

# Decision

## **RIIO-2 Sector Specific Methodology Decision - Electricity Transmission**

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In December 2018, we consulted on how the RIIO-2 regulatory framework may be applied to the electricity transmission owners (TOs). This document sets out our decision on this including, the outputs that the TOs need to deliver, and the regulatory mechanisms to manage uncertainty. It also provides an update on our approach to cost assessment. Network companies will use this information to develop their Business Plans over the remainder of 2019. We will then assess these Business Plans over the course of 2020 with the RIIO-2 price control then starting on 1 April 2021 for the next five years.

This document is an Annex to the RIIO-2 Sector Specific Methodology Decision – Core Document and should be read alongside it.

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## 1. Introduction and document structure

### Purpose of this document

- 1.1 This document is focused on the application of the RIIO-2 Framework to electricity transmission specific issues. It sets out the outputs and uncertainty mechanisms that electricity Transmission Owners (TOs) will need to consider in developing their Business Plans.
- 1.2 This document also includes:
  - a chapter updating stakeholders on how we propose to assess the TOs' costs, on which we will be consulting further by July 2019 and
  - summaries of stakeholder responses to our RIIO-2 Sector Specific Methodology consultation which we have taken into account.
- 1.3 The structure of this document, and how its content fits within the wider RIIO-2 publications, is described in more detail below. This document should be read alongside the RIIO-2 Sector Specific Methodology Decision - Core Document (Core Document).

### Overview of the RIIO-ET2 package

- 1.4 In our RIIO-ET2 Sector Consultation Annex (December ET Annex)<sup>1</sup>, we outlined some of the key challenges for the RIIO-ET2 price control, including:
  - Enabling the low-carbon energy transition.
  - Managing uncertainty and reflecting changes in how the networks are used.
  - Embedding RIIO-ET1 performance improvements as business as usual and ensuring a fair deal for all.
- 1.5 Our sector specific decisions for electricity transmission will help to ensure that TOs can meet and exceed these and other challenges, when developing their Business Plans over the remainder of this year, delivering benefits for existing and future consumers.
- 1.6 Highlights of our sector specific decisions include:
  - Ensuring that the TOs meet the needs of consumers and network users, by continuing the reliability incentive and sharpening the focus of stakeholder incentives on quality of connections and stakeholder engagement processes for new transmission projects.
  - Supporting the delivery of an environmentally sustainable network, by ensuring the TOs embed considerations across a range of relevant environmental impacts into their Business Plans and report transparently about the impact of the network, progress in delivering their action plan, and the evolving role of the network in the low carbon energy transition.
  - Maintaining a safe, resilient and efficient network, for example by retaining the Network Access Policy and introducing mechanisms to ensure the timely and high-quality delivery of large capital projects.

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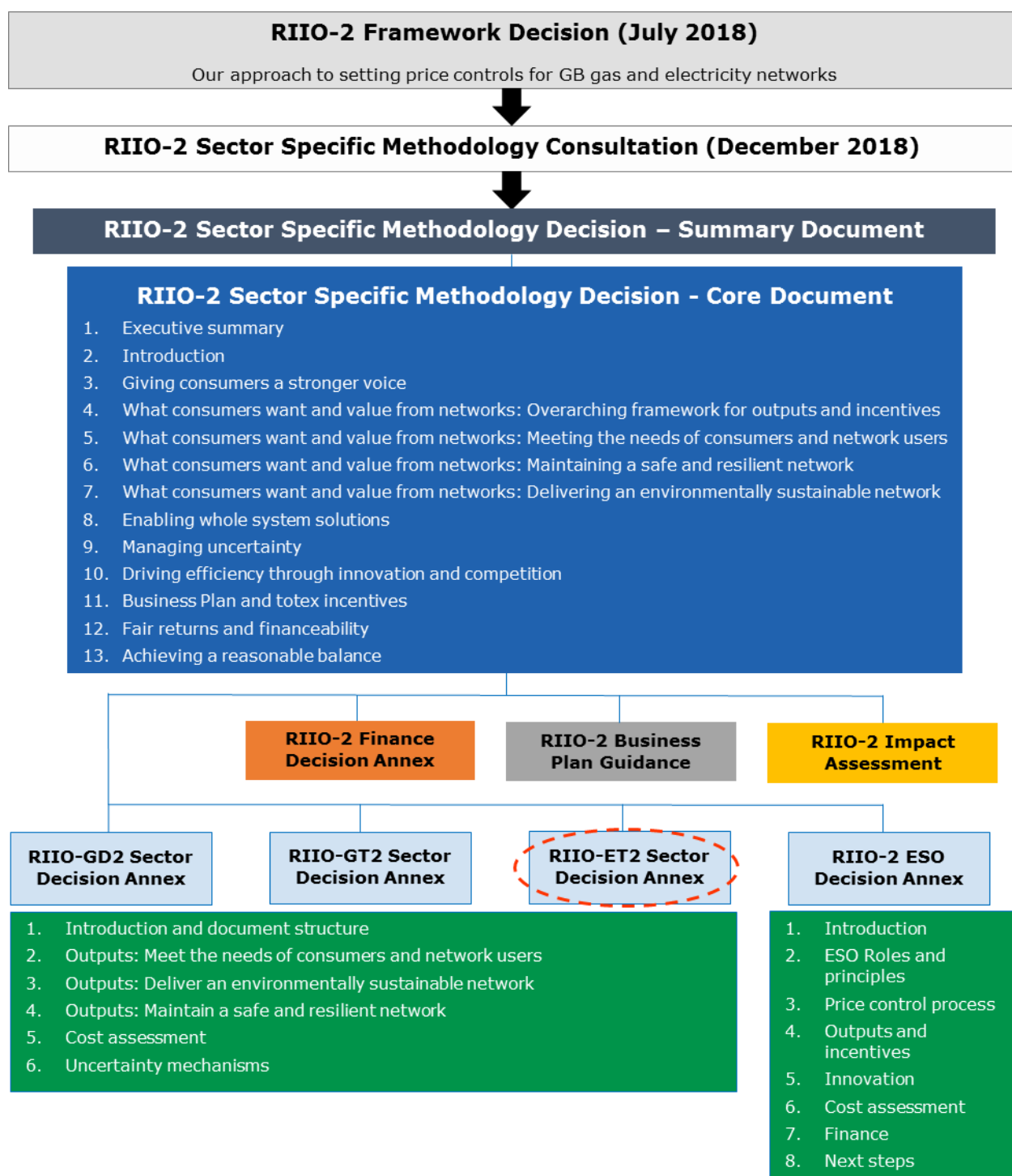
<sup>1</sup> [https://www.ofgem.gov.uk/system/files/docs/2018/12/riio-et2\\_sector\\_methodology.pdf](https://www.ofgem.gov.uk/system/files/docs/2018/12/riio-et2_sector_methodology.pdf)

- 1.7 Our RIIIO-2 Sector Specific Methodology Decision - Summary Document also provides a high-level overview of the overall RIIIO-2 package and the benefits it is expected to bring.

## **Structure of this document and associated documents**

- 1.8 In December 2018, we consulted on our proposals for applying the RIIIO-2 Framework to the specific network sectors - the RIIIO-2 Sector Specific Methodology Consultation (December Consultation). The RIIIO-2 Sector Specific Methodology Decision includes a Core Document, a finance annex and sector specific annex documents for gas distribution (GD), gas transmission (GT), electricity transmission (ET) and the electricity system operator (ESO). The sector specific annex documents are intended to be read alongside the Core Document (see Figure 1 for all documents).
- 1.9 Our decisions take into account the responses to the December Consultation (including the associated annexes) and ongoing discussions with stakeholders.
- 1.10 In a number of areas we will not be reaching a decision at this stage. We have highlighted this clearly in the document and outlined next steps in the run up to a final decision as part of Draft and Final Determinations.

**Figure 1: RIIO-2 Sector Methodology Decision document map**



### The Core Document

- 1.11 The decisions in the Core Document apply across the GD, GT and ET networks, and some elements apply to the ESO. The Core Document also includes response summaries for the cross-sector related decisions.

### RIIO-2 Impact Assessment and RIIO-2 Business Plan Guidance

- 1.12 We will publish a draft impact assessment shortly after this decision document. We intend to publish a full impact assessment at the determinations stage in 2020. We will also shortly publish an update of our RIIO-2 Business Plan

Guidance Document (Business Plan Guidance) which networks companies should use to develop their Business Plans over the remainder of this year.

### Structure of this document

1.13 This document is structured as follows:

- Chapter 2 - the outputs that we expect to be delivered in the first output category: Meet the needs of the consumers and network users.
- Chapter 3- the outputs that we expect to be delivered in the second output category: Deliver an environmentally sustainable network.
- Chapter 4 - the outputs that we expect to be delivered in the third output category: Maintain a safe and resilient network.
- Chapter 5 - our approach to cost assessment in RIIO-ET2.
- Chapter 6 - the uncertainty mechanisms that will be part of RIIO-ET2.

## Role of stakeholders in the price control review

### Summary of stakeholder engagement to date

- 1.14 Engaging with stakeholders is an important part of developing the RIIO-ET2 price control. In addition to formal consultations, we've also run events, forums and seminars to get stakeholder input.
- 1.15 We received 133 responses to our December consultation. We have published non-confidential responses on our website.<sup>2</sup> The following chapters include a high level summary of respondents views.
- 1.16 To date, we have run six RIIO-ET2 Policy Working Group (PWG) meetings to input into the development of our policy thinking. We have also run 11 electricity transmission specific Cost Assessment Working Groups (CAWG), focusing on the development of the tools for assessing the costs within the company submitted Business Plans as well as the development of the Business Plan Data Template. For summaries of the meetings and slides please see the footnote.<sup>3</sup>

## Next steps

- 1.17 Additional information on how stakeholder engagement will help to shape companies' Business Plans can be found in Chapter 3 of the Core Document, including:
- the role of the TOs' User Groups in helping to shape their Business Plans; and,
  - the role of the RIIO-2 Challenge Group. Our further work on RIIO-ET2.
- 1.18 As highlighted above, in a number of areas we will reach a final decision at Draft and Final Determinations. As part of that, we may reconvene the PWG. If you are interested in taking part in future sessions of the PWG, please contact us at [RIIO2@ofgem.gov.uk](mailto:RIIO2@ofgem.gov.uk).
- 1.19 Chapter 5 of this document sets out our approach to cost assessment in RIIO-ET2. It provides an update on our approach by summarising and reflecting on

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<sup>2</sup> See - <https://www.ofgem.gov.uk/publications-and-updates/riio-2-sector-specific-methodology-consultation>

<sup>3</sup> <https://www.ofgem.gov.uk/publications-and-updates/riio-et2-working-groups>

stakeholder responses to our consultation in December 2018. We will continue to refine our approach to cost assessment ahead of the submission of the final Business Plans in December. To support this the CAWG will continue through to December as required.

- 1.20 We will also soon begin the process of developing licence conditions. From this summer we expect to start Licence Drafting Working Groups to start the process of aligning the policy decisions with the legal text needed to implement the RIIO-ET2 policy decisions in this document.



## 2. Outputs: Meet the needs of consumers and network users

The outputs and incentives we are applying for RIIO-ET2 are intended to improve the service received by customers. This includes service in areas such as stakeholder and customer satisfaction, timely connections and Energy Not Supplied (ENS).

### Introduction

- 2.1 We expect TOs to deliver a high quality and reliable service to all network users and consumers. Over RIIO-ET1 we have seen TOs make progress in improving the experience for network customers. For example, we have seen an average score of 8.1 (out of 10) against a baseline of 7.4 across the TOs for the stakeholder satisfaction survey. We have also seen TOs meet their obligations to provide a connection offer within the relevant deadline in all but one case. Finally, TOs have also consistently outperformed their baseline targets for ENS, reducing ENS to an average of 29MWh per year on the electricity transmission network during RIIO-ET1 so far.
- 2.2 In our December consultation we identified a number of expected network challenges over the course of the RIIO-ET2 period which highlight the need for TOs to continue to focus on effectively meeting the needs of a diverse range of stakeholders, for example around connecting new generation and ensuring reliability in a changing operating environment.
- 2.3 For RIIO-ET2 we expect TOs to continue to put stakeholder interests at the heart of their activities, as reflected through the introduction of our enhanced stakeholder engagement framework (see Chapter 3 of the Core Document).
- 2.4 Our view is that we should continue to drive positive behaviours in this area through a mixture of stretching targets and commitments which reflect the performance improvements achieved in RIIO-ET1, while simplifying our framework and ensuring value for money for consumers. We are also considering ways in which we can better accommodate the future needs of the system.
- 2.5 This chapter should be read in parallel with:
  - Chapters 4, 5 and 11 of the Core Document which describe:
    - (1) our decision to use the output category 'meet the needs of consumers and network users', for RIIO-2 and the broad approach to outputs (eg output types)
    - (2) how network companies may propose additional company specific ('bespoke') output measures within their Business Plans, if required
    - (3) how network companies will be incentivised to set out ambitious plans through our Business Plan Incentive
    - (4) our rationale for providing indicative caps and/or collars on ODIs (where relevant).
  - Chapter 3 of the December ET2 Annex, which provides more detail on the proposals we have summarised in this document.

- 2.6 In our December document we sought views from stakeholders on the overarching package of outputs proposed in this area. The main points raised in the feedback received are addressed below in our decisions on individual outputs and incentives.
- 2.7 In addition, some respondents expressed concerns that the package of outputs in this area is being tightened and that this, combined with limited potential returns may dissuade network operators from putting together ambitious business plans.
- 2.8 The package of outputs and incentives we are introducing for RIIO-ET2 builds on the successes of RIIO-ET1 and reflects the step change in performance we have seen throughout RIIO-ET1. We believe that our decision strikes the right balance by recognising these achievements and targeting ODIs in key areas such as ENS and the quality of connections. We note that the incentive package also includes a business plan incentive, which is designed to drive ambition in business plans.
- 2.9 Another respondent raised concerns with the timings for the submission of the business plans.
- 2.10 We recognise that the timescale between our May Decision and the July business plan submission to the RIIO-2 Challenge Group is tight, however we expect companies to provide the Challenge Group with as comprehensive a plan as possible. If there are elements of the business plan that they are unable to provide in July, as a consequence of this timetable, then this should be clearly signalled, along with an indication of when this information will be available.
- 2.11 Subsequent iterations of the business plan should make clear to the RIIO-2 Challenge Group what information has changed, or been added. We expect the Challenge Group to consider the approach and efforts of each company to provide them with a satisfactory opportunity to consider their Business Plan from July through to December.

## RIIO-ET2 outputs

**Table 1: Our decision on the RIIO-ET2 outputs – Meet the needs of consumers and network users**

Output name	Output type*	Company driven target**
<b>Common outputs</b> (will apply to all companies)		
Satisfaction survey (previously SSO)	ODI(F/ R)	Yes
Timely Connections Output	LO	No
Energy Not Supplied	ODI(F)	No
<b>Potential areas for bespoke outputs</b> (companies may consider other areas for inclusion in their Business Plan)		
Stakeholder Engagement Incentive (previously SSO)	ODI(R) and bespoke outputs	Yes

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

\*\* Company driven target signifies an output where we expect to see extensive company-led engagement (including with their User Group (UG)) to justify a stretching performance target. This could lead to performance targets varying by company.

## Stakeholder Satisfaction Output - overview

### Summary of issue

- 2.12 The Stakeholder satisfaction output (SSO) was introduced in RIIO-ET1 to encourage TOs to become more outwardly focused in their business practices and to become responsive to changing stakeholder needs.
- 2.13 In RIIO-ET1 performance against the SSO was incentivised and assessed through four components.
- 2.14 One of these components is based on an assessment of the quality of network companies' engagement with their stakeholders (the 'Stakeholder Engagement Incentive' or SEI) and applies across all sectors.
- 2.15 The other three components under the SSO are the Stakeholder Satisfaction Survey, Key Performance Indicators (KPIs) and an External Assurance (EA) methodology.
- 2.16 While the SSO is one output in RIIO-ET1, the SEI scheme was managed independently from the satisfaction surveys, KPIs and EA components.
- 2.17 We have seen improvements in performance which we think should become BAU. However, in some areas such as connections or large transmission infrastructure projects there may still be a need for targeted outputs and/ or incentives.
- 2.18 We consulted on whether the SSO and the SEI should be combined into a single incentive. We have decided against this proposal. The reasons for this decision are outlined below.
- 2.19 We have therefore addressed the decisions for each of these incentives separately in this document.

## Stakeholder Engagement Incentive (previously a component of the SSO)

Purpose	To drive network companies to undertake continuous high quality stakeholder engagement in RIIO-2.
Decision	<p><i>Business Plan Incentive</i></p> <p>1) Business Plans must include a clear overarching strategy for within period stakeholder engagement. The quality will be evaluated through the Business Plan Incentive.</p> <p><i>Reputational ODI</i></p> <p>2) We encourage network companies to propose bespoke outputs for stakeholder engagement within the period.</p> <p>3) We will report on network companies' performance, highlighting strong and weak performance.</p>

### Summary of issue

- 2.20 Network companies should undertake continuous high quality engagement with their stakeholders to inform the day-to-day running of their businesses. With this in mind the RIIO framework emphasises engagement by requiring network companies to engage with their stakeholders to inform their Business Plans. RIIO-1 also introduced the SEI. The SEI financially rewards network companies that undertake high quality stakeholder engagement and use it to inform how they plan and run their businesses.

- 2.21 Our analysis of RIIO-1 shows that stakeholder engagement has become increasingly embedded, with most network companies demonstrating that a commitment to engagement runs through all levels of the organisation.

#### Summary of our December proposals

- 2.22 In our December consultation we stated that high quality stakeholder engagement should now be a business as usual activity, which should be undertaken by network companies on an ongoing basis. We set out that network companies' RIIO-2 Business Plans would need to be informed and justified by stakeholder engagement and include a plan for ongoing engagement. Failure to do so could mean the company incurs a penalty through the Business Plan Incentive when Ofgem assesses its plans for RIIO-2.
- 2.23 We considered whether an incentive for stakeholder engagement is required for RIIO-2, and we consulted on three options:
- Option 1: No ODI for stakeholder engagement in RIIO-2
  - Option 2: Reputational ODI – we would report on companies' stakeholder engagement performance
  - Option 3: Financial ODI – we would apply a reward or penalty for companies' stakeholder engagement performance at the end of the price control period.
- 2.24 We also stated that to effectively operate a reputational or financial ODI, it would be important for network companies to propose clear commitments in their Business Plans. We invited views on the kinds of commitments that would be appropriate for stakeholder engagement in RIIO-2.
- 2.25 We considered the use of relative rewards and penalties in order to create a degree of competition between companies under a financial incentive. We also stated we could consider an enduring role for the UGs in as contributors to our assessment of company performance under an ODI.
- 2.26 In RIIO-ET1 the SEI formed part of the Stakeholder Satisfaction Output (SSO). For RIIO-ET2 we consulted on whether the individual components of the SSO should be retained and invited views on whether, if retained, they should be combined into a single incentive mechanism.

#### Summary of responses

##### *Business Plan Incentive*

- 2.27 Overall there was support for our proposal to assess network companies' engagement strategies and plans as part of the Business Plan Incentive. It was seen as a way of driving network companies to set out a well-evidenced and stretching programmes of engagement in RIIO-2. One stakeholder, however, expressed concern that the number of areas captured within the Business Plan Incentive could dilute its impact in this area.

##### *Ongoing engagement: Potential ODIs*

- 2.28 Most stakeholders who responded were in favour of an ODI in RIIO-2, with many arguing that it presented an opportunity for network companies to further advance the quality and depth of their engagement with stakeholders. However, there was a mixture of views as to whether it should be financial or reputational.

- 2.29 Of those respondents in favour of an ODI in RIIO-2 the majority were supportive of retaining a financial ODI. In particular network companies were in favour of retaining an upside only financial incentive, arguing that, as engagement activities involve significant effort and expenditure, a financial reward should be retained. One network company suggested that a financial incentive in RIIO-2 should include both rewards and penalties. One stakeholder suggested it should be downside only. In general respondents cautioned against applying relative rewards and penalties, as competition would discourage collaboration and the sharing of best practice.
- 2.30 Two stakeholders commented on the difficulty of calibrating a financial ODI that would deliver value for money for consumers. One of these respondents argued that stakeholder engagement has reached a level whereby further improvements would not be cost efficient and suggested that we should instead introduce a Licence Obligation. Others commented that a reputational incentive would ensure value for money for consumers, but also highlighted that a more targeted upside financial incentive could be applied for engagement activities addressing topics that are complex, future looking or controversial. Two further respondents suggested that rather than retain an incentive scheme, sufficient provisions for stakeholder engagement should be made through baseline allowances.
- 2.31 Some respondents raised concerns about our proposal to move towards a one-off assessment at the end of the price control period. Stakeholders highlighted that the RIIO-1 SEI operates annually and therefore enables companies to change their approach to engagement as their stakeholders' expectations change, new tools of engagement emerge and best practice evolves.

#### *The SSO and the SEI*

- 2.32 In response to whether individual components of the SSO should be combined with the SEI into a single incentive in RIIO-2, stakeholders were generally not supportive. Three of four respondents to this question argued that the SSO and SEI have different objectives such that they should remain as separate incentives in RIIO-2.
- 2.33 In order to operate a financial or reputational ODI in RIIO-2 effectively, we said that it would be important for network companies to propose clear commitments upfront in their Business Plans. These commitments could take the form of KPIs and wider deliverables that network companies would be evaluated against during the period. The majority of respondents who commented on this area said that it would be possible to establish appropriate commitments for stakeholder engagement in RIIO-2. A number of network companies stated that they would seek input from their UGs to help formulate these. Many respondents also expressed support for an enduring role for UGs to feed into our assessment of network companies' progress against their commitments during the price control.

#### Decision

- 2.34 We will take a two-tiered approach to continue to encourage high quality stakeholder engagement by network companies in RIIO-2. We will:
- evaluate network companies' approaches to stakeholder engagement through the wider Business Plan Incentive
  - introduce a reputational ODI for stakeholder engagement.

*Ongoing engagement: Business Plan Incentive*

- 2.35 As stated in Chapter 3 of the Core Document we consider stakeholder engagement to be a business as usual activity that should be undertaken on an ongoing basis. Through the Business Plan Incentive, we will assess the quality of network companies' proposed approaches to ongoing stakeholder engagement in RIIO-2.
- 2.36 In their business plans network companies will need to include a clear strategy for engagement in RIIO-2 as well as a set of commitments to deliver that strategy. Network companies' strategies and plans for delivery should clearly set out the scope of their engagement activities during the RIIO-2 period, and provide evidence that the costs associated with the delivery of the plans are efficient and provide value for money.
- 2.37 Network companies' engagement strategies and commitments for delivery should be well-justified, evidence-based and demonstrate how companies have considered the needs of both existing and future consumers. Network companies' approaches to ongoing engagement should be developed through engagement with their stakeholders and have been tested by the UGs.
- 2.38 If a company fails to meet our expectations a penalty could be applied through the Business Plan Incentive.
- 2.39 We will also consider rewarding network companies where, in addition to justifying their core plan, they can demonstrate additional consumer value. Further information on the Business Plan Incentive can be found in Chapter 11 of the Core Document.

*Ongoing engagement: Reputational ODI*

- 2.40 In their RIIO-2 Business Plans we encourage network companies to propose bespoke outputs for ongoing stakeholder engagement, where outputs go beyond business as usual activity and are of demonstrable additional benefit to stakeholders. We will report on network companies' progress against their outputs, highlighting strong and weak performance.
- 2.41 Bespoke outputs proposed by network companies must be informed by engagement with their stakeholders and be tested by the UGs. We will take account of the views provided by the UGs and the RIIO-2 Challenge Group and other relevant matters in our assessment of proposals. Our expectation is for the bespoke outputs to be reputational only.
- 2.42 Bespoke outputs as part of a reputational ODI are appropriate because:
- based on stakeholder responses and our analysis of RIIO-1 we consider that high quality engagement should now be part of the day-to-day business activity of each network company. We therefore do not consider that we should retain the RIIO-1 SEI, which aimed to drive behavioural change
  - the Business Plan Incentive will ensure that RIIO-2 Business Plans are informed by engagement and that network companies' overarching engagement strategies and commitments for delivery are robust and well justified. We recognise that each network company's stakeholders may have different needs. Bespoke outputs will help drive companies to tailor and advance the quality and depth of their stakeholder engagement for the full duration of the period
- 2.43 through the reporting of performance, a reputational ODI will provide clarity on the progress of each network company against their outputs whilst also

highlighting strong and weak performance. In this way, a reputational ODI will drive companies to deliver on their outputs.

#### *The SSO and the SEI*

- 2.44 We have decided not to combine the individual components of the SSO and the SEI into a single incentive for RIIO-ET2. We have addressed the decisions for each of these incentives separately in this document. The decision on the other components of the SSO is outlined later on in this chapter.

#### Next steps

- 2.45 Our expectations will be set out in the Business Plan Guidance. We will continue to seek input from the enhanced engagement groups. For any bespoke outputs put forward in the Business Plans, we expect network companies to use their UGs to challenge their proposed deliverables.
- 2.46 Network companies should consider the future role of the UGs including how they could usefully feed into our assessment of network companies' performance against their outputs in this area. We will consider the extent to which UGs could be involved in network companies' engagement activities within the period and will consider updating our Enhanced Stakeholder Engagement guidance to provide guidance on the role of the groups beyond price control settlement process.

#### **Satisfaction surveys, KPIs, External Assurance (previously components of the SSO)**

Purpose	To drive network companies to undertake continuous high quality customer and stakeholder engagement in RIIO-2.
Decision	<p>Introduce two separate satisfaction surveys for RIIO-ET2:</p> <ul style="list-style-type: none"> <li>• A survey targeted at the quality of the connections process, which will have a financial incentive attached</li> <li>• A survey targeted at the quality of the engagement process with stakeholders in respect of new transmission infrastructure projects. We have decided to make this survey a reputational incentive.</li> </ul> <p>We have decided to remove the financial weighting behind both the KPIs and the external assurance (EA).</p>
Upcoming decisions	<p>We will be reaching a decision on the following in Draft and Final Determinations:</p> <ul style="list-style-type: none"> <li>• Survey content including: which pinch points of the connections process to capture, the level of flexibility for the TOs to select their own survey questions and the question(s) on overall satisfaction</li> <li>• Whether to use one survey company to issue the surveys and collate the scores across all of the TOs</li> <li>• How we will determine the baselines for the satisfaction survey</li> <li>• The incentive strength for the Satisfaction survey.</li> </ul>

#### Summary of Issue

- 2.47 The SSO was introduced to encourage TOs to be more outwardly focussed and responsive to stakeholder needs. We have identified some areas that we consider BAU, however, in some areas such as connections or large transmission



infrastructure projects, there may still be a need for targeted outputs and/ or incentives.

#### Summary of our December proposals

- 2.48 In our December consultation we proposed the following options for the Satisfaction survey, KPIs and EA.

Option 1	To remove all three components
Option 2	To retain a targeted Satisfaction Survey, focussing on the quality of the connections process and engagement around new transmission projects. Combined with a financial or reputational ODI, as per our proposals for the SEI.
	To remove financial rewards associated with the KPIs and external assurance components.
	Consider introducing a licence obligation around external assurance.

- 2.49 Detailed information of on our proposals can be found in the December ET Annex.<sup>4</sup>

#### *Survey component*

- 2.50 We consulted on whether the survey component should be retained as a means of incentivising TOs to be more 'outwardly focussed' in RIIO-ET2. We proposed that, if retained, this survey could be targeted towards capturing the quality of the overall connections process and the quality of engagement with stakeholders in respect of new transmission projects.
- 2.51 In addition to focussing the survey sample we also consulted on updating the baseline by calculating the mean of the outturn data over RIIO-ET1, with an improvement factor incorporated to ensure the baseline remains challenging.
- 2.52 Finally, we sought views on whether the User Groups could play a part in providing assurance or guidance around the stakeholders that are surveyed, and proposed to retain our methodology from RIIO-ET1 for collating the survey scores based on one question on overall satisfaction.

#### *KPIs and External Assurance*

- 2.53 We consulted on removing the financial incentive for both the KPIs and the External Assurance. If retained, we proposed to maintain the External Assurance element as a minimum standard and/or licence obligation and the KPIs as reportable metrics to the User Groups.

#### *Incentive Strength*

- 2.54 We also consulted on the potential size of the incentive for RIIO-ET2, if retained. We proposed two options for setting the strength of the incentive through either reducing the value of the current incentive which is measured as a percentage of Totex, or alternatively through setting a fixed reward pot to be competed out across the TOs.

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<sup>4</sup> December ET Annex: [https://www.ofgem.gov.uk/system/files/docs/2018/12/riio-et2\\_sector\\_methodology.pdf](https://www.ofgem.gov.uk/system/files/docs/2018/12/riio-et2_sector_methodology.pdf)



### Summary of responses

2.55 In this section we focus on those questions that are specific to the SSO in RIIO-ET2. Questions relating to the SEI are dealt with in the previous section.<sup>5</sup>

#### *Proposals to combine the components of the SSO into a single output*

2.56 All the TOs agreed that the SSO components should remain separate, but they provided different reasoning for their views:

- One TO stated that they need to be separate as they are different outputs. For example, a TO could be good at stakeholder engagement but not necessarily good at stakeholder and customer satisfaction. They also highlighted that separate components would promote more transparency as TOs have to report on each output individually
- Another TO stated that the components should remain separate because a range of measures are needed to drive increased levels of performance – a survey alone is limited in driving better performance and so a range of measures (e.g. KPIs and External Assurance) are needed to drive improved performance
- Another TO indicated the current scheme should be retained separately with financial incentives.

2.57 Finally, one respondent noted that it would be sensible to consolidate the components into a single mechanism. However, their preference was that there is no separate incentive for stakeholder engagement subject to it being part of BAU plans.

#### *Proposals on the financial strength of the SSO*

2.58 With regards to the financial strength of the SSO some respondents gave a view on the SEI component explicitly and others on the SSO as a whole.

2.59 Two of the TOs, in relation to the SSO as a whole, commented that the approach to setting the financial incentive should remain as per RIIO-ET1 and strongly disagreed with a move to a competitive fixed reward pot. One of these TOs stated that huge benefits have been achieved through collaboration between networks which would be lost if a competitive reward pot was introduced.

2.60 Another TO indicated, in relation to the SEI, that given that the three TOs are very different companies, with differing stakeholder requirements, it may not be appropriate to adopt a comparative measure for the SEI.

2.61 Another respondent stated that the incentive for the SEI should be a fixed absolute value for each company. This respondent highlighted that all companies participating in the reward scheme should face the same potential reward and should not be scaled in terms of company size, as the rewards for larger companies will be skewed in their favour.

2.62 We received one response, in relation to the SEI, that agreed with the intention to make performance in this area comparable across different companies and considered that there is merit in establishing a competed pot. Their view was that this will lead to greater transparency for stakeholders and will drive companies to

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<sup>5</sup> We refer to ETQ6 and ETQ8 in this section as they are specific to the SSO in ET. We have considered the responses to ETQ5 and ET7 as part of our decision on whether or not to retain the SEI.

find improvements in the way they engage. This respondent asked that Ofgem consider how any competed pot interacts with the RAMs, if introduced.

- 2.63 Finally, one respondent did not support maintaining a financial incentive for the SSO in its entirety in RIIO-ET2.

*Proposals to retain a Stakeholder Satisfaction Survey*

- 2.64 Ten respondents were supportive of retaining the survey component in some form for RIIO-2 as a means of incentivising TOs to be more outwardly focussed. However, we received mixed views on our proposals to focus the survey sample, in particular on the connections process and on stakeholders impacted by new transmission infrastructure projects.
- 2.65 Some respondents disagreed with this narrowing of focus and presented different alternative proposals, including:
- Surveying a broader range of stakeholders
  - A customer satisfaction survey coupled with specific customer satisfaction driven KPIs. The TO who suggested this explained that stakeholder satisfaction will be captured through the existing stakeholder engagement incentive
  - Both a customer and stakeholder satisfaction survey in RIIO-2, to incentivise TOs to satisfy all stakeholders and customers. The TO who presented this option explained that it is particularly important to continue work in this respect, as feedback from their customers is that there is room for improvement in this area.
- 2.66 Four of the ten respondents agreed with our proposals to focus the survey toward stakeholders impacted directly by TOs' activities.
- 2.67 Other respondents cautioned that if this survey is to be narrowed it should still seek to capture wider stakeholders.

*Proposals to focus the survey towards Connections and New transmission infrastructure projects*

- 2.68 Respondents also had conflicting views on the areas we proposed to target specifically: quality of connections and new transmission infrastructure projects. Broadly the respondents agreed that connections stakeholders should be surveyed to reinforce the wider quality of connections process. However, they had different expectations of how this should take place.
- 2.69 One TO commented that this survey should be separate from a stakeholder survey due to the complexity of the process and the various parties that are involved. Another TO argued that connections stakeholders should be captured as part of a wider customer satisfaction survey. The final TO response on this area was supportive of moving towards a connections based survey. For more detail on these responses please see the relevant section in this chapter.
- 2.70 We also proposed that the survey could focus on engagement with stakeholders impacted by new transmission infrastructure projects. One TO was supportive of having a mandatory section in the stakeholder survey targeted at stakeholders impacted by new transmission infrastructure projects. Another TO highlighted that they already survey these stakeholders as part of their current survey design. The

final TO was not supportive of this proposed focus. More detail on these responses can be found in the next chapter.

- 2.71 Three respondents welcomed the suggestion of incentivising TOs to capture and report on stakeholder satisfaction levels in respect of new investment projects. However, these respondents suggested that with new transmission projects, early engagement with local stakeholders is required to bring to light issues that are not known in the technical assessment. They indicated that deeper, more meaningful and genuine stakeholder engagement is required in addition to a survey.

#### *Survey Incentive Strength and Design*

- 2.72 We also received some responses to this question in relation to the incentive strength for the survey, KPIs and EA components of the SSO.
- 2.73 One TO suggested that we should retain a strong incentive on TOs to engage with both stakeholders and customers through retaining both surveys, particularly as the energy system changes, presenting new challenges and increasing participation from a wider range of stakeholders. This TO suggested that we retain a strong symmetrical incentive to deliver the best service for both the customers and stakeholders, and maintain the current +/-1% of the Base Revenue.
- 2.74 Another TO was of the view that the incentive should remain as a financial incentive with a reward/penalty and that the current level of 1% of base revenue remains appropriate. This TO also reinforced their view that absolute targets would be most appropriate for the incentive design, and that relative or dynamic targets would not be suitable in the transmission sector due to the difference between the three TOs.
- 2.75 One last TO was concerned with the indication of a relative pot being used for the SSO as they believe that this will undermine collaboration between the ESO and the TOs.
- 2.76 Two respondents also questioned whether these should be incentivised and instead be BAU in RIIO-2, as a survey is a fundamental element of stakeholder engagement that should be undertaken by any good network company. We also received one stakeholder response that suggested that the survey should be a reputational incentive with a penalty for under-performance against the baselines.

#### *Proposals to retain one question of overall satisfaction for collating performance scores*

- 2.77 There were mixed views on our proposals to maintain one question to capture overall satisfaction in the stakeholder surveys.
- 2.78 Three of the six respondents who commented on this point agreed with our proposal to maintain one question to capture overall satisfaction as a means of ensuring a clear and comparable measure of satisfaction.
- 2.79 The remaining three respondents view our proposal as a disproportionate measure that may be subject to bias, particularly if the survey is the singular measure of stakeholder satisfaction in RIIO-ET2. In relation to this concern one TO suggested that it would be more appropriate to have three key cross-TO questions of equal weighting from which the survey scores can be collated. They suggested that this approach will still allow for flexibility in survey design. In RIIO-ET1 we have seen the TOs consistently beat the baseline of 7.4 out of 10 for the surveys. One TO highlighted that, therefore, achieving a score above 8 out of 10 has become

increasingly difficult and that spreading the weighting across multiple questions could drive performance in specific areas.

*Proposals to use RIIO-ET1 performance for RIIO-ET2 baselines*

- 2.80 All of the five respondents to this question agreed that the baselines should be updated to ensure that the incentive is challenging and achievable. Respondents broadly agreed that RIIO-1 performance would be a good starting point for setting the new baseline. However, some noted that if the survey focus was to be adapted then Ofgem must adjust the baseline accordingly and ensure that this adjustment is evidence based.
- 2.81 One TO was not supportive of calculating this baseline using other TOs' performance scores as they believe that other TOs' customers and stakeholders are different from their own and therefore not comparable for re-baselining their own scores. This TO was supportive of re-baselining with at least three years of their own past performance.
- 2.82 Another TO does not believe that relative or dynamic targets are appropriate for the SSO due to the volatile nature of this incentive and that tighter baseline targets based on RIIO-T1 will provide challenging baselines in RIIO-ET2.
- 2.83 One TO indicated that the level of improvement will be incremental compared to RIIO-T1 and that appropriate incentives are required to maintain the focus in these areas.
- 2.84 Another respondent was supportive of increasing baselines as the achievements over RIIO-T1 must be bankable for consumers. We also received one response that suggested we take a detailed scenario analysis on the potential outcomes and set targets that result in an accurate settlement.
- 2.85 We received one response that agreed that RIIO-1 performance would be a good starting point but reinforced that this should not be considered a BAU activity in RIIO-ET2 and indicated that if this incentive is reputational, then it suggests that customers are not impacted by how network companies perform.
- 2.86 We did not receive any other alternative solutions beyond using RIIO-ET1 performance to set the baselines for RIIO-ET2.

*Proposals that the User Groups could provide assurance in the survey methodology*

- 2.87 We proposed that the User Groups could play a role in ensuring that the appropriate stakeholders are included in the survey sample. Respondents broadly agreed that the User Groups could provide a level of assurance that the stakeholder being selected for the survey sample are representative of the stakeholders impacted by TO operations.
- 2.88 However, some environmental groups were of the view that the User Groups should only play a role where a broad range of perspectives and interests including environmental bodies are represented. Two TOs reinforced their view that as many stakeholder and/or customers as possible should be included in the survey sample to improve the validity of the scores. Another TO was of the view that this survey should focus on those connecting to the network and those already connected to the network.
- 2.89 One stakeholder was concerned that the User Group members will not all have a background in engagement. This respondent suggested that a panel of expert

judges, not dissimilar to the current process around the SEI, could be introduced as an alternative.

*Proposals to remove the financial weighting of the KPIs and EA*

- 2.90 We received mixed views on our proposals to remove the financial weighting on the KPIs and the EA. Respondents highlighted that the KPIs and EA played an important role in driving the correct behaviours under the SSO in RIIO-ET1.
- 2.91 Two of the respondents strongly disagreed with the KPIs being removed in their entirety, as they have been very effective in delivering tangible benefits for stakeholders. Four out of the seven respondents agreed with our proposals that the KPIs do not need to be financially incentivised and that these should be considered a BAU element of stakeholder engagement.
- 2.92 Two TOs were concerned that without a financial weighting, the incentives to drive performance will be eroded and the KPIs will be less effective. Others suggested that if retained, there should be more flexibility in modifying KPIs within the price control.
- 2.93 Some respondents think that the EA will no longer be required as the User Groups and the Business Plan Incentives will provide this level of assurance in RIIO-ET2. Other respondents felt that it was important to retain a level of assurance, without a financial weighting. One respondent also suggested that if all of the TOs were to use the same survey company then the need for the external assurance would fall away.

Decision – Summary

- 2.94 In summary, we have decided that the SSO for RIIO-ET2 will only consist of the satisfaction survey component, which will be targeted at connections stakeholders and the engagement process for stakeholders impacted by new transmission infrastructure projects. We will attach a financial reward/penalty to the connections survey component only.
- 2.95 There are a number of outstanding items on which we will reach a decision at Draft and Final Determinations. These are discussed here and are as follows:
- Survey content including: which pinch points of the connections process to capture, the level of flexibility for the TOs to select their own survey questions and the question(s) on overall satisfaction
  - Whether to use one survey company to issue the surveys and collate the scores across all of the TOs
  - How we will determine the baselines for the satisfaction survey
  - The incentive strength for the Satisfaction survey

Stakeholder Satisfaction Output: Satisfaction Survey

- 2.96 Having considered the responses, we have decided to develop two separate surveys, which will capture the two areas of activity that we consulted on: the quality of the connections process and the quality of engagement in new transmission investment projects.
- 2.97 We have considered the views of several stakeholders who disagreed with this narrowing of the survey scope, and suggested that we should continue to capture the broader stakeholder perspective. We have identified a specific need to capture

stakeholder satisfaction relating to the end-to-end connections process and new transmission infrastructure projects. This does not preclude TOs from gathering views from a broader stakeholder base and/or from proposing additional bespoke outputs in this space. As we outline in our decision for the SEI our view is that this is a BAU function of the TO's activity and should not be financially incentivised. Please see the previous section in this chapter for our decision on the SEI and Chapter 5 in the Core Document for our criteria for assessing bespoke outputs.

- 2.98 We have also considered the stakeholder responses that suggest the connections process is too complex to be incorporated into a wider stakeholder survey. Based on these concerns, our decision is to develop two separate surveys in RIIO-ET2; one for the quality of the connections process and another on the quality of the engagement process in new transmission projects.
- 2.99 We set out our proposed approach and next steps for each of these two surveys in the next sections.
- 2.100 At this stage we are not making a final decision on the survey incentive strength or baselines (for the quality of connections survey) or survey design. We will continue to engage with stakeholders in the run up to Draft and Final Determinations ahead of reaching a final decision.

#### The Quality of Connections Survey

- 2.101 The connection process is a key aspect of a TO's activity and is one of the few areas where the TOs provide a direct service to their end customers. Under RIIO-ET1 the TOs are incentivised to make a connection offer within a specified time period. For more information on this output, please see the relevant section in this chapter.
- 2.102 As a result of the energy transition and the drive for a more diverse energy system we expect to see changes in the types of technologies seeking to connect to the transmission network. It is therefore fundamental that TOs provide a high quality connections service thus contributing to the low carbon energy transition.
- 2.103 Having reviewed the surveys that the TOs administer in RIIO-ET1 we know that they already include their connections stakeholders as part of the survey component of the SSO in RIIO-ET1. Going forward into RIIO-ET2 we want to isolate the connections component of the survey to capture those stakeholders and customers involved in the connections process in order to emphasise the importance of improving the quality of service that the TOs deliver to their connections stakeholders.

#### *Survey Incentive Strength*

- 2.104 We will attach a financial reward and penalty to the connections component of the survey only. We will determine the financial weighting at Draft and Final Determinations.
- 2.105 We have considered the responses that suggest we should retain the strong symmetrical incentive arrangement from RIIO-ET1, which is +/-1% of the Base Revenue. However, due to our decision to set apart the connections stakeholders in the survey sample for RIIO-ET, it may be appropriate to reduce the incentive strength for RIIO-ET2. We believe our two proposals to modify the survey strength which we consulted on in December recognise the reduced scope of the survey sample, whilst also remaining a strong symmetrical incentive for the TOs to drive improvements in their satisfaction scores.



- 2.106 We also received consultation responses that highlighted the challenges there would be in implementing a competed pot for this output. While we recognise these we also note the challenges associated with identifying the value stakeholders associate with an improved connection process. Therefore, we consider that a competed pot approach may still be appropriate in this context.
- 2.107 Finally, we received three responses that suggested that this survey should be a reputational or a penalty only incentive for RIIO-ET2. Our view is that optimising the quality of the connections process will support the delivery of new transmission infrastructure onto the system and the transition to a low carbon energy future. We therefore believe it is important that we retain a strong symmetrical incentive on companies to achieve high levels of customer satisfaction throughout RIIO-ET2.
- 2.108 We will continue to engage with stakeholders on our two proposals for setting the value of financial rewards and penalties for the SSO in the run up to Draft and Final Determinations. This approach is in line with our decision for the RIIO-GD2 and RIIO-GT2 stakeholder satisfaction surveys.

#### *Survey content*

- 2.109 We will continue to engage with stakeholders on how to set the survey methodology for RIIO-ET2, and we will make a decision on this aspect of the survey design in our Draft and Final Determinations. In doing so, we will also take into account the satisfaction surveys in RIIO-GD2 and RIIO-GT2.
- 2.110 We recognise that there are arguments for and against our proposed approach to gather performance scores from the satisfaction surveys. We also appreciate that our decision to target the satisfaction survey at the connections process will require the TOs to develop a new survey design with their connections stakeholders specifically in mind.
- 2.111 The benefits of retaining one question of overall satisfaction for the survey design is that it gives the TOs the flexibility to determine the remaining questions that are relevant to their stakeholders, whilst also ensuring comparability amongst the TOs.
- 2.112 We also received consultation responses that view this proposal as a disproportionate measure that could be subject to bias. Some respondents suggested that it would be better to use multiple questions of satisfaction throughout the survey. We note these concerns and will consider them in more detail when developing the survey design.
- 2.113 From consultation responses that we have received in response to the Timely Connections output, we know that there are various suggestions for the scope of the connections customers that this survey targets. As we further develop our proposals, we invite the TOs and stakeholders to come forward with views on which pinch points in the connections process should trigger a satisfaction survey. In addition, we would also welcome suggestions on how the survey question set should be developed by the TOs.
- 2.114 In particular, we note that in RIIO-ET1 we did not mandate a particular survey design, allowing TOs significant flexibility in this space. For RIIO-ET2 we could for example consider requiring the TOs to use the same survey company to administer the survey and or to work together to design the survey. We note that one of the responses suggested that if all the companies used the same survey

company then the need for an assurance process falls away. We will consider this suggestion further when we develop the survey methodology going forward into RIIO-ET2. We also recognise that this is the case with the satisfaction surveys in GD and ED.

### *Survey Baselines*

2.115 We will reach a final decision on setting the survey baselines at Draft and Final Determinations. Having reviewed the consultation responses our view is that we should update the baselines to reflect that the survey focus has changed, whilst also ensuring that the achievements from RIIO-ET1 are bankable for consumers. We will also consider using other TOs' scores, where appropriate, to determine the baseline.

2.116 We agree that we will likely need to take a different approach to calculating the baselines from RIIO-ET1 due to the change in survey focus and to ensure that our methodology is evidence based. Subject to further analysis and stakeholder engagement we propose to consider the following three data points as a starting point for setting a baseline that is challenging and achievable for RIIO-ET2:

- As part of the RIIO-ET1 stakeholder satisfaction survey both of the Scottish TOs included their connections customers as part of their survey sample. We will ask that the Scottish TOs send their performance scores specific to their connections customers for us to consider. We will also ask that NGET send their performance scores which are specific to their connections customers from either their customer satisfaction survey or stakeholder satisfaction survey. These performance scores could be a good indicator of satisfaction levels for this stakeholder group from RIIO-ET1. With these scores in mind we could develop a new baseline that is challenging and achievable when surveying this stakeholder group
- We will also take into account the baselines that have been developed in GD, ED and GT from RIIO-1 in determining their customer satisfaction scores
- Finally, we will consider external studies which attempt to identify an industry standard of customer satisfaction when determining our baselines, such as the Economics Insight paper and the UK Customer Service Index (UKCSI) that informed Ofwat's C-Mex and D-Mex survey metrics.

2.117 We would welcome proposals from the TOs and stakeholders on other metrics or studies that would help better inform an evidenced baseline. We may also consider whether there is a need to use the last year of RIIO-ET1 to collect additional information that could be used to inform our baseline.

2.118 We received one response from a TO that was not in favour of using other TOs' scores to determine their own baseline, as they believe that their stakeholders and customers are different from the other TOs. We note that the TOs had the same baseline in RIIO-ET1 for their Stakeholder Satisfaction Survey, despite having different stakeholder interests and priorities. It is our view that with the decision to focus the survey on the connections process, the interests of the customers being surveyed will be predominantly the same across all of the TOs. We therefore disagree with this respondent and believe that the survey baselines could be calculated through a cross-comparison of the appropriate performance scores across all three of the TOs.



2.119 We also received a response from a TO that was not in favour of relative or dynamic targets, due to the volatile nature of this incentive. Another TO highlighted that the level of improvement will be incremental based on RIIO-ET1. We will consider whether relative or dynamic targets are appropriate within the context of the satisfaction surveys as we further develop our methodology. Once we better understand the survey design we may consider if these types of tools can be used to incentivise companies to drive improvements against their targets during the price control.

#### Stakeholder feedback on engagement for New Transmission Infrastructure Projects

2.120 The TOs deliver new transmission infrastructure projects that impact a broad range of stakeholders, for example projects that can adversely impact the visual amenity of an area enjoyed by local residents, visitors and communities etc.

2.121 Having reviewed the responses related to this proposal we have decided to introduce a separate stakeholder survey targeted towards the stakeholders impacted by new transmission infrastructure projects. This will be reputational only in nature. We believe that a survey is an appropriate tool to incentivise a TO's stakeholder engagement processes on new projects, and will complement the companies' stakeholder engagement processes on proposed new developments.

2.122 In responses to the consultation questions on Visual Amenity (see chapter 2 of this document) respondents highlighted several points including:

- that there are existing planning obligations on the TOs to consult with local stakeholders in respect of these infrastructure projects
- areas where potential enhancements to current stakeholder engagement processes might be further enhanced, eg earlier and more participative engagement models on option development, development of consultation approaches to facilitate engagement with hard to reach stakeholders etc
- the likely subjectivity of stakeholder survey results and the potential skew in the survey participants.

2.123 Given the above, we think it is inappropriate to attach a financial reward/penalty. Instead we will require the companies to survey stakeholders and report publicly on the results, including their response, and any commitments they intend to take forward. We consider this will create a reputational incentive for the TOs to be responsive to different stakeholders' needs to engage on new transmission projects.

2.124 Our decision is intended to add a transparent stakeholder feedback loop on the engagement processes adopted by a TO on a specific project. The main aim of the survey is to allow stakeholder-led identification of opportunities for potential development of a TO's stakeholder engagement processes. To this end we anticipate such a survey will include several open-ended questions to allow stakeholders to identify challenges and future opportunities in the stakeholder engagement process.

2.125 For the avoidance of doubt, to the best of our knowledge the TOs have met the mandatory requirements in planning law for stakeholder consultation on new projects over RIIO-ET1. We consider the stakeholder survey will complement the existing TO engagement processes.

### Potential on-going role for the User Groups

- 2.126 Our current view is that the User Groups, if retained, could provide assurance in terms of the stakeholders that are included in the survey sample for both the quality of connections survey and the new transmission infrastructure projects survey. Respondents were broadly in agreement with this proposal. We will continue to consider the extent to which User Groups could be involved in the surveys in the run up to Draft and Final Determinations.
- 2.127 However, some respondents were concerned that the User Groups will not have a varied enough representation to qualify in making this assessment. We note the concerns of these stakeholders. Our initial view is that the User Groups should have a good understanding of the TOs' business plans and activities, and are therefore in a good position to be able to provide assurance on the survey sample and the questions being asked in the surveys, subject to our approval.

### Decision on the KPIs and the External Assurance

- 2.128 Having considered the responses, we have decided to remove the financial weighting behind the KPIs and the EA.
- 2.129 We outlined in December that through our own review of the KPIs we identified areas of overlap and some KPIs that in our view, should be considered BAU. On that basis, we have decided to remove the financial weighting of the KPIs. We note that TOs may want to maintain the KPIs as a reporting requirement to the User Groups or as part of the bespoke outputs under the SEI (please see relevant section in this chapter).
- 2.130 We didn't receive any respondents that disagreed with our view on removing the financial weighting of the EA component.
- 2.131 We believe that the TOs should not be financially remunerated for the EA process and that this should be considered a BAU practice for RIIIO-ET2. Some respondents did suggest that the User groups and the Business Plan Incentive can provide this level of assurance. We may incorporate the assurance process of the EA through the support of the User Groups, if they are retained.

### Interactions with other Policy areas

- 2.132 Due to the nature of this output we believe there are multiple interactions with other policy areas, including visual amenity, large capital expenditure projects and the SEI. Naturally we expect the key interaction will be Timely Connections and our decision to introduce a Quality of Connections survey.

### Next Steps

#### *Upcoming decisions - quality of connections survey*

- 2.133 We will continue to assess policy options on a number of items in the lead up to Draft and Final determinations.
- 2.134 We welcome discussions with the TOs and relevant stakeholders to identify the following elements of the survey design:
- What pinch points within the connections process that this survey should capture
  - Whether the content of this survey should maintain the same level of flexibility in deciding what questions to ask their connections stakeholders

- Finally, once we have evaluated these aspects of the survey content we will be in a better position to determine the question(s) of overall satisfaction from which the scores can be collated.

2.135 As recommended in the responses we will consider introducing a single survey company to issue the surveys and collate the scores. We will involve the TOs in these discussions, to understand their experience of working with each of their survey companies over RIIO-ET1.

2.136 As indicated above we will ask that the TOs to share their survey scores relevant to this stakeholder group. We will consider these scores in conjunction with our approach to setting baselines in RIIO-ED1 and GD1 and with any other relevant studies. We will also consider using the final year of RIIO-ET1 to ask the TOs to issue a trial of the quality of connections survey. This will provide an indication of the scores that the TOs could achieve in this survey over RIIO-ET2 and will support the development of a challenging but achievable baseline. We welcome further discussion with the TOs on this proposal.

2.137 Finally, we will also consider an appropriate incentive strength for this output based on the options listed in this decision document.

#### *Stakeholder feedback on engagement for New Transmission Infrastructure Projects*

2.138 We will consider how to best implement this as a licence condition. We will engage with the TOs and the relevant stakeholders on how to best proceed with this feedback survey on engagement with new transmission infrastructure projects.

#### *Business Plans*

2.139 We welcome proposals from TOs on the items identified above as part of their Business Plans.

### **Timely Connections Output**

Purpose	The Timely Connections Output is designed to incentivise high quality and timely offers of connection.
Decision	To retain the Licence Obligation and associated penalty for RIIO-ET2, and to apply this consistently across all three TOs.  To introduce a Quality of Connections survey through the Stakeholder Satisfaction Output.
Upcoming decision	Confirming our working assumption around the maximum penalty rate of up to 0.5% of base revenue

#### Summary of issue

2.140 The RIIO-ET1 Timely Connections Output is designed to ensure the timeliness of connection offers for applicants looking to connect to the high voltage transmission system.

2.141 Under the RIIO-ET1 price control arrangements TOs are incentivised through a penalty-only mechanism to ensure that these offers are made in a timely manner via the Electricity System Operator (ESO), who is the primary coordinator between the applicant and the TO. Where the TOs fail to meet their licence and code

obligations<sup>6</sup>, a penalty is applied of up to 0.5% of allowed base revenue. In RIIO-ET1 this output applies only to the two Scottish TOs (SPT & SHE-T) and not to NGET, due to its role as both the TO and the ESO.

2.142 With the introduction of new technologies and business models we expect to see new and different interactions between existing players. Within this context it is important that our price control framework encourages both timely connections and good engagement by the TOs with applicants seeking a connection.

#### Summary of our December proposals

2.143 In December we sought views on retaining the existing arrangements for the Timely Connections Output as well as areas for potential adjustment for the RIIO-ET2 price control period.

2.144 We consulted on the following proposals:

- retaining the current RIIO-ET1 Timely Connections Output arrangements for RIIO-ET2, including the penalty-only incentive
- applying the same arrangement to NGET in RIIO-ET2
- capturing the quality of the overall connections process through our stakeholder engagement proposals.

2.145 We also invited any alternative options for capturing the quality of the overall connection process, and views on ways to ensure that TOs are not rewarded and/or penalised for actions undertaken by the ESO in the offer process.

2.146 Lastly, we proposed not to introduce an arrangement similar to the Incentive on Connections Engagement (ICE) in RIIO-ED1.

2.147 Detailed information on our proposals can be found in the December ET Annex.

#### Summary of responses

##### *Proposals to retain the current incentive and expand to include NGET*

2.148 We received eight responses to our proposals. Most respondents agreed with our proposal to retain the Timely Connections Output, including retaining this as a penalty-only mechanism with a penalty rate of up to 0.5% of base revenue. Responses in favour of this proposal came from two of the three TOs and a mixture of consumer interest bodies and large network users. A majority of respondents to this question also agreed with our proposal to extend this output to NGET for RIIO-ET2.

2.149 One TO and one large network user disagreed with retaining the output for RIIO-ET2. The latter suggested that the current licence conditions were sufficient without an incentive mechanism. The TO argued that the incentive should not be expanded to include NGET and highlighted potential overlaps with the Large Capital Projects proposals by Ofgem. The TO respondent also noted that the focus for connections should be primarily on improving the quality of this process, such as through a survey on customers.

2.150 All three TOs made suggestions or asked for clarity on how the penalty mechanism would be applied. One TO suggested this should be more flexible to

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<sup>6</sup> See Standard Licence Condition D4A (Obligations in relation to offers for connection etc), and Part 2 (Construction), Para 4.8.1 of Section D (Planning Co-ordination) of the System Operator – Transmission Owner Code (STC).

ensure customer detriment is taken into account when determining whether a penalty should be applied. Another TO wanted to see more flexibility in the process, allowing for ease of pausing the timer when requested by the applicant.

- 2.151 In addition to the question on retaining the Timely Connections Output, two TOs also raised points on whether quicker connections offers (ie less than the specified timescales) should be specifically rewarded or incentivised. However, they had differing views, with one suggesting this should be specifically incentivised and the other firmly against.

*Proposals to incentivise the quality of connections*

- 2.152 We received 11 responses to our proposals in this area. There was broad agreement in response to these questions that there would be a benefit to capturing and incentivising improvements to the quality of the connection process through a stakeholder engagement survey.
- 2.153 Responses in favour of this proposal came from each of the TOs and a mixture of consumer interest bodies, DNOs and large network users. All but one respondent agreed with our proposals for capturing this through a stakeholder survey, whether as part of the SSO or as a stand-alone survey. A large network user disagreed with our proposals and suggested that this should be business as usual instead of a separate incentive. One DNO noted the need to focus on both timeliness and quality of incentives but highlighted the importance of recognising that different stakeholders have different priorities.
- 2.154 We did not receive alternative options or views for capturing the quality of the overall connection process, outside of a stakeholder survey. However, we did receive a number of suggestions for how a stakeholder survey could be used to capture the quality of connections. All three TOs suggested that a stakeholder survey should be undertaken at the major milestones of the entire connections process, and not be restricted to offer stage stakeholders only. One TO and one large network user highlighted the potential for including distribution level connections that have been through the TO assessment process.
- 2.155 A small number of respondents replied to our question on ways to ensure that transmission operators are not rewarded and/or penalised for actions undertaken by the System Operator. All respondents on this point agreed on the importance of ensuring these roles are kept separate when requesting stakeholder feedback on performance. One TO noted this could be best achieved by ensuring any survey is undertaken by a recognised independent company, while others suggested the ESO should have its own incentive or obligation given its role in the process.
- 2.156 One DNO responded to and agreed with our proposal not to introduce an ED-style Incentive on Connections Engagement (ICE), citing several reasons for why this would not be suitable for ET or improve the quality of this process.
- 2.157 One environmental group highlighted the need to ensure that environmental considerations are taken into account by TOs when coming up with connection offers, in particular for off-shore wind connections.

Decision

- 2.158 In this section we outline our decision to retain the Timely Connections Output.

2.159 We note that we will reach a final decision on our working assumption around the maximum penalty rate of up to 0.5% of base revenue as part of Draft and Final Determinations.

*Proposal to retain the current incentive*

2.160 We will retain the Timely Connections Output and penalty mechanism for the next price control period. We believe there remains a strong need for ensuring connection offers are provided to applicants in a timely manner, due to the importance of this process for applicants and in facilitating the energy transition.

2.161 We are not making any changes to the RIIO-ET1 price control arrangements underpinning the connections offer process. This includes retaining the current connection offer timescales set out within the licence conditions and codes.<sup>7</sup> We note the suggestion by one TO that a reward should be introduced for connection offers that are faster than the established timescales. However, we do not believe that this will provide value for money or drive significant improvement. Further, we consider that the current timescales are at a suitable level for both TOs and applicants.

2.162 Another TO suggested increased flexibility for the circumstances in which the connection offer 'clock' can be paused. While there may be circumstances where this could be useful, we believe the current scope is sufficient and any need to pause and amend the application during the offer process can be effectively mitigated through effective customer engagement at the pre-application phase.

2.163 The Timely Connections Output will continue to be a penalty-only output. In line with our December Consultation position we consider that a penalty mechanism remains the most efficient incentive to drive behaviour.<sup>8</sup> The level of revenue reduction will be proportionate to the number of connections which receive a late offer.<sup>9</sup>

2.164 Our current working assumption is that the level of penalty will remain at a maximum of 0.5% of base revenue equivalent. However, we will reach a final decision on the maximum penalty as part of Draft and Final Determinations. We will consider the extent to which the maximum size of the penalty and the formula to determine this continue to be fit for purpose for the RIIO-ET2 period, by providing a fair and justified scale of penalty.

2.165 We have considered the suggestion by a TO for the penalty mechanism to be amended in order to take into account detriment to the applicant, as a factor, in the event that an offer is submitted late by the TO. Whilst we agree there may be some benefits to taking customer detriment into account, this may negatively impact on the ESO, who is the intermediary between the TO and applicant. In particular, this would shift additional responsibility for timely offers onto the ESO. We have decided that the penalty mechanism should remain unchanged from the scope defined in RIIO-ET1. We note that TOs are already able to request an extension to a connection offer. Any submissions seeking such an extension should be properly justified and would be considered on a case by case basis. For

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<sup>7</sup> See Standard Licence Condition D4A (Obligations in relation to offers for connection etc), and Part 2 (Construction), Para 4.8.1 of Section D (Planning Co-ordination) of the System Operator – Transmission Owner Code (STC).

<sup>8</sup> See 3.59 of the December ET Annex

<sup>9</sup> See Part C (Revenue adjustment formulae) of Special Condition 3G (Financial Incentive for Timely Connections Output) of the special conditions for SPT and SHE-T for the penalty formula:  
<https://epr.ofgem.gov.uk/Content/Documents/SPTL%20-%20special%20conditions%20consolidated%20-%20Current%20Version.pdf>.



example, a submission that sets out exceptional circumstances outside of company control may be accepted.

*Extending the output to include NGET*

2.166 Having considered the responses, we have decided that the Timely Connections Output and penalty mechanism should be extended to apply to NGET for RIIO-ET2. For the RIIO-ET1 price control the penalty mechanism was not applied to NGET due to its combined role as a TO and as the sole ESO for Great Britain, removing the need for an incentive to cooperate. However, as of 1 April 2019, the ESO is legally separate from the TO. Therefore, applying the penalty to NGET from RIIO-ET2 will ensure consistency of approach amongst all TOs.

*Quality of connection offer*

2.167 We believe our approach will encourage enhanced customer engagement between TOs and applicants. Improved customer engagement should facilitate improvements in transparency and the quality of the connection provided to the applicant. Driving improvements in this area is important in ensuring the successful delivery of key new network infrastructure and to support the transition to a low carbon energy future.

2.168 Having considered the responses we have decided that an incentive on the quality of connections would be best achieved through the introduction of a stand-alone survey targeted at connections stakeholders. We note that several respondents suggested that a survey on connections should include applicants at all milestone stages of connection, not just those at the offer stage. This is an option that we would like to explore further with stakeholders.

2.169 A small number of respondents suggested that a Quality of Connections Survey should also include applicants applying for connection to the distribution network, whereby the TO has been requested to undertake an assessment under the Statement of Works process. We recognise that there may be potential benefits to including these applicants in the Quality of Connections Survey, such as helping to drive cross-sectoral improvements to quality and stakeholder engagement, but there may also be risks to this approach. Therefore, we would like to engage further with stakeholders on the design and scope of the survey, including the wording of a survey to ensure the effective separation between the ESO and TOs.

2.170 More information on the design of the proposed Quality of Connections survey can be found in the relevant sections of this chapter.

Interaction with other policy areas

2.171 In addition to the interaction with the SSO flagged above, our decision on the Timely Connections Outputs interacts with the following other areas:

- Contribution to the low-carbon transition by improving the efficiency of the connection process
- Large capital investment projects: both this incentive and the quality of connections survey incentivise, to some extent, the timely delivery of connection projects. However, the Timely Connections Output is focused on the connection offer stage whilst the large capital investment is focused on avoiding wider detriment to consumers resulting from delays and/or poor quality project delivery, this may also include wider reinforcement works. In any event, we will continue to monitor the interactions between these two mechanisms as we move forward

- Connection works and wider works: the Timely Connections Output interacts with this output by incentivising the timely delivery of the connection offer phase of new connections.

### Next steps

#### *Upcoming decisions*

2.172 We will reach a final decision on our working assumption around the maximum penalty rate as part of Draft and Final Determinations.

#### *Implementation*

2.173 Please see the relevant section of this chapter for details of next steps relating to the Quality of Connections survey.

2.174 In order to ensure consistency across the Timely Connections Output, we will also take forward the amendment of the licence conditions to apply the incentive to NGET from RIIO-ET2.

### **Energy not supplied (ENS)**

Purpose	The purpose of the ENS incentive is to encourage TOs to efficiently improve network reliability by managing short-term operational risk and mitigation actions.
Decision	<p>For RIIO-ET2, we have decided to:</p> <ul style="list-style-type: none"> <li>• Retain the ENS incentive as a symmetrical financial ODI, and retain a Licence Obligation with a minimum performance standard for RIIO-ET2</li> <li>• Continue to use the Value of Lost Load (VoLL) to set the incentive strength</li> <li>• Retain MWh as the ENS baseline metric</li> <li>• Update the definition of 'Exceptional Events' to include ESO requested load shedding.</li> </ul>
Upcoming decisions	<p>We will be reaching a decision on the following at Draft and Final Determinations:</p> <ul style="list-style-type: none"> <li>• Determining a methodology for setting baseline targets and any necessary assumptions</li> <li>• Determining an appropriate Value of Lost Load (VoLL) value;</li> <li>• Confirming our working assumption around a 3% financial collar on penalties</li> <li>• Determining whether there is a proportionate methodology for accounting for embedded generation and any necessary assumptions.</li> </ul>

### Summary of issue

2.175 ENS refers to the volume of energy to customers that is lost as a result of faults or failures on the network. It is a measure of the reliability of the high voltage transmission system to transport electricity to where it is needed. Under RIIO-ET1 TOs are incentivised to reduce ENS on their networks, which means minimising interruptions to transmission system availability by managing shorter-term risk and the day-to-day operations of the transmission network.

2.176 Typically, disruptions to the availability of the transmission system have a low probability of occurrence, but have a high impact to those connected when they



do occur (ie the distribution system, industrial customers and other directly connected customers).

2.177 We think that the ENS incentive has worked well so far in RIIO-ET1. TOs have reduced, and have sustained for several consecutive years, a level of ENS below that of the previous price control. Since the beginning of RIIO-ET1 there has been continuous improvement in how TOs manage their networks. We expect customer needs and patterns of use to change over time, and potentially increase as we move towards decarbonisation. We expect the reliability of the network to remain a high priority for consumers in RIIO-ET2.

#### Summary of our December proposals

2.178 For RIIO-ET2 we sought views on whether or not to retain the ENS incentive, and on potential refinements for RIIO-ET2 if we are to retain it.

2.179 In particular, we sought views on the following for the ENS incentive:

Primary question	Considerations
<b>Type of incentive</b>	<ul style="list-style-type: none"> <li>whether the incentive should be retained for RIIO-ET2</li> <li>whether the ENS incentive should remain absolute, or whether it should move to a dynamic relative incentive</li> <li>whether the ENS should retain a positive financial reward element, or move to a penalty-only scheme</li> <li>what impact a penalty-only mechanism might have on TO decision-making and behaviours</li> </ul>
<b>Setting baseline targets and improvement factors</b>	<ul style="list-style-type: none"> <li>how TO baseline targets should be set, and what other issues other than past performance should be considered (eg processes adopted as BAU, increased TO experience and expertise on fault mitigation and management, future modernisation projects, etc.)</li> <li>whether an improvement factor is appropriate for ET</li> <li>whether other adjustment mechanisms are appropriate, if any</li> </ul>
<b>Incentive strength</b>	<ul style="list-style-type: none"> <li>whether the ENS incentive rate should be updated</li> </ul>
<b>Financial collar</b>	<ul style="list-style-type: none"> <li>whether to retain the 3% financial collar</li> </ul>
<b>Taking into account embedded generation in the ENS metric</b>	<ul style="list-style-type: none"> <li>whether embedded generation should be taken into account in the calculating ENS, and if so, how this might be done</li> <li>what measures need to be in place to facilitate the collection of data on embedded generation and other real time information</li> </ul>
<b>Baseline metrics</b>	<ul style="list-style-type: none"> <li>whether we should consider using the metrics Customer Interruptions (CI) and Customer Minutes Lost (CML) to measure ENS and if so, what measures and processes need to be in place to facilitate this</li> </ul>
<b>Definition of excluded and exceptional events</b>	<ul style="list-style-type: none"> <li>whether we should update the definition of 'Incentivised Loss of Supply Event' and/or 'Exceptional Event'</li> </ul>

2.180 Detailed information on our proposals can be found in the December ET Annex.

#### Summary of responses

##### *Absolute incentive or dynamic incentive*

2.181 All 10 respondents supported the retention of the ENS incentive. Several respondents noted that the incentive keeps TOs focussed on ensuring network reliability. One TO suggested that the ENS incentive is a flexible, cost-effective, and a proportionate way for TOs to carry out network changes and mitigation activities to reduce ENS.

2.182 Two TOs were of the view that a dynamic incentive would not be appropriate for ENS. One of the TOs explained that a dynamic relative incentive would not be

suitable for the transmission network, as the three TO networks differ in design and geographical areas, making comparability difficult.

- 2.183 Another respondent noted that cross-sector dynamic relative incentives should be avoided, as non-comparability would be a big issue. This could also introduce uncertainty around benefits of investments, potentially penalise good performance, and discourage collaboration.

*Positive financial reward or penalty-only*

- 2.184 All three TOs and one large network user supported retaining the ENS incentive as a reward and penalty mechanism, rather than moving towards penalty only. Some respondents thought that the incentive helps focus TOs on network reliability, a core activity for the transmission companies. Reliability also remains a principal concern of customers, and other stakeholders, such as generators and government.
- 2.185 One consumer body was of that view that given the high levels of reliability in RIIO-ET1 to date, the scheme should move to penalty only. Another respondent stated that only performance that exceeds business as usual plans should be subject to an incentive mechanism.
- 2.186 However, some respondents noted that a dead-band would not be appropriate as it does not reflect customers' value of reliability (eg that each MWh is valued by customers, which would not be the case within a dead-band).
- 2.187 Those respondents who expressed a preference for retaining the reward mechanism were of the view that a penalty-only scheme would dis-incentivise TOs to further improve beyond baseline target levels, and shift TO behaviour towards risk aversion and compliance only. One of the respondents explained that such a scheme could also encourage TOs to build increased redundancy (at the cost of consumers) to avoid potential penalties.

*Setting baseline targets*

- 2.188 Four out of six respondents to this question agreed that past performance should be a prime determinant of future baseline targets, and that good RIIO-ET1 performance should be reflected in RIIO-ET2 baseline targets.
- 2.189 However, one TO noted the limitations of this approach, as it would not take into account potential increases in the level of outages that are required to be undertaken by TOs in RIIO-ET2 for new construction, reinforcement, and new connections.
- 2.190 Another TO suggested that baseline targets should reflect the current network performance levels, as well as include an element of increased performance, if appropriate. However, one industry respondent suggested that Ofgem should consider whether any further increases in reliability are efficient and can be delivered by the TOs. Another respondent also expressed that it is difficult to see the value to customers if the ENS target is increased, and suggested that the target level of the ENS incentive should be reduced.
- 2.191 In terms of a fixed or rolling baseline target three respondents were of the view that a fixed baseline target at the outset of RIIO-ET2 would be more appropriate. Two respondents were in favour of considering a rolling target. One TO suggested that the potential adoption of a rolling target based on performance might be an effective way of balancing the risk to consumers of exceptional

performance/failures. One DNO suggested that where there is evidence to show that productivity improvements are likely to be achieved over time, or are being funded through baseline cost allowances, Ofgem should consider a decreasing baseline target.

- 2.192 One TO emphasised that a long historical time series should be considered when calculating the target baseline to capture the low probability, high impact nature of ENS events. The respondent noted that using a short historical time series may also lead to a high target, for example if a TO has a large loss of supply event in the last few years of RIIO-ET1.
- 2.193 One TO noted that an overly sophisticated approach for calculating baseline targets may not influence or improve incentive performance or behaviour, as there are several significant external factors that can influence ENS. Another respondent submitted that if Ofgem decides to change the approach of calculating ENS, it must also consider how this affects past reported performance and may need to use an adjusted data series to set RIIO-ET2 baseline targets.
- 2.194 Two respondents agreed with our proposal that TOs should engage with stakeholders to determine what an acceptable baseline target looks like, and that User Groups could play a role in challenging TOs to set/perform above baseline targets.

#### *Improvement factors*

- 2.195 Five out of the six respondents to this question suggested that an improvement factor was not appropriate for the transmission system. One TO stated that it may be plausible to have an improvement factor applied across the RIIO-ET2 period, however they preferred a fixed target. They also noted that the RIIO-ET2 price control is moving towards a shorter, five-year price control, which will allow Ofgem to re-set targets sooner. Some respondents did not see a role for an adjustment mechanism when the already high levels of reliability are taken into account.
- 2.196 Another respondent believed that performance improvements are typically a mix of one-off infrastructure investments and ongoing investment in operational measures. They were of the view that if these are not funded through baseline allowances, then there is a mismatch between allowed costs and expected performance requirements. However, one respondent was of the view that TOs should indicate the potential for "improvement" as part of their business plans.
- 2.197 Some other factors respondents suggested taking into account when setting baselines included the process of decarbonisation and decentralisation, as it has implications for electricity networks, geographic dispersion and the intermittent nature of generation, and patterns in demand.

#### *Incentive strength*

- 2.198 All seven respondents to this question agreed with our proposal to update the Value of Lost Load (VoLL) value for RIIO-ET2.
- 2.199 One DNO noted that a single VoLL value for the transmission network would be appropriate, as the scale and interconnectedness of transmission infrastructure involved means that it serves an aggregated set of customers. Some respondents acknowledged that customers directly connected to the transmission network may have a lower VoLL than domestic customers, and hence the transmission system VoLL value may be lower than the distribution system equivalent.

- 2.200 One respondent cautioned that updating the VoLL value may have implications for the wider electricity market that also use VoLL values, in particular, the electricity balancing arrangements.

*Financial collar*

- 2.201 All six respondents who answered this question agreed that retaining the 3% collar was desirable for RIIO-ET2 to limit the risk faced by TOs from potentially large penalties. One TO noted that 3% of allowed revenue was a significant penalty for TOs.
- 2.202 Another TO stated that it preferred to see the financial collar reduced given the tightening elsewhere in the proposed price control package, but recognised that this would signal to customers that ENS is a decreasing priority, which is not the intention.

*Taking into account embedded generation in the ENS metric*

- 2.203 One respondent explicitly agreed with the principle of including embedded generation in the ENS metric, whilst six respondents (including the three TOs) provided suggestions on ways to estimate embedded generation.
- 2.204 Some proposals submitted by respondents for approximating embedded generation data include:
- Using forecast demand. TOs could agree on a percentage of peak demand (submitted by DNOs as part of their week 24 data to the ESO) as load provided by embedded generators. This percentage could be varied by week to take account of seasonal variation of demand (eg winter week/month 100%, summer months 50%)
  - Instead of measuring embedded generation at the time of ENS events, TOs could adjust their reported performance proportionately for the average level of embedded generation
  - Using CI and CML as metrics to capture customer impact.
- 2.205 Two TOs were of the view that taking embedded generation into account when calculating ENS is complex, expensive, and highly administrative. For example, one TO noted that not all embedded generation is metered, and that accurately measuring real time generation is difficult. Another TO emphasised that output by embedded generators is largely dependent on the variability and availability of prevailing weather conditions. One TO emphasised that Ofgem will need to require the six DNOs connected to their network to collect and provide them with real time data on embedded generation, at the time of ENS events.
- 2.206 Five respondents noted that there are existing datasets that are collected and reported, such as the ESO's forecast of output of generation across GB, and half-hourly reports for large-scale distributed generators submitted by DNOs and generators.
- 2.207 All three TOs agreed that approximations and assumptions would be needed, and further forecasting of unmetered generation may be necessary to account for embedded generation at Grid Supply Points (GSPs). One TO expressed concern that this may lead to further inaccuracies of the calculation method. Another respondent pointed out that there are other factors that affect demand which were not considered in the consultation, such as demand side response and behind the meter generation.

- 2.208 One TO also questioned whether including embedded generation would change the strength of the ENS incentive, or impact behaviour or the mitigating actions that TOs will undertake. One respondent stated that the customer benefit attached to facilitating greater volumes of data on embedded generation was unclear. One TO noted that as DNOs transition to Distribution System Operators (DSOs), more opportunities may arise to better capture embedded generation. This could be considered for future price controls.
- 2.209 An industry body pointed out that the deployment of Smart Meters and the development of Market-wide Half Hourly Settlement (MHHS) will allow for a more accurate calculation of ENS. In addition, a new Target Operating Model (TOM) is being developed as part of the electricity settlement reform, where there is potential for central settlement to hold both import and export data. This would allow detailed analysis of demand and generation both before and after the loss of supply.

#### *Baseline metrics*

- 2.210 Three respondents agreed that the distribution and transmission reliability incentives do not necessarily need to use the same metrics. One DNO also questioned whether changing ENS metrics would change TO behaviour.
- 2.211 One TO noted that they support changing baselines to CI/CML on the basis that it can be a solution to account for embedded generation. They stated that the ENS incentive was working well and that the measurement of ENS does not need to be refined. Another respondent expressed support for using CI/CML, and suggested the use of a composite measure to reflect the relative importance of both MWh lost and CI/CML.
- 2.212 Two TOs pointed out that the CI/CML metrics are affected by both TO performance and DNO network operability, which is outside the control of TOs. One respondent also noted that there are many factors to take into account when considering changes to baseline metrics. For example, TO customers are usually large customers, many of whom will have backup generation, which may mitigate any potential CI/CML.
- 2.213 Finally, it was also suggested that changing the metric would require Ofgem to consider a different set of data, which may impact Ofgem's understanding of likely performance in RIIO-ET2 and may make it more difficult to set accurate targets.

#### *Definition of 'Exceptional Event' and 'Incentivised Loss of Supply Event'*

- 2.214 One respondent was of the view that the current definition of 'Exceptional Events' and 'Incentivised Loss of Supply Event' remains appropriate for RIIO-ET2. Five respondents found value in updating the definition of 'Exceptional Event' (eg explicitly including cyber security).
- 2.215 One respondent suggested that the 'Exceptional Event' definition should be aligned with the Interruptions Incentive Scheme (IIS) from RIIO-ED1 to ensure a consistent approach and valuation of 'Exceptional Event' claims, particularly in relation to the 132kV network, as it is part of the distribution network in England and Wales but part of the transmission network in Scotland.
- 2.216 Two respondents suggested that the 'Exceptional Event' definition should be expanded to include:
- Categories of events that have occurred in the past

- Resilience investments proposed by the TOs, as thresholds of extreme weather events could be balanced by any proactive investment.

2.217 Other suggested inclusions in the definition of 'Exceptional Event' provided by a TO include:

- High impact, low probability events, such as Black Start, and cyber-attacks
- Frequency events resulting in automatic frequency relays operating, which is under the control of the ESO
- Rota disconnection and emergency load shedding where requested by the ESO.

#### Decision

2.218 We outline our decision on whether to retain the ENS incentive in this document, including our decision on a number of key features below.

2.219 We will be reaching a decision on a number of additional areas at Draft and Final Determinations. These areas are:

- determining a methodology for setting baseline targets and any necessary assumptions
- determining an appropriate Value of Lost Load (VoLL) value
- confirming our working assumption around a 3% financial collar on penalties
- determining a proportionate methodology for accounting for embedded generation and any necessary assumptions.

#### *Retaining the incentive*

2.220 Our decision is to retain the ENS incentive for RIIO-ET2 to continue to encourage TOs to provide a level of reliability that is valued by customers during RIIO-ET2. We have also decided to retain the ENS as a financial incentive, rather than move to a reputational incentive. We think that a reputational incentive may not be strong enough to focus improvements and embed efficient behaviour around ENS mitigation.

2.221 The Safety and Quality of Supply Standard (SQSS) and Network Asset Risk Metrics (NARMS) include obligations and standards for TOs that play an important role in determining long-term reliability on the transmission network. Our view is that the ENS incentive encourages TOs to consider and prepare mitigation strategies for risks that may not be covered by the SQSS and NARMS.

2.222 As was the case in RIIO-ET1 we will require the TOs to achieve a minimum standard of performance by way of licence condition. This will be captured in our upcoming work on licence drafting.

2.223 We set out below how we are refining the incentive for RIIO-ET2.

#### *Absolute incentive or dynamic relative incentive*

2.224 We have decided that the ENS incentive should remain an absolute incentive. While there are advantages to a dynamic relative incentive, there is lack of comparability between the TO networks due to design and geographical features, making a relative dynamic incentive difficult to administer fairly. A relative incentive may also encourage TOs to over-invest in the networks as they compete



to reach 0MWh to achieve the maximum reward, which may not be in the interests of or valued by consumers. We think that an absolute financial incentive best aligns TO focus and consumer value on improved network reliability.

*Positive financial reward or penalty-only*

- 2.225 We have decided that the ENS incentive should continue to involve a reward and penalty in RIIO-ET2.
- 2.226 The intention of the ENS incentive scheme is to encourage TOs to improve short-term mitigation strategies and behaviours to better manage loss of supply events. Without a positive financial reward TOs may choose to only comply with the minimum requirement, rather than strive to consider potential improvements in ENS mitigation and network management to reduce ENS the lowest possible level valued by consumers.
- 2.227 TOs have shown that they are beginning to engage with their stakeholders to assess the value they attach to network reliability. We think that removing the reward aspect of the incentive could introduce a misalignment between TO behaviour and customer valuation of reliability. We continue to welcome further evidence from TOs on their engagement with their stakeholders. We expect customers' views of the value they place on reliability to inform and be reflected in the TOs' business plan development for RIIO-ET2.
- 2.228 In addition, it is our view that a penalty-only ENS incentive with a baseline of 0MWh is not desirable. There is no evidence from RIIO-ET1 performance that TOs are able to consistently deliver this level of ENS. Furthermore, we consider dead-bands to be undesirable, as they do not reflect consumers' value of each MWh provided. We also think that a penalty-only scheme may encourage TOs to overinvest in their networks to avoid all loss of supply events, which would be costly to consumers and not in their best interests.

*Setting baseline targets*

- 2.229 Our current view is that we should use a consistent method for setting baseline targets across all three TOs. We will set baseline targets in Draft and Final Determinations, and will work with stakeholders in advance of this to agree criteria and parameters for setting targets.
- 2.230 For RIIO-ET1 TOs forecasted and proposed baseline targets to Ofgem using different methodologies and assumptions, as well as data from different timeframes. This has potentially resulted in an uneven playing field amongst TOs, as they are being measured by different variables within their models. Using the same methodology to set baseline targets will allow the baseline target setting process to be more fair and transparent between TOs. It will also enable performance to be more comparable between the companies.
- 2.231 Our initial view is that we should consider a straightforward forecasting method for RIIO-ET2 based on past performance (eg performance average). We think an average of past performance best reflects current TO performance capability. Consultation respondents agreed that baseline targets modelled on past performance are favourable.
- 2.232 We recognise that more complex forecasting models, such as stochastic modelling (eg Monte Carlo simulation), work well for forecasting uncertain events. Stochastic modelling is useful for forecasts that have large data sets and events (such as in the financial industry), where assumptions can be more easily tested and verified.

However, stochastic modelling requires many assumptions which may be difficult to justify and may lead to an overly simplistic or complex model. For the ENS incentive we think that a complex forecasting methodology with many assumptions may not be any more accurate or reflective than more simplistic models.

- 2.233 We will consider using a timeframe of data to model baseline targets that is most reflective of the current and future capability of the network, eg RIIO-ET1. We consider RIIO-ET1 performance data to be more comparable and relevant for setting RIIO-ET2 baseline targets. Where possible we think it could be useful to use longer-term data to sense-check and/or extrapolate and to identify and consider potential trends or outliers in data (eg good/bad weather).
- 2.234 Prior to RIIO-ET1 the management of networks and reliability incentive for TOs were considerably different. In past price controls 'Incentivised Loss of Supply Events' were defined differently. In addition, the ENS levels of the Scottish TOs were measured differently (eg the number of loss of supply events, rather than MWh lost). Since RIIO-ET1 TOs have implemented a step-change in the management of their networks and have maintained historically low levels of ENS. We therefore think that the data prior to RIIO-ET1 is less comparable and relevant for setting baseline targets for RIIO-ET2.
- 2.235 We welcome alternative proposals from the TOs in their business plans for setting baseline targets, and assumptions around timeframes of data, where TOs can demonstrate that these methodologies and assumptions are in the interests of consumers. We expect RIIO-ET2 targets to be more challenging than that in RIIO-ET1 and reflect the improvements in performance observed in RIIO-ET1.
- 2.236 We recognise there may be many factors which Ofgem could take into account when setting baseline targets such as decarbonisation, decentralisation, geographic dispersion, intermittency of generation, etc. However, these may also add unnecessary complexity and therefore we will not include these considerations for RIIO-ET2 but may consider them for future price controls.
- 2.237 TOs could also take into account other factors when explaining their long-term projections and any alternative baseline target proposals for ENS in their business plans, for example:
- the priorities and preference of reliability levels of their directly customers and stakeholders
  - the future value of a continuous supply of electricity
  - the additional benefit that reducing ENS can have for consumers
  - expected future process improvements and innovation in the efficiency of reducing ENS
  - how to use their User Groups to challenge and stretch performance commitment levels.

#### *Improvement factors*

- 2.238 Our decision is that we will not include specific percentage improvement factors in setting the baseline target for RIIO-ET2.
- 2.239 An improvement factor based on a regular quantum of improvements suggests that TOs have precise control over incremental improvements in ENS performance



on the transmission network, which may not be accurate. We recognise that there are several factors that can affect ENS (eg different volumes of demand connected to each circuit, a particular combination of outages, weather, etc.). As a result, it may not be possible to accurately quantify and verify the effect of these factors on performance, or the effect of mitigation actions, without making assumptions.

#### *Incentive value*

- 2.240 We have decided that VoLL continues to be an appropriate measure of customer value and will continue to use an agreed VoLL to set the ENS incentive rate for RIIO-ET2.
- 2.241 We will consider whether the RIIO-ET1 VoLL of £16,000/MWh needs to be updated for RIIO-ET2. We will reach a final decision on VoLL for the purpose of the ENS in RIIO-ET2 at Draft and Final Determinations. As part of this process we will consider multiplying the VoLL value by the sharing factor, as per RIIO-ET1, to equalise incentives between cost and quality of service on the transmission system. An updated VoLL value may better reflect the development of new technologies and also how increasing reliance on electricity may change consumers' value of electricity. We are further considering recent and ongoing pieces of work to determine a value for VoLL for RIIO-ET2. The table below shows some of the studies we may consider when setting an agreed VoLL for the purpose of the ENS incentive in RIIO-ET2.
- 2.242 We note that VoLL is used widely in other aspects of the electricity market (eg balancing arrangements, Black Start restoration, etc) and also potentially for setting in the incentive strength for the IIS in RIIO-ED2. Any agreed upon VoLL value for RIIO-ET2 will apply only in the context of the ENS incentive.

**Table 2: Recent and upcoming VoLL studies**

Author of study	Year of Study	Jurisdiction
ENWL <sup>10</sup>	2017/18	GB
ACER <sup>11</sup>	2018	EU
NGET, SPT, SHE-T <sup>12</sup>	2018/19	GB

#### *Financial collar*

- 2.243 The financial collar on potential penalties in RIIO-ET1 is valued at 3% of each TO's reporting year base revenue. This collar has not yet been reached by any of the TOs during RIIO-ET1.
- 2.244 We recognise a financial collar may limit the TOs' exposure to extreme penalties if baseline targets are missed. Without a financial collar TOs may spend disproportionately to reinforce their networks in order to avoid all loss of supply events. Our current working assumption is that a financial collar of 3% continues to be suitable for RIIO-ET2, as it will ensure that companies are not exposed to a disproportionate level of risk under ENS.

<sup>10</sup> <https://www.enwl.co.uk/zero-carbon/smaller-projects/network-innovation-allowance/enwl010---value-of-lost-load-to-customers/>

<sup>11</sup>

[https://www.acer.europa.eu/en/Electricity/Infrastructure\\_and\\_network%20development/Infrastructure/Documents/CEPA%20study%20on%20the%20Value%20of%20Lost%20Load%20in%20the%20electricity%20supply.pdf](https://www.acer.europa.eu/en/Electricity/Infrastructure_and_network%20development/Infrastructure/Documents/CEPA%20study%20on%20the%20Value%20of%20Lost%20Load%20in%20the%20electricity%20supply.pdf)

<sup>12</sup> We understand the TOs are undertaking a willingness to pay (WTP) study.

2.245 We will reach a final decision on the financial collar as part of Draft and Final Determinations.

*Taking into account embedded generation in the ENS metric*

2.246 We will reach a decision at Draft and Final Determinations on whether there is a proportionate methodology for accounting for embedded generation and any necessary assumptions. We encourage TOs to further develop proposals on how to account for embedded generation at GSPs in their Business Plans. We will continue to work with relevant stakeholders to determine whether a proportionate and appropriate methodology of accounting for embedding generation can be developed.

2.247 Embedded generation is increasingly playing a larger role in supplying energy for consumers on the distribution network. We expect this role to continue and potentially increase in RIIO-ET2. Some GSPs export electricity to serve demand in other areas on the transmission system. In the event of a power cut embedded generation on the affected network will switch off, as protection and control processes begin to operate. Therefore, the loss of supply experienced by end consumers will be greater than that reported at a particular GSP that is being supplied by the transmission system.

2.248 We have considered whether the reporting of embedded generation might affect TO behaviour and whether it would bring any benefit to consumers. We think it is important to account for, as accurately as possible the demand that is actually affected by a loss of supply event on the transmission system and its customers. With the current calculation method, the demand lost which is reflected at GSPs may not accurately reflect the demand lost which is experienced by end users. TOs may also be experiencing a benefit from load being provided by embedded generators on the distribution system, which may be resulting in higher ENS reward payments.

2.249 At the same time, we recognise that there are complexities around reporting embedded generation, specifically, that TOs will have to work with DNOs to collect data on the load provided by embedded generators at the time of a loss of supply event. However, we think this could be an opportunity for collaboration between TOs and DNOs. We also recognise that there are other factors that affect fluctuations in demand (eg behind the meter generation and demand side response), however for RIIO-ET2, we intend to take a straightforward, proportionate method of accounting for embedded generation as a first step and consider these other factors in future price controls.

2.250 Some embedded generation data is already collected by DNOs. Where possible we think it is appropriate to use existing datasets on embedded generation, to minimise any burden and redundancy of reporting.

2.251 We note that one respondent suggested using CIs and CMLs as metrics to account for embedded generation on the distribution network. We discuss this in the following 'Baseline metrics' section.

*Baseline metrics*

2.252 Our decision is to retain the duration of the loss of supply event (in hours) and the demand (energy) lost (in Megawatts (MW)), ie MWh lost, to measure ENS in RIIO-ET2. MWh lost incorporates the frequency and duration of interruptions and the affected associated load. It is also readily measured, and can be consistently measured and compared across the TOs.

- 2.253 We acknowledge that some transmission loss of supply events may not affect the distribution system and end users, therefore measuring ENS events using CI/CML metrics may not be appropriate. ENS experienced by end users are also affected by how DNOs manage their networks, which is outside the control of TOs. In addition a scheme using CI/CML may inadvertently encourage TOs to focus on DNO customers, as they will have the largest CI/CML impact and number of affected end users.
- 2.254 CI/CML data is currently only collected by DNOs. There may be some practical issues with transferring this data between DNOs and the TOs which could increase complexity of the scheme for RIIO-ET2. We will continue to explore the possibility of using CI/CML to measure ENS in RIIO-ET3, including considering whether there could be some benefits to using this metric, such as accounting for embedded generation on the distribution network.

*Definitions of 'Incentivised Loss of Supply Event' and 'Exceptional Event'*

- 2.255 We have decided to explicitly include loss of supply events directly requested by the ESO (ie load shedding) in the definition of 'Exceptional Event'<sup>13</sup> for RIIO-ET2, as the current definition does not adequately cover this scenario. We recognise that there are events outside the TOs' control in which the ESO may directly request TOs to shed load. All exceptional event claims will be a matter for the Authority to understand the specific circumstances of the case before deciding whether to exclude any ENS from any claim.
- 2.256 As in RIIO-ET1 TOs will need to demonstrate that they have met specified exceptionality requirements for an adjustment to be made to the incentivised level of ENS. Requirements may include:
- evidence that the event was a consequence of an external cause
  - demonstration by TOs that the event was not attributable to any error on their part and that they had taken reasonable preventative and mitigating actions both before and after the event both to limit the number of customers interrupted and to restore supplies quickly and efficiently having due regard to safety and other legal obligations. This should include having taken appropriate risk assessment for key sites.
- 2.257 We consider that the current definition of 'Exceptional Event' adequately covers 'cyber security' related events, and other high impact, low probability events and have decided not to explicitly include this. For events such as Black Start, this may have been triggered by a frequency event, or a series of other events (eg voltage issues). Therefore, we do not agree that it should be included as an exceptional event in its own right.
- 2.258 We do not agree with including categories of events that have occurred in the past in the definition of 'Exceptional Event'. We encourage TOs to learn about, and from, past events, both on their networks and elsewhere to ensure that reasonable steps and plans are taken to prevent them occurring in the future and therefore consider it would be inappropriate for these to be included.
- 2.259 We think that the current definition of 'Incentivised Loss of Supply Event' remains appropriate for RIIO-ET2 and have decided not to amend it.

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<sup>13</sup> The current definition is found in the Electricity Transmission Special Licence Condition 1A.5

### Interaction with other policy areas

- 2.260 Reliability today is influenced by planning and operating standards (SQSS), and asset management activities and investments of several years/decades in the past (NARM). We will continue to ensure that ENS complements existing policies and outputs to maintain long-term reliability on the transmission network.
- 2.261 We will review strategic investment plans submitted by TOs on cyber resilience as part of their business plans in December 2019. We will consider how the TOs plan to manage cyber security risks in relation to reliability, as part of their responsibility to comply with the NIS Regulations.<sup>14</sup> ENS also interacts with measures of stakeholder satisfaction, as interruptions in supply are likely to have an impact on these measures.
- 2.262 Finally, we note that the ENS incentive is complementary to the Network Access Policy (NAP). The ESO assesses the risk to security of supply when approving an outage and ensures that the minimum requirements as per the SQSS are maintained. ENS encourages TOs to mitigate risk above and beyond what is required by the SQSS. Together the SQSS and NAP encourage a comprehensive approach to outage planning and balancing the TO objectives of cost efficiency and network reliability.

### Next steps

#### *Upcoming decisions*

- 2.263 We will continue to assess policy options on the following items as identified above in the lead up to Draft and Final Determinations:
- determining a methodology for setting baseline targets and any necessary assumption
  - assessing and considering recent and upcoming studies on VoLL to determine an appropriate VoLL value for RIIO-ET2. We will work with relevant stakeholders to decide on an agreed VoLL for ENS
  - confirming our working assumption around a 3% financial collar on penalties
  - determining a proportionate methodology for accounting for embedded generation and any necessary assumptions.

#### *Business Plans*

- 2.264 In TOs' business plans, we welcome:
- Further evidence of company engagement with stakeholders on reliability and the level at which they value and are willing to pay for it. We would be particularly interested in hearing about the VoLL and reliability satisfaction placed on large directly-connected customers such as Network Rail, industrial customers, etc. We expect consumer value of reliability to inform and to be reflected in the TOs' business plan development for RIIO-ET2.
  - Alternative methodology proposals for setting baseline targets and timeframe of data used for RIIO-ET2, where TOs are able to prove that methodology proposals are beneficial to, and in the interest of consumers. Business plans should include considerations of advantages and disadvantages of

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<sup>14</sup> The Network and Information Systems Regulations 2018, which implements Directive (EU) 2016/1148 of the European Parliament and of the Council concerning measures for a high common level of security of network and information systems across the Union

methodology proposals, as well as justification for timeframes and assumptions and how these provide customer benefit.

- Proposals and/or further explanation on suggestions of methodologies for accounting for embedded generation in a proportionate way. In addition, we expect TOs to explore and discuss pros and cons of necessary assumptions for reporting on embedded generation (eg level of generator nameplates, capacity factors, average level of embedded generation, etc). TOs can also further discuss complexities and materiality of gathering embedded generation data (eg processes undertaken to collect data for DNOs) and how to overcome these in RIIO-ET2.

2.265 We note that TOs can also propose more challenging baseline targets, or suggestions on improvement areas for themselves, in consultation with their stakeholders or through their User Groups. This could potentially feed into our assessment of performance under our proposed Business Plan Incentive.

2.266 We also note that, in RIIO-ET1, SHE-T proposed the introduction of compensation payments for customers off supply for more than 6 and 12 hours. Any additional voluntary mechanisms of this nature will be assessed as a bespoke output, in line with the criteria set out in Chapter 5 of the Core Document.

### 3. Outputs: Deliver an environmentally sustainable network

A high-level objective of the RIIO-2 framework is for network owners to efficiently reduce the adverse impact of their networks and business activities on the environment and to support the transition to a low carbon energy future. This section sets out the outputs and wider price control measures that will support this objective in RIIO-ET2.

## Introduction

- 3.1 A key aim of the RIIO-2 Framework is that network companies support the transition to a smarter, more flexible, sustainable low-carbon energy system and take the appropriate steps to mitigate their own environmental impact.
- 3.2 The electricity and gas networks and their related business activities can be harmful to the environment. Environmental impacts arising from the networks include:
- Climate change
  - Pollution to the local environment
  - Resource waste
  - Biodiversity loss
  - Visual amenity issues relating to infrastructure.
- 3.3 The overall RIIO-2 package provides a comprehensive combination of incentives and other mechanisms to encourage network companies to deliver an environmentally sustainable network. This includes the Business Plan Incentive to develop a well-justified business plan for RIIO-2, specific environmental outputs, the wider output framework, as well as an innovation stimulus to trial potential network solutions to the challenges coming from the low carbon transition.
- 3.4 In the following chapter, we set out our decisions on the following areas:
- to adopt the cross-sector environmental framework set out in the Core Document to ensure the TOs take responsibility for the associated environmental impacts arising from their networks and are more transparent on what they are doing to mitigate these
  - specific environmental outputs, to target improvements in areas that a TO is directly responsible for, such as greenhouse gas emissions from high voltage equipment
  - the opportunity for the companies to propose bespoke ODIs, developed with stakeholders, that focus on a TO's contribution to the low carbon energy transition that is not captured elsewhere in the price control (see also chapter 5 of the Core Document)
  - to retain the RIIO-ET1 policy to address visual amenity issues associated with new infrastructure projects, to retain the RIIO-T1 provision to mitigate the visual impact of existing infrastructure in certain designated areas and to introduce a new survey for stakeholder to feedback on TOs stakeholder engagement processes on new transmission projects.

3.5 This chapter should be read in parallel with:

- Chapter 4, 5, 7 and 11 of the Core Document, which describes:
  - our decision to use the output category 'Deliver an environmentally sustainable network' for RIIO-2 and the broad approach to outputs (eg output types)
  - the arrangements we are putting in place across sectors to enable the network companies to play an effective role in protecting the environment and the role of the Business Plan Incentive in driving ambitious proposals;
  - How network companies may propose additional company specific ('bespoke') output measures within their Business Plans, if required
- our rationale for providing only indicative caps and/collars on ODIs (where relevant).

3.6 In our December document we sought views from stakeholders on the overarching package of outputs proposed in this area. The feedback received is addressed below in our decisions on individual outputs and incentives.

## RIIO-ET2 outputs

**Table 3: Our decision on RIIO-ET2 outputs – Deliver an environmentally sustainable network**

Output name	Output type*	Company driven target**
<b>Common outputs</b> (will apply to all companies)		
Annual environmental report (incl. BCF and losses)	LO	N/A
Sulphur hexafluoride (SF <sub>6</sub> ) and other insulation interruption gases (IIG) leakage	ODI(F)	No
<b>Potential areas for bespoke outputs</b> (companies may consider other areas for inclusion in their Business Plan)		
Environmental Action Plan initiatives eg reduce Business Carbon Footprint (BCF) and losses	PCD	Yes
Mitigating visual amenity impacts in designated areas	PCD	Yes
Additional contribution to low carbon transition	ODI(F/R)	Yes

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

\*\* Company driven target signifies an output where we expect to see extensive company-led engagement (including with their UG) to justify a stretching performance target. This could lead to performance targets varying by company.



**Environmental framework - Business plans and annual performance reporting**

Purpose	To ensure TOs take responsibility for their impact on the environment, contribute to decarbonising the energy system and support the UK's broader energy and environmental objectives. To ensure transparent reporting of environmental impact data.
Decision	We have decided to adopt the cross-sector environmental framework set out in the Core Document for TOs to embed environmental considerations into their business plans (through an Environmental Action Plan) and to publish an annual environmental report.

Summary of issue

- 3.7 Transmission network infrastructure has a long asset life and its environmental impacts can persist for many decades.
- 3.8 It is important that the TOs deliver an environmentally sustainable network for consumers. In our view this entails the TOs taking responsibility for the environmental impacts of their networks, as well as contributing to the UK's climate change and broader environmental objectives to decarbonise the electricity system<sup>15</sup> and to protect and enhance the natural environment for the next generation.<sup>16</sup>
- 3.9 There are opportunities within the price control for RIIO-ET2 to encourage the companies to deliver an environmentally sustainable network. We intend to utilise the full range of tools available within the price control, including licence obligations, PCDs, as well as reputational and financial ODIs to drive significant improvements.

Summary of our December proposals

- 3.10 In December we sought views on whether the TOs should identify and explain, as part of their Business Plans, how they intend to take environmental considerations into account for RIIO-ET2 and for the future.
- 3.11 We proposed that the TOs consider a range of environmental impacts in RIIO-ET2, potentially including:
- BCF: targets and actions to reduce Scope 1 and 2 emissions and strategies to implement and report on Scope 1, 2 and 3 (other indirect emissions)<sup>17</sup> using the BEIS streamlined energy and carbon reporting<sup>18</sup> methodologies
  - Transmission losses: the TO's RIIO-ET2 strategy to minimise controllable losses on its network

<sup>15</sup>[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/700496/clean-growth-strategy-correction-april-2018.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/700496/clean-growth-strategy-correction-april-2018.pdf)

<sup>16</sup>[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/693158/25-year-environment-plan.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf)

<sup>17</sup> Scope 3 (other indirect emissions): Emissions that are a consequence of your actions, which occur at sources which you 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 your organisation, waste disposal which is not owned or controlled, or purchased materials or fuels.

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/652410/SCR\\_Consultation\\_-\\_Final\\_with\\_IA\\_v2.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/652410/SCR_Consultation_-_Final_with_IA_v2.pdf) (page 24)

<sup>18</sup> <https://www.gov.uk/government/consultations/streamlined-energy-and-carbon-reporting>

- Embedded carbon: capturing and reporting embedded carbon for each project and for the whole network, including the possibility of reducing the carbon intensity of construction projects, for example through frameworks for managing whole life carbon in delivering infrastructure assets and programs of work such as the PAS 2080:2016 carbon management in infrastructure<sup>19</sup>
  - Supply chain management: actions to build an environmentally sound supply chain and metrics to monitor performance improvement
  - Resource use and waste management: measuring and reporting on actions to reduce, reuse and recycle waste as well as reduction targets
  - Biodiversity and/or natural capital: identification of metrics for measuring baselines, and additional environmental value, and actions to increase environmental value.
- 3.12 Under our proposals the TOs would identify potential actions and initiatives that they will undertake during RIIO-ET2 to deliver better environmental performance. Initiatives that contribute positively to environment, and are good value for money, would be identified in an Environmental Action Plan and embedded into the Business Plans.
- 3.13 The TOs would also provide detail of the key performance indicators they will monitor in each environmental impact area, and the targets they are aiming to achieve by the end of the price control. Where appropriate the TOs would need to develop and agree common metrics to be used within the sector for measuring and reporting their environmental impact in each area.
- 3.14 We also proposed that funding for well-justified initiatives are included as a baseline expenditure allowance and that PCDs are set (including consequences for failure to deliver). We also noted that we are considering potential mechanisms for returning unspent allowances.
- 3.15 We also sought views on our proposal to require the TOs to publish an annual environment report on their progress:
- in delivering the PCDs proposed in their Business Plans
  - towards meeting their environmental targets, using agreed metrics.
- 3.16 We also proposed that TOs should collaborate to develop a common approach to the annual environmental report, as well as consult with stakeholders on the content and form of the report.
- 3.17 We also proposed that the annual environmental reports could be reviewed by the User Groups each year, should they continue to have a role in the RIIO-ET2 price control period. The User Groups could help provide expert feedback on the validity and content of these reports and enhance the reputational nature of these outputs.
- 3.18 Detailed information on our proposals can be found in the December ET Annex.

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<sup>19</sup> <https://shop.bsigroup.com/ProductDetail?pid=000000000030323493>

### Summary of responses

#### *Overall package for the output category*

- 3.19 We received ten responses on our proposed overall outputs package for the output category. The majority of stakeholders who answered this question supported the overall environmental methodology proposals, either in whole or part.
- 3.20 The TOs provided various comments on proposals as follows:
- Embedding sustainable development in the decisions which shape the network is in line with stakeholders' expectations
  - Concern that setting PCDs rather than ODIs might restrain the ambition of companies to standard industry level because of uncertainty, risk and cost implications for non-delivery. Therefore, additional output incentives are needed to provide a flexible price control that allows the companies to meet the challenges of the energy system transition, manage uncertainty and which does not limit benefits to consumers
  - Some concern about the suitability and feasibility of setting PCDs in some impact areas. Only a few impacts are suitable, ie controllable BCF and biodiversity, and that it would be difficult to set PCDs for targeted improvement in areas such as embedded carbon, supply chain management, resource use and waste, and natural capital because of a lack of baseline data or an accepted industry methodology
  - They should also be encouraged to propose bespoke outputs that go beyond decarbonisation.
- 3.21 Another stakeholder said that the proposed environmental framework package for delivering an environmentally sustainable network should be adopted as the benchmark model for the other sectors such as gas transmission and gas distribution. They also considered that the package is aiming for the right balance between licence obligations, appropriate and stretching standards, quantifiable targets and PCDs.
- 3.22 Other stakeholders that responded to this question also raised additional points, including:
- The framework should only focus on direct impacts such as fugitive SF<sub>6</sub> emissions, and wider environmental considerations should form part of general corporate responsibility. Decarbonisation of the wider energy system is the responsibility of Government
  - The proposals are too light on detail about how delivering an environmentally sustainable network would be achieved in RIIO-ET2. Stakeholders need to see more detail about what is expected of the companies and the metrics by which their performance would be measured
  - Concern that the focus on delivering good value for consumers in RIIO-ET2 could be taken as meaning that costs are the only consideration. It is important to include an environmentally sustainable network as an overarching goal, in order to provide context for the consideration of good value to the consumer

- Addressing how the environmental methodology will integrate with the Business Plan Incentive and bespoke environmental ODIs in a coherent way to avoid potential 'double reward'.

*Embedding environmental considerations into the business plan*

- 3.23 Ten stakeholders responded on embedding environmental considerations into the business plans, the majority of whom agreed with our proposal.
- 3.24 Some of the reasons that stakeholders gave in support of embedding environmental considerations into the business plans were:
- it will be beneficial for consumers as it will provide more clarity on how TOs' allowances will deliver better environmental performance and greater accountability through the introduction of an annual environmental report
  - an environmentally sustainable network is good for consumers and will also help make the network resilient to climate change, and is also consistent with the National Planning Policy Framework, which outlines how infrastructure development should deliver on the government's 25-year Environment Plan
  - it is consistent with stakeholders' high expectations for TOs to take responsibility for the environmental impacts of their networks.
- 3.25 Stakeholders that responded to this question also made several other points, including:
- companies should provide clear justification if their ambition is to go beyond compliance with legal and regulatory requirements
  - if Ofgem adopts a comparative assessment of business plans, this would reduce incentives on TOs to collaborate in the development of common methodologies and tools
  - the need for more clarity on the impacts that will be covered, and the targets that will be applied, as well as guidance to network companies on assessing environmental impacts, such as the topic list within Strategic Environmental Assessments because it is a robust framework and has the flexibility to look at less well understood impacts
  - the need to ensure that benchmarking analysis takes into account:
    - the different levels of ambition across the TOs as this will be dependent on each TO's programme of work and stakeholders' needs
    - the inclusion of associated costs to deliver network services in a more environmentally sustainable way, where these are justified.
  - caution to be exercised against the use of a funding return ("claw back") mechanism for non-delivery because of a risk that it distorts incentives to seek cost savings, which also benefit consumers.

*Environmental impact areas*

- 3.26 Eleven stakeholders responded on whether the proposed impact categories are appropriate to focus on; the majority of stakeholders agreed that we had identified the priority areas for the next price control.
- 3.27 All of the TOs said that impact considerations should be extended to cover wider sustainability aspects, including social, community and economic. One TO said

that its stakeholders had asked it to consider this. Another TO acknowledged, however, that there is not an accepted metric for social outputs at present.

- 3.28 Two environmental stakeholders agreed that decarbonisation is a primary focus. However, they also stated that other environmental impacts are not optional extras. Both stakeholders recommended using a holistic approach to assessing new transmission proposals, such as Natural Capital accounting.
- 3.29 One TO said that there should be some flexibility for TOs to focus on impacts specific to their licence areas and also noted that targets should not penalise TOs for network growth. It also suggested including measures such as Biodiversity Net Gain as it is a mature and well-understood framework. For other impacts they said that more preparatory work is needed to develop a unified approach so that there is a consistent set of outputs for the whole sector.
- 3.30 Other respondents supported the need for biodiversity and natural capital metrics and highlighted work currently underway by the Department for Environment, Food and Rural Affairs (Defra) on biodiversity metrics and by the Natural Capital Committee on natural capital measures. They thought these could be suitable and available for adoption in RIIO-ET2 and would be beneficial for potential future reporting requirements. One stakeholder also noted that including these impact areas in the environmental framework would align with the UK government's 25-year Environment Plan.<sup>20</sup>

*Requirement to publish an annual environmental report*

- 3.31 Seven stakeholders responded to this question. The majority of stakeholders supported the proposal for TOs to publicly report annually on their environmental performances.
- 3.32 One energy supplier did not support the proposal. In their view a report on the network's impact on the environment should form part of a TO's general corporate responsibility.
- 3.33 One DNO suggested that this should be included in a single external-facing report covering all commitments in a company's business plan.
- 3.34 Stakeholders commented on potential reporting metrics as follows:
- Differences in reporting metrics could be justified if there are significant differences in the particular circumstances of the licence area and/or the licensee's stakeholders' needs
  - Comparing results across TOs will require some normalisation to account for differences between them, eg the scale of each TO's existing asset base
  - Some preparatory work is needed to implement common reporting methodologies in some areas, eg embedded carbon, resource use and waste
  - Natural Capital accounting does not have a measure for landscapes and as not all landscapes are nationally designated, this could be a significant omission. In addition, Wild Land Areas have been identified by Scottish Natural Heritage and the Scottish Government's National Planning Framework as being of national importance. Therefore, further consideration is needed on how the

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<sup>20</sup> <https://www.gov.uk/government/publications/25-year-environment-plan>

value of these landscapes can be captured in indicators used in company reports.

### Decision

#### *Embedding environmental considerations into the business plan*

- 3.35 Having considered responses, we have decided to adopt the environmental framework proposed in our December consultation for the TOs to embed a range of environmental considerations into their Business Plans. The majority of stakeholders that responded to this question supported our proposal.
- 3.36 As set out in the Core Document, under this approach we expect the TOs to assess their RIIO-ET2 Business Plans and identify value-for-money initiatives and activities to reduce their environmental impacts in an action plan. We expect that the initiatives that the TOs might propose in their RIIO-ET2 Environmental Action Plans could involve changes to existing practices, or new activities to start managing and reducing the network's impacts.
- 3.37 If a TO's proposed Environmental Action Plan is well-justified, we will set funding allowances for the efficient costs of delivering the plan and set PCDs accordingly.
- 3.38 In providing a robust justification for their action plans, we expect TOs to explain:
- the methodology used to assess the environmental impacts of their network and Business Plan in RIIO-ET2
  - their overall targets/objectives for the network's environmental impacts, which might be longer term than the RIIO-ET2 period
  - their assessment of the network's environmental impacts in RIIO-ET2 in comparison to its current impacts
  - the impact areas they have prioritised for action in RIIO-ET2 and how these are linked to its long-term targets
  - the milestones and indicators to track their RIIO-ET2 performance towards their environmental targets
  - the efficient costs of delivering environmental benefits through the action plan, including robust evidence that these are value for money for consumers
  - the expected deliverables, outputs or environmental benefits from implementing the action plan and the associated PCDs.
- 3.39 We consider that embedding environmental considerations into the Business Plan will provide considerable benefit to consumers over the course of RIIO-ET2. It helps to avoid the difficulties we currently face in setting output incentives for some environmental impact areas, whilst ensuring that the companies take responsibility in RIIO-ET2 for addressing impacts in some important areas, such as embedded carbon and resource efficiency.
- 3.40 In our view, the environmental framework will ensure that fundamental steps are taken by the TOs in RIIO-ET2 that are needed to achieve meaningful reductions in the networks' environmental impacts in the longer term across the range of impact areas. For example, this approach will ensure that there is comprehensive dataset on a range of environmental impacts from the transmission networks.

- 3.41 This will give greater transparency to stakeholders and consumers on the level of responsibility the TOs are taking for reducing their impacts on the environment. It will also give stakeholders greater assurance that the TOs are undertaking these responsibilities in a holistic way. In addition it will also provide clarity on how the TOs are contributing to the government's 25-Year Environment Plan and the National Infrastructure Commission's recommendations in its 2018 National Infrastructure Assessment. Lastly, it will provide solid foundations for developing robust output delivery incentives in RIIO-ET3.

*Level of incentive*

- 3.42 We consider that the combination of available mechanisms in the RIIO-ET2 package provides an appropriate level of incentive overall to drive the TOs' ambitions to deliver an environmentally sustainable network. In addition to the arrangements set out in this chapter, there are also the Business Plan Incentive, a new quality of connections incentive to drive improved connections outcomes, including low carbon connections, as well as an innovation stimulus to trial potential network solutions to the challenges coming from the low carbon transition.
- 3.43 For the purpose of the Business Plan Incentive our assessment of a TO's Environmental Action Plan will be against our view of whether it meets the minimum requirements. We are providing further detail on the minimum requirements as part of the Business Plan Assessment guidance.

*Potential for additional common ODIs*

- 3.44 We have looked at whether there is scope for additional common environmental ODIs. However, we have concluded that there is little scope at this time for developing additional common ODIs that will provide good value for money for consumers over RIIO-ET2. The main limitations include:
- Uncertainty and potential unintended consequences of setting baseline targets for ODIs in absolute terms, such as total controllable BCF. For example, this might not be appropriate if networks and associated operations expand/contract in response to customer needs. This could lead to windfall gains or undue penalties, which could have unintended consequences for other output incentives, eg quality of connections
  - A lack of data to set benchmark metrics (eg CO2 intensity of operation travel miles), which could better accommodate exogenous drivers. However, in the absence of existing data, it would be difficult to set targets around which deviations would be rewarded or penalised. We need several years' data (and possibly data from other comparable industries) to understand what 'good' looks like before we could set with confidence an incentive target that represents good value for consumers.

*Flexibility to accommodate differences in circumstances*

- 3.45 We recognise that there are likely to be differences in circumstances and opportunities across the networks, as well as the level of ambition adopted by each of the TOs, which may result in variation across the RIIO-ET2 Environmental Action Plans. Our ability to accommodate these differences within our cost benchmarking process will depend on the quality of supporting information on its action plan provided by each TO.



- 3.46 We agree that companies should have some flexibility to focus on environmental impacts specific to their licence areas. Although this could result in a degree of variation across the companies, we consider it is in consumers' interests for a company to focus on its material environmental impacts, including those in its own licence area. We expect the companies to provide robust justification in their action plans for prioritising impact areas and the associated initiatives to reduce these.

*Framework for assessing the environmental impacts of RIIO-ET2 Business Plans*

- 3.47 We do not intend to prescribe a specific framework for the companies to assess the potential environmental impacts arising over RIIO-ET2. However, as explained earlier, we expect the companies to provide information on their methodology for assessing the environmental impacts of their Business Plan. Using this information we will assess whether each company has carried out a robust approach to integrating environmental considerations into its Business Plan.
- 3.48 Adopting a robust approach will be an essential requirement of our overall review of companies' Business Plans in this area. More details on the criteria we will use for assessing the companies' approach are set out in our Business Plan Assessment Guidance.

*Delivering meaningful environmental improvements in RIIO-ET2*

- 3.49 We recognise that it takes time to get a meaningful environmental improvement because of the lead time involved in the implementation of initiatives, particularly at scale, and the time lag in monitoring and measuring the results. Nonetheless, we believe that our framework to embed environmental considerations into RIIO-ET2 Business Plans will be effective in realising meaningful environmental gains in RIIO-ET2 and beyond.
- 3.50 To demonstrate that they are taking responsibility for their environmental impacts, a company will need to provide a well-justified Business Plan (see paragraph 3.38) for the Environmental Action Plan they are proposing in RIIO-ET2 to manage and reduce their environmental impact. As part of any such justification we expect the company to show how these link to its overall environmental objectives and targets.
- 3.51 This might be demonstrated, for example, through a roadmap which highlights the impacts it is prioritising in RIIO-ET2, with indicators it will use to track performance towards its overall environmental targets. Although it is possible that the targets will extend beyond RIIO-ET2, the requirement to publish an annual report on environmental indicators will give stakeholders sight of whether the companies are delivering meaningful environmental improvements during RIIO-ET2 that are needed to achieve longer-term targets.
- 3.52 We also think that applying PCDs (where the TOs' efficient costs are funded) for well-justified activities to reduce environmental impacts can, relative to output incentives, help avoid a stop-start quality in the delivery of some outputs because of potential regulatory uncertainty, at the end of a price control period, around the treatment of such outputs the next price control. In our view PCDs will support TOs in delivering a steady and sustained action plan that reduces the environmental impact of their activities over the RIIO-ET2 period.

*Funding recovery mechanism if Environmental Action Plan PCDs are not delivered*

- 3.53 We have decided to introduce a funding return mechanism to recover allowances in the event that a PCD associated with a particular commitment in the Environmental Action Plan is not delivered. We note that one stakeholder cautioned against such a mechanism because it can reduce incentives on the network companies to seek efficiency savings.
- 3.54 It is not our intention to recover cost savings a TO has achieved in delivering a PCD; we consider this is unnecessary as cost savings (and overspends) will be subject to the totex sharing factor. The intent of the funding recovery mechanism is to recover funding only when PCD has not been met.

*Managing interactions with the Business Plan Incentive and bespoke ODIs*

- 3.55 One respondent noted that we need to address how the environmental methodology and any bespoke ODIs are integrated with the Business Plan Incentive. They also highlighted the potential risk of double reward.
- 3.56 To address this issue, and to ensure arrangements are complementary and effective, we are developing Business Plan Assessment Guidance covering the environmental framework (as noted in paragraph 3.38 above).
- 3.57 We will use this guidance to assess the strengths and weaknesses of companies' business plans for managing their environmental impacts. It will also will help to manage the risk of double reward because it will include detail on our view on the minimum requirements. This will assist in coordinating our assessment of business plan quality in this area for the Business Plan Incentive. The guidance should also encourage the companies to increase their ambitions for delivering environmental improvements for consumers.

*Environmental impact areas*

- 3.58 We welcome the support of stakeholders that the impact areas set out in the December consultation are the right areas to cover. We have decided that the environmental framework for TOs will focus on their:
- BCF and embedded carbon
  - other environmental impacts (ie pollution to local environment; resource efficiency and waste; biodiversity loss; and visual amenity issues relating to infrastructure)
  - contribution to the low carbon energy transition.
- 3.59 We have considered the case for extending the scope of this output category to cover broader sustainability considerations such as socio-economic issues. We note that most respondents supported focusing activities on the networks' environmental impacts and that TOs, unlike distribution companies, do not have direct contact with domestic customers.
- 3.60 TOs may still choose to propose bespoke outputs as part of their Business Plans. We will assess all proposals for bespoke outputs in line with the approach set out in Chapter 5 of the Core Document.
- 3.61 We disagree with the view that the TOs' contributions to the low carbon transition should not be included as part of price control environmental framework. The environmental framework covers TOs' direct environmental impacts as well as their contributions to the low carbon energy transition. Our current view is that a

- major part of a TO's contribution to the low carbon energy transition is captured through other price control measures, including our proposals around the quality of connections and our innovation stimulus.
- 3.62 However, given the significant role of transmission networks in the energy system, it is reasonable to assume that they could have a positive impact on addressing some of the key challenges for low carbon energy transition such as decarbonising heat and transport, and in ways that extend beyond their core role. If they can, and do, positively contribute, this should be beneficial for existing and future consumers.
- 3.63 In the December consultation, we put forward an option of allowing the TOs to develop, with stakeholders, bespoke ODIs for contributing to the low carbon energy transition in a way that is above and beyond the areas covered by the price control. For our decision on allowing bespoke ODIs please see paragraph 3.121.
- 3.64 We also note the view of several stakeholders that the TOs should adopt biodiversity and natural capital measures, which are currently being developed by Defra and the Natural Capital Committee, in their environmental reporting.
- 3.65 We have considered responses that we need to provide more detail about our expectations of the network companies with respect to their business plans for delivering an environmentally sustainable network. Some stakeholders have also suggested that Ofgem set specific targets for some impacts, ie capping the length of overhead line to manage visual amenity impacts or a target for the TOs' BCFs.
- 3.66 In the Core Document, we have set out our vision for the companies in delivering environmentally sustainable networks over RIIO-2 (see Chapter 7).
- 3.67 We also have set out in the Business Plan Assessment Guidance more detail on our expectations of the companies. This includes:
- Assessment criteria for looking at how the companies have integrated environmental considerations into their Business Plans
  - Our view of the minimum requirements for the RIIO-ET2 Environmental Action Plan price control period.
- 3.68 Although we have data on each TO's total and controllable BCF we do not intend to set a target for this. We have concerns that setting a BCF target in terms of absolute emissions could result in some unintended consequences for other outputs such as generator connections (many of which will be low carbon) if the connection activity contributes to a TO's headline emissions.
- 3.69 We do, however, expect companies to review opportunities for reducing their environmental impacts and to set out their own targets and objectives in their action plans. We also expect the companies to specify key milestones and indicators, eg carbon intensity, resource efficiency etc to track performance in RIIO-ET2 towards achieving their overarching goals.
- 3.70 We note concerns raised by a stakeholder about the challenge of setting PCDs (in terms of impact reduction targets) in some areas such as embedded carbon, resource use and waste and supply chain, because of the lack of data about existing baselines.

- 3.71 Although there are fewer opportunities at present for setting performance targets as PCDs in some areas, we think there is ample scope for the TOs to identify specific actions or outputs, and set PCDs for these in RIIO-ET2, in order to lay the groundwork that is needed to drive deeper impact reductions in these areas in the longer term.
- 3.72 Many of these are likely to be 'no-regrets' or 'win-win' actions, which are less sensitive to developments in policy and the future energy system. Consequently, they can be prioritised and implemented with a high degree of confidence that they are beneficial for the environment and consumers' interests. For example:
- Research and monitoring: measure the embodied carbon of new projects
  - Corporate policies: set a science-based target for BCF; integrate considerations about material recovery at end of life into procurement frameworks
  - Practical actions: ask waste contractors to measure/weigh waste and share results and challenge staff to reduce.

*Requirement to publish an annual environmental report*

- 3.73 Having considered responses to this question, we have decided to require the TOs to publish an annual report on their transmission network's impact on the environment. All but one stakeholder that responded to this question supported the proposal.
- 3.74 We consider that a public report will be beneficial for consumers and the environment as it will increase transparency and the accountability of the TOs in relation to their environmental responsibilities.
- 3.75 We intend to introduce a licence obligation for a public environmental report through a new licence obligation. We also intend to provide guidance to the TOs on the general aims, scope and form of the annual public report, as well as the need to involve stakeholders in the development of the environmental report.
- 3.76 We agree 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 TOs to work collaboratively with each other and with interested stakeholders to develop appropriate reporting metrics and a report format in the lead up to RIIO-ET2.
- 3.77 We disagree that a report on the network's environmental impact would be satisfactorily covered by general corporate responsibility. We note that this has been the default option under RIIO-ET1, and has resulted in annual reports of varying usefulness. For example, the coverage of impacts has not always been comprehensive, complete, or specific to the transmission licensee. In addition, the metrics reported by the individual companies are not always comparable to its peers.
- 3.78 One stakeholder suggested that the annual environmental report is included in a single external-facing report covering all commitments in a company's business plan. We do not have a particular view on this at present, but our position is likely to evolve when we have had sight of the other commitments included in the TOs' business plans.

### Interaction with other policy areas

3.79 The main interactions we have identified to date are summarised below:

- Business Plan Incentive: the quality of justification submitted for the Environmental Action Plan and the level of ambition will contribute to the overall Business Plan Incentive assessment
- Cost assessment: the proposals for the costs of environmental activities and initiatives, including how they fit within the Business Plan, will be assessed as part of the overall Business Plan assessment
- Other interactions between the SF<sub>6</sub> incentive and the electricity system transmission losses, discussed later in this chapter. There may be additional interactions with bespoke ODI proposals that the companies may put forward.

### Next steps

#### *Business plans*

3.80 We will assess the TOs' Environmental Action Plans when they are submitted, as part of their RIIO-ET2 Business Plans. We will update the Business Plan guidance prior to the submission of the TOs Business Plans to include more detail on:

- Criteria we will use for assessing the TO's methodology for evaluating the environmental impacts of its Business Plan
- Our view on the minimum requirements for the RIIO-ET2 Environmental Action Plan.

#### *Implementation*

3.81 We will develop guidance to the TOs in due course on the general aims, scope and form of the annual environment report.

### **Electricity losses from the transmission network**

Purpose	To embed effective strategies for minimising losses on the transmission networks into business plans and annual reporting.
Decision	To retain the reputational incentive and embed this within the environmental framework described in the previous section.

### Summary of issue

- 3.82 Transmission losses refer to electricity that is lost between being put onto and exported from the transmission network. There are a number of factors that affect transmission losses, such as the materials and design of the assets on the network (eg the wires and transformers), the distance the electricity has to travel between supply and demand and the voltage at which the electricity is transported.
- 3.83 An increasing number of decentralised renewable generation connected to the transmission network is expected to increase the proportion of electricity lost in future. Losses on the system require additional generation to make up for this inefficiency, which consequently increases costs to consumers and also drives higher CO<sub>2</sub> emissions from the electricity system.

- 3.84 The transmission losses incentive in RIIO-ET1 requires TOs to consider how to minimise transmission losses on their networks.<sup>21</sup> TOs are required to consider the life-cycles of transmission assets and design a strategy of measures to minimise these losses when making future investment decisions. This could be achieved, for example, by investing in new lower loss transformers and other equipment, by investing in higher-voltage circuits, or through additional innovative approaches.
- 3.85 In addition to the requirement to publish a strategy for minimising losses on the transmission networks, TOs are required to publish reports in each year of RIIO-ET1 with progress updates on their performance against their strategies. Both the original strategy and the annual report update requirements are reputational in nature and do not have a direct penalty or reward attached.

#### Summary of our December proposals

- 3.86 In December we proposed to retain a reputational incentive for transmission losses in RIIO-ET2. In addition, we also proposed to:
- Integrate the losses strategy requirements into the Business Plan environmental framework submission
  - Integrate the annual losses reporting requirements into an annual environmental report as part of the environmental framework.
- 3.87 We also sought views on the introduction of a target or measure for improving metering at, and the energy efficiency of, substations and how this might work in practice.
- 3.88 Detailed information of our proposals can be found in the December ET Annex.

#### Summary of responses

##### *Integrating losses into the Environmental Framework*

- 3.89 Seven respondents provided feedback on this point. All but one respondent to this question supported the proposals to integrate the losses strategy and reporting requirements into the proposed environmental framework. Respondents highlighted the importance of reporting and incentivising losses reduction, while noting that there would be difficulty in setting robust measurable targets. A trade association body argued that the incentives on losses did not go far enough and that TOs need to take more responsibility for reducing these.
- 3.90 One TO suggested that the ESO is best placed to report on annual losses volumes, due to its role as the system operator and holder of this information.
- 3.91 One DNO suggested introducing a licence obligation on TOs to keep losses as low as reasonably practicable, such as that on DNOs within their licence conditions. This stakeholder was also supportive of Ofgem's proposal not to introduce an ED-style Losses Discretionary Reward, as this would not add value.

##### *Views on introducing measures for reducing losses at substations*

- 3.92 Three of the seven respondents to this question agreed that there could be potential benefits to the introduction of a measure or target for reducing direct losses at substations. However, most respondents also highlighted the importance of completing a cost benefit analysis before they would commit to a strong view.

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<sup>21</sup> For more information, see page 21: <https://www.ofgem.gov.uk/ofgem-publications/53835/t1decisionoutput.pdf>

The cost benefit analysis would help to establish if an incentive in this area would provide value for money to consumers and to help identify if the benefits would outweigh the costs of monitoring.

- 3.93 Three respondents noted that the findings from SPT's trial in this area should be shared, once available. They also noted, however, that the opportunities and benefits of this are likely to be limited.

#### Decision

- 3.94 We have decided to retain the transmission losses mechanism as a reputational incentive and to integrate the reporting requirements within the Environmental Action Plan within the Business Plan submission and annual reporting framework described in the previous section. We consider there remains a strong need for an incentive in this area due to the impact of losses on total carbon dioxide equivalent emissions (tCO<sub>2</sub>-e) emissions, and on the network costs paid by consumers. For the avoidance of doubt, this incentive will remain focused on minimising the total volume of losses on the network. A complete emissions profile will continue to be reported through BCF within the wider environmental reporting framework.
- 3.95 Due to the complexities of introducing a mechanism on the volume of losses directly controllable by the TOs, the incentive will remain reputational only.
- 3.96 We recognise the value of a strong reputational incentive and the advantages of a cohesive approach across environmental incentives. Therefore, we are retaining the requirement on TOs to have a comprehensive strategy for minimising controllable losses. We expect TOs to demonstrate within their Business Plans how they will deliver on these strategies. This is in line with our decision on the wider environmental framework. In addition, TOs will be required to publish annual update reports on their progress against their commitments to minimising losses made in their Business Plans. These reports will be integrated within the environmental annual performance reporting and will no longer be a stand-alone publication. We believe that consolidating these reports into a wider environmental report will enhance the reputational nature of the incentive and drive improvements in the quality and content of these reports. Additionally, we consider that this will provide a more consistent and comprehensive reporting package.
- 3.97 We note the suggestion made by one stakeholder that the requirement on TOs to publish annual loss volumes within the annual reports should be removed, due to this data being held by the ESO. However, this information provides useful context of the size of losses on the transmission network and the efforts of TOs to minimise the controllable aspects of this. We have therefore decided that this requirement should remain with the TOs.
- 3.98 We have considered the suggestion from a DNO to amend the Transmission Operator Special Licence Conditions to introduce a similar obligation to that currently in the DNO Licence Conditions, which is to ensure that 'losses are as low as reasonably practicable'.<sup>22</sup> We consider the minimisation of losses on the transmission network to be an important consideration for TOs. Therefore, we will be looking to strengthen the wording within the relevant licence condition, to outline this importance and to align messaging across sectors. There will be an

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<sup>22</sup> See Standard Condition 49(1) of the Electricity Distribution Licence.



opportunity to provide further feedback on this as part of our work on licence drafting.

- 3.99 We have decided not to introduce a target or measure for improving metering at, and the energy efficiency of, substations at this time. Given the views raised by respondents and the lack of supporting data in this area, we believe that more information is required on the potential costs and benefits of such a measure. However, we would be interested in the outcome of trials in this area. We also expect TOs to consider how this could be introduced as part of their ongoing efforts to minimise losses going forward.

#### Interaction with other policy areas

- 3.100 For RIIO-ET2 losses will be captured within the wider environmental framework described earlier in this chapter.

#### Next steps

##### *Business plans*

- 3.101 We expect TOs to demonstrate within their Business Plans how they will deliver on their comprehensive strategies for minimising controllable losses on their Transmission networks.

##### *Implementation*

- 3.102 We will consider strengthening the wording within the relevant licence condition to outline the importance of losses minimisation and to align the messaging across sectors. We welcome further discussion with the TOs and relevant stakeholders on this in the coming months.
- 3.103 Separately, we will continue to assess and consider studies and trials around metering or energy efficiency at substations, as appropriate.

#### **Additional contribution to low carbon transition**

Purpose	To reward network operators for delivery of a new contribution to the low carbon energy transition not covered elsewhere by the price control
Decision	We have decided that we will leave open the option for TOs to develop bespoke ODIs with stakeholders for delivering an additional contribution to the low carbon transition.

#### Summary of issue

- 3.104 One of the overriding objectives of the RIIO-ET2 framework is that network companies make a full contribution to the low carbon transition. Given the uncertainty around the energy transition, there could be activities that TOs can do to facilitate the low carbon transition that are not currently known or well understood. Some opportunities might exist now or might arise during the price control.
- 3.105 We consider TOs, working with stakeholders, are better placed to identify potential opportunities and to develop specific output proposals in this area that are good value for consumers. Accordingly, we wanted to engage with stakeholders on whether they thought it would be appropriate to keep this open for the RIIO-ET2 price control.

### Summary of our December proposals

- 3.106 We proposed that TOs should work with their stakeholders and User Groups to consider initiatives that might be suitable for a bespoke ODI. We also proposed that we would encourage initiatives that involve, where appropriate, collaboration with other network owners and, where appropriate, with third parties.
- 3.107 We proposed that we would only introduce bespoke ODIs in cases where there is a clear, demonstrable consumer benefit, and clarity around the activities that companies may be able to undertake.
- 3.108 We stated that when assessing any proposals for a bespoke ODI, we would need to consider carefully any interactions with other components of the price control.
- 3.109 We sought views on whether any approved bespoke ODI should only be rewarded upon delivery of the output and whether proposals submitted for a bespoke ODI should be included in our assessment for the Business Plan Incentive score.
- 3.110 Detailed information of our proposals can be found in the December ET Annex.

### Summary of responses

#### *Bespoke ODIs for delivering an additional contribution to the low carbon transition*

- 3.111 Nine consultees provided feedback on our proposals in this area. All three TOs and two other respondents supported the proposal to allow bespoke ODIs for additional contribution to the low carbon transition.
- 3.112 One respondent said they were unable to identify the circumstances where it would be appropriate to apply a bespoke ODI for only one network company in a sector. They said that an incentive that delivers value for consumers in one part of the country is likely to do so elsewhere. One respondent stated that the specific responsibility for contributing to the energy transition lies with Government to develop policy initiatives and they therefore do not agree with the option for TOs to develop bespoke ODIs.
- 3.113 One respondent sought more clarity on what additional ODIs might be needed and wanted to ensure that ODIs do not incentivise activities that may have perverse outcomes in relation to the transition.
- 3.114 One network owner said that common outputs would be appropriate for all TOs across the sector and they therefore generally cautioned against the independent development of output incentives. They also cautioned that bespoke ODIs could discourage cooperation between TOs and could also make comparing performance more challenging. However, this stakeholder acknowledged that if a strong case can be made for bespoke ODIs unique to a network's area, then the potential benefits of these for consumers should be realised. They said that the TOs must engage with their stakeholders to justify the development of such ODIs. They also noted that Ofgem would need to accommodate bespoke ODIs so that network companies are not penalised in the cost benchmarking process because they included additional expenditure to deliver outputs beyond business as usual.

#### *Nature and scope of potential bespoke ODIs*

- 3.115 Five stakeholders responded to this question. The TOs provided some ideas for potential activities they consider could be captured through bespoke ODIs. One TO suggested a potential ODI relating to working with local "green" supply chains to help boost a low carbon agenda and local economies.

- 3.116 One TO considers that social sustainability should be included within an ODI, and stated that it is imperative that TOs can propose bespoke ODIs particularly to give effect to the outcomes and ambitions reached through the enhanced engagement process.
- 3.117 An industry stakeholder stated that they doubt there are any justifiable bespoke ODIs and that if justifiable ODIs are missing from the overall proposals, it is likely they should be applied to all TOs.

*Factors to consider for bespoke ODIs for the low carbon transition*

- 3.118 Five stakeholders responded to this question. One TO noted that Ofgem has set out criteria for bespoke ODIs and has stated that it should be up to TOs to make their proposals in accordance with those criteria and then consult with Ofgem as they further develop their ODIs.
- 3.119 One TO indicated that while they support the idea of bespoke ODIs, it is important that any new ODI is clearly defined and that its objectives and targets are known and understood. They stated that bespoke ODIs should not form the majority of an output incentive package. They also note that cost benchmarking for RIIO-ET3 could be more difficult if a broad range of company-specific options are set as bespoke ODIs in RIIO-ET2. One TO indicated that they will provide their views once they have concluded their stakeholder engagement consultation.
- 3.120 One respondent reiterated that bespoke ODIs will make the price control more complex, be more likely to leak value through inaccurate targets and that the costs incurred by the TO in delivering the ODI would not be justified by its consumer benefit. They also reiterated the point that an additional ODI is likely to be appropriate for all TOs.

Decision

- 3.121 Following consideration of the responses, we have decided that we will leave open the option for TOs to develop bespoke ODIs with stakeholders for delivering an additional contribution to the low carbon transition. We consider that benefits for consumers could be realised, and that this potential should be tested through companies' business plans.
- 3.122 As discussed above in paragraph 3.61, we disagree with the view that the TOs' contributions to the low carbon transition should not be included as part of the price control environmental framework.
- 3.123 We believe that stakeholder involvement in the development of bespoke ODIs and our proposed assessment criteria (set out in Chapter 5 of the Core Document) will help ensure bespoke ODIs, if any, drive benefits for consumers.
- 3.124 We note respondents' high-level views on the kinds of activities that could potentially be captured through bespoke ODIs. We will assess specific proposals when we have further details as part of the business plan submissions.
- 3.125 As regards other factors we should take into account, we acknowledge respondents' views, however, we believe our assessment approach, as stated in our December consultation document and reiterated below, should provide a robust check of all bespoke ODI proposals.
- 3.126 In assessing proposals for new output incentives in the area of additional contribution to the low carbon transition, we will also take into account:

- the level of clarity provided by the TO on the contribution of the ODI to the low carbon transition (i.e. the output) and its delivery timeframes
- the availability of data and/or indicators to verify the TO's individual contribution
- the absence of incentive(s) for the output through other schemes or obligations
- the level of clarity provided by the TO on the materiality of the output, including benefits to the TO and consumers.

3.127 In response to the concerns about bespoke ODIs raised by respondents and discussed in paragraph 3.120), we note that our assessment of bespoke ODIs that come forward in the companies' business plans will be subject to consultation in our Draft Determinations. This will give stakeholders an opportunity to review proposals in greater detail and feedback on these.

#### Interaction with other policy areas

3.128 In setting outputs and incentives, we need to consider carefully any interactions with other components of the price control. The main interactions we have identified to date are summarised below:

- The environmental framework for business plans and annual monitoring
- Business Plan incentive: the quality of justification submitted for a potential additional contribution ODI could contribute to the overall Business Plan incentive assessment
- Licence obligations: the Standard and Special Transmission Operator Licence Conditions (as well as industry codes), define the requirements on the TOs.

#### Next steps

##### *Business plans*

3.129 We will assess all submissions for bespoke ODIs when they are submitted as part of the Business Plans, including any considerations of whether a bespoke ODI can and should be rolled out to all TOs.

#### **SF<sub>6</sub> and other insulation and interruption gases (IIGs) leakage**

Purpose	To incentivise a reduction in harmful greenhouse gas (GHG) emissions from leakage of SF <sub>6</sub> and other IIGs, and to support the transition to low GHG alternative IIGs.
Decision	<p>We have decided to:</p> <ul style="list-style-type: none"> <li>• Retain a financial incentive for leakage from SF<sub>6</sub></li> <li>• Include leakage from other IIGs in the incentive</li> <li>• Calculate the baseline each year based on well-justified additions and disposals (the calculation of the baseline will take place in the annual reporting templates)</li> <li>• Update the definition of an exceptional event for leakage.</li> </ul>
Upcoming decisions	<p>We will be reaching a decision on the following in Draft and Final Determinations:</p> <ul style="list-style-type: none"> <li>• The method we will use for setting the starting point for IIG leakage in the baseline.</li> </ul>

### Summary of issue

- 3.130 SF<sub>6</sub> gas is used in some high voltage (HV) switchgear, because it has excellent insulating properties that historically could not commonly be matched by other insulation and interruption gases (IIGs) available in the market. However, SF<sub>6</sub> is a particularly potent GHG. It has a global warming potential (GWP) approximately 24,000 times stronger than CO<sub>2</sub>.
- 3.131 Fugitive emissions from SF<sub>6</sub> leakage are the biggest single component of the networks' carbon footprint directly within company control.
- 3.132 In RIIO-ET1 the SF<sub>6</sub> incentive is designed to drive companies to fully consider lifetime costs (including the environmental impact of the expected emissions) when making decisions about SF<sub>6</sub> assets and to improve the management of, and reduce leakage rates from, SF<sub>6</sub> assets operating on the system.
- 3.133 We will only see a fall in the emissions overall if a transition to alternative IIGs with lower GWPs occurs.
- 3.134 Since the beginning of RIIO-ET1 we have seen significant technological development of alternative IIG assets. As such, we consider this a timely opportunity to drive the network companies to work collaboratively with the supply chain to bring to market less harmful IIG assets. The objective of this is to avoid additional, and enduring, large stocks of new SF<sub>6</sub> assets being brought onto the network.

### Summary of our December proposals

- 3.135 We consulted on whether we should retain a financial reward and penalty incentive for SF<sub>6</sub> reduction, or move to a penalty-only or reputational incentive.
- 3.136 We also sought views on:
- Whether leakage from other IIGs should also be captured in the incentive measure
  - The potential impact on TO behaviours of removing the financial incentive, or moving to a penalty-only scheme
  - Considerations for setting baseline targets.
- 3.137 We also sought views on whether some leakage events should continue to be excluded from the incentive.
- 3.138 Detailed information of our proposals can be found in the December consultation document RIIO-2 Sector Specific Methodology Annex: Electricity Transmission.

### Summary of responses

#### *Form and scope of the incentive*

- 3.139 Seven respondents provided feedback on whether we should retain a reward and penalty, or move to a penalty-only or reputational incentive.
- 3.140 All of these respondents supported retaining an incentive for SF<sub>6</sub> and most thought a symmetrical financial incentive (reward and penalty) should be retained.
- 3.141 Five respondents provided feedback on the potential impact of a move away from a financial reward. All TOs opposed moving to a penalty-only incentive and thought that having a financial reward to reduce SF<sub>6</sub> leakage can help drive

industry outperformance. Two TOs stated that they believe that there is not currently a commercially viable alternative for many of their assets. Two TOs argued that a financial reward is important to reduce SF<sub>6</sub> emissions beyond targets and a penalty-only incentive would mean TOs only seek to comply with their targets.

- 3.142 One respondent stated their support for retaining this incentive, suggesting that if it is well targeted and proportionate, it will ensure companies will get the best result for consumers.
- 3.143 Five consultees provided feedback on whether the incentive should also include leakage from other IIGs. Two TOs agreed that it would be appropriate to capture leakage from other IIGs in the incentive measure. One TO added that the inclusion of alternative IIGs would need to be scaled appropriately given the different GWPs.
- 3.144 Another respondent noted that the focus should remain on SF<sub>6</sub> but that it may be sensible to include an incentive on IIGs if the leakage could have a material impact.
- 3.145 One TO stated that excluding alternative IIGs could keep the incentive simpler and potentially be a stronger incentive on TOs to reduce SF<sub>6</sub> emissions. The same TO stated that they do not think the SF<sub>6</sub> incentive is the right way to stimulate TOs to look for alternative IIGs, and that long-term innovation funding would be a better approach to stimulating the development of alternative to SF<sub>6</sub>.
- 3.146 Two respondents, including one TO, stated that they believe the inclusion of other IIGs in the incentive could potentially restrict the development and deployment of alternative IIGs.

#### *Baseline targets*

- 3.147 All three TOs raised concerns around our proposals for setting the baseline.
- 3.148 One TO stated that they would prefer the current yearly baseline adjustment mechanism, where baselines are adjusted each year to account for new assets containing SF<sub>6</sub> that are added to the network, to continue but only where justified and non-SF<sub>6</sub> alternatives are not available.
- 3.149 One TO queried how the metric will operate, in particular whether it will be based on mass reduction, existing leakage reduction, or an absolute carbon emission (equivalent) reduction. The TO said that while they agree with the intent of an absolute reduction in the long term, there could be challenges for RIIO-ET2 with regards to the commercial availability of alternative IIG assets at some voltages.
- 3.150 One TO also raised concerns regarding the proposal to only increase the baseline GHG leakage target for new assets where the asset contains an alternative IIG to SF<sub>6</sub>. They stated that a potential perverse effect of this change might be, for example, a TO connecting a low-carbon generator might use SF<sub>6</sub> assets. The overall impact on the energy system of making this connection might be lower carbon emissions, however, the TO would be penalised for increasing its SF<sub>6</sub> asset inventory because there are no commercially viable alternatives.

#### *SF<sub>6</sub> exceptional events*

- 3.151 Five consultees responded to this question. All stakeholders who commented on this question thought that some 'exceptional' leakage events should continue to be excluded from this incentive.

3.152 One TO requested that Ofgem provide further clarity on what defines an 'exceptional' event.

Decision

3.153 We outline our decision to retain the SF<sub>6</sub> incentive in this document, including extending it to capture IIG. We also outline our decision on a number of key features.

3.154 We will be reaching a decision on the method we will use for setting the starting point for IIG leakage in the baseline at Draft and Final Determinations. We have outlined options for this in this document.

*Form and scope of the incentive*

3.155 Having considered the responses, we have decided to:

- retain a symmetrical financial incentive (reward and penalty) for leakage of SF<sub>6</sub>
- include leakage of other IIG in the incentive measure.

3.156 In RIIO-ET1 we have seen all companies reduce their leakage emissions of SF<sub>6</sub>. We consider that opportunities still exist for increased performance regarding leakage reduction from SF<sub>6</sub> and other IIGs, and that retaining a symmetrical financial incentive with a positive upside will incentivise companies to outperform their baseline leakage targets. We agree that changing this incentive to penalty-only could drive a compliance-only approach to leakage management.

3.157 The intent of the incentive is to encourage TOs to consider environmental impacts when procuring new IIG (including SF<sub>6</sub>) assets and to manage equipment containing IIG (including SF<sub>6</sub>) to efficiently minimise GHG emissions. We consider that including alternative IIG in the leakage incentive will help to ensure a holistic approach to managing GHG emissions from all assets containing IIG. We consider that including all IIG in the incentive is necessary to avoid potential perverse outcomes that would allow other IIG with GWP to be installed on the network and not be treated the same as SF<sub>6</sub>.

3.158 We note that some changes to the mechanism will be required to ensure baselines and targets take into account the different GWP of each IIG. These are discussed below.

3.159 A concern was raised that including emissions of alternative IIGs in the incentive could restrict development and deployment of alternatives. We interpret from the responses that this concern is based on an assumption that the baseline target is set in advance for the whole of the price control period. In such a case, a TO would be generously rewarded under the incentive if it installed an asset containing another IIG instead of an SF<sub>6</sub> asset (which is anticipated in the pre-set baseline). However, this is not the purpose of this incentive. As noted above, the intent of the incentive is to encourage TOs to consider environmental impacts when procuring new IIG (including SF<sub>6</sub>) assets and to manage equipment containing IIG (including SF<sub>6</sub>) to efficiently minimise GHG emissions.

3.160 Some respondents also stated in their responses that this is not the right mechanism to incentivise development of alternative IIGs with lower GWP.

3.161 We acknowledge that by itself the incentive is unlikely to fund the development of alternatives to SF<sub>6</sub>. However, we consider that the incentive provides a strong



signal to companies and to their suppliers about the need for low GWP alternatives. We consider such signals should encourage both the TOs and suppliers to prioritise R&D strategies. In RIIO-T1 consumers have already funded innovation projects for SF<sub>6</sub> alternatives through the innovation funding mechanism and we would expect to see the learnings from these investments reflected in business planning for RIIO-ET2.

- 3.162 As explained in chapter 10 of Core Document we have decided to retain a strong innovation funding programme for both big transformational R&D projects, as well as smaller scale process or technological innovations. This innovation funding will focus primarily on projects solving problems relating to longer term energy system transition and addressing consumer vulnerability.

#### *Baseline targets*

- 3.163 Based on experience of the SF<sub>6</sub> incentive in RIIO-ET1 we have decided to make several adjustments to the incentive mechanism to provide tighter and more accurate baseline targets. We will finalise the methodology at Draft and Final Determinations.
- 3.164 First, we have decided to set a calculated baseline target for each TO as tCO<sub>2</sub>-e for the total volume of leakage from all IIG-containing assets installed on the network. We consider that a tCO<sub>2</sub>-e target will increase transparency for stakeholders of the material impact of IIGs and is better aligned with the objective of the incentive.
- 3.165 Second, the baseline target will be calculated using an initial amount of base emissions from IIG leakage which will then be adjusted each year in RIIO-ET2 for actual disposals and additions that are justified. For RIIO-ET2, the initial amount of base emissions will be set using an emissions profile from each TO at the end of RIIO-ET1, excluding any anomalies/events captured by 'exceptional' events claims. The options we are considering to set the initial amount of base emissions are:
- Multiplying each TO's IIG inventory at the end of RIIO-ET1 by the lowest leakage rate (e.g. 1%) observed on each TO's network over RIIO-ET or
  - The average of leaked IIG emissions from the final three years of RIIO-ET1 or
  - Leaked IIG emissions in the final year of RIIO-ET1.
- 3.166 We will further consider each of the above options with interested stakeholder before deciding on the preferred method to set the initial amount of base emissions.
- 3.167 For the purpose of calculating adjustments for disposals and justified additions the following leakage rates will be used:
- Disposals will use the average leakage rate of the asset from the last three years of operation
  - Additions will use the manufacturer's declared leakage rate.
- 3.168 In RIIO-ET2, the leakage volume and individual GWP for each class of IIG installed on the network will be reported in the Annual Regulatory Reporting Pack templates. This will allow for new IIG and the relevant GWP to be included in the incentive (through the Annual Regulatory Reporting Pack), as they become available.

- 3.169 Companies will report annually on their tCO<sub>2</sub>-e from IIG emissions and receive a reward or penalty for the deviation from their baselines. We will apply a marginal incentive, equivalent to the prevailing non-traded annual carbon price, recommended by the Department of Business, Energy & Industrial Strategy (BEIS).<sup>23</sup>
- 3.170 In the December consultation we discussed the idea of setting a baseline target for an overall decrease in emissions by the end of RIIO-ET2 and only increasing baselines where a low GWP alternative IIG asset was added to the network. Some respondents raised concerns about this because for some assets, particularly active components at higher voltage, commercial alternatives are not currently available.
- 3.171 We consider it appropriate that the baseline target should accommodate new IIG assets, including SF<sub>6</sub> assets. However, in the case of an SF<sub>6</sub> asset, this should only apply where the need for a new SF<sub>6</sub> asset is fully justified. The justification should be included in the Annual Regulatory Reporting Pack when outlining each of the new additions.
- 3.172 Justification could include, but not be limited to, cases where:
- No alternatives are commercially available
  - The SF<sub>6</sub> asset is delivering wider system benefits which outweigh the direct lifetime environmental impact of installation, and operation of, the asset
  - An Air Insulated System is not a viable option due to physical restrictions.
- 3.173 Ideally companies will procure equipment containing a low GWP IIG alternative to SF<sub>6</sub>, or an AIS which contains significantly lower amounts of SF<sub>6</sub>, ahead of any Gas Insulated System containing SF<sub>6</sub>. Accommodating new SF<sub>6</sub> assets where these can be justified should allow time for additional alternatives to come to market and not cause undue penalties in the event that the installation of these assets is in the overall interests of existing and future consumers.
- 3.174 We expect companies to set out in their business plans an emissions profile from IIG assets installed on their networks over RIIO-ET2. This will not be used to set an emissions baseline. It will, however, provide a starting point for companies to assess environmental costs of IIG equipment in their business plan proposals for future capital expenditure. It will also support the overarching integrated environmental framework assessment and provide a more holistic view of company ambitions to outperform their leakage baselines.

#### *SF<sub>6</sub> exceptional events*

- 3.175 Having considered the responses, we have decided to retain an exclusion for leakage due to 'exceptional' events.
- 3.176 In line with the request from one respondent, we intend to provide a definition, in the licence, of an 'exceptional' event and the circumstances in which events would be deemed to be exceptional in regards to IIG (including SF<sub>6</sub>) leakage. This approach is similar to that taken for ENS with the definition listed in the special

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<sup>23</sup> BEIS set non-traded carbon value for each year out to 2100. BEIS's long term non-traded carbon values are reviewed every five years (<https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal>). The non-traded carbon prices to 2100 can be found in table 3 of [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/696677/Data\\_tables\\_1-19\\_supporting\\_the\\_toolkit\\_and\\_the\\_guidance\\_2017\\_180403\\_.xlsx](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/696677/Data_tables_1-19_supporting_the_toolkit_and_the_guidance_2017_180403_.xlsx)

licence conditions. This will provide more clarity to companies on events that may be eligible.

- 3.177 Additionally, and based on our experience of RIIO-ET1 to date, we are considering the need for a materiality threshold and will address this as part of the licence drafting work.

#### Interaction with other policy areas

- 3.178 The main interaction this output has with other policy areas is with the environmental framework for business plans and annual monitoring, as well as the BCF for the total CO<sub>2</sub> impact of SF<sub>6</sub> leakage. To avoid potential double funding, we will need to understand the extent to which TOs are requesting funding to replace SF<sub>6</sub> (or swap to other IIG) assets as part of their business plans. For example, where assets are identified for replacement and are funded as part of core activities, the target baseline for SF<sub>6</sub>/IIG reduction would need to be adjusted accordingly.

#### Next steps

##### *Upcoming decisions*

- 3.179 Changes will be required to the mechanism to ensure baselines and targets take into account the relevant GWP of each IIG. We will also finalise the methodology for setting the initial amount of base emissions from IIG leakage for the calculated RIIO-ET2 baseline leakage. This will be decided in discussion with interested stakeholders.
- 3.180 We will work with relevant stakeholders prior to Draft and Final Determinations.

##### *Business plans*

- 3.181 TOs will be required to provide details in their business plans of the GWPs for each alternative IIG on their network and consistent methodologies for how leakage of all IIGs, including SF<sub>6</sub>, will be measured, their proposed reporting approach and their indicative baseline.
- 3.182 We will refine the definition for exceptional events for leakage of IIGs, including SF<sub>6</sub>, for consultation as part of the licence drafting.

##### *RIIO-ET1 reporting templates*

- 3.183 In order to set an amount for the initial base emissions in the calculation of the RIIO-ET2 baseline target, we will need to make an adjustment for the IIG assets that are installed on the system at the end of RIIO-ET1, which are not currently reported, as well as including any SF<sub>6</sub> assets that are on the system. Therefore, we will need information from companies on their SF<sub>6</sub>/IIG asset base that we currently don't receive. In order to obtain this information, we will adjust the annual reporting templates at the end of 2019, for RIIO-ET1, to record IIGs and any uncaptured SF<sub>6</sub> stocks on the networks.

**Visual amenity impacts of transmission infrastructure**

Purpose	To efficiently reduce visual amenity impacts of pre-existing lines on protected landscapes. To incentivise TOs for stakeholder satisfaction on engagement around new transmission projects.
Decision	To retain the RIIO-ET1 mitigation scheme in protected landscapes and set PCDs for RIIO-ET2 projects. Amend stakeholder satisfaction scheme to incentivise TO's engagement on new transmission projects.
Upcoming decisions	Require updated information on Willingness to Pay in order to set size of available funding. We will reach a final decision on this as part of Draft and Final Determinations.

Summary of issue

- 3.184 The high voltage grid infrastructure in the UK primarily comprises overhead lines, supported on steel towers and substations which connect generation and demand and interconnect the whole power system. The prominent nature of transmission infrastructure can have impacts on local landscape and visual amenity.
- 3.185 Some stakeholders have concerns about the negative impacts of new and existing transmission infrastructure on landscapes and visual amenity.
- 3.186 In RIIO-ET1 we have two policies for mitigating the impacts of transmission infrastructure on visual amenity. The first of these is that the TOs efficiently meet the planning requirements for new infrastructure. To support the objective of this policy we have a flexible funding framework for new transmission projects.
- 3.187 The second policy allows transmission owners to efficiently reduce the impacts of pre-existing infrastructure on the visual amenity of National Parks (NP), Areas of Outstanding Beauty (AONB) and National Scenic Areas (NSA). There is a fixed amount of funding for the TOs to deliver mitigation projects over the RIIO-ET1 price control period.

Summary of our December proposals

- 3.188 In the December consultation we asked for views on whether we should retain the current RIIO-ET1 policies in relation to addressing transmission impacts on visual amenity, subject to the two proposed changes below:
- For new transmission projects, we consulted on some changes to explicitly capture stakeholders' satisfaction with a TO's engagement on new transmission projects
  - In relation to the scheme for mitigating the visual impacts of pre-existing transmission infrastructure in designated areas, we consulted on modifying the implementation process by which funding requests for mitigation projects would be submitted and approved, if the scheme were to be retained. We expressed our view that it would be necessary to re-survey consumer willingness to pay for mitigation projects in RIIO-ET2.
- 3.189 Detailed information of our proposals can be found in the December ET Annex.

### Summary of responses

#### *Stakeholder survey on TO engagement on new transmission projects*

- 3.190 There were 21 responses to this question. More than half of these highlighted the importance of early TO stakeholder engagement on new grid projects and transparency in this area for RIIO-ET2.
- 3.191 Several respondents also welcomed the specific proposal to introduce measures to incentivise TOs' stakeholder engagement. A distribution network owner suggested that a reputational incentive would be appropriate.
- 3.192 Two respondents stated that stakeholder engagement should be fully embedded in the business plans for new transmission projects.
- 3.193 Two TOs think that the introduction of an incentive was unnecessary because the planning process already mandates that the TOs carry out high-quality consultation. One noted that this proposal would risk rewarding TOs for activities that they are required to do, or incentivising consultation activities in addition to those required under the planning process.
- 3.194 One stakeholder noted that survey results are subjective. A TO thought they could be biased because survey respondents are likely to be those that object to a project.
- 3.195 One respondent highlighted that it doubted a survey would delve far enough into issues and may not adequately engage with hard to reach individuals and communities.
- 3.196 One respondent commented in respect of paragraph 4.87 of the December consultation that Ofgem do have a significant role in the options that a TO includes in its consultation and cited the example of the Beaulieu Denny line in Scotland.

#### *Retaining the scheme to mitigate the visual impacts of pre-existing transmission infrastructure in areas designated NP, AONB and NSA*

- 3.197 We had 32 responses to this question. All respondents apart from one supported retaining the existing scheme to mitigate the visual impact of existing infrastructure. Several respondents thought this is consistent with Ofgem's duties, including the duty to have regard to the purpose of NP and AONB. Several stakeholders also thought that retaining the scheme would maximise the preparatory work undertaken over RIIO-1 by the TOs.
- 3.198 An energy supplier noted that if there are wider societal benefits by addressing the visual impact of transmission assets then this should be addressed by funding that is outside of the price control arrangements, for example through Government support to ensure the electricity bill payer does not pay directly for these wider societal benefits under the price control.
- 3.199 Several respondents suggested broadening the scope of the scheme to cater for a full range of important landscapes or the different circumstances across the nations in Great Britain.
- 3.200 One distribution network owner had concerns that there could be possible distortions between funding to underground existing infrastructure and new infrastructure. They said funding should be targeted based on evidence of amenity priorities.

3.201 The majority of respondents supported the use of updated analysis around 'willingness to pay' (WTP) to inform the allowance for the scheme in RIIO-ET2. Some made additional comments, including:

- WTP should also cover distribution infrastructure
- WTP is an appropriate method but it would be better to adopt a more holistic approach
- The importance of using tangible examples that exist from RIIO-ET1 to assist in the willingness to pay analysis, but another respondent said that this would not be beneficial because there are no results on the ground yet from RIIO-ET1 that can be seen by the public
- If the mitigation scheme is subject to further WTP analysis, the same should apply to other elements of the business plans. They also noted that there are already a number of studies that identify consumer support for visual amenity projects so WTP analysis is not necessarily needed.

3.202 Some respondents did not support WTP analysis, and also noted that:

- WTP is a narrow measure of the public value of visual amenity in designated areas and ignores benefits to rural economy and international visitors' valuation. One stakeholder considered 'willingness to accept' as a more appropriate measure
- The retention of the scheme should not be dependent on further WTP research, and noted that since the study had already been commissioned, it negates the value of this question within the consultation. They also said that whatever method is used, the allowance should better reflect the overall calculated sum, which was not the case in RIIO-1.

*Modifications to the regulatory approval process for mitigation projects*

3.203 There were 21 consultees responded to this question. The majority welcomed an improved approval process but one respondent noted that the current implementation model is effective.

3.204 Some respondents were supportive of including proposals in the Business Plans, highlighting that previous work and methodologies can inform which projects go forward into the TO Business Plans. However, some questioned whether this was feasible and realistic. These respondents were concerned that including proposals in the Business Plan would be challenging as it would not leave enough time for stakeholder engagement or accurate cost estimates, therefore they considered that the price control deliverable should be set in tandem with setting the efficient cost allowances.

3.205 The majority of stakeholders agreed with the principle of setting an expenditure cap as a percentage of the total scheme allowance for each TO to deliver non-technical mitigation projects such as landscaping (which are typically much lower cost than replacing an overhead line with underground cabling). One stakeholder thought the proposed 2.5% should be the maximum amount in order that the majority of funding is spent on projects that have the biggest impact. However, several stakeholders thought the proposed 2.5% allocation from the total scheme allowance was not enough. They highlighted that it does not address the lack of take up of the fund or the fact that non-technical mitigation projects can bring significant benefits.

- 3.206 A TO would like to a maximum value for individual non-technical mitigation projects higher than £200,000 to allow larger and more diverse landscape enhancement projects to be considered.
- 3.207 Most stakeholders also supported a simple implementation process such as annual reporting on project delivery and expenditure to develop non-technical mitigation projects. One respondent thought this would be a more practical and proportionate approach than the current approach in RIIO-ET1 where TOs need to request approval from Ofgem for each non-technical project, given the relative low value of such projects.

*Additional issues relevant to the consideration of the RIIO-ET2 visual amenity policies*

- 3.208 There were 31 respondents to this question.
- 3.209 One environmental stakeholder would like to see the description of the visual amenity output, currently referring only to “mitigating visual amenity impacts in designated areas” changed back to the RIIO-ET1 description worded as “to efficiently meet planning requirements for new infrastructure and deliver visual amenity outputs by mitigating impacts of existing infrastructure when it is located in designated areas”. They consider this important because the impact of new infrastructure on visual amenity will be significant given the need for new infrastructure throughout the UK.
- 3.210 Some respondents had concerns that a five-year price control is challenging for the delivery of projects that require several years of development and implementation, particularly major undergrounding projects. Three respondents suggested that a scheme planned over two price control periods (10 years) would be more appropriate.
- 3.211 Nearly half of the respondents to this question would like the scheme to extend beyond designated areas and increase the flexibility of the scheme to allow for more holistic mitigation. Others noted that it should remain as it is and that first the scheme should be delivered in designated areas before extending the scheme.
- 3.212 A few respondents suggested including World Heritage Sites within the designated landscapes.
- 3.213 Two respondents noted that the scheme should consider ‘ordinary’ landscapes as this is where many people work, live and spend their leisure time.
- 3.214 One respondent asked Ofgem to consider how Wild Land Areas in Scotland can be protected when new transmission projects come forward and asks that consideration is given to whether the Wild Land Areas can be included as eligible areas for visual amenity impact mitigation in the next RIIO round.
- 3.215 Another issue highlighted by respondents was the mismatch of timing and renewal programmes between the TO and DNO and the need for greater coordination in RIIO-ET2.
- 3.216 Three respondents (noted that it would be helpful for the LEI to fund the preparation stage of the applications, as happens with other funding bodies such as the Heritage Lottery Fund. This would help the resourcing at the AONBs, improving the uptake of this scheme from AONBs.



### Decision

3.217 We set out our decision on new infrastructure projects and retaining the RIIO-ET1 mitigation scheme below.

3.218 With regards to the latter, we will require updated information on Willingness to Pay in order to set size of available funding. We will reach a final decision on this as part of Draft and Final Determinations.

### *New transmission infrastructure*

3.219 In relation to new transmission infrastructure projects, we note that these require planning approval and are subject to a variety of considerations, including visual amenity impacts, as part of stakeholder consultation that is mandatory under the relevant planning requirements. Accordingly, it is important that the price control facilitates the TOs to address efficiently the impacts of a new transmission project, including visual, as needed to obtain planning consent.

3.220 Having considered responses to our December consultation, we have decided to introduce the requirement on TOs to survey stakeholders on its stakeholder engagement process on new projects.

3.221 We have decided not to attach a financial incentive to the survey. Given the issues raised by some respondents about the likely subjectivity of results and the potential skew in the survey participants we agree it is not appropriate to attach a financial reward/penalty. We also note that we do not have the information we need to form a view on a baseline target around which a financial reward/penalty would apply. Instead, we will require the companies to survey stakeholders and report publicly on the results, including results of the survey, and any commitments they intend to take forward. We consider this will create a reputational incentive for the TOs to be responsive to different stakeholders' needs to engage on new transmission projects.

3.222 We recognise there are existing consultation requirements in planning; our decision to introduce a survey is intended to introduce a transparent stakeholder feedback loop in respect of a TO's engagement processes.

3.223 The main aim is for the survey to allow stakeholders to help identify opportunities for potential development of the stakeholder engagement process. For example, stakeholders might feedback on the parts of the process that a typical stakeholder finds challenging to engage with. These might be due to the technical content or because stakeholders find it difficult to understand the wider context, as well as the different stages in the process. In addition, stakeholders may also have views on ways to engage effectively with hard to reach stakeholders and communities. To this end, we anticipate such a survey will include several open-ended questions to allow stakeholders to identify challenges and future opportunities. Please see our decision on the stakeholder satisfaction survey in chapter 2.

3.224 One stakeholder said that while Ofgem might not have a formal role in the planning process it can have a significant influence on the options that a TO consults on for a new transmission project.

3.225 We acknowledge that as the regulator we do have an influence on the project plans of the TOs.

3.226 In recognition of this we adopted the Strategic Wider Works (SSW) arrangements in RIIO-ET1 to assess both the need and efficient costs of new large transmission

projects. Importantly, the arrangements make our role in relation to new transmission projects transparent as well as improve the accessibility for wider stakeholders to input into our assessment.

3.227 Under SWW our assessment takes a staged approach, including early scrutiny of projects, so that we can review, in real time, decisions taken by a transmission owner to ensure that they are meeting their duties under the Electricity Act 1989. In doing so, we also take into account relevant obligations on the transmission owner, such as Planning Statements to have regard to amenity considerations. In addition, we publicly consult on each stage of our SWW assessment, to provide an opportunity for stakeholders to feedback on our assessment, including whether it has included all relevant considerations before finalising our conclusions.

3.228 We have also noted the concern of one stakeholder regarding the proposed definition of the visual amenity output in RIIO-ET2.

3.229 We confirm that our policy position for the RIIO-ET2 price control in relation to new infrastructure is unchanged from RIIO-ET1. Specifically, our policy is that the price control should enable transmission companies to efficiently address a new transmission project's impacts, including visual amenity, as necessary to obtain planning consent.

3.230 As explained in the December consultation, we adopted this policy position because it is consistent with:

- the TOs' obligations under the Electricity Act 1989 to develop and maintain an efficient, coordinated and economical system of electricity transmission
- the National Policy Statement for Electricity Networks Infrastructure that each project should be assessed individually on the basis of its specific circumstances, and to balance the visual, environmental and other impacts of grid infrastructure, along with the overall cost.

3.231 However, we will not amend our definition of the RIIO-ET2 visual amenity output in the output summary table to include our RIIO-ET2 policy position on new infrastructure. This is because our price control policy is not an explicit price control output. In contrast, the delivery of mitigation projects to address the visual amenity impacts of pre-existing infrastructure in nationally designated areas is a specific price control deliverable in RIIO-ET2.

*Retaining the scheme to mitigate the visual impacts of pre-existing transmission infrastructure in designated areas*

3.232 Having considered the responses to this question we have decided to retain the scheme to mitigate the visual impact of pre-existing transmission infrastructure in designated areas, subject to updated analysis that there is consumer WTP for additional projects in RIIO-ET2.

3.233 We note the concern by one stakeholder that this scheme is adding costs to electricity bills. However, the scheme is contingent on consumer valuation of the benefits from mitigating the visual impacts of existing infrastructure and willingness to pay for these projects. The study of WTP will be updated for RIIO-ET2 to verify consumers' preferences.

3.234 We've considered the suggestion to extend the scope of the scheme to other landscapes, particularly in Scotland. The aim of the scheme is to maximise the benefits of projects, in terms of mitigating impact on visual amenity. We consider

that the benefit to consumers from the scheme will be maximised by delivering mitigation projects in sites that have been designated specifically for their natural beauty special qualities. Therefore, we have decided the scheme will continue to cover existing infrastructure within National Parks, Areas of Outstanding Natural Beauty and National Scenic Areas.

- 3.235 We have also considered stakeholders' views that the scheme should also mitigate the visual impacts of pre-existing infrastructure on the setting of a designated area (i.e. in close proximity but outside the designated area's boundary). We confirm that the scheme in RIIO-ET2 will retain the flexibility of the RIIO-ET1 scheme to facilitate the delivery of projects within the settings of designated areas. We consider it is a matter for stakeholders involved in project selection to assess the costs and benefits of the specific candidate mitigation projects and to decide on the project options that best meet the scheme's objective to maximise the benefits for consumers.
- 3.236 We welcome the support from the majority of stakeholders that answered this question that updated WTP should be used to inform the allowance for the scheme in RIIO-ET2.
- 3.237 We've considered the views of some stakeholders that the allowance in RIIO-ET2 should be informed by a study of willingness to accept the persistent presence of visual intrusion, which they think is a better measure of the value of the amenity loss. We recognise that WTA is an alternative measure of the amenity loss as it estimates the amount of money at which a person would be indifferent to the impact on visual amenity. However, we think there could be some 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-ET2 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.
- 3.238 It is important that the value of the expenditure cap set aside for mitigation projects in RIIO-ET2 is considered viable by electricity consumers. We will use the median estimate of consumer WTP as a starting point for setting the overall expenditure cap in RIIO-ET2. We reserve the right to determine the expenditure cap having considered the robustness of updated WTP and other relevant considerations, as we did in RIIO-ET1 in order to balance issues of affordability for consumers on the one hand and facilitating the TOs to mitigate the visual impacts of pre-existing transmission infrastructure in landscapes with high visual amenity.
- 3.239 We disagree with the view that the consultation question on using an updated WTP study to help inform our decision on the mitigation scheme in RIIO-ET2 was futile given that the TOs have already commissioned a WTP study. Despite it having already been already commissioned, we still could have decided not to rely on the study. For example, if responses to our December consultation provided evidence that it would be inappropriate to use an updated WTP to inform our decision on the value of the expenditure cap. However, we have now considered

stakeholder responses, including the opposition of some stakeholders to the use of an updated WTP study, but our position is that an updated WTP study is the preferred approach for setting the value of the expenditure cap in RIIO-2.

3.240 We also disagree that there are distortions between the funding for existing and new infrastructure. As set out in the December consultation there are price control policies to facilitate the undergrounding of new infrastructure where this is justified. Our recent stocktake on the RIIO-ET1 visual amenity policies clarifies that such justification could include:

- a need to mitigate address adverse impacts that are not acceptable in planning terms in order to gain consent
- evidence of consumer WTP the additional costs of mitigation measures to reduce or avoid impacts on visual amenity, in circumstances similar to the proposed project.

3.241 We note the suggestion that distribution infrastructure is included in the WTP study. However, we don't agree it is appropriate to include because the purpose of the study is to inform the next transmission price control. We note Ofgem commissioned a WTP study in 2008 to look at, among other things, undergrounding distribution lines and used that analysis to inform the mitigation scheme that exists in the distribution price control.

#### *Modifications to the regulatory approval process for mitigation projects*

3.242 Having considered responses we have decided to change the implementation process by which the funding requests for smaller non-technical mitigation projects are submitted and approved.

3.243 We welcome the support from stakeholders for allocating a proportion of the total scheme allowance for non-technical mitigation projects such as landscaping, tree planting, and environmental enhancements. The TOs will report on expenditure and activity related to the non-technical mitigation projects and will be able to recover the costs of the projects up to a defined amount.

3.244 A number of stakeholders think that assigning 2.5% of the total scheme allowance for delivery of non-technical mitigation projects is too small in comparison to the £24 million (which is 5% of the £500 million RIIO-1 total scheme allowance) that National Grid has nominally earmarked for non-technical projects under its Landscape Enhancement Initiative. We consider it is reasonable to assume that the usable amount for the non-technical mitigation projects will be smaller in absolute terms than in RIIO-ET1 (and therefore a smaller percentage of the total allowance) because the RIIO-ET2 period will run for five years - three years less than the RIIO-ET1 price control period. Therefore, we are retaining 2.5% as an indicative proportion for each TO noting that the overall total scheme allowance in RIIO-ET2 is uncertain until we have the updated WTP study to inform this value.

3.245 We've decided not to limit the value of individual non-technical mitigation projects to £200k in RIIO-ET2. We agree that this could unnecessarily constrain the ambition of these projects, which can bring significant benefits.

3.246 For large capital projects relating to Visual Amenity we consulted on the option of TOs including these in their Business Plans and with PCDs and funding to be agreed at the time of the final price control settlement. We've considered the issues raised with this approach by some stakeholders, in particular, the likely cost uncertainty in the funding requests and also practical issues of needing

sufficient time to engage properly with local stakeholders on potential mitigation projects. We agree that these issues pose significant risk in terms of inefficient costs, and project deliverability. Therefore, we have decided to retain the existing process to assess the efficient costs of projects when these are more fully developed and to set PCDs for project outputs if and when we approve these within the price control period of RIIO-ET2. Nonetheless, we think that the TOs should indicate in their Business Plan the value of projects that they could feasibly deliver in RIIO-ET2.

*Additional issues relevant to the consideration of the RIIO-ET2 visual amenity policies*

- 3.247 Ofgem welcomes the additional views provided in responses regarding additional considerations for the policy development for visual amenity issues in RIIO-ET2.
- 3.248 Stakeholders have concerns about the challenges a shorter price control length poses for delivering projects that involve several years of development and implementation, particularly major undergrounding projects. In the context of transmission price controls, we note that it is not unusual to have large capital projects with delivery programmes that do not match the start and finish of a particular price control period. This is typically managed at the time of approving a project, when a funding decision for the efficient costs of delivering the entire project is taken. If the delivery of the project is expected to span more than one price control period, then the portion of efficient costs a TO will spend on the project in the current price control are implemented through the available mechanisms. The remainder efficient cost of delivering the project (which were determined at the time of project approval) are then funded using the mechanisms available at that time during the next price control. As a result, we consider that the shorter period for RIIO-ET2 will not pose a significant challenge for the delivery of mitigation projects.
- 3.249 As explained above we've considered the suggestion made by several stakeholders that the scope of the scheme be extended to other landscapes. 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. Therefore, we have decided that the eligible areas for visual amenity impact mitigation will remain as National Parks, Areas of Outstanding Natural Beauty, and National Scenic Areas, in addition to the settings of designated areas in respect of large capital projects.
- 3.250 We also note that a couple of stakeholders to this question have raised issues about needing greater coordination between transmission mitigation scheme and the undergrounding scheme that operates in the Electricity Distribution price control, RIIO-ED1, and which are consulted on separately to the transmission price control. We consider that the respective schemes are flexible and allow distribution and transmission network owners to work together where possible to achieve the maximum benefit for consumers from the respective schemes. We also note that a large part of the RIIO-ET2 process involves enhanced stakeholder engagement, including with the Distribution Network Operators (DNO) to enable information sharing on projects of interest and potential areas of collaboration.
- 3.251 We've also considered the suggestion that National Park and AONB authorities should be able to recover costs of preparing grant applications for non-technical projects to National Grid's LEI initiative, and that the requirement for match funding or in kind contribution equivalent to 25% of the total project value is

lowered. We note that the rules and requirements of the LEI initiative are developed by National Grid not by Ofgem, but are subject to our approval. However, Ofgem would be unlikely to support funding the preparation of applications or reducing the requirement for a financial/in-kind contribution from the recipient organisations in principle. We consider it is important that third party recipients of grant funding under the mitigation scheme are directly involved financially in projects as this creates a strong incentive to keep preventable costs as low as possible, protecting electricity consumers' interests to deliver projects efficiently.

### Next Steps

#### *Upcoming decisions*

3.252 With regards to the mitigation scheme for pre-existing infrastructure, we will require updated information on Willingness to Pay in order to set size of available funding. We will reach a final decision on this as part of Draft and Final Determinations.

## **RIIO-ET1 outputs that will be removed for RIIO-ET2**

3.253 In our December consultation, we proposed to remove the Environmental Discretionary Reward (EDR) for RIIO-ET2, and replace this output with a new regulatory mechanism. We discuss below our decision to remove the EDR. Removing this output also supports our aim to simplify the RIIO-2 price controls.

**Table 4: Summary of RIIO-ET1 outputs that will be removed**

Output name	RIIO-ET1 licence condition
Environmental Discretionary Reward Scheme	Special Condition 3F

### **Environmental Discretionary Reward Scheme**

#### Summary of our December proposals

3.254 We proposed removing the EDR in RIIO-ET2. Based on our experience of the RIIO-ET1 scheme, including the companies' performances, stakeholder feedback, and in light of the RIIO-ET2 proposals in the December consultation, we do not think retaining the EDR would represent good value for money for consumers in the next price control period.

#### Summary of responses

3.255 Seven stakeholders responded to this question.

3.256 One energy supplier supports removing the EDR from the price control. Another energy supplier said that there should be fewer outputs and that environmental considerations should be a key component of business as usual plans.

3.257 Two DNOs supported removing the EDR. One was not convinced it represented value for money and also said that discretionary reward schemes are not effective as it is difficult to develop a business case for delivering change if upside/reward is uncertain. They added that an incentive should be developed to enable delivery if there is customer willingness to pay. The other DNO said that it is more appropriate for the TOs to be held accountable for their environmental impacts though other appropriate and proportionate means, and to be funded accordingly.



- 3.258 Two TOs support removing the EDR. One said that although it did encourage companies to think about their role in the low carbon transition, it was too inputs-focused. They would like to see the EDR replaced with new incentives that focus on outputs such as reducing controllable carbon emissions and broaden the focus beyond decarbonisation. The other TO said that the proposed environmental framework will ensure that the companies retain a focus on the environment.
- 3.259 Another TO said that the removal of the EDR was premature. Despite its faults (ie that it is too subjective), they think it has incentivised some beneficial behaviours for stakeholders and we should, therefore, be looking at reforming the EDR instead of removing it. They think that in its absence, RIIO-ET2 will fail to keep the momentum going that was built in RIIO-1 to raise norms in social and environmental sustainability.

#### Decision

- 3.260 Having considered responses, we have decided to discontinue the EDR scheme in RIIO-ET2. The majority of stakeholders that responded to this question support the proposal to remove the EDR.
- 3.261 We disagree that the EDR is needed in RIIO-ET2, or will continue to deliver value for money. This is because we consider that the environmental framework we are implementing for the TOs to deliver an environmentally sustainable network will better ensure that the TOs are accountable for their environmental impact and will also increase their focus on taking responsibility for the environment.



## 4. Outputs: Maintain a safe and resilient network

### Section summary

Our package of outputs and incentives for RIIO-ET2 is designed to ensure the TOs efficiently deliver a safe, resilient and efficient network that is also responsive to change.

### Introduction

- 4.1 Network companies need to deliver a safe and resilient network that is also efficient and responsive to change. The actions that they take in RIIO-2 should deliver these services for existing consumers, and safeguard the reliability of the network infrastructure and systems for future consumers. These actions should include working with relevant parties such as the ESO to considering alternatives to network reinforcement, in all cases where this is a feasible option.
- 4.2 In RIIO-ET1 we introduced a number of output measures relating to the safety and reliability of the network, and its availability.
- 4.3 For RIIO-ET2 we will introduce a package of measures which continues to reflect the importance of maintaining safety and reliability against a backdrop of significant changes in how the energy system operates.
- 4.4 This chapter will cover three key components of our overarching package on safety resilience of the transmission network. This includes our decisions on safety, the Network Access Policy and our approach to the successful delivery of large capital investment.
- 4.5 Our ET2 package covers both shorter-term aspects (for example, through our proposals on safety in this chapter, or the ENS in Chapter 2) and longer-term considerations of risks. For example, we will also introduce the Network Asset Risk Metric (NARM), to ensure the network companies undertake targeted, risk-based interventions that will enhance the overall resilience of the network. To further support this, there are also additional outputs to ensure TOs' cyber and physical site security are robust.'
- 4.6 This chapter should be read in parallel with:
  - Chapter 4, 5, 6 and 11 of the Core Document, which describe:
    - our decision to use the output category 'Maintain a safe and resilient network', for RIIO-2 and the broad approach to outputs (eg output types)
    - the decisions on how RIIO-2 will support asset and workforce planning and ensure the networks can improve their cyber resilience and the physical security of key sites
    - how network companies may propose additional company specific ('bespoke') output measures within their Business Plans, if required
    - how network companies will be incentivised to set out ambitious plans through our Business Plan Incentive
  - our rationale for providing only indicative caps and/or collars on ODIs (where relevant).

- Chapter 5 of the December ET2 Annex, which provides more detail on the proposals we have summarised in this document.
- 4.7 In our December document, we sought views from stakeholders on the overarching package of outputs proposed in this area. The main points arising out of the feedback received is addressed below in our decisions on individual outputs and incentives.
- 4.8 We note in particular that one TO proposed potential additional outputs to encourage whole system solutions. These are discussed later on in this chapter.

## Outputs for RIIO-ET2

**Table 5: Our decision on the RIIO-ET2 outputs**

Output name	Output type*	Company driven target**
<b>Common outputs</b> (expected to apply to all companies)		
Network Access Policy	LO	No
Successful delivery of large capital investment	PCD	N/A
Compliance with safety	N/A	N/A
Network Asset Risk Metric	PCD/ODI	Yes
Cyber resilience	PCD	Yes
Physical security	PCD	No
<b>Bespoke outputs</b> (companies may consider other areas for inclusion in their Business Plans)		

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

\*\* Company driven target signifies an output where we expect to see extensive company-led engagement (including with their User Groups (UG)) to justify a stretching performance target. This could lead to performance targets varying by company.

### Compliance with safety legislation

#### Summary of issue

- 4.9 In RIIO-ET1 we introduced a safety output in respect of the requirement to comply with Health and Safety Executive (HSE) safety legislation. The HSE, in accordance with applicable legislation, monitors and enforces performance in this area.

#### Summary of our December proposals

- 4.10 We proposed to retain the RIIO-ET1 approach to safety. We highlighted that it was not appropriate to attach additional outputs to safety given existing HSE legislation requiring TOs to design and operate their networks to ensure the safety of the public and their employees.

#### Summary of responses

- 4.11 We received eight responses to this question. All respondents agreed with our proposed approach to safety. They agreed that TOs should comply with HSE safety legislation, and that it is not appropriate to attach an additional output to safety given the existing legislation which is monitored and enforced by HSE.

- 4.12 One respondent addressed the issue of black start and said that TOs should be able to demonstrate that they have worked with ESO to deliver black start tests.
- 4.13 One TO noted their view that a reputational incentive is appropriate and could be strengthened with a specific obligation placed on network companies to report on their safety performance and improvement initiatives to inform stakeholders and provide a lead for other organisations.

#### Decision

- 4.14 Having considered consultation responses, we have decided that no additional outputs in this area are required.
- 4.15 As outlined in our December consultation our view is that it is not appropriate to attach additional outputs to safety given existing HSE legislation requiring TOs to design and operate their networks to ensure the safety of the public and their employees.

#### *Black start*

- 4.16 We agree that a safe and reliable network is essential to black start security. The obligation around black starts sits currently with the ESO, however, we recognise and agree that TOs should be able to demonstrate that they have worked with the ESO to deliver the right black start capability and resilience. Ofgem is currently working with the ESO and BEIS to develop policy in this area. As the policy becomes clearer, we will ensure that the price controls allow for the recovery of efficiently incurred and necessary costs for black start preparedness.<sup>24</sup>

#### *Reporting requirements on safety*

- 4.17 We do not propose to introduce additional reporting requirements relating to safety, as this is the core role of the HSE. However, we think this should not preclude TOs from reporting to their stakeholders and/or User Groups on activities in this space, should this be identified as an area of interest.

### **Network Access Policy (NAP)**

Purpose	To facilitate efficient performance and effective liaison between the ESO and the TOs in relation to the planning, management and operation of the transmission system for the benefit of consumers
Decision	<p>We have decided to:</p> <ul style="list-style-type: none"> <li>• Retain the Licence Obligation to have in place a NAP and act in line with the policy</li> <li>• Require all TOs to develop and have in place one consolidated NAP</li> <li>• Not to extend the NAP to cover third party engagement, but support clarifying roles and responsibilities in the NAP itself.</li> </ul>

#### Summary of issue

- 4.18 The TOs own and maintain assets on the electricity transmission network, whereas the ESO operates the entire system. The ESO and TOs have different

<sup>24</sup> Black start is the procedure NGET ESO use to restore power in the event of a total or partial shutdown of the national electricity transmission system. More information is available here: <https://www.nationalgrideso.com/balancing-services/system-security-services/black-start>

responsibilities but a common goal to ensure the electricity system is functioning as needed.

- 4.19 As part of the RIIO-ET1 price control, the TOs are each required to have in place and publish a NAP.<sup>25</sup> Currently, the Scottish TOs have one consolidated NAP and NGET has a separate NAP.
- 4.20 The purpose of the NAP is to facilitate efficient performance and effective liaison between the ESO and the TOs in relation to the planning, management and operation of the transmission system for the benefit of consumers. The NAP sets out the TOs' commitment to effectively communicate and coordinate (as far as possible) outage planning and to identify ways in which TO actions can help the ESO minimise constraint costs.
- 4.21 The policies and processes set out in the NAP complement obligations under the ESO:TO Code (STC)<sup>26</sup> and the procedures that sit under the code (STCPs).

#### Summary of our December proposals

- 4.22 In December, we proposed to retain the NAP as a licence obligation.
- 4.23 We recognised that there are currently no quantitative metrics in place to measure the impact of the NAP or any associated benefits for consumers. We therefore sought views on potential metrics that could be introduced to measure the impact of the NAP and its associated benefits.
- 4.24 In addition, the legal separation of National Grid Electricity Transmission and the creation of two legally separated entities (NGESO and NGET) highlighted the potential possibility to require the TOs to create one consolidated NAP instead of the existing two. We therefore sought views on the potential risks and benefits of having one consolidated NAP.
- 4.25 We also recognised that although the NAP currently only covers ESO-TO interaction, informal engagement takes place between the TOs and other stakeholders such as DNOs and generators. We therefore sought views on the potential benefits and risks of expanding the scope of the NAP to include and formalise TO/ DNO engagement, and potentially wider third party interactions.
- 4.26 Detailed information of our proposals can be found in the December ET Annex.

#### Summary of responses

##### *Retaining the NAP*

- 4.27 Nine respondents provided feedback on our proposal to retain the NAP as a licence obligation. All respondents to this question agreed with our proposal to retain the NAP as a licence obligation and highlighted various benefits. Two respondents highlighted that the NAP enhances communication between parties and enables continued improvements, such as the development of a new SO-TO Code Procedure (STCP 11-4), which they consider will give the ESO a tool to potentially reduce constraint costs in the future.
- 4.28 One TO said that the NAP ensures improved co-ordination in outage planning and processes between the TOs and the ESO. One DNO noted that effective

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<sup>25</sup> The requirement to publish and act consistently with the NAP is set out in special licence condition 2J

<sup>26</sup> <https://www.ofgem.gov.uk/licences-industry-codes-and-standards/industry-codes/electricity-codes/system-operator-transmission-owner-code-stc>

communication between the ESO and TO as a result of the NAP contributes to timely access to the transmission system.

- 4.29 Two respondents highlighted that the licence obligation needs to provide sufficient flexibility for the NAP to evolve as the electricity sector evolves.
- 4.30 One network user suggested adding an incentive in the form of a new tool for managing outages. This would involve enabling payments between users of the electricity transmission network system and TOs, where TOs will be allowed to pay the user compensation when they require an outage that is longer than planned. They also suggested it will enable the user to pay the TO for shortening the length of the outage.

#### *Introduction of one consolidated NAP*

- 4.31 Seven respondents provided feedback on consolidation of the NAP. Of those responses, six supported a single consolidated NAP and one objected to a single NAP.
- 4.32 Three respondents mentioned that Competitively Appointed Transmission Owners (CATOs), Special Purpose Vehicles (SPVs)<sup>27</sup> and Offshore Transmission Owners (OFTOs) should also be considered in the context of consolidating the NAP in order to create a level playing field.
- 4.33 One TO objected to a consolidated NAP, highlighting that alignment already exists under other arrangements and codes. They raised concerns around: (1) complexity of governance, especially in relation to additional players (CATOs, SPVs etc.) and interactions with any competitive process, (2) the NAP as a policy document should reflect the needs of local stakeholders, and (3) some services or processes may only be relevant for one TO.
- 4.34 Two respondents recognised that there may be TO-specific issues. They suggested that provision for these issues could be made in a consolidated NAP, noting that this already occurs in other frameworks (for example, in the SQSS<sup>28</sup>).

#### *Third party engagement*

- 4.35 We received nine responses to this question. The responses on extending the NAP were mixed.
- 4.36 Four respondents (two TOs and two DNOs) thought that the NAP should not cover third party engagement.
- 4.37 Two TOs noted that roles and responsibilities are already defined in existing codes (STC) and procedures (STCP), and that generators and DNOs are already accounted for in the NAP as part of the required stakeholder engagement.
- 4.38 Three respondents highlighted risks associated with extending the NAP to include third party engagement in relation to data and information sharing:
- One TO mentioned that formal engagement with third parties written into the NAP may infringe on the legal independence of the ESO, also highlighting a potential risk relating to data confidentiality.

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<sup>27</sup> More information on SPVs can be found here: <https://www.ofgem.gov.uk/publications-and-updates/extending-competition-electricity-transmission-commercial-and-regulatory-framework-spv-model>

<sup>28</sup> Available here: <https://www.nationalgrideso.com/document/141056/download>

- Another TO said there is a risk that making all users (including generators) aware of outages beyond current licence obligations could undermine the ESO's commercial ability to secure the most efficient outcomes for the consumer. This risk was also recognised by another TO as well as one of the network users.
  - One TO noted that additional caution would need to be exercised when involving third parties, especially around managing expectations relating to outage planning.
- 4.39 One TO suggested introducing a separate NAP for the NGESO and third parties. A similar point was made by a network user in relation to DNOs, which we have addressed separately.
- 4.40 With regards to DNOs/ DSOs in the context of third party engagement, three respondents discussed the extension of the NAP to include third parties, specifically DNOs, highlighting that they should not be included in the NAP. One TO said that the role of DSOs need to be further defined before they are included in the NAP. Two DNOs said that any such offer in relation to DNOs should be part of RIIO-ED2 discussions, and that other channels may be more appropriate (noting that some already exist).
- 4.41 Two respondents said that it would be beneficial to define roles and responsibilities in the NAP, to clarify guidance above existing frameworks on the exchange of information needed to deliver whole system efficiencies.
- 4.42 Two network users supported extending the NAP to include third party engagement, to support delivery of whole system outputs and to minimise the impact on stakeholders of significant outages.
- 4.43 One consumer group encouraged the TOs to engage with a range of stakeholders to make sure the NAP is fit for purpose, especially in light of evolving DNO/DSO roles, but did not indicate a view on extending the NAP.

#### *Monitoring of NAP impact and benefits*

- 4.44 Three respondents provided feedback on potential metrics for measuring the benefits of the NAP. All agreed that it would be beneficial to have metrics in place to measure the benefits of the NAP.
- 4.45 One TO said that the ideal metric would be able to reveal net changes in constraint costs, but that estimating and measuring these cost savings is difficult. They said that recording all the decisions taken under the NAP and collecting data on the costs and benefits of these decisions might be beneficial.
- 4.46 Another TO said that it is important to identify and report on appropriate metrics to highlight the benefit of the NAP to consumers. They highlighted that specific metrics could be drawn from the C17 National Performance report such as "System availability", but that additional metrics reflecting the impact on constraint costs of outage co-ordination would also be valuable.
- 4.47 One respondent said that the benefits delivered by the NAP could be measured through the overall consumer benefits delivered, but highlighted the complexity of comparing TO costs to potentially reduced constraint costs.

### *Interaction with other policy areas*

- 4.48 We received three responses to this question. None of the respondents commented on potential duplications or interactions between the NGET proposals referred to in our consultation<sup>29</sup>, the NAP and the STC.
- 4.49 One TO noted that the NAP does not currently conflict with the STC Procedures and is explicitly positioned as being subject to the provisions of the STC.
- 4.50 One respondent did not see any overlap between the NAP and STCP 11-3. However, they highlighted a potential conflict between the NAP and STCP 11-4. They said that the NAP already requires the TOs to work with the ESO to find the lowest cost solution and that clarity is required on when the provisions of STCP 11-4 would be used instead of the funding being part of the TOs' allowances.
- 4.51 One network user said that the outcomes of the outage programme in terms of reduced risk of failure (preventative maintenance) or reduced constraint costs should be recognised as part of the price control. They highlighted that this could provide an incentive to the TOs to focus on activities that have a wider customer benefit

### Decision

#### *Retaining the NAP*

- 4.52 Having considered responses, we have decided to retain the licence obligation on the TOs to have a NAP in place. Our view is that the NAP provides significant benefits in terms of enhanced outage planning coordination and communication between parties.
- 4.53 We note that respondents have made a number of additional comments in this area, which we respond to below.
- 4.54 As was the case for RIIO-ET1<sup>30</sup>, for RIIO-ET2 the NAP will need to be in the interests of consumers, giving particular attention to the potential for TOs' actions to affect network availability, the operation of the transmission system and constraint costs. We expect the NAP to include concrete activities that the TOs can undertake that are in the interests of consumers.
- 4.55 We recognise the need to ensure that the licence obligation relating to the NAP provides sufficient flexibility for the NAP to evolve as the electricity sector evolves. Currently, the licence requires the TOs to review their NAPs at least once every two years and amend it as necessary. This provision could be retained in the RIIO-ET2 licence and should enable sufficient flexibility going forward.

#### *Introduction of one consolidated NAP*

- 4.56 Having considered the responses, we have decided that all TOs should develop and have in place one single consolidated NAP. We believe that following the separation of the ESO from NGET TO, it is appropriate to continue to ensure a level playing field for all network users is maintained and a single NAP will help achieve this. We also consider that a single NAP will increase consistency between TOs and transparency outage management, for the benefit of network users.

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<sup>29</sup> See the NGET proposal here: [https://www.ofgem.gov.uk/system/files/docs/2018/12/18-12-17\\_nget\\_thoughts\\_on\\_so-to\\_incentives.pdf](https://www.ofgem.gov.uk/system/files/docs/2018/12/18-12-17_nget_thoughts_on_so-to_incentives.pdf)

<sup>30</sup> See paragraph 6.113 onwards in the supplementary annex to the RIIO-T1 Decision Overview paper: <https://www.ofgem.gov.uk/ofgem-publications/53835/t1decisionoutput.pdf>



- 4.57 One single NAP will mean that the three TOs need to coordinate and agree the NAP between themselves and the ESO, and so is a change to the existing NAP governance process. However, we do not think that this change in governance will outweigh the benefits of having a single NAP. We anticipate these benefits will include streamlining the processes and procedures around outage planning, ways of working and communication channels between TOs and ESO and other relevant parties.
- 4.58 We recognise the need for TOs to be able to reflect the needs of local stakeholders through the NAP and agree with respondents that the NAP can contain provisions which reflect TO-specific aspects. We believe that developing a single, consolidated NAP is not a barrier to TOs consulting with their stakeholders and reflecting their views in a single, consolidated NAP.
- 4.59 We think this is also the case for TO-specific services and processes/procedures, and these can be reflected in a consolidated NAP. We note that similar arrangements exist in other frameworks (for example, in the SQSS).

*Application to other transmission network owners*

- 4.60 We agree with the principle that a level playing field should be maintained for all existing transmission operators.
- 4.61 Offshore Transmission Owners (OFTOs): Currently, offshore transmission systems connect single generators to export power on to the onshore grid. Each OFTO is incentivised through a specific 'availability incentive' to maintain system availability and has obligations to minimise the effect and duration of any transmission outage on its system. We recognise that in the future there may be OFTOs that will connect more than one generator to their offshore transmission system. On this basis, our view is that that a NAP for offshore transmission systems may be different to a combined onshore TO NAP, and therefore consider that the policy around this would be more appropriately taken forward as part of the development of the OFTO regime and when required.
- 4.62 Competitively Appointed Transmission owners (CATOs): in line with our previous publications on the CATO model<sup>31</sup>, we consider that the application of the CATO model in electricity transmission requires legislative change. We remain committed to working with government to seek an appropriate opportunity to introduce the legislative change necessary to implement the CATO model. We will take forward development of the CATO regime in due course, including considering whether or how to capture the prevailing NAP arrangements at that time.
- 4.63 Special Purpose Vehicles (SPVs): we intend to undertake further development of the SPV model in due course, building on our previous work through 2017<sup>32</sup> and 2018. We will consider how the SPV interacts with the prevailing NAP arrangements in place at that time.

*Third party engagement*

- 4.64 We have decided not to extend the NAP to cover third party engagement. This is because, having reviewed responses to consultation, we do not believe the benefits outweigh the risks. These include, for instance, risks around data and

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<sup>31</sup> See further information on CATOs in the following link: <https://www.ofgem.gov.uk/electricity/transmission-networks/competition-onshore-transmission>

<sup>32</sup> See further information in this link: <https://www.ofgem.gov.uk/publications-and-updates/extending-competition-electricity-transmission-commercial-and-regulatory-framework-spv-model>

information sharing. However, we support clarifying roles and responsibilities in the NAP itself while ensuring alignment with roles and responsibilities in existing codes and procedures.

- 4.65 We note the risk highlighted by some respondents around data and information-sharing, that early engagement with users may reduce the ESO's ability to secure the most efficient outcomes for the consumer.
- 4.66 We also agree that caution would need to be exercised when third parties are involved in early stages of outage planning as some of the information shared between the ESO and the TOs is confidential and should not be communicated to third parties.
- 4.67 We recognise the importance of having arrangements in place for network access between ESO and third parties, and that this may have both benefits and risks. However, we do not consider it appropriate to review and/or make a decision on this as part of the RIIO-ET2 price control.
- 4.68 We recognise that roles and responsibilities are already defined in existing codes. However, we believe that additional clarity could assist new users to better engage with TOs and ESO. For example, although TOs currently engage with generators on outages plans, it should be clarified how and who will be responsible to finalise/sign off an outage plan. We expect TOs and the ESO to work together to ensure additional clarity on roles and responsibilities is provided in the NAP for RIIO-ET2.
- 4.69 We agree with respondents that including DNOs in the current NAP is not appropriate at this stage, especially in light of current developments, including the development of the roles and responsibilities of DNOs/DSOs. As mentioned by some respondents, DNOs and other users are already accounted for in the NAP as part of the stakeholder engagement.
- 4.70 We recognise that network users are impacted by outages. We believe such impacts are already captured by the NAP, as well as through the TOs' regular stakeholder engagement. This includes the Transmission Outage planning forums (OC2 forums)<sup>33</sup>.

#### *Monitoring of NAP impact and benefits*

- 4.71 We have considered the responses to this question and suggestions put forward by stakeholders.
- 4.72 We recognise that measuring the success of the NAP will be complex and therefore more work needs to be done to identify the appropriate metrics.
- 4.73 We also recognise that identifying and quantifying direct benefits from actions and behaviours in terms of constraint costs is likely to be complex.
- 4.74 We invite TOs to work together to identify potential metrics for measuring the benefits of the NAP and to submit these as part of their business plans. We will consider these proposals as part of our assessment of business plans.

#### *Payments between TOs and network users*

- 4.75 We note the proposal that we should allow exchanges of payments between users of the transmission system and TOs to encourage TOs to shorten or avoid outages

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<sup>33</sup> Held twice a year and hosted by the ESO to discuss transmission outage planning.

that were not in the original outage plan. We are not proposing to introduce any specific arrangements at this stage. However, we intend to keep this issue under review and may consider revising our position at a future date should this be required.

#### *NAP for DNOs*

- 4.76 We recognise the potential importance of establishing arrangements around outages between the ESO and the DNO, for instance through a separate NAP between the ESO and the DNO. However, we believe that any such arrangement should be considered as part of the RIIO-ED2 price control.

#### Interactions with other policy areas.

- 4.77 We reviewed the responses on proposals for additional incentives and potential interaction/duplication with the NAP and the STC. We do not think there is any duplication between NAP and the STC. We agree that the NAP is subject to the STC rather than duplicating it. Our view in relation to proposals for additional incentives that were made as part of the consultation can be found in later on in this chapter.
- 4.78 With regard to potential duplication between STCP 11-4 and the NAP obligation, we agree that the current NAP licence condition requires the TOs to work with the ESO to find the lowest cost solution. We recognise that some infrastructure solutions to enhance whole system outputs could potentially be funded as part of the business plan if appropriately justified. Our view is that STCP 11-4 exists in order to capture services and solutions that were not approved as part of the price control. We recognise that the allowance set for the ESO to “buy” services from the TO as part of STCP 11-4 is capped and that the ESO has its own incentives to use it efficiently to reduce constraint costs. We therefore do not consider that there is a material risk of duplication.
- 4.79 We recognise that STCP 11-4 was only recently introduced and information on the use of this procedure is not yet available. We will work with relevant stakeholders to introduce reporting requirements on the use of this procedure.

#### Next steps

##### *Business plans*

- 4.80 We expect TOs to work together and submit the following documents at the latest as part of their formal business plan submission:
- A proposal for a single consolidated NAP agreed with the ESO. Similar to the existing NAPs, it should include provisions for the review and the update of the NAP at least every two years. It should also clarify roles and responsibilities, and where this is appropriate, TOs are welcome to suggest TO-specific sections or appendices also agreed with the ESO
  - Suggestions for potential metrics to monitor the benefits of the NAP.

##### *Implementation*

- 4.81 In order to implement our decision, we will be looking at amending the TO Licence Conditions and ensuring that these are fit for purpose.
- 4.82 We will also work with relevant stakeholders to introduce reporting requirements on the use of procedure STCP 11-4.

### **Proposals for ODIs (whole system solutions)**

- 4.83 In our consultation, we stated that during our RIIO-ET2 Policy Working Group we discussed proposals from a TO for additional whole system incentives, above and beyond the obligations set out by the NAP.
- 4.84 This TO suggested that introducing new ODIs for TOs to be proactive and innovative in seeking whole system solutions could help reduce constraint costs, and so unlock value for consumers. Proposals for such incentives were tabled at our working group 5 and referred to in our December consultation. Further details are available on our website.<sup>34</sup>

### Summary of Responses

- 4.85 Other than from the TO that submitted these proposals, we received one response in relation to this consultation item. This respondent believed that there is potential value in these proposals, but highlights that there would need to be careful consideration around the design of these incentives and the behaviours that they drive.

### Decision

- 4.86 Having carefully considered these proposals we have come to the view that it would not be appropriate at this time to introduce ODIs in this space.
- 4.87 In reviewing these proposals, we have considered a number of key questions to determine whether new ODIs are indeed required, or whether existing arrangements are fit for purpose. These include:
- Are there existing tools in place to ensure ESO/ TO collaboration? Based on current arrangements, is there a gap as these proposals suggest?
  - If there is a gap, are additional incentives required to fill it? What alternative options are available?
  - Do we have the tools available to measure the impact of these proposals, if they were to be introduced?
  - Could the introduction of a regulatory incentive have unintended consequences and/ or result in inefficient behaviour?
- 4.88 We also considered these proposals in conjunction with the ESO incentive framework for RIIO-2, which can be found in the ESO document. Furthermore, we note that we are currently considering making changes to the licence conditions of electricity network companies to clarify whole system responsibilities. We expect to publish our decision to our consultation<sup>35</sup> this summer, and any new licence obligations may interact with a Whole Systems ODI. This also supports taking no action at this stage in this area.
- 4.89 We have outlined our views against these four key consideration points in the table below.

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<sup>34</sup> [https://www.ofgem.gov.uk/system/files/docs/2018/12/18-12-17\\_nget\\_thoughts\\_on\\_so-to\\_incentives.pdf](https://www.ofgem.gov.uk/system/files/docs/2018/12/18-12-17_nget_thoughts_on_so-to_incentives.pdf)

<sup>35</sup> For more information see the following link: <https://www.ofgem.gov.uk/publications-and-updates/consultation-licence-conditions-and-guidance-network-operators-support-efficient-coordinated-and-economical-whole-system>

**Table 6: Summary of our view against key considerations**

Considerations	Findings
Are there existing tools in place to ensure ESO/ TO collaboration? Based on current arrangements, is there a gap as these proposals suggest?	<p>We note that there are multiple existing tools in place to ensure effective collaboration and engagement between the ESO and TOs for the benefit of consumers in relation to constraint costs. These include:</p> <ul style="list-style-type: none"> <li>• The NAP, which was introduced to facilitate efficient performance and effective liaison between the ESO and the TOs in relation to the planning, management and operation of the National Electricity Transmission System (NETS) for the benefit of consumers. See the relevant section in this chapter for more details on the NAP</li> <li>• STCPs 11.3, which is a procedure that allows the ESO to compensate SPT and SHE-T for costs incurred in accommodating a change in outage plans within 49 weeks of a final outage plan being issued by the ESO</li> <li>• STCP11.4, which is a new procedure that will enable the ESO to buy a service from a TO where that service would assist the ESO in reducing constraint costs beyond the current 49-week period. The STCP 11.3 and 11.4 provide a £1.4 million pot of funding for the TOs to recover any costs incurred through modifying their fixed outage plans</li> <li>• The OC2, which is a grid code<sup>36</sup> that enables the ESO to harmonise outages in so far as possible to minimise the number and effect of constraints.</li> </ul>
If there is a gap, are additional incentives required to fill it? What alternative options are available?	<p>Our view is that the tools mentioned above, in particular the NAP and STCPs, provide the ESO and TOs with the level of flexibility required to manage outages and constraint costs.</p> <p>We note that STCP11.4 is a new procedure (introduced in April 2019) to enable TOs to make changes to their project delivery plans in the medium to long-term, where these changes are deemed to reduce overall system operating costs. At this time, we cannot anticipate the impact from the new STCP11.4, and how this will aid collaboration between the ESO/TO.</p> <p>In summary, we do not currently see a clear and identifiable gap in the current procedures. Therefore, we cannot confidently anticipate how these proposals might deliver any benefit in this space, at this time.</p>
Do we have the tools available to measure the impact of these proposals, if they were to be introduced?	At this point in time we do not have the tools to measure the whole system benefit of these proposals.
Could the introduction of a financial ODI have unintended consequences	From our review, we anticipate that the introduction of ODIs could have unintended consequences and/or potentially drive inefficient behaviours. For example:

<sup>36</sup> Please see the detail of the Operating Code 2 here  
<https://www.nationalgrideso.com/document/33856/download>

and/ or result in inefficient behaviour?	<ul style="list-style-type: none"> <li>In relation to one of the incentive proposals, we recognise that there is a risk that this proposal could incentivise the TOs to come forward with unjustified outage plans, which will inflate opportunities for the TOs to be funded to provide flexibility</li> <li>We are also concerned that an incentive in this space could jeopardise the TO's willingness to collaborate with the ESO.</li> </ul>
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### Next Steps

- 4.90 We recognise that further flexibility within the ESO and TO framework will likely be required, and we will continue to monitor developments in this space. We therefore intend to monitor STCP11.3 and the new STCP11.4, to see how the mechanisms are used throughout RIIO-ET2 and whether they are sufficient in providing flexibility.
- 4.91 We recognise from responses to the NAP, that one TO will present their proposals for an incentive in this space, as part of their Business Plans. We note that should the TOs choose to reflect any other whole system proposals of this nature in their Business Plans, these proposals must be underpinned by robust evidence of the benefit to consumers. All proposals will be assessed against the criteria for bespoke outputs set out in Chapter 5 of the Core Document.
- 4.92 Any new proposals for an incentive or framework will also be considered in conjunction with the ESO incentive framework for RIIO-2 (see the relevant annex for further information on the ESO's incentive framework).

### **Successful delivery of large capital investment projects**

Purpose	To ensure the successful delivery of large capital investment projects.
Decision	To introduce a mechanism for the automatic re-profiling of allowances to ensure TOs do not benefit financially from delay and/ or poor quality.
Upcoming decisions	<p>We will continue to develop our thinking in consultation with stakeholders in the run-up to Draft and Final Determinations on:</p> <ul style="list-style-type: none"> <li>A milestone-based approach to ensuring TOs do not benefit financially from delay and / or poor quality delivery</li> <li>Minimising consumer detriment during the delivery of large capital investment projects.</li> </ul> <p>We have identified an area of potential further development which we will engage with stakeholders on:</p> <ul style="list-style-type: none"> <li>Potential introduction of a mechanism to address consumer detriment relating to output failures during the operation phase of large capital investment projects.</li> </ul>

### Summary of issue

- 4.93 Large transmission capital investment projects that are delayed and/or not successfully delivered to the required level of quality can cause significant detriment to consumers, for example through an increase in system constraint costs or security of supply implications.

### Summary of our December proposals

- 4.94 In December, we sought views on approaches to ensuring the successful delivery of large capital investment projects. In particular, we sought views on our proposals in the following two areas:
- Ensuring TOs do not benefit from delay and / or poor quality delivery
  - Ensuring that consumer detriment is minimised and / or shared with TOs.
- 4.95 With regards to the first area, we outlined the following proposals in our December consultation:
- Automatic re-profiling of allowances to reflect any delays and match actual spend, removing all timing gains without making changes to the overall allowances
  - A milestone-based approach to recovery of allowances, whereby recovery would not be permitted until the TO had demonstrated successful delivery against the criteria for that specific project milestone.
- 4.96 We also outlined proposals aiming to minimise and / or share consumer detriment with TOs as a result of unsuccessful, delayed or poor quality delivery:
- Introduction of a penalty which could be reflective of either forecast or actual consumer detriment, for example, constraint costs incurred by consumers as a result of late project delivery
  - Agreeing an up-front pre-defined 'day rate' type payment to be made by TOs to consumers.
- 4.97 Detailed information of our proposals can be found in the December consultation document RIIO-2 Sector Specific Methodology Annex: Electricity Transmission.

### Summary of responses

- 4.98 In total ten stakeholders responded to our proposals on the successful delivery of large capital investment projects. Many respondents made a number of general introductory points, some of which we discuss here.

### *Opportunities to discuss proposals*

- 4.99 A number of respondents thought that there were limited opportunities to discuss proposals on the delivery of large capital projects at ET policy working group level or that information provided in the December consultation document was insufficient.

### *Characteristics of large capital investment projects*

- 4.100 One respondent requested additional clarity on the characteristics of large capital projects, and queried whether they would be defined in terms of value, capacity, duration or another metric.

### *Managing risk in the delivery of large capital investment projects*

- 4.101 One TO noted that including a mechanism or regulatory tool for dealing with large capital projects that are not successfully delivered on time and/or to the expected standard will add further risk on to the TO. They argued that this additional risk for the TOs makes it less likely that they will be willing to progress with these large capital projects without off-setting these risks. For example, the TO may look to reduce the risk with its contractors by pushing any potential delays into



liquidated damages. They argue that this approach would ultimately lead to higher overall project costs.

*Ensuring TOs do not benefit from delay and/or poor quality delivery*

4.102 Ten respondents provided feedback on our proposals in this area. Seven of the respondents, including two TOs, were in agreement with the principle that TOs should not benefit financially from delays in delivering large capital investment projects.

4.103 One of the TOs did not believe that it was accurate to portray TOs as benefitting from delay. They argued that timely delivery is most efficient and economic for all parties and that the costs associated with the effects of delays are felt by TOs. This respondent also noted that the Totex Incentive Mechanism (TIM), which applies to these projects, provides a significant incentive to TOs. Several respondents also argued that where the reasons for delay were outside the control of the TO then it would not be appropriate to penalise the TOs.

4.104 One of the DNOs who responded, and who was in agreement with our approach, considered the RIIO-ET2 framework to be a lower fair returns framework with lower risk for companies. They argued that our approach, which could inadvertently increase the risk borne by TOs, should be mindful of this.

*Reprofiling of allowances*

4.105 Seven respondents were supportive of our proposed re-profiling approach to ensure TOs do not benefit financially from delays. The TO noted that allowances should be re-profiled month-by-month to avoid any perverse incentives.

4.106 One of the TOs argued that any financial benefit to TOs for delayed delivery as a result of the way the regulatory funding model operates has been resolved on a project by project basis in the past, and do not believe that the introduction of an automatic mechanism would provide additional benefits.

4.107 Another TO argued that the two-year gap between revenue being calculated and the regulator directing changes to revenue through the annual iteration process could seriously impact cash flow.

*Introducing a milestone-based approach*

4.108 Seven respondents provided feedback directly on this proposal. Two respondents have requested additional clarity on the proposed milestone approach with one of these respondents reserving the right to comment again as further details are provided.

4.109 One of the TOs, while disagreeing with the view that TOs benefit financially from delays, noted that a milestone approach would not be unreasonable so long as the reputational benefits for stakeholders was sufficient.

4.110 Three other respondents were supportive of a milestone approach. One of these respondents claimed that this approach better reflects the decision-making process, and aligns well with the typical release of funds in the delivery of capital projects. Another one of these respondents claimed that it would reinforce the need for TOs to build robust and efficient forward delivery plans.

4.111 One of the TOs raised some concerns around the practicalities of implementing this approach. Another TO noted that it would be difficult to define clear milestones at the start of the price control. They suggest that this could be

addressed by setting milestones much closer to the start of the project, when there is clarity over key stages. They argue that for this reason, the milestones should not be written into the licence.

- 4.112 Finally, one of the respondents stressed that consideration should be taken as to whether penalties or sanctions are applied for failure to meet milestones. They argue that this will increase the complexity of the process, but may better reflect risk on TOs.

#### *Alternative proposals*

- 4.113 One of the TOs suggested that there should be a reward for early delivery, where it can be shown that this provides benefit to consumers.
- 4.114 Another TO suggested that we ought to consider an annual reporting mechanism which could be used to demonstrate their approach and provide assurance of project delivery.
- 4.115 One of the DNOs proposed a case-by-case assessment of major investment projects at close out. They added that timing benefits for major projects should not be removed if these reflected effective asset management decisions that could lead to consumer benefit.

#### *Minimising consumer detriment*

- 4.116 We received eight responses to the questions on our proposals in this area. Three respondents were supportive of our view that there is a potential need to introduce a mechanism designed to share consumer detriment in the event of unsuccessful, delayed or poor quality delivery. One of the TOs added that there was a case for some form of consumer detriment sharing for late delivery in addition to removing any benefits of late delivery but noted a number of associated risks.
- 4.117 One respondent noted their support for the development of clear PCDs around the successful delivery of large capital investment projects. Another respondent commented that the use of PCDs for the delivery of large capital investment projects is of benefit to consumers, and allows for TOs to be held responsible for successful delivery.
- 4.118 Two TOs were not supportive of our proposals, with one of the TOs arguing that there is no effective measure of consumer detriment. The other TO strongly opposed our proposal to introduce penalties based on constraint payments on the basis that this would expose TOs to significant risk and increase costs. They also added that the existing legal and regulatory framework (Section 9 of the Electricity Act, Timely Connections Output and TIM) is sufficient to minimise consumer detriment.
- 4.119 Several respondents highlighted that a penalty should only be applied where it is clear that the TO is responsible for delay. Several respondents believed that the TO should be able to present evidence about why consumer detriment sharing for delay is not appropriate, or where the delay is in the consumers' interest.
- 4.120 One TO stressed the need to ensure that the level of consumer detriment sharing does not create perverse incentives. Otherwise, this could have a detrimental impact on consumers, as overall project costs will increase or result in longer timescales for delivery being incurred. TOs may be incentivised to offset penalties with their contractors therefore potentially resulting in higher costs for consumers.

One of the respondents also noted that the design of any penalties needs to be considered in the context of potential impact of increased risk on cost of capital.

- 4.121 Only five respondents provided direct feedback on the options we consulted on in this area. One of the TOs was not in favour of a penalty reflective of actual constraint costs, arguing that these are unpredictable, uncontrollable and potentially very large. They added that this would increase insurance costs for TOs and/or their contractors, which may cause them to increase project delivery times to reduce risk. Passing the actual constraint costs on to the TO, may disincentivise the SO, and because of the increased levels of risk, may result in investors requiring a higher cost of capital.
- 4.122 They suggested that a penalty reflective of forecast constraint costs or a day rate penalty would allow the TOs to understand their potential exposure. They also suggest that the TO, working with the ESO, could propose detriment payments to Ofgem at the same time it proposes milestones, close to the start of the project.
- 4.123 They noted that detriment will not be the same at all times of the year, for example the costs may be higher in winter than in summer. As long as it is defined in advance then it should help ensure that contractual arrangements and mitigation of risk are structured as efficiently as possible. The final comment from this respondent was that a penalty should apply to all TOs and to any companies appointed through CATO or other competitive approaches.
- 4.124 One of the DNOs argued that Ofgem should not expose companies to penalties on account of factors that are beyond reasonable control.

#### *Alternative proposals*

- 4.125 Three respondents suggested potential alternative proposals. One of the TOs suggested that we consider an approach where a penalty is reflective of the benefits identified in the CBA for the scheme, while also considering a reward for early delivery. They also added that early delivery should not be penalised. They added that it is not normal commercial practice for penalties to be based on the consequences of service failure, and that our approach should be based on standard commercial practices that would apply in competitive markets.
- 4.126 Another respondent suggested a milestone approach linked with appropriate mitigation measures, including delays to financial allowances, in the event that key elements of projects were delivered late.
- 4.127 Another TO noted the existing mechanisms and tools within the RIIO framework which protect consumers and are at Ofgem's disposal.

#### Decision

- 4.128 In this section, we outline our decision to introduce a mechanism for the automatic re-profiling of allowances to ensure TOs do not benefit financially from delay and/ or poor quality delivery.

#### *Ensuring TOs do not benefit from delay and/ or poor quality delivery*

- 4.129 Our view remains that TOs should not benefit financially from delays. To this end, we have decided that we will include an automatic re-profiling mechanism in the relevant licence conditions, where we do not apply a milestone-based approach. We consider that there can be a financial benefit to delays in delivery as a result of the way the regulatory funding models work.

- 4.130 The re-profiling mechanism would re-profile allowances on an annual basis not on a month-by-month basis, in line with the way allowances are set at present. It is not possible to re-profile allowances on a month-by-month basis in the PCFM.
- 4.131 We do not agree with the view from one respondent that re-profiling could impact cash flow. Re-profiling of allowances simply resets the company back to a net zero position. The two-year gap referred to here is related to the lag between receiving the TIM benefit/penalty as a result of actual spend against allowances.
- 4.132 We recognise there may be some situations where a project delay is right for consumers. We note that the proposed re-profiling mechanism, which the majority of respondents are in agreement with, does not penalise companies for delays to delivery. Instead, the mechanism works to ensure that they do not benefit financially as a result of the way the regulatory models work.
- 4.133 We agree that historically the financial benefit to TOs for delayed delivery has been resolved on a project by project basis. However, we think there is benefit to formalising the process and clarifying the approach up front. This will ensure consistency of treatment across projects going forward.
- 4.134 We note that these projects are subject to the TIM, which aims to incentivise efficient delivery. However, our view is that the TIM is mainly focused on incentivising cost efficiency rather than incentivising high quality and timely output delivery.

#### Upcoming decisions

- 4.135 In this section, we outline areas where we will continue to develop our thinking in consultation with stakeholders in the run-up to Draft and Final Determinations on:
- A milestone-based approach to ensuring TOs do not benefit financially from delay and/ or poor quality delivery
  - Minimising consumer detriment during the delivery of large capital investment projects
  - Characteristics of 'large capital. Projects' in this context (discussed in paragraph 4.152).
- 4.136 We have also identified an area of potential further development, which we will engage with stakeholders on. This relates to the potential introduction of a mechanism to address consumer detriment relating to output failures during the operation phase of large capital investment projects.

#### *Introducing a milestone-based approach*

- 4.137 We will work with stakeholders to further develop options for the introduction of a milestone-based approach. We will reach a decision on this at Draft and Final Determinations. Our current view is that a milestone approach may be appropriate in the context of some projects. We will work with stakeholders in the run-up to Draft and Final Determinations to identify the characteristics of these projects. We note that a milestone approach would be an alternative to the automatic re-profiling of allowances.
- 4.138 We note that several respondents have requested additional information relating to the proposed milestone based approach. We propose to work with stakeholders further in the run-up to Draft and Final Determinations to determine how such an approach might work and to which types of projects it may apply. We also

welcome proposals on the use of a milestone approach in the context of specific projects from TOs in their business plans.

- 4.139 We recognise the challenges associated with setting milestones at the start of the price control. Our current view, which we will consult on, is that milestones could be agreed closer to the start of the project ie at the funding decision stage. This would allow TOs to set clear, relevant and project specific milestones. Under this approach, specific milestones could be included in the licence. The TOs would be required to provide evidence that they have met the successful delivery criteria for that specific milestone, which would be set out as part of agreeing milestones. Once this evidence had been assessed, a decision would be made as to whether or not the milestone had been successfully delivered. We think that this approach could better reflect standard commercial practises and would also ensure that TOs do not benefit financially from delayed or unsuccessful delivery.
- 4.140 We also note that there may be interactions with our proposals around minimising consumer detriment. In further developing a milestone-based approach, we will ensure that companies are not at risk of being penalised twice.
- 4.141 We accept that the milestone approach could introduce additional reporting requirements. We will work with relevant stakeholders to determine proportionate reporting requirements. We note that these may be project-specific.

#### *Minimising consumer detriment*

- 4.142 We will work with stakeholders to further develop options for minimising consumer detriment. We will reach a decision on this at Draft and Final Determinations. Having considered the responses to our consultation, our current view is that there is a need to introduce a mechanism that will minimise consumer detriment and/or share consumer detriment in the event of unsuccessful, delayed or poor quality delivery. We outlined two options in our December consultation and we will continue to work with stakeholders to develop these in the run up to Draft and Final Determinations.
- 4.143 We note one respondent's view that the existing legal and regulatory framework is sufficient to minimise consumer detriment. We think the potential options we consulted on in December complement the existing framework, and that it is necessary to clarify what actions we will take in the event of poor quality and/or delayed delivery.
- 4.144 We recognise that there may be cases where the reasons for delay are beyond the control of the TOs. In these cases, we will expect TOs to provide robust evidence outlining the reasons for delayed or unsuccessful delivery. We will consider what framework is required to allow, in the event of a delay, the TOs the opportunity to provide evidence as to why either (i) the delay was outside of their control or (ii) the delay has not resulted in any detriment to consumers.
- 4.145 We recognise that there are challenges in designing a consumer detriment sharing mechanism that accurately reflects the overall consumer detriment resulting from delay or unsuccessful delivery. We do however believe that there is benefit to further exploring all options we consulted on (and any additional proposals as appropriate) in the run up to Draft and Final Determinations. In light of the ESO's existing regulatory framework, we would also expect the ESO to provide information to support the process for setting out any type of penalty reflective of potential consumer detriment.

- 4.146 We accept that consumer detriment is not the same at all times of the year, and that for example constraint costs may be higher in winter than in summer. Working with the ESO, and taking into account different energy scenarios, we would expect the penalty to reflect consumer detriment in the round.

*Minimising consumer detriment during operation*

- 4.147 We also propose to explore options for minimising consumer detriment relating to output failures during the operation phase of large capital investment projects. We note that this is not a proposal that we consulted on in December and that we will explore this further with stakeholders in the run up to Draft and Final Determinations.

*Alternative proposals*

- 4.148 We are not currently considering a reward for early delivery. TOs are already incentivised to deliver projects efficiently, through the TIM. There may also be some benefits for TOs in delivering projects early, for example, resource can be redeployed. We also believe that there is a risk that by introducing a specific reward for early delivery project timescales will be overstated.
- 4.149 With regards to an annual reporting mechanism, we note that under the proposed milestone approach TOs would have to provide evidence to demonstrate and provide assurance of delivery against each milestone. We will work with relevant stakeholders to determine the appropriate reporting requirements.
- 4.150 We recognise that in some situations, delays may be outside of company control and/ or may be in the interest of consumers. However, even in these situations we do not consider it appropriate for TOs to retain the timing benefits. We expect all TOs to take effective asset management decisions that are in the interests of consumers as a matter of course.

Our response to general points raised in responses

*Opportunity to discuss proposals*

- 4.151 Whilst we have brought this workstream to working group level, we agree that further information and consultation on some of the options outlined in December would be helpful. There will be further consultation as part Draft and Final Determinations. In addition, we will consider whether additional consultation, working groups, bi-laterals with interested parties and key stakeholders are necessary.

*Characteristics of large capital projects*

- 4.152 We understand that respondents would like further clarity on how we intend to define large capital projects. We propose to use the 'high-value' criteria that we have established for competition in onshore electricity transmission (£100m).<sup>37</sup> We propose to explore this further in consultation with stakeholders in the run-up to Draft and Final Determinations. We also note that this should not preclude TOs from proposing similar arrangements for projects below that threshold as part of their business plans.

*Managing risk in the delivery of large capital investment projects*

- 4.153 We note the views of several respondents that our proposals could place additional risk on TOs for the delivery of large capital projects. They argue that this could

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<sup>37</sup> See chapter 10 of the Core Document.



lead to TOs off-setting these risks with their contractors leading to poorer outcomes for consumers as a result of higher overall project costs and/or extended project delivery timescales. We will consider this carefully in the design of any penalty mechanism. We will continue to consider the extent to which risks associated with the delay or poor quality delivery of large capital projects are appropriately shared between consumers and TOs.

#### Interactions with other policy areas

- 4.154 We have identified a number of areas where our proposals in this space interact with other components of the price control. The main interactions that we have identified to date include the Stakeholder Satisfaction Output, Timely Connections Output, TIM and license obligations.
- 4.155 With regards to the Timely Connections Output, we note that while this currently focuses on the 'offer' stage of the project, there are also proposals to introduce a Quality of Connections Survey as part of the SSO. The surveys will potentially cover a wider range of stages in the connections process. The proposals for large capital investment projects, that we consulted on in December, focus on wider detriment to consumers resulting from delays and / or poor quality delivery. We do not believe that this is captured by the Timely Connections Output or the Quality of Connections Survey. We also note, that these mechanisms focus solely on connections projects, as opposed to other large capital projects such as wider reinforcement works.
- 4.156 We will consider the introduction of mechanisms on a case-by-case basis, and will take into consideration concerns over a double-penalty or double-reward. We do not intend to introduce a mechanism where an existing mechanism is already in place and addressing the issue.

#### Next steps

##### *Upcoming decisions*

- 4.157 As outlined above, we will engage further with stakeholders on further developing options on the following in the run-up to Draft and Final Determinations:
- Options for a milestone-based approach
  - Options for minimising consumer detriment, including proposals put forward by respondents to our consultation.
- 4.158 We have also identified a further area of potential development that was not included in our December consultation. We will engage with stakeholders on the potential introduction of a mechanism to address consumer detriment relating to output failures during the operation phase of large capital investment projects.
- 4.159 In addition, we will work with stakeholders to confirm our definition of large capital investment projects.
- 4.160 We plan to engage with stakeholders through working groups and through further formal consultation. We will provide additional information on how to get involved in due course.

##### *Business plans*

- 4.161 We also invite TOs to put forward project-specific proposals in their business plans for implementing a milestone-based approach, and/ or proposals for minimising



consumer detriment both during the construction period and once a project has been delivered and is in operation.

## 5. Cost Assessment

### Section summary

Cost assessment aims to determine the efficient level of costs that will enable TOs to carry out their activities and deliver an appropriate level of service. This chapter sets out our approach and next steps for assessing network companies' costs by summarising and considering responses received to date. Our cost assessment approach will continue to be refined. We will publish further detail on our approach ahead of the submission of the final Business Plans in December 2019.

### Introduction

- 5.1 In our December document we set out our intent to adapt the RIIO-ET1 cost assessment process, as appropriate, rather than establish a new approach for RIIO-ET2. We also outlined the work being done to develop Business Plan Data Templates (BPDTs) and how these templates would link with the Business Plan submissions being submitted by the TOs to the RIIO-2 Challenge Group on 1 July 2019. The following sections summarises our December proposals, the main themes of the responses, by topic, and outline our current views on these issues.

### Approach to assessing costs for RIIO-ET2

#### Summary of our December proposals

- 5.2 We set out our intention to utilise a range of approaches to come to a view on the efficient level of Totex. We noted that due to the bespoke nature of many transmission projects, a bottom-up benchmarking approach supported by engineering judgement would be key for many assessments.
- 5.3 We stated that we would look to use historic data from a range of sources to inform our assessments, and that we expected the TOs to provide evidence on why their submitted costs should be considered as efficient. For activities that are common across companies or sectors, we would look to use these wider data sets to establish a more robust assessment of costs.
- 5.4 Where there is uncertainty around a project's needs case or timing, but the cost data is firm, we proposed to either defer the cost assessment until the needs case is more certain, or to incorporate our view of efficient costs alongside an uncertainty mechanism. In instances where we have insufficient information to assess cost efficiency (eg for a unique activity), we said that we may also undertake bespoke assessment by subject matter experts.
- 5.5 We also asked respondents for views on:
- the appropriateness of our cost categories for RIIO-ET2
  - our principles of a good cost driver
  - how we would combine our analysis to ensure allowances reflect efficient costs
  - any evidence of the need for Real Price Effects (RPEs) to be incorporated into allowances.

### Summary of responses

- 5.6 There was widespread support amongst respondents on this subject for the use of the "toolbox approach" for assessing efficient costs. They noted the bespoke nature of transmission works, the difficulties with comparability of data across the sector and the suitability of this approach from previous price controls as reasons for their support.
- 5.7 While the importance of historical data was noted, one network operator considered that Ofgem's focus should be on ensuring the TOs' procurement and decision-making processes have been effective. This would overcome the potential lack of data/comparability of data issues within the ET sector, while ensuring bespoke factors are given due consideration in the determination of allowances.
- 5.8 Respondents commented on uncertainty of cost/timing in their answers to the questions in Chapter 7 (Uncertainty mechanisms) – their views are discussed in that Chapter.
- 5.9 Respondents generally supported the cost categories we proposed (though one proposed an alternative nomenclature), and commented that our cost driver principles seemed appropriate. Some noted that emerging policy in areas such as whole systems may change cost-activity relationships for TOs and welcomed Ofgem's awareness of this point. One TO itemised a number of cost drivers that it considered apply for large, high value and bespoke transmission upgrade schemes. It was concerned that any mechanistic approach to combining costs may not, on its own, provide an appropriate means to set ex ante allowances to deliver required outputs. The other TOs were supportive of the approach of combining cost based on bottom-up assessment and engineering judgement.
- 5.10 TOs all stated that they would provide evidence of the need for RPEs to be incorporated into allowances as part of their Business Plan submissions.

### Decision

- 5.11 We have decided to confirm the approach to TO cost assessment set out in our December consultation. Namely, that we will adopt a range of techniques, underpinned by use of historical cost data, as appropriate, in determining our view of efficient costs. We will be reviewing both the data supplied by TOs, and the processes undertaken to derive these costs (such as tendering and project cost management), in considering the efficiency of submitted costs. The onus will be on TOs to evidence the need for/magnitude of project-specific factors to be included in the cost assessment.
- 5.12 While we expect that a significant proportion of the Business Plan submissions (by value) will lend itself to a detailed project-specific cost assessment approach, we acknowledge that there will also be volumes of less material work that cannot be scrutinised in the same level of detail. We expect to conduct a high level assessment of such work within each business plan submission, combined with sampling of specific projects, to come to a view on the suitability of the proposed cost levels.
- 5.13 We will consider TO evidence for the inclusion of RPEs as part of our wider assessment of Business Plan submissions.

### Next steps

- 5.14 We will publish further detail on specific elements of our approach to cost assessment during summer 2019.

## Proposals for ET Business Plans

### Summary of our December proposals

- 5.15 We set out our plans for issuing in March 2019 a BPDT, Cost Benefit Analysis (CBA) template, and engineering justification template, as well as associated guidance documents. We noted that we would continue to develop these documents and our approach to cost assessment through the Cost Assessment Working Groups. We detailed the prospective timeline for cost assessment activities throughout 2019, up to the point of Business Plan submission in December 2019.

### Summary of responses

- 5.16 A supplier welcomed the move to request additional levels of detail on some cost categories on the basis that it should create a more robust outcome, while cautioning that it should not create additional regulatory burden or cost for the transmission companies. TOs focussed on the levels of granularity and comparatively late development of the BPDTs. One considered that we had given insufficient regard to the sectoral differences when using the ED data templates as a starting point for the ET templates. TOs noted the tight timing on the BPDT development given the degree of changes relative to the RIIO-T1 documentation.

### Our view

- 5.17 Separately from the December consultation we issued a complete set of templates and supporting guidance during late March/early April 2019.<sup>38</sup> We believe that we have addressed the issues of incompatibility between the ED and ET template content, where appropriate, noting that we have intentionally adopted some more granular data practices from ED to inform our ET cost assessment process. We will continue to liaise with the TOs to refine the BPDTs and guidance ahead of their 1 July 2019 submissions, through both the Cost Assessment Working Group and bilateral meetings.

### Next steps

- 5.18 We will continue to work with the TOs and other interested stakeholders to develop the BPDTs subsequent to the July 2019 business plan submission; our intention is to publish a final version in September 2019. This should allow for any issues/deficiencies with the current issued templates to be resolved in time for the December 2019 submission.

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<sup>38</sup> Available at <https://www.ofgem.gov.uk/publications-and-updates/riio-2-draft-data-templates-and-associated-instructions-and-guidance>

## 6. Uncertainty Mechanisms

### Section summary

We will include uncertainty mechanisms within the price control framework and have set out the mechanisms. Additional uncertainty mechanisms may also be proposed by network companies as part of their Business Plans.

### Introduction

- 6.1 Forecasting all costs and outputs with confidence for the duration of a price control is challenging. Uncertainty mechanisms allow us to change a network company's revenues in light of what happens during the price control period. We use the term uncertainty mechanisms to cover a range of regulatory approaches.<sup>39</sup> Using uncertainty mechanisms is important so that we don't damage incentives on companies to be efficient, don't unnecessarily expose companies to risks outside of their control, or expose consumers to material forecasting risks at price control review.
- 6.2 Table 7 below sets out the uncertainty mechanisms for RIIO-ET2 that will apply to all the network companies. Information on the uncertainty mechanisms that will apply in the same way across all RIIO-2 controls are described as 'Cross sector'.
- 6.1 This chapter should be read in parallel with:
- Chapter 9 of the Core Document, which provides further information on:
    - our overall approach to managing uncertainty under RIIO-2
    - our current view on the level of materiality thresholds that will apply to each re-opener mechanism
  - the RIIO-2 Finance Decision Annex and Chapter 9 of the Core Document, which provide information on the specific 'cross-sector' uncertainty mechanisms that will be implemented
  - the upcoming Business Plan Guidance, which will provide further information on what network companies need to provide in order to propose additional uncertainty mechanisms (if required) as part of their Business Plan
  - Chapter 7 of the December ET Annex that provides more detail on the proposals we put forward and have summarised in this chapter.

**Table 7: Our decision on the RIIO-ET2 uncertainty mechanisms**

Name	Type of mechanism
<b>Cross sector</b>	
Ofgem licence fee	Pass-through
Business rates	Pass-through
Inflation indexation of RAV and allowed return	Indexation
Cost of debt indexation	Indexation
Tax liability allowance	Re-opener

<sup>39</sup> Mechanisms include: indexation, volume drivers, specific re-openers, and pass-through costs.

Pensions (pension scheme established deficits)	Re-opener <sup>40</sup>
Physical security	Baseline allowance and re-opener
Cost of equity indexation	Indexation
Real Price Effects	Indexation (if needed)
Cyber resilience	"Use-it or lose-it" allowance and re-opener
Whole systems (options under development)	Re-opener

## RIIO-ET2 Specific Uncertainty Mechanisms

### Summary of our December proposals

- 6.2 Our December document set out the range of uncertainty mechanisms that currently apply within the ET sector, noting that many of these are company specific. We asked for views on whether the RIIO-ET1 mechanisms should be retained into RIIO-ET2, and if so, any modifications that should be considered. We outlined our preference for a greater harmonisation of mechanisms across the sector, where possible, and asked for views on potential new mechanisms that should be introduced for RIIO-ET2.

### Summary of responses

- 6.3 All respondents to this area of the consultation thought that uncertainty mechanisms had worked well to flex revenues in RIIO-ET1 and that they should be continued for RIIO-ET2. One TO noted that without such mechanisms TOs would be exposed to excessive risks and this may result in higher costs for consumers. It also noted the differences that exist across the companies and considered that there was a need for review of how some mechanisms work in the light of RIIO-ET1 experiences, eg the generation connections uncertainty mechanism.
- 6.4 A representative of the network companies who was supportive of the use of uncertainty mechanisms cautioned that Ofgem should only introduce new mechanisms after careful and thorough assessment of the impacts, and once it has clearly demonstrated that the proposed action is in the best interests of consumers.
- 6.5 TOs and supply companies proposed a wide number of additional uncertainty mechanisms for RIIO-ET2. These covered topics such as<sup>41</sup>: heat policy; cyber resilience; physical security; electric vehicles; changes to prevailing regulatory or legislative conditions; pre-construction costs voltage control; power quality; and embedded generation. However, there was no quantitative evidence provided to support their inclusion in the price control - the TO respondents suggested that this would be part of their Business Plan submissions.
- 6.6 One TO proposed a set of general principles against which uncertainty mechanisms could be evaluated.

### Next steps

- 6.7 We will be considering the evidence on how the existing uncertainty mechanisms have worked as part of our annual review of company regulatory submissions. We

<sup>40</sup> Triennial review

<sup>41</sup> This is not an exhaustive list – please see the actual responses for a complete listing

will also discuss both the existing and proposed new mechanisms during the Cost Assessment Working Group meetings. The evidence received during the Business Plan submissions will further inform our view of the appropriateness of such mechanisms ahead of our Draft Determinations in 2020.

- 6.8 In addition, a TO may identify non-network solutions as an appropriate means of addressing a needs case. Currently, we note that in some limited specific circumstances, there may not be an incentive on the TO to bring forward such solutions. We will continue to investigate how best to encourage networks to identify and reveal the best options for consumers.