand the actions and activities DNOs undertake in managing the network, increasing the opportunities for collaboration.

Next steps

8.118 We will work with DNOs and other stakeholders over the remainder of RIIO-ED1 and into RIIO-ED2 to develop a wider resilience metric to help external reporting on how DNOs are managing the risk on their networks. We expect this metric will cover a range of resilience activities, and we will work with other stakeholders to establish a robust framework of reporting.

8.119 We will work with DNOs on the appropriate data that could be gathered with a view to developing a climate resilience metric. We believe that the annual reporting process, including the development and population of the RIIO-ED2 Regulatory Instructions and Guidance, will form an integral part of this process. We expect this metric to be developed ready for implementation in RIIO-ED3.

Information and other resilience

Workforce resilience

Table 36: Workforce resilience decision table

Purpose	To encourage DNOs to have a resilient workforce.
Decision	DNOs will be required to provide sustainable workforce resilience strategies as part of their business plan submissions.

Our Consultation position

8.120 We proposed that DNOs should provide a sustainable workforce resilience strategy as part of their business plan. We did not propose to introduce output measures or incentives for workforce resilience as we considered that it was important to provide companies with the flexibility to make optimal resourcing decisions to meet their specific needs.

8.121 We recognised that there was a shared ambition across network companies to increase transparency of reporting, particularly around the steps DNOs take to

improve their workforce resilience. We therefore encouraged DNOs to work together with their CEGs and collaborate with industry bodies to agree appropriate metrics for workforce resilience and a common approach to reporting.

Responses to our Consultation

8.122 All respondents were supportive of our workforce resilience proposals requiring companies to provide sustainable, robust workforce resilience strategies as part of their business plan submissions. A number of respondents also expressed support for DNOs to work with their CEGs to agree a common set of measures and a consistent approach to providing visible workforce resilience data and/or metrics.

8.123 One respondent identified the local supply chain as an important part of the workforce that should be included in DNOs' reporting. Another respondent suggested that investment in UK training and knowledge acquisition supply chain is essential for the future of the industry.

Reasons for decision

8.124 We have decided to maintain our Consultation position to not introduce specific output measures or incentives for workforce resilience. We recognise that setting formal performance targets and reporting requirements could constrain companies in their efforts to deliver the most effective resourcing strategies that meet their specific needs. We believe DNOs should have the flexibility to take the steps that are necessary and appropriate for their situation and their workforce. We note that respondents were supportive of our proposals.

8.125 In line with the transmission and gas distribution RIIO-2 price controls, we believe that it is appropriate for companies to present robust, sustainable workforce strategies within their business plan that address the challenges of attracting, developing and retaining an appropriately skilled workforce. We consider this will maintain a consistent approach across all RIIO-2 price controls, and should help all network companies develop and share best practice. Further detail on potential areas that may be included in DNOs' workforce resilience strategies can be found in the Business Plan Guidance that will be published next year.

8.126 We recognise the value of increasing transparency of DNOs' workforce resilience data through a consistent form of external reporting that provides stakeholders with a view of DNOs' progress against workforce resilience commitments in their business plans. We therefore strongly encourage DNOs to work together with their CEGs and wider industry bodies to agree appropriate metrics and a common approach to reporting on these metrics. We believe this would also be a useful platform for DNOs to consider any matters in relation to investing in national training and the local supply chain.

Cyber resilience

Table 37: Cyber resilience decision table

Purpose	To enable companies to manage risks associated with the security of their operational technology (OT) and information technology (IT) network and information systems.
Decision	• DNOs must submit both a plan covering cyber resilience in relation to IT (cyber resilience IT plan), and a plan covering cyber resilience in relation to OT (cyber resilience OT plan) as part of their business plans. • We will provide appropriate baseline allowances for cyber resilience. Any baseline allowances in relation to IT will be subject to the TIM, and any baseline allowances in relation to OT will be provided on a use-it-or-lose-it basis. • We will include outcome-based PCDs for both cyber resilience IT and cyber resilience OT. • We will also include a re-opener mechanism for cyber resilience activities.

Our Consultation position

8.127 We proposed to align the approach to cyber security with the approach taken in the transmission and gas distribution RIIO-2 price controls. This proposed approach would require DNOs to submit a cyber resilience IT[51] plan and a cyber

[51] Information Technology are network and information systems that are used within business functions, for example word processing.

resilience OT[52] plan as part of their business plans. We outlined that the cyber resilience IT plan should cover security for business systems, and the cyber resilience OT plan should be focused primarily on operational technology. We proposed to work with the DNOs in developing their plans and said that we would monitor the delivery of these plans.

8.128 We proposed that, for cyber resilience in relation to IT, baseline allowances will be provided subject to the TIM; for cyber resilience in relation to OT, allowances will be provided on a 'use-it-or-lose-it' basis. Alongside these allowances, we proposed that both activities would be subject to ongoing monitoring as part of outcome-based PCDs. We also proposed to include a mid-period re-opener mechanism to deal with uncertainty covering new cyber resilience activities, new risks or threats, as well as new statutory or regulatory requirements.

Responses to our Consultation

8.129 There was broad support for our proposal to require DNOs to submit both a cyber resilience IT plan and a cyber resilience OT plan. Several respondents said that there would likely be some overlap between the two plans, and one respondent suggested the two plans should be combined to generate the most efficiencies in developing the plans.

8.130 Respondents generally agreed with our proposal to provide appropriate baseline allowances for cyber resilience, with any baseline allowances in relation to IT subject to the TIM and any baseline allowances in relation to OT being provided on a use-it-or-lose-it basis. Respondents also generally agreed that both areas should be assessed through ongoing monitoring as part of outcome-based PCDs. There were varying views on the proposal to include a re-opener for cyber resilience; the majority of respondents agreed that a re-opener should be included, but there were a range of views on the appropriate number and timing of re-opener windows and the materiality threshold for any re-opener(s).

Reasons for decision

8.131 We consider that requiring DNOs to provide cyber resilience IT and cyber resilience OT plans as part of their business plans will allow DNOs to seek funding for the measures that they consider appropriate and proportional to

[52] Operational Technology are network and information systems that are considered necessary to the delivery of essential services, for example Supervisory Control and Data Acquisition Systems.

manage risk and meet the requirements to which they are subject. We believe this will ensure that DNOs have considered the short to medium-term cyber security measures they consider appropriate and proportionate to manage the risks that they have identified. These should follow on from the self-assessment DNOs are expected to have performed against the Cyber Assessment Framework (CAF). We provided guidance on what should be included in the cyber resilience plans as part of our Consultation.[53]

8.132 We consider that providing baseline allowances for both cyber resilience IT and cyber resilience OT (the latter on a use-it-or-lose-it basis)[54] will ensure DNOs can carry out the work required to ensure their networks are suitably protected against cyber threats or risks.

8.133 At the same time, we consider that including outcome-based PCDs for both activities will ensure that DNOs are held to account for non-delivery of the measures they identify through their cyber resilience plans. We expect that these outcome-based PCDs will take the form of specified PCDs that will enhance cyber resilience in relation to both IT and OT, and include measured risk reduction or improved CAF Outcomes on the licensee's network and information systems.

8.134 We also consider that, given the uncertainty surrounding future requirements or activities, it is appropriate to provide re-openers for both cyber resilience IT and cyber resilience OT, to allow DNOs to respond accordingly. We are aware that DNOs have already started working on their cyber resilience plans based on the approach developed through the transmission and gas distribution RIIO-2 price controls. Since DNOs have already started developing these plans, we consider that only one re-opener window is needed.[55] We will consider whether the Authority can trigger these re-openers as part of the Draft and Final Determinations.

[53] See paragraph 8.103 of Annex 1 of the Consultation.
[54] For the avoidance of doubt, allowances provided on a use-it-or-lose-it basis are not subject to the TIM. Therefore, if a DNO overspends against its allowance, the additional cost above the allowances is covered entirely by the DNO.
[55] In the transmission and gas distribution RIIO-2 price controls, an additional re-opener window is provided at the start of the price control to allow network companies to submit their cyber resilience IT and OT plans. Since DNOs have already begun developing their plans, we expect them to be included as part of the business plans and, therefore, this additional window is not required.

Electricity System Restoration (Black start) (ESR), Physical Site Security, and Telecommunications resilience

Table 38: ESR, Physical Site Security and telecommunications resilience decision table

Purpose	DNOs should have systems and processes in place to ensure the networks can recover from an event that results in the full/partial shutdown of the electricity system. DNOs must maintain resilience of their assets at designated sites to ensure they are safe and secure. DNOs need to be able to appropriately communicate with and control their assets. Resilient telecommunications is particularly important in relation to ESR.
Decision	We will provide baseline allowances for each of ESR, physical site security, and telecommunications resilience. We will include a re-opener for ESR and physical site security.

Our Consultation position

8.135 We proposed that, for each of ESR, physical site security, and telecommunications resilience, the existing RIIO-ED1 approach of providing appropriate funding for these activities through baseline allowances, should continue into RIIO-ED2. We will continue to monitor DNOs' work on these activities throughout RIIO-ED2.

8.136 We proposed to have a re-opener for physical site security, to adjust allowed revenues if government mandates changes to the scope of work required during RIIO-ED2. We proposed to have two windows for this re-opener: one within the price control (around the mid-point), and one at the end.

8.137 We also proposed to have a re-opener for ESR, to cover the costs of workload changes in response to changes in the mandatory resilience period or additional activities that may arise from new obligations once the ESR standard is in place.

8.138 For telecommunications resilience, we proposed to continue monitoring, through ongoing RIIO-ED1 working groups and updates to the RIGs where necessary, the developments in future requirements for the DNOs. We proposed to review

whether the current arrangements are appropriate when further clarity has been provided, and whether changes to DNOs' allowances are needed.

Responses to our Consultation

8.139 Nearly all respondents agreed with our proposed approach for each area of ESR resilience, physical site security, and telecommunications resilience, in relation to both how baseline allowances would be provided and our proposed approach to re-openers for ESR and physical site security.

8.140 For telecommunications resilience, the majority of respondents agreed with our proposal to continue to monitor the developments in this area. Some suggested that a re-opener should be put in place to deal with any uncertainty that may arise from future expectations on DNOs. One respondent noted that a more proactive approach may be needed for telecommunications resilience, given that there are overlaps between this activity and others (such as ESR resilience).

8.141 For ESR and physical site security, respondents supported the proposal to provide baseline allowances, along with the introduction of a re-opener. Some respondents sought further clarity on how particular elements should be captured within the DNOs' business plans, such as the physical security upgrades that may be required due to cyber resilience requirements. Several respondents also supported the proposal to have two re-opener windows within the price control.

Reasons for decision

8.142 We believe that providing baseline allowances for each of ESR, physical site security, and telecommunications resilience will enable DNOs to plan and carry out the work required to manage these risks. We believe that the nature of the risks in these three areas has not changed since RIIO-ED1 and, therefore, that continuing with the RIIO-ED1 approach will ensure the DNOs have the capacity and ability to effectively manage this over the course of RIIO-ED2.

8.143 We also believe that these three activities are key to DNOs providing a safe and reliable network, and providing baseline allowances facilitates DNOs in ensuring their networks are resilient. Given the importance of these activities in maintaining network resilience, we believe it is appropriate to carry out ongoing monitoring of the DNOs' delivery throughout RIIO-ED2.

8.144 However, we also recognise that each of these resilience activities is influenced by external factors, such as changes in government policy and/or the development of new standards. We therefore believe that providing a re-opener for ESR and physical site security will allow DNOs' allowances to be adjusted where there are significant changes in the relevant requirements. In combination with the provision of baseline allowances, we believe this strikes the right balance between providing DNOs with certainty of their funding and over-forecasting allowances at a greater cost to consumers.

8.145 For telecommunications resilience, we believe that it is appropriate to monitor the ongoing developments in relation to the replacement of the public switched telephone network and the need for utility companies to have a proportion of the radio spectrum allocated for their use. We believe that reviewing the current arrangements in light of any developments from this work will establish if they are fit for purpose and whether any changes to the arrangements are needed (either through the Draft and Final Determinations, or through a modification to the licence as appropriate).

9. Deliver an environmentally sustainable network

Chapter summary

In this chapter, we outline our decisions to ensure DNOs take actions towards delivering environmentally sustainable networks. Our decisions focus on ensuring DNOs decarbonise their own networks and mitigate the wider environmental impact of network activity. This chapter also sets out our decision for how the price control will address visual amenity issues in designated areas.

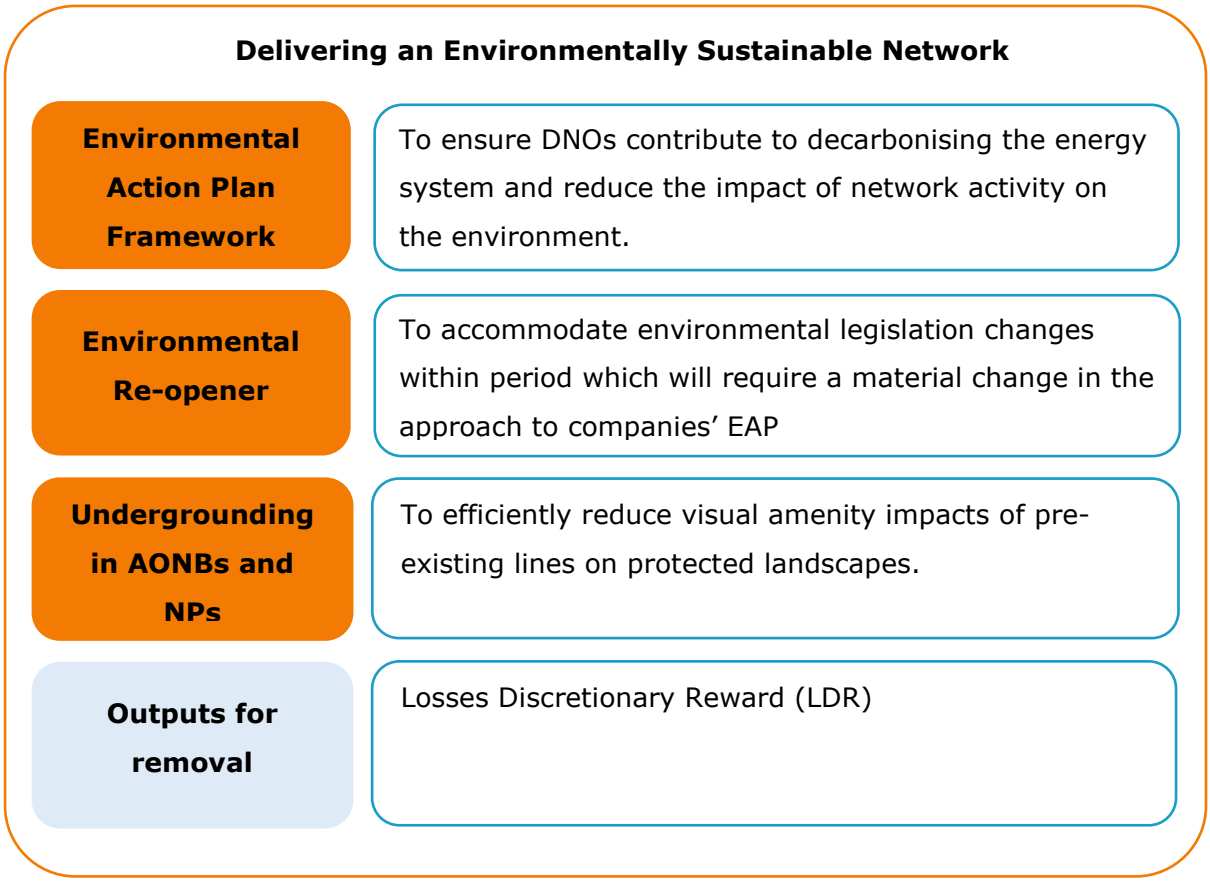
Introduction

9.1 In our RIIO-ED2 framework decision, we outlined our expectations that DNOs should decarbonise the electricity distribution networks, reduce the wider impact of network activity on the environment and support the transition to a smarter, more flexible, sustainable low carbon energy system.

9.2 In this chapter, we outline our decisions to ensure DNOs deliver against these objectives. These include arrangements which will encourage DNOs to minimise their own carbon and greenhouse gas (GHG) emissions as well as take additional actions to reduce the wider impact of network activity on the environment. Whilst these are tied most directly to the first two expectations set out above, we consider ambitious actions towards these objectives to be an important aspect of supporting the low carbon transition.

9.3 In this chapter, we also set out our decision on how the price control will address visual amenity issues related to infrastructure in certain designated areas.

Figure 6: Overview of the approach to Delivering an Environmentally Sustainable Network



Environmental Action Plan Framework

Table 39: Environmental Action Plan Framework decision table

Purpose	To ensure DNOs contribute to decarbonising the energy system and reduce the impact of network activity on the environment. To ensure transparent, consistent, and comparable reporting of environmental impact performance.
Decision	• We have decided to adopt the common environmental framework set out in our Consultation for DNOs. • DNOs will be required to embed environmental considerations into their business plans through an Environmental Action Plan (EAP) and to publish an Annual Environmental Report (AER).

	• We will also introduce a financial incentive, in the form of a scorecard, for activities in scope where performance is within direct control of the DNO.

Our Consultation position

Environmental Action Plan

9.4 We proposed to adopt the common environmental framework, as applied in the RIIO-2 price controls for the gas distribution and transmission network operators. This would require companies to outline the activities they will undertake to work towards the realisation of an environmentally sustainable network in their RIIO-ED2 business plans in the form of an Environmental Action Plan (EAP). We set out that the scope of the EAP would encompass activities driving the decarbonisation of the electricity distribution network as well as the reduction of the impact of network activity on the environment as a whole. This is set out in Table 40.

Table 40: Proposed scope of the EAP

Objective	Proposed areas in scope
Decarbonise the networks	• business carbon footprint • electricity distribution losses • Sulphur hexafluoride (SF_6) • embodied carbon[56]
Reduce the wider environmental impact of network activity	• supply chain management • resource use and waste • biodiversity and natural capital • fluid-filled cables • noise pollution • NOx and air quality

[56] Embodied carbon is the GHG emissions from the manufacturing of a product.

9.5 We set out our expectation for DNOs' EAPs to outline their commitments, in the form of activities and associated performance indicators and targets, to deliver an environmentally sustainable network in RIIO-ED2 and how the proposed initiatives would support a longer-term plan to achieve Net Zero. We outlined that DNOs should develop their plans in collaboration with their stakeholders and CEGs.

9.6 We set out that failure to submit a sufficiently complete EAP could result in a penalty under Stage 1 of the BPI. We provided guidance on what a sufficiently complete EAP must include in the draft Business Plan Guidance. We also proposed that CVP proposals must be from a narrower set of categories, including activities to deliver an environmentally sustainable network. Where companies' proposals exceed the baseline expectations that we have set out for EAPs in the EAPs section of the RIIO-ED2 Business Plan Guidance, they could be eligible for a reward through the CVP.

Baseline expectations

9.7 For the activities in scope, we proposed baseline expectations for the level of ambition we would expect DNOs to demonstrate in their EAPs. These articulate our expectations for what activities a DNO should undertake and the performance measures and indicators that DNOs must include.

9.8 We proposed that funding for these activities would be provided through baseline allowances and, where specific schemes require more significant expenditure, we may use PCDs to ensure DNOs are accountable for delivery.

Annual Environmental Report

9.9 We proposed that DNOs should be required through a new licence obligation to develop AERs detailing their progress in activities outlined in their business plans and against their targets, using the agreed metrics from their EAPs. We considered the AER process would be a reputational incentive for the companies, in particular due to the greater onus on having comparable and specific performance metrics. We noted that we may use a more explicitly defined reputational incentive in some instances which would be embedded within the AER. The final format of the annual AER would be subject to Ofgem's approval.

Financial incentives

9.10 We noted we had considered the use of financial incentives to encourage ambitious performance, in particular for the areas BCF, losses and SF_6, but did not propose to introduce a financial ODI for the performance in reducing environmental impacts due to the following challenges:

- to ensure we are not incentivising one outcome at the expense of another
- difficulties in accurately measuring the impact of DNOs' activities,
- to ensure that arrangements are sufficiently flexible to reflect different regional and local approaches to achieving Net Zero; and
- DNOs have a role to play in achieving Net Zero but are not always wholly responsible for outcomes. Arrangements must encourage DNOs to undertake activities towards Net Zero whilst mitigating against windfall gains or losses.

9.11 We signalled our openness to evidence that would demonstrate how financial ODIs could drive additional value for consumers in a manner which is measurable, does not risk perverse incentives and does not reward or penalise DNOs for actions beyond their control.

Responses to our Consultation

Environmental Action Plan

9.12 Most respondents, including the majority of DNOs, were in agreement that the proposed framework would drive DNOs to deliver an environmentally sustainable network. The DNOs considered the broadened scope and associated minimum requirements in the EAP to be a step change compared to RIIO-ED1, however one DNO noted that Ofgem's proposals would support DNOs' ambition rather than drive it. Several industry stakeholders welcomed a package that they considered would encourage DNOs to transition to a smart, flexible, low cost and low carbon energy system.

9.13 Two stakeholders considered that the approach would allow DNOs and other stakeholders to develop a better-informed and more accurate understanding of the impact of DNO activity on the environment. However, they highlighted the use of only having reputational incentives within the framework as weak.

Baseline expectations

9.14 The DNOs were generally supportive of the proposed baseline expectations, considering them appropriate to drive progress in delivering an environmentally sustainable network. One DNO stated that there is a risk that the baseline expectations could require DNOs to incur far higher costs than are justifiable and cautioned that expectations should not amount to micromanagement.

9.15 One stakeholder suggested Ofgem should make it clear in our Decision that the baseline expectations are minimum expectations and that DNOs should be more ambitious where they can justify this and have stakeholder support. One stakeholder was concerned that our approach in RIIO-ED2 to the environmental baseline expectations for decarbonisation is largely incremental rather than a 'step-up'. One DNO would welcome the inclusion of bespoke activities above and beyond minimum requirements.

9.16 In Appendix 4, we provide a summary of specific points raised for individual baseline expectations.

Annual Environmental Report

9.17 DNOs were generally supportive of the requirement to produce an AER, with clarity requested on whether an Environmental Impact Report was different to the AER. Questions were raised regarding the format and whether it would be a standard template, with one DNO suggesting Ofgem and the DNOs should agree the content ahead of RIIO-ED2. It was also noted that the AER should ensure there is recognition of environmental initiatives and progress from RIIO-ED1. With regards to its purpose, one DNO suggested that introducing financial incentives would be a strong driver towards achieving common measurement.

9.18 Other stakeholders agreed with the purpose of the AER. Of these, one stated that the reports should be prepared transparently so that they can be reviewed by stakeholders and the DNOs held to account for the delivery of their plans. Another considered that we should state clearly in our Decision and Business Plan Guidance documents that AERs should include a clear annual update on progress towards Net Zero targets. Where they are possible, explicitly defined reputational incentives such as scorecard ratings or defined league tables would be a welcome addition to the AER process, ensuring that they are as reputationally effective as possible and clear to stakeholders and the public.

Financial incentives

9.19 A number of stakeholders considered that a financial incentive would be needed to drive DNOs to outperform EAP targets and to look for additional ways to deliver decarbonised and environmentally sustainable networks. One stakeholder noted that although the AER was an important building block in understanding DNOs actions towards Net Zero, they doubted it was sufficient to drive progress quickly enough.

9.20 In response to our Consultation challenges regarding financial incentives, a number of respondents, including one DNO, noted that careful calibration of outcomes within a common financial incentive could prevent perverse incentives.

9.21 Of those supportive of a financial incentive, and in response to the challenges posed regarding financial incentives in our Consultation, a couple of stakeholders cited the rationale for provisionally accepting a scorecard approach in RIIO-ET2. In Draft Determinations we stated that an 'ODI-F would ensure NGET has a financial interest, proportionate with its involvement and effort, in achieving or exceeding the RIIO-2 targets set out in its EAP'.[57] These stakeholders suggested that the same principles should apply for RIIO-ED2.

9.22 One stakeholder noted that if applied across the sector, the scorecard would ensure consistency and comparability across sectors. It stated that if Ofgem is satisfied by the information provided in business plans, then it would be appropriate at the Draft Determinations stage to explore the merits of an ODI-F similar to that in the transmission sector.

9.23 Two stakeholders suggested a 'Strategy Delivery ODI' approach, as proposed for connections, vulnerability, and DSO activities, may be appropriate for assessing performance in the round. A DNO put forward a proposal for a financial incentive covering both quantifiable differences in performance above or below baseline and rewarding qualitatively assessed environmental initiatives. It argued that these would provide an appropriate balance of quantitative and qualitative incentives, and would drive environmental performance and progress, in particular for decarbonisation and Net Zero.

[57] https://www.ofgem.gov.uk/system/files/docs/2020/07/draft_determinations_-_nget_annex_redacted_0.pdf, pg.15

9.24 With regards to driving DNOs to be ambitious on SF_6, two consumer bodies noted financial incentivisation would be appropriate to ensure consistency with RIIO-ET2.

Reasons for Decision

Environmental Action Plan

9.25 In RIIO-ED2 we want to drive a co-ordinated and concerted approach to minimising and ultimately eliminating greenhouse gas (GHG) emissions and harmful environmental impacts in line with Net Zero. We consider that requiring DNOs to develop EAPs, which are broad in scope and must be situated within long-term plans for Net Zero, will drive DNOs to take action that prepare the networks for the type of challenges that lie ahead.

9.26 Having an EAP, will ensure environmental considerations are embedded into DNOs' decisions on network investment and other operational activities on an ongoing basis and will also ensure alignment to the latest climate science and Net Zero targets.

9.27 The DNOs' EAPs should be informed by stakeholder engagement and supported by CBAs, with associated environmental factors costed in. The Business Plan Guidance will outline our expectations for a complete and quality EAP and the justification we expect DNOs to provide.

9.28 We will set funding allowances for the efficient incremental costs of delivering the EAP, where these have been well-justified. This approach to funding, in conjunction with providing clear expectations on how DNOs should justify their EAPs and the wider set of tools they can use to justify investment decisions, should help DNOs make meaningful progress in decarbonising the network and mitigating environmental impacts.

Baseline expectations

9.29 We welcome the support of stakeholders that the baseline expectations set out in our Consultation broadly focused on the right areas. Having considered responses, we have decided to make minor changes to the baseline expectations proposed in our Consultation.

9.30 These revised baseline expectations are set out in Appendix 4, as well as a detailed summary of specific stakeholder points raised for individual expectations and our rationale for accepting these suggestions or retaining the proposed expectation without amendment.

9.31 As a minimum requirement of Stage 1 of the BPI, DNOs will need to produce a complete and quality EAP and this must demonstrate ambition in line with the baseline expectations we have introduced for the activities in scope.

9.32 While we consider these expectations will drive ambitious performance across the spectrum of DNOs' activities, we recognise that best practice is not fixed and in the course of developing their business plans, companies may identify opportunities to go beyond these expectations. Where companies can demonstrate this will deliver additional value for consumers and has the potential to raise the bar across the industry, they could be eligible for a reward through the CVP under Stage 2 of the BPI. We do not agree that any environmental area should be singled out in the CVP as more important than any other (eg loss reduction) but consider any activity within the scope of the EAP could be eligible for CVP reward.

Annual Environmental Report[58]

9.33 We have decided to require DNOs to publish an annual report on their network's impact on the environment and progress against their EAP and will introduce a licence obligation for this purpose. We consider that a public report will increase the transparency of the DNOs environmental impact and therefore the accountability of the DNOs in relation to their environmental responsibilities. As such, it should drive consumer and societal benefits.

9.34 We agree with stakeholders that preparatory work is needed to agree common reporting methodologies and to identify metrics that will take account of the different circumstances across the networks in order to compare performance, eg through some normalisation of data. We encourage the DNOs to work collaboratively with each other and with interested stakeholders to develop appropriate reporting metrics. To ensure maximum efficacy, we intend to determine a common format for the report.

[58] We note the use of the additional term Environmental Impact Report within our Consultation and confirm that the Annual Environment Report (AER) is the correct term.

Financial incentive

9.35 Based on the responses to our Consultation and following further engagement through the RIIO-ED2 policy working group, we have decided to introduce a financial ODI for areas which are controllable and measurable and where there is sufficient data to enable robust targets to be set. We consider this will further enhance the framework as proposed in our Consultation and provide DNOs with a within-period financial interest, proportionate with their involvement and effort, in achieving or exceeding the RIIO-ED2 targets set out in its EAP.

9.36 We considered the proposals put forward in the Consultation responses and our view is that the most appropriate form of incentive would be a narrowly scoped environmental scorecard, as applied in transmission following the acceptance of NGET's bespoke proposal.[59] For specified areas, the scorecard will compare the outturn annual performance metric in an area to the baseline annual target and performance thresholds. Performance would be scored depending on the level of under or out-performance in each area.

9.37 For the incentive to be an effective driver of performance, sufficient data needs to available for each of the activities in scope. If this is not the case, the incentive may not be switched on for all DNOs.

9.38 We consider this incentive design the most appropriate for addressing the challenges posed in our Consultation. By having a narrow scope containing only a subset of EAP activities, we can ensure the incentive is well calibrated; it should not incentivise one outcome at the expense of another and ensure the activities within scope are measurable and that the outcomes can be confidently attributed to DNOs' actions. To further ensure DNOs are only rewarded or penalised for performance and outcomes within their control, we will consider using performance thresholds for rewards and penalties.

9.39 We do not consider there is sufficient evidence that the alternative proposals put forward, which would treat all areas of the EAP as being in scope and apply a qualitative assessment, would overcome the challenges highlighted in our Consultation. We recognise that some stakeholders considered a broader-scoped incentive appropriate in order to drive further improvements in particular on managing SF_6 and losses, however we consider the framework sufficiently

[59] https://www.ofgem.gov.uk/system/files/docs/2020/12/final_determinations_et_annex.pdf, pg.41-3

accommodates for ambitious actions to be taken in these areas. We expand on this further below. We also note others supported the proposed approach to these areas and considered that using a reputational incentive to drive performance was appropriate.

9.40 In managing SF_6, we want DNOs to take efficient and economic actions to reduce leakage and their overall SF_6 asset base in line with Net Zero, and other statutory, obligations. Their approach to doing so will depend on the voltage level and this should be reflected in the SF_6 strategies they must produce to be in line with the baseline expectation. We consider a financial incentive to manage leakage would be disproportionate, especially as the majority of DNOs' SF_6 assets are at lower voltages where leakage rates are low. We consider a financial incentive targeting an absolute reduction in SF_6 assets could risk incentivising investments which would not otherwise be justified by the environmental benefit. In particular, there is a risk that the process of replacing these assets earlier than end of life could lead to higher BCF emissions than might otherwise be the case.

9.41 We have outlined clear baseline expectations for DNOs to reduce their BCF and specific expectations for addressing SF_6. In addition, DNOs have statutory obligations which they must comply with. We consider the combination of these provide sufficient drivers for DNOs to make progress in reducing SF_6.

9.42 It is for DNOs to bring forward economic proposals to meet their obligations and our baseline expectations. Where they can demonstrate that asset replacement is the efficient course of action for reducing harmful emissions we will consider the provision of funding through baseline allowances to support the high up-front capital costs that may be involved. Where additional funding has been provided for this purpose we will also consider the use of PCDs to ensure the allowance is used for the intended purpose.

9.43 These arrangements should ensure DNOs show suitable levels of ambition in their strategy for managing of SF_6 and the reputational incentive provided by AER will further encourage them to deliver this.

9.44 Similarly, we consider the overall framework and a reputational incentive is also sufficient for ensuring the DNOs remain focussed on effectively managing losses. We consider a financial incentive is not appropriate due to difficulties in measurement, wholly attributing outcomes to DNO actions and the risk of

perverse incentives. As with SF_6, we consider that the baseline expectations, to undertake efficient and economic actions to manage losses and to have a wider losses strategy provide DNOs provide a robust foundation for the DNOs to take ambitious action and that the approach to funding and tools for justifying investment decisions support this.

9.45 Within the RIIO-ED2 policy working group, there has been positive work considering what an effective RIIO-ED2 losses strategy should cover, and we would encourage DNOs to follow this structure as well as taking learnings from RIIO-ED1 and the ENA's Technical Losses Working Group. We consider that a reputational incentive, reported on within the AER, will ensure best practice is recognised and that DNOs remain accountable to the delivery of their strategies. The availability of CVPs upfront should also drive ambition.

Next Steps

9.46 We will assess the DNOs' EAPs when they are submitted, as part of their RIIO-ED2 business plans. As recognised in responses, we emphasise that the baseline expectations are minimum levels of ambition that we expect to see in DNO's EAPS and where it is economic and efficient to do so we would expect to see ambition beyond this.

9.47 We will develop the scope, weightings of the areas in scope, financial exposure and provisional targets of the ODI-F over the next year and consult on these at Draft Determinations.

9.48 We will develop guidance in due course on the general aims, scope and form of the AER and a common format for this. As part of this, we will identify where more explicit reputational incentives are necessary. This will build on the ongoing work of the RIIO-ED2 policy working group which has considered how a reputational incentive may work for losses management.

Environmental re-opener

Table 41: Environmental re-opener decision table

Purpose	To accommodate environmental legislation changes within period that require a material change in the approach to DNOs' EAPs.

Decision	We will introduce a re-opener for responding to environmental legislation that requires a material change in the approach to companies' EAPs. The scope will be activities which relate to the decarbonisation of the networks and the wider impact of DNOs' activities on the environment.

Our Consultation position

9.49 We proposed to introduce a re-opener mechanism to respond to environmental legislation that would require a material change in the approach to companies' EAPs. Ofgem or the network companies would be able to trigger the re-opener. In the case of national legislation, we would expect companies to work together to demonstrate the material change in the approach needed. For regional legislation, all companies impacted should work together to demonstrate this.

Responses to our Consultation

9.50 All DNOs supported the inclusion of an environmental legislative re-opener. One DNO summarised its scope as covered by the introduction of or change to new legislation or standards imposed by external bodies. Another DNO agreed, noting that it must be wide-ranging enough to capture regional, national and international authority driven changes. One DNO stated that the wording in our Consultation may be too narrow, in limiting to the EAP, and it should make it clearer that new areas may crop up.

9.51 One DNO stated that there is a need to consider in the re-opener's development gaps with other UMs, operation alongside Net Zero re-opener; accepting ability to adjust up or downwards; flexibility to trigger as required and that both DNOs and Ofgem can trigger it.

9.52 One DNO noted that the Net Zero re-opener could be narrowed and subsumed within the environmental re-opener, but that the materiality threshold of the environmental re-opener should be set so that DNOs continue to manage impacts of peripheral legislation within allowances.

9.53 Five other stakeholders supported the proposal. Two of these noted that it must be tightly defined, including the materiality, and it should be clearly delineated from the Net Zero re-opener.

9.54 One stakeholder did not support the proposal, stating that rather than a re-opener more urgent action is needed and that they are happy to work with the ENA to develop a roadmap for introducing non-SF_6 equipment, ensuring that barriers are removed in a timely manner.

Reasons for decision

9.55 Having considered stakeholder responses and noting the broad support for the inclusion of an environmental re-opener, we believe introducing a re-opener is appropriate to ensure the framework retains flexibility to respond to legislative change. In particular, this will likely be of most relevance for the ongoing F-Gas regulation review by the EU commission.

9.56 We consider the scope of the EAP provides a reasonable boundary for the scope of the re-opener. By this we mean activities to decarbonise the networks or to reduce the DNOS wider environmental impact. There may be some instances where it could overlap with the proposed scope of the Net Zero re-opener, which is to enable us to reset allowances and other elements of RIIO-ED2 in order to align the price control with Net Zero targets. In such instances, we would use the most applicable mechanism to adjust the price control and achieve the legislative objectives. We consider the environmental legislative re-opener would be better suited to distinct changes in environmental legislation that require DNOs to take specific action in order to ensure compliance, rather than non-legislative changes connected to the achievement of Net Zero.

9.57 We consider that the design of the re-opener should be in line with our common design parameters. Our approach to these are outlined in Chapter 8 of Annex 2.

9.58 This re-opener is intended to specifically cater for legislation which results in a material change to how the activities within the scope of the EAP are delivered. We note one DNO's response that peripheral impacts of legislation should continue to be dealt with through baseline allowances. We consider that applying a materiality threshold, in line with the common design parameters, would ensure that this re-opener is only for legislative changes that cannot be managed within the DNOs existing allowances. In the case of SF_6, it could accommodate the introduction of a retrospective ban.

Next steps

9.59 We will work with DNOs and stakeholders on the design of the re-opener and consult at Draft Determinations.

Undergrounding in Areas of Outstanding Natural Beauty (AONBs) and National Parks (NPs)

Table 42: Undergrounding in AONBs and NPs decision table

Purpose	To efficiently reduce visual amenity impacts of pre-existing lines on protected landscapes.
Decision	• To retain the RIIO-ED1 undergrounding allowance in Areas of Outstanding Natural Beauty and National Parks • Maintain the RIIO-ED1 methodology for calculating the funding pot

Our Consultation position

9.60 The RIIO-ED1 scheme allows for the undergrounding of existing overhead lines in Areas of Outstanding Natural Beauty (AONBs) and National Parks (NPs). The primary objective is the protection of visual amenity in line with specific statutory requirements. In our Consultation, we set out that we considered the undergrounding scheme to have worked well in RIIO-ED1 and proposed to retain it for RIIO-ED2.

9.61 We proposed to use the same method applied in RIIO-ED1 to calculate and allocate the funding pot for RIIO-ED2, adjusting it for the shorter price control period.[60] Where relevant, the results of willingness to pay (WTP) studies carried out for RIIO-ET2 would be considered.[61]

[60] The customer willingness to pay (WTP) research we conducted when setting DPCR5 indicated that, on average, customers were willing to pay £2.29 (2008/09 prices) for the undergrounding of 1.5% of the overhead lines in AONBs and NPs over the course of a five-year price control (ie 46 pence per year). For RIIO-ED1, this was multiplied up by the number of customers and the eight years of the price control to give a total funding pot of £123.1m. The undergrounding allowances for individual DNOs were calculated by dividing the total pot between DNOs first by number of customers and second by length of lines to be undergrounded in each licensed region. The allowance for each DNO was calculated as the average of these two values.

[61] The TOs jointly commissioned NERA to undertake a WTP studying covering improvements in several service attributes, including undergrounding of transmission infrastructure in designated areas. A summary of the

9.62 Given that the scheme is designed to be flexible, we did not propose to set PCDs for specific projects, as was proposed for RIIO-ET2. However, we considered that the DNOs should indicate in their business plans the value of projects that they could feasibly deliver in RIIO-ED2. We also proposed that DNOs should set out, in published policy issued to their relevant stakeholders, the approach they will take when deciding whether or not to proceed with undergrounding projects. We considered that this would also encourage greater clarity for interest groups when preparing undergrounding projects for submission, in line with DNOs' broader stakeholder engagement objectives.

9.63 In proposing to adopt the scheme for RIIO-ED2, we also proposed to allow DNOs to spend up to 10% of their allowance on undergrounding overhead lines that are located outside the boundaries of designated areas.

Responses to our Consultation

9.64 All stakeholders who responded on this issue supported the retention of the undergrounding allowance for RIIO-ED2. DNOs agreed that the mechanism has been effective in RIIO-ED1, highlighting its flexibility and its focus on engaging with stakeholders to feed into the identification and development of projects.

9.65 One DNO suggested that the Regulatory Instructions and Guidance (RIGs) for visual amenity expenditure should be enhanced to provide clarity on schemes which adopt alternative solutions to undergrounding such as the screening of ground-mounted substation assets. This DNO also proposed that the 10% limit for areas crossing designated boundaries should be extended for assets outside of these areas altogether.

9.66 Some stakeholders were concerned that some DNOs may not be taking a sufficiently pro-active approach to engaging with local stakeholders in order to identify and develop projects, hence the small proportion of RIIO-ED1 visual amenity allowance spent.[62] They flagged the statutory duties for all relevant authorities to have regard to the purpose of conserving and enhancing NPs and AONBs when exercising or performing any functions affecting land within these areas.

study can be found here: https://www.ssen-transmission.co.uk/media/3455/consumers-willingness-to-pay-final-0107.pdf.

[62] In the first 5 years of RIIO-ED1, only around 25% of the allowance has been spent.

9.67 One DNO suggested focusing dialogue on ensuring licensees and stakeholders work collaboratively both ahead of and during RIIO-ED2 to make maximum use of the mechanism, rather than attempting to shoehorn all of this engagement into the months leading up to submission of final RIIO-ED2 business plans.

9.68 The majority of stakeholders agreed with our proposed approach to setting a funding pot. Four DNOs commented on customer WTP, with two stating that Ofgem should be willing to reflect the results of new DNO WTP research with bill paying consumers when it becomes available. Two questioned the validity of transferring the benefits of studies conducted for the transmission sector, with one noting that the visual amenity values used in the transmission sector are significantly higher, indicating an enhanced national customer WTP based on more contemporary assessments. One DNO requested confirmation of the respective DNO use-it-or-lose-it allowances for RIIO-ED2 in this Decision.

9.69 One stakeholder supported the approach, but disagreed with taking into account WTP in transmission, arguing that Willingness to Accept (WTA) is a more appropriate methodology as it better captures the value of amenity loss to designated landscapes from electricity infrastructure. One highlighted the transmission approach as very conservative, stating that it would want to see a higher relative allowance for RIIO-ED2.

9.70 One stakeholder highlighted that consumers' WTP should be reviewed in light of the impact COVID-19 is expected to have on consumer finances.

9.71 The majority of consumer bodies supported our approach but provided suggestions for potential changes to the operation of the scheme for RIIO-ED2. One felt that consideration should be given to allowing recovery of costs earlier than the end of the price control, where this would help ensure full use of the allowance. One supported the provision of a funding pot but did not support the UIOLI approach given the time many schemes take to come to fruition.

9.72 One stakeholder did not support the approach, but suggested consideration of allowances is not based solely on a proposed number of schemes or potential projections but on an allocation using an assessment model that incorporates resident population, visitor numbers and length of line in the region or AONBs or NPs.

Reasons for decision

9.73 Having considered responses, we have decided to retain the undergrounding scheme and maintain the RIIO-ED1 methodology for calculating the funding pot for RIIO-ED2. Regarding the WTP value we will use to set the funding pot, we have decided to uplift the WTP value used for RIIO-ED1, to take account of inflation. This means that the data used to derive indicative WTP figure will represent the value that customers across GB place on improving visual amenity. We consider that using a single WTP figure for the methodology will avoid unnecessary additional complexity of using individual WTP figures provided by DNOs based on research that may not have been conducted consistently and may therefore not be comparable.

9.74 We note one stakeholder's suggestion to review consumers' WTP in light of COVID-19's impact. While we agree that COVID-19 will have an impact on consumer finances, we consider that any WTP exercise carried out now will not provide a figure that can be robustly used for the duration of RIIO-ED2. We consider that uplifting the WTP value used for RIIO-ED1, to take account of inflation, to be the most appropriate starting point for setting an expenditure cap for RIIO-ED2. However, in determining allowances, we will also have regard to the potentially long-lived economic impact arising from the COVID-19 pandemic that could adversely affect the affordability of energy bill increases for many consumers.

9.75 We recognise that WTA is an alternative measure as it estimates the amount of money at which a person would be willing to accept the persistent presence of visual intrusion. However, we think there could be issues with using such an estimate. For example, it could suffer from an upward bias because people are asked to state the amount of compensation they would require to accept permanent loss of visual amenity without considering who bears the direct financial consequence of any such compensation. We believe that factors such as household budget constraints, should play an important consideration in setting the value of the expenditure cap because the efficient cost of mitigation schemes is paid by all consumers. Therefore, in line with our environmental responsibilities and obligation to protect existing and future consumers, we consider that the value of the expenditure cap for mitigation projects in RIIO-ED2 should be informed by a measure that reflects both the ability and inclination of consumers to pay. Accordingly, we think that WTP is the preferred approach for estimating this value.

9.76 We have also decided to adopt our Consultation position and allow DNOs to spend up to 10% of their allowance on undergrounding overhead lines that are located outside the boundaries of designated areas. We consider the structure of the undergrounding scheme, including the 10% allowance, is sufficient for stakeholders and DNOs to consider and agree on the various merits and impacts of particular projects and accommodate any special circumstances of particular projects as appropriate.

9.77 We do not agree with one stakeholder's suggestion to extend the areas that the 10% of the allowance that can be used for. As the aim of the scheme is to maximise the benefits of projects, in terms of mitigating impacts on visual amenity, we consider that consumers will benefit most from the delivery of mitigation projects in sites that have been designated specifically for their natural beauty special qualities.

9.78 We acknowledge that projects that can take several years to be developed and may span more than one price control period. We note that it is not unusual to have projects with delivery programmes that do not match the start and finish of a particular price control period. If the delivery of the project is expected to span more than one price control period, then the portion of efficient costs a DNO will spend on the project in the current price control are implemented through the available mechanisms. The rest of the costs of delivering the project are then funded using the mechanisms available at that time during the next price control.

9.79 In response to the suggestion that the RIGs for visual amenity should be amended, we will consider any changes as part of the yearly RIGs consultation.

Next Steps

9.80 We will consult on proposed undergrounding allowances at Draft Determinations.

Removal of the Losses Discretionary Reward (LDR)

Our decision

Table 43: Removal of the LDR

Name	RIIO-ED1 licence condition
Losses Discretionary Reward	Special Condition 2G

Our Consultation position

9.81 We proposed to remove the LDR for RIIO-ED2. We considered effective losses management would be more appropriately driven by embedding the consideration of how to manage losses within the proposed overarching environmental framework.

9.82 We considered the LDR to have driven DNOs to advance their understanding of losses. However, while there has been some evidence to suggest that DNOs' actions have resulted in new and improved ways to better manage losses on the network, we set out that there remain significant challenges in accurately measuring losses and considered that the administrative burden of this incentive has not been matched by the benefits it has brought.

Responses to our Consultation

9.83 The majority of DNOs supported the removal of the LDR. One saw the incentive as having served a purpose in driving a step change in approach but considered that it was now right to move to a more mature regulatory framework of licence obligations and base funding. One stated that the RIIO-ED1 approach of specific losses reduction expenditure supported by a CBA should continue for RIIO-ED2, where specific company actions or investment can result in a positive benefit for customers to be funded ex ante within totex allowances. Others supported managing losses through DNO losses strategies.

9.84 One DNO would like to work with us to further explore how the regulatory framework could incentivise companies to make positive change on losses, working from the recommendations of the ENA Technical Losses Task Group.

9.85 One DNO was concerned by the proposed removal of the LDR and thought that there should be a financial incentive to reduce losses within the wider context of incentivising DNOs' environmental impact. It urged us to consider whether innovation funding might be used specifically for work on losses.

9.86 Some other stakeholders that responded to this question raised additional points on the design of the CBA. One stated that the CBA must accurately reflect the benefits of lower losses and should be published and subject to external review. One argued that Ofgem should introduce an obligation for DNOs to provide as part of its CBA one model looking at business-as-usual technology and another providing an alternative plan which uses innovative equipment to reduce losses and increase capacity.

9.87 The majority of consumer group stakeholders did not agree with the removal of the LDR, in the absence of another incentive focusing on losses. These stakeholders stated that Ofgem should propose a revised or new mechanism to drive ambitious action on losses, ensuring that companies do not ultimately decide to make efficiency savings by using cheaper high loss equipment. One stakeholder had concerns that the RIIO-ED2 proposals risk favouring one output over another by putting a financial incentive on connection of LCTs or on utilisation, but not at the same time on loss reduction.

Reasons for decision

9.88 Having considered responses, we have decided to remove the LDR for RIIO-ED2. Responses in opposition to its removal put forward the case for a financial incentive in this area, but did not dispute our view that the LDR has served its purpose, and that the benefits it has delivered have not matched its administrative burden.

9.89 We recognise that there is a strong case for continued focus on this area. However, we feel that the framework does that with a strengthened CBA approach combined with losses strategy sitting within the EAP framework and will drive DNOs to reduce their controllable losses. As set out earlier in the chapter, we consider that embedding losses within the framework will more effectively drive down losses than the introduction of a financial incentive.

Appendices

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Appendix 1 – Competition in Connections

Background

A1.1 DNOs do not have a natural monopoly on the installation of new connections. ICPs and IDNOs can compete with DNOs to complete some connection activities.

A1.2 The activities that ICPs and IDNOs can undertake are described as contestable activities. Contestable activities include the design, procurement and construction of the sole use connection assets. Those activities that can only be carried out by the DNO are described as non-contestable. Non-contestable activities include determining the point of connection to the distribution system and undertaking upstream reinforcement to the distribution system.

A1.3 Ahead of setting the RIIO-ED1 price control, we set out arrangements to facilitate the development of competition for contestable services in the electricity connections market. We specified segments of the market (the Relevant Market Segments) in which we believed competition was viable for the contestable part of the connection. We have used this market segmentation in developing our framework for RIIO-ED2.

Connections Market Segmentation

A1.4 In this document, where we describe minor connections customers, we are referring to connections undertaken in the Excluded Market Segments (these are segments where we do not consider competition is currently viable). Major connection customers relates to connections undertaken in the Relevant Market Segments.

Table 44: Excluded Market Segments

Excluded Market Segments	
LVSSA	LV connection activities relating to no more than four domestic premises or one-off industrial and commercial work (ie, one to four houses).
LVSSB	Connection activities in respect of a connection involving three-phase whole current metering at premises other than Domestic Premises. (ie, one off LV connections).

Table 45: Relevant Market Segments

Relevant Market Segments – major connections Market Segments where we consider that competition is likely to develop	
Metered Demand Connections	Low Voltage (LV) Work - LV connection activities involving only LV work, other than in respect of the Excluded Market Segments.
	High Voltage (HV) Work: LV or HV connection activities involving HV work (including where that work is required in respect of connection activities within an Excluded Market Segment).
	HV and Extra High Voltage (EHV) Work: LV or HV connection activities involving EHV work.
	EHV work and above: extra high voltage and 132kV connection activities.
Metered Distributed Generation (DG)	LV work: low voltage connection activities involving only low voltage work.
	HV and EHV work: any connection activities involving work at HV or above.
Unmetered Connections	Local Authority (LA) work: new connection activities in respect of LA premises.
	Private finance initiatives (PFI) Work: new connection activities under PFIs.
	Other work: all other non-LA and non-PFI unmetered connections work.

A1.5 To allow headroom for competition to develop we allow DNOs to earn a regulated margin (set at four per cent above cost) on contestable connection services in the Relevant Market Segments. DNOs were then able to submit evidence where they considered effective competition existed in market segments. Where we decided there was effective competition they were permitted to apply an unregulated margin. This process was known as the Competition Test.

Impact of the Competition Test on RIIO-ED2 output and incentive arrangements

A1.6 As set out in Chapter 5, where there is effective competition in the provision of a connections service, we do not expose the DNO to incentives on their performance. This is because we consider the presence of competitive pressure to be sufficient to drive DNOs to deliver efficient and high-quality connection services for these market segments. Table 46 summarises the impact of the Competition Test on RIIO-ED2 output and incentive arrangements.

Table 46: Summary of the impact of the Competition Test on RIIO-ED2 output and incentive arrangements

Incentive/Measure	Excluded Market Segments	Relevant Market Segments that pass the Competition Test		Relevant Market Segments that don't pass the Competition Test
		Contestable	Non-contestable	
Connections Guaranteed Standards of Performance (GSoP)	Apply	Apply	Apply	Apply
Time to Connect incentive	Apply	Not apply	Not apply	Not apply
Customer Satisfaction Survey	Apply	Not apply	Not apply	Not apply
Complaints Metric	Apply	Apply	Apply	Apply
Strategy Delivery ODI	Not apply	Not apply	Apply	Apply

Incentives that will apply to all market segments

A1.7 The Connections GSoP protects all connections customers from receiving unacceptably poor levels of service. Since the DNOs remain the connection provider of last resort for all customers, we have decided that the connections GSoP will continue to apply to all market segments during RIIO-ED1.

A1.8 The Complaints Metric incentivises DNOs to respond to complaints efficiently and effectively. We accept that, in principle, a DNO's handling of complaints from

customers relating to contestable services in Relevant Market Segments, where there is effective competition, should not be subject to regulatory incentives. However, we consider that in many instances it may be difficult to assess whether the complaint relates mainly to the contestable or non-contestable part of the DNO's connections service. We also note that the majority of complaints that are included in the Complaints Metric relate to supply interruptions (not connections) and that at least some major connections customers may choose to raise concerns over service outside of the formal complaint process. We therefore consider it acceptable and pragmatic that the Complaints Metric captures complaints from all connection market segments.

Incentives that will only apply to Excluded Market Segments

A1.9 In the absence of effective competition in the provision of connection services, we consider that regulatory arrangements are required to protect the customers' interests. To incentivise DNOs to produce high-quality, timely connections the Time to Connect incentive and Customer Satisfaction Survey incentives will apply to connections work in the Excluded Market Segments.

Incentives that will only apply to Relevant Market Segments that do not pass the Competition Test

A1.10 For connections work in markets where effective competition has not been demonstrated (ie Relevant Market Segments that have not passed the Competition Test), we consider that additional measures are necessary to ensure customer interests are protected. We consider that the Customer Satisfaction Survey and Time to Connect incentives may not deliver improvements in the most critical areas for these connection customers. Instead, we have decided to introduce the Major Connections Strategy Delivery ODI to incentivise DNOs to engage and respond to the needs of these connection customers.

Relevant Market Segments that pass the Competition Test

A1.11 We consider that the presence of effective competition will protect customers from receiving poor levels of service for the contestable part of their connections work. We are therefore not proposing to apply incentives to the contestable part of the connections service, ie for Relevant Market Segments that pass the Competition Test.

A1.12 We note that the DNOs are still responsible for completing non-contestable connection activities in these market segments. We consider that existing licence arrangements ensure that DNOs deliver specified standards of performance for these customers. To ensure that DNOs are incentivised to deliver best practice in the provision of non-contestable activities, we have decided that for the non-contestable activities the Major Connections Strategy Delivery ODI will operate on a reputational basis in Relevant Market Segments that pass the Competition Test.

Appendix 2 – Revised Major Connections Principles and Baseline Expectations

Table 47: Revised Major Connections Baseline Expectations

Principle	Baseline Expectation	Relevant Market Segments (RMS)
Support connection stakeholders prior to application by providing accurate, comprehensive and user-friendly information	1. Provide access to up to date and relevant information to enable a connection stakeholder to decide whether, and where, to connect to the distribution network. This should include, but not be limited to, graphical network records that show the location, size and type of assets.	Applies to all RMS[63]
	2. Communicate a clear connections process for all customers. This should include providing clarity of DNO, customer and third-party responsibilities. This should also include providing clarity on how issues that arise can be raised and resolved.	Applies to all RMS
	3. Provide clear explanations of the types of connection products available, the associated costs of each and the information that would need to be provided by the customer to make an application. Where appropriate, this should also include the provision of general information on the potential implications for a customer's connection offer if they change their own requirements, if other customers are	Applies to all RMS, except Unmetered[64]

[63] Applies to all Relevant Market Segments, ie metered demand LV, HV, EHV and 132kV; metered distributed generation (DG) LV, HV and EHV; Unmetered LA, PFI and Other.
[64] Applies to Metered demand LV, HV, EHV and 132kV; metered distributed generation (DG) LV, HV and EHV. Does not apply to Unmetered LA, PFI and Other.

Principle	Baseline Expectation	Relevant Market Segments (RMS)
	seeking to connect in the same area or if they do not accept an offer within its validity period.	
	4. Provide support and help to customers through appropriate channels which should include, but not be limited to, connections surgeries.	Applies to all RMS, except Unmetered
	5. Have robust processes in place to proactively engage with stakeholders. This should include how the DNO plans to both identify and address connections issues.	Applies to all RMS
	6. Provide clearly signposted information on capacity available to enable points of connection to be identified.	Applies to Metered demand HV, EHV and 132kV; Metered DGHV
	7. Provide guidance that explains to customers the criteria to allow an unmetered connection to be made, ensuring compliance with the Unmetered Supply Regulations.	Applies to Unmetered LA, PFI and Other
	8. Provide support in the form of tailored pre-application communication to suit different stakeholder needs.	Applies to Unmetered LA, PFI and Other
Deliver value for customers by ensuring simplicity and transparency through the applications process	9. Have clear and simple customer application process, which accounts for the particular needs of different groups of customers and which can be shaped by the parties involved. This should include, but not be limited to, providing options for how customers can apply for new connections and ensure these are clearly communicated.	Applies to all RMS
	10. Provide tailored communication plans to suit different customer needs, including the provision of specified points of contact during the application process. This should	Applies to all RMS, except Unmetered

Principle	Baseline Expectation	Relevant Market Segments (RMS)
	include the provision of various channels through which customers can access support or help.	
	11. Provide customers with clear connection quotation cost breakdowns, listing out the cost components and any assumptions used in the formulation of a connections offer.	Applies to all RMS, except Unmetered
	12. Have processes in place to help customers identify how they could make changes to their connection requirements, that would meet their needs and allow them to get connected more quickly or cheaply.	Applies to all RMS, except Unmetered
	13. Specifically, in relation to flexible connection customers, provide clarity around conditions and circumstances of current and future curtailment associated with a connections offer.	Applies to Metered demand EHV and 132kV; Metered DGHV and EHV
	14. Provide guidance that explains to customers the criteria to allow an DG connection to be made to ensure compliance with relevant Engineering Recommendations (G98/G99).	Applies to metered DGLV, HV and EHV
	15. Have in place options for 'fast track' reconnections of critical infrastructure such as internet cabinets that have been damaged in road traffic accidents or similar.	Applies to Unmetered Other
Facilitate the delivery of timely and economical connections that	16. Provide tailored communication plans to suit different customer needs, including the provision of specified points of contact during the delivery process. Ensure various channels are available for customers to access support or help.	Applies to all RMS, except Unmetered LA, PFI and Other
	17. Complete any cost reconciliation in a timely manner.	Applies to all RMS

Principle	Baseline Expectation	Relevant Market Segments (RMS)
meet customers' needs.	18. Where there are slow moving projects and where these may impact on other customers, have processes in place for releasing capacity that is not being used.	Applied to Metered demand HV, EHV and 132kV; Metered DG HV and EHV
	19. Have processes in place for the promotion of certain types of customers (such as storage) in connection queue in circumstances where they will help others connect more quickly/cheaply.	Applies to Metered DG HV and EHV
	20. Provide access to services that facilitate the delivery of timely and economical connections such as 'rent a jointer' services.	Applies to Unmetered LA, PFI and Other

Appendix 3 – Revised Vulnerability Principles and Baseline Expectations

A3.1 The following are the principles and baseline expectations DNOs should deliver for consumers in vulnerable situations. DNOs' strategies for vulnerable consumers should be aligned to these principles and baseline expectations.[65]

A3.2 Where a DNO considers the baseline expectation is not appropriate, the DNO should provide clear justification as to why this is the case. Where relevant, this should be supported by stakeholders and the DNO's CEG.

Principle 1: Effectively support consumers in vulnerable situations, particularly those most vulnerable to a loss of supply, through a sophisticated approach to the management, promotion and maintenance of a Priority Services Register (PSR).

A3.3 As a baseline expectation, DNOs should:

- Undertake proactive and targeted advertising of the PSR and the services offered to vulnerable consumer groups. By targeted, we mean towards specific areas of highest need or where data analysis suggests there are gaps in PSR Reach.[66]
- Have a data and information strategy in place specific to meet the needs of vulnerable consumers. This should demonstrate how DNOs will maintain their PSR database, with customer data checks at least every 24 months. Data analysis should be used to inform the development and delivery of service offerings. As part of their data and information strategy, DNOs should consider how to best facilitate the sharing of vulnerable customer data with suppliers and other utilities to get customers onto the PSR in line with Data Best Practice.
- Communicate with and provide information to PSR customers in formats suited to a range of additional communication needs, including hearing or sight loss.[67] For accessibility services, companies should meet a minimum standard of Accessibility AA. Translation services should be available for at least the top 10 languages in a DNO area.

[65] The RIIO-ED2 Business Plan Guidance will outline our expectations of what a complete and quality strategy should address.
[66] PSR Reach is defined as registrations to a DNO's PSR Register by need code.
[67] Under SLC 10, DNOs must provide information, with regards to a supply interruption, to a PSR customer with additional communication needs in a manner or format that is suitable for that customer's additional communication needs.

- Have dedicated lines, or prioritisation processes, available for customers registered on the PSR when they need to contact the DNO, regardless of the time of day.
- Deliver a wide range of support during, or in relation to, a supply interruption that reflects different customer needs and is, at a minimum, in line with the company's existing RIIO-ED1 provision. There should be a clear link between the information held about PSR customers and how this is used to target, or prioritise, support. We consider a wide range of support could include, but is not limited to, crisis packs, hot meals and drinks, mobile generation, alternative accommodation or on-site welfare units. We would expect there to be multi-channel information provision during supply interruptions. Companies can deliver this support directly or through/in conjunction with partner agencies. This support should be available 24/7.

Principle 2: Maximise opportunities to identify, and deliver support to, consumers in vulnerable situations through smart use of data.

A3.4 As a baseline expectation, DNOs should:

- Utilise social indicator, or vulnerability, mapping to inform their service development and approach to partnerships. This approach may form part of the DNO's PSR management, but the identification of vulnerability should not be limited to PSR registrations and should recognise that vulnerability can be transient and may evolve in the transition to Net Zero.
- Maintain a good understanding of the social and well-being issues associated with the scope of the DNOs' role, the prevalence of these within their consumer base and how they are evolving.

Principle 3: Understand new forms of vulnerability, in particular by identifying blockers to participating in a smart flexible energy system.

A3.5 As a baseline expectation, DNOs should:

- Have an extensive network of partnerships with a range of organisation types, from multiple sectors including other utilities.

- Make use of referral channels and signpost support to customers. This will primarily be done through customer service teams, but we expect DNOs to seek opportunities to maximise consumer touchpoints.
- Be involved in two-way flow partnerships supporting vulnerable customers, in line with the companies understanding of social issues in their region. This should include the DNO having direct involvement in the end to end process of delivering support, providing expertise and co-creating schemes. Where appropriate, we would expect to see example schemes where the DNO is taking a leading role.
- Have a clear process for identifying which partnerships are likely to be most effective at delivering benefits through co-operative working. This should be clearly linked to the priority areas of focus of the strategy, in particular addressing fuel poverty and supporting those at risk of being left by the energy system transition.

Principle 4: Embed the approach to protecting the interests of consumers in vulnerable situations throughout a company's operations to maximise the opportunities to deliver support.

A3.6 As a baseline expectation, DNOs should:

- Have processes in place for embedding a commitment to protecting the interests of vulnerable customers within the company's culture. This should include a well justified approach to ensuring all staff have received an appropriate form of vulnerability training to maximise the potential from all customer touchpoints. Companies should make use of external advice and support to set strategic direction, such as a vulnerability advisory or research panel. DNOs should appoint a vulnerability champion at senior management or board level.
- Seek opportunities to protect vulnerable customers throughout their capabilities.

Appendix 4 – Revised Environmental Baseline Expectations

Our Decision

Table 48: Environmental Baseline Expectations and Performance Measure and Reporting Commitments

Environmental area	Our expectations	Performance Measure and Reporting Commitments[68]
Business Carbon Footprint (BCF)	Efficient and economic actions to address controllable BCF in RIIO-ED2 and achieve SBTi-verified[69] science-based target[70] and Net Zero obligations in the long term[71]	Bespoke metrics to track outcomes of implementing actions Report on progress of BCF reduction using common methodology. Reporting should include Scope 1, 2 and 3 emissions
Losses	Implement a strategy to efficiently manage losses, both technical and non-technical, on the network over the long term. Contribute to the evidence base on the proportion of losses that network companies can influence/control	Reporting on the progress of implementing the losses strategy and associated performance measures
Embodied carbon	Monitor embodied carbon in new projects	Within RIIO-ED2 establish baseline and a target to reduce

[68] Baseline expectations should be reported on in the AER
[69] DNOs should submit their targets to the Science-based target initiative (SBTi) for official validation
[70] Targets are considered science-based if they are 'in line with what the latest climate science says is necessary to meet the goals of the Paris agreement - to limit global warming to well-below 2°C above pre-industrial levels and pursue efforts to limit warming to 1.5°C'
https://sciencebasedtargets.org/
[71] Scope 3 (Other indirect): Emissions that occur that are a consequence of the reporting company's actions, which occur at sources they do not own or control and which are not classed as scope 2 emissions. Examples of Scope 3 emissions are business travel by means not owned or controlled by the reporting company, waste disposal, or purchased materials or fuels.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/652410/SECR_Consultation_-_Final_with_IA_v2.pdf (page 24)

Environmental area	Our expectations	Performance Measure and Reporting Commitments[68]
	Collaboration with supply chain on addressing challenges to reduce embodied carbon in the network	embodied carbon on new projects during RIIO-ED2 Report on embodied carbon within new projects
Sulphur Hexafluoride (SF_6)	Efficient and economic actions to reduce the leakage rates and improve the management of SF_6 assets Implement a strategy to efficiently manage SF_6 assets	Leakage reduction target Report on total SF_6 bank and reduction rates using a common DNO methodology
Supply chain[72] management	High standards of environmental management adopted in supplier code, including requirements for public disclosure of metrics and cascading code to their suppliers that are material to company's inputs	Adopt target of more than 80% of suppliers (by value) meeting supplier code in RIIO-ED2 Report on actual percentage of suppliers (by value) meeting code
Resource use and waste	Procurement processes updated to embed Circular Economy principles	Target for zero waste to landfill by 20xx[73] Target for recycled and reused materials, as a percentage of total materials, by 20xx Report on actual waste to landfill, recycling and reuse as a percentage of total

[72] Refers to all the parties involved in the delivery of electricity and gas to the final consumer – from electricity generators and gas shippers, through to electricity and gas suppliers.
[73] 20xx denotes that companies will need to specify a long-term date to achieve the specified target. We would then expect companies to specify the associated RIIO-ED2 milestone in their EAP.

Environmental area	Our expectations	Performance Measure and Reporting Commitments[68]
Biodiversity and/or natural capital[74]	Appropriate tool adopted to assess net changes in natural capital from different options for new connections and network projects Appropriate tool adopted to monitor the provision of ecosystem services from network sites and commit to reporting annually	Targets against actions to increase environmental value
Fluid-filled cables	Efficient management of fluid-filled cables	Adopt a target for reductions in the volume of leakage from fluid-filled cables
Noise pollution	Efficient actions to reduce noise pollution	Report actions taken to reduce noise pollution
PCBs	Efficient actions to remove PCB contaminated equipment	Report on volumes of PCB contaminated equipment

Responses to our Consultation

A4.1 In Chapter 9, we summarised the responses of stakeholders to the proposed baseline expectations. In Table 49, we have provided a more detailed overview of specific points raised regarding individual elements of the baseline expectations.

Table 49: Stakeholder responses to proposed baseline expectations

EAP area	Stakeholder comments
Business carbon footprint (BCF)	• A number of DNOs and other stakeholders welcomed the science-based target (SBT) requirement for BCF, but some

[74] Natural capital is the stock of renewable and non-renewable resources (eg plants, animals, air, water, soils, minerals) that combine to yield a flow of benefits to people; biodiversity constitutes the living component of natural capital

EAP area	Stakeholder comments
	requested clarity on various aspects of the science-based target initiative (SBTi).[75] • One stakeholder stated that we should mandate that scope 3 emissions are included within targets and targets are verified by the SBTi.
Sulphur Hexafluoride (SF_6)	• Two DNOs noted their support for including SF_6 within the baseline expectations, but one did not support the inclusion of targets for SF_6 asset reduction. It noted an alternative option it considered to be more appropriate which would be to report the number of assets containing SF_6 alternatives added to the network. • One stakeholder noted that there should be an expectation on DNOs to work collaboratively with the supply chain and TOs on a SF_6 network wide strategy.
Losses	• One stakeholder suggested explicitly allowing or requiring loss capitalisation calculations in determining efficient expenditure on new low loss equipment. • One stakeholder welcomed the expectations regarding losses, but considered that Ofgem should include loss-reduction in the criteria for CVP rewards and update its 'societal cost of losses' figure to reflect today's prices (it is currently set at 2012/13 prices).
NOx and air quality	• Two DNOs did not agree with the inclusion of the NOx requirement in baseline expectations, suggesting it was already captured by the baseline expectation for BCF. • One DNO suggested that measurement of Sulphur Oxide (Sox) should be included if NOx was being included.
Other	• One DNO suggested that oil leakage and bank reporting should be included and were concerned by the lack of reference to PCBs.[76]

[75] https://sciencebasedtargets.org/
[76] Polychlorinated biphenyls (PCBs) are man-made organic compounds which pose risks to human/animal health, due to their toxic and bio-accumulative properties. Their use in production has been illegal in the UK

EAP area	Stakeholder comments
	• One DNO suggested that, whilst they understood why PCBs were omitted from the baseline expectations, DNOs could include PCB commitments in EAP reporting.

Reasons for decision

A4.2 We consider that science-based targets (SBTs) should be verified by the SBTi and have amended the baseline expectations to reflect this. Although we note requests for clarity on the reporting of losses, we consider that the verification through the SBTi will provide this clarity and therefore have not amended the baseline expectation for BCF further. Regarding stakeholders' suggestions that we should specify the appropriate warming trajectory, we do not think further specification is needed. The baseline expectations are minimum levels of ambition we expect to see and consider that having a SBT will represent a step change in ambition from RIIO-ED1, but there should be scope for DNOs to pursue a level of ambition beyond that set out in the baseline expectations.

A4.3 We agree with stakeholders that it is important that DNOs address the use of SF_6 on the electricity distribution network and work collaboratively in doing so. We therefore consider it is right for SF_6 to be included within the baseline expectations and have strengthened the expectation by outlining that DNOs should have an SF_6 strategy. We note that in RIIO-ET2, the transmission operators' Insulation and Interruption Gas (IIG) strategies set out their proposed approach to reducing emissions, leak repair, asset management, procurement, innovation and collaboration for alternative IIGs. We consider a similar breadth of coverage from the DNOs' strategies would be welcome. We also note that some respondents questioned whether an asset management target was an appropriate inclusion within the baseline expectations. At Consultation we included this as an 'and/or' requirement, however have removed this addition for the final Decision. We consider the SF_6 strategy expectation and associated reporting within the AER to sufficiently cover this.

since 1987. The EU Persistent Organic Pollutant regulation (EU 2019/1021), which came into force in July 2019, requires member states to remove equipment (eg transformers, capacitors) containing more than 0.005% and volumes greater than 0.05dm^3 of PCBs, as soon as possible and by no later than 31 December 2025.

A4.4 With regards to the baseline expectations for losses, we consider these are suitable for driving sufficient progress within the EAP framework and have not made any changes from our Consultation position. We note that the CBA is being enhanced through the Cost Assessment Working Group and has not yet been finalised. As part of this work, we will consider updating the 'societal cost of losses' figure to reflect today's prices and allowing loss capitalisation calculations in determining efficient expenditure on new low loss equipment.

A4.5 Having considered stakeholder responses we agree that NOx and air quality is largely accounted for in the BCF under fuel emissions so have decided to remove this as a baseline expectation. For the same reason, we do not intend to introduce one for SOx.

A4.6 We note comments on PCBs from respondents and have decided to add this to the scope of the EAP as a reporting commitment. The accelerated removal of assets containing PCBs is already underway by DNOs and there is ongoing work regarding the funding mechanism for this for the remainder of RIIO-ED1. The inclusion of PCBs within the EAP for RIIO-ED2 is to ensure the EAP is fully reflective of the DNOs' key environmental activities and should not deter progress within RIIO-ED1.

Appendix 5 – Indicative IIS incentive rates, IIS revenue caps, and SWEE thresholds

Table 50: Indicative IIS incentive rates for RIIO-ED2 (£m, 2018-19 prices)

DNO	Customer Interruptions	Customer Minutes Lost
ENWL	£0.30	£0.90
NPGN	£0.20	£0.61
NPGY	£0.29	£0.87
WMID	£0.31	£0.94
EMID	£0.33	£1.00
SWALES	£0.14	£0.43
SWEST	£0.20	£0.61
LPN	£0.30	£0.89
SPN	£0.29	£0.87
EPN	£0.46	£1.38
SPD	£0.25	£0.76
SPMW	£0.19	£0.57
SSEH	£0.10	£0.29
SSES	£0.39	£1.17

Table 51: Indicative SWEE thresholds for RIIO-ED2 for Category 1 and Category 2 events (HV and above faults in a 24-hour period)

DNO	Category 1	Category 2
ENWL	55	89
NPGN	34	55
NPGY	41	67
WMID	64	103
EMID	53	86
SWALES	40	66
SWEST	65	105
LPN	15	24
SPN	56	90
EPN	83	135
SPD	72	118
SPMW	63	102
SSEH	62	100
SSES	73	119

Table 52: Indicative IIS revenue caps for RIIO-ED2

DNO	RoRE basis points	Indicative annual revenue exposure to IIS*	RoRE basis points	Indicative annual revenue exposure to severe weather guaranteed standards*	RoRE basis points	Indicative overall combined annual revenue exposure*
ENWL	250	£14.77	207	£12.23	413	£24.40
NPGN	250	£14.33	207	£11.86	413	£23.67
NPGY	250	£20.66	207	£17.11	413	£34.13
WMID	250	£20.69	207	£17.13	413	£34.18
EMID	250	£20.96	207	£17.35	413	£34.62
SWALES	250	£9.89	207	£8.19	413	£16.34
SWEST	250	£13.98	207	£11.58	413	£23.10
LPN	250	£11.68	207	£9.67	413	£19.29
SPN	250	£12.18	207	£10.08	413	£20.12
EPN	250	£19.29	207	£15.97	413	£31.87
SPD	250	£14.91	207	£12.34	413	£24.62
SPMW	250	£15.44	207	£12.78	413	£25.50

DNO	RoRE basis points	Indicative annual revenue exposure to IIS*	RoRE basis points	Indicative annual revenue exposure to severe weather guaranteed standards*	RoRE basis points	Indicative overall combined annual revenue exposure*
SSEH	250	£8.02	207	£6.64	413	£13.25
SSES	250	£13.60	207	£11.26	413	£22.46

*Values based on the 2019-20 Regulatory Financial Performance Reports