

# Environment Report Guidance Document

## Guidance

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# 1. Background and general instructions

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## Environment Report Obligations

- 1.1. Standard Licence Condition (SLC) 47 (Environment Reporting) of the Electricity Distribution Licence requires the Distribution Network Operator (DNO) to inform stakeholders about activities it has undertaken in relation to environmental matters by publishing an annual Environment Report (the Report).
- 1.2. Each DNO is required to publish and submit the Report to Ofgem<sup>1</sup> on an annual basis covering the preceding Regulatory Year (the 'Regulatory Reporting Year'). The Report should be published and be readily accessible to the public from each DNO's website. The Report must meet the requirements of the Environment Report Guidance Document (the Guidance).
- 1.3. This document constitutes the Environment Report Guidance Document referred to in SLC 47. The Guidance may be amended and updated in accordance with the process described in SLC 47.
- 1.4. The DNOs are required to comply with this Guidance as if it were part of the electricity distribution licence.

## Purpose of the Report

- 1.5. The purpose of the Report is to provide stakeholders with a transparent and public account of each DNO's commitment to addressing environmental matters. This includes the DNO's role in the low carbon transition. It is intended to provide a holistic overview, a clear rationale for actions and details of actual benefits to customers. Requiring DNOs to make the information contained in the Report public is of value to stakeholders and will encourage ongoing stakeholder engagement on environmental matters.
- 1.6. This Guidance defines the high-level compulsory content of the Report. DNOs can include additional discretionary content. This discretionary content could be in response to their stakeholders' interests or to address their own business plan commitments.
- 1.7. DNOs' Reports should be clear and well structured, outlining the activities undertaken in relation to environmental matters and, where applicable, clear targets and the involvement and engagement of stakeholders. DNOs should use the Report to demonstrate to stakeholders what steps they have taken to manage, and if possible reduce, their environmental impact and, if possible, demonstrate their progress towards integrating environmental protection and enhancement into their businesses.
- 1.8. Where defined words and expressions are used in this Guidance they are capitalised and included in Appendix 1.

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<sup>1</sup> 'Ofgem', 'The Authority', 'we' and 'us' are equivalent in this document and are used interchangeably. 'The Authority' refers to the Gas and Electricity Markets Authority.

## Reporting Date

- 1.9. On or before **31 October 2016** and by each subsequent 31 October, unless the Authority directs otherwise, the DNOs must publish and submit to Ofgem their Report covering the preceding Regulatory Year.

## Scope of the Report

- 1.10. The Report must be a single document covering each Electricity Distribution Group, eg a UK Power Networks Environment Report, would cover the Distribution Services Providers (DSPs) EPN, LPN and SPN. This Guidance specifies where information must be provided at the DSP level.
- 1.11. This Guidance explains how the DNO must report on activities that it has undertaken in relation to environmental matters. DNOs' Reports should be provided in the form specified in this Guidance and must include the content specified here.
- 1.12. In preparing their Reports, DNOs should be mindful of their obligations under SLC 47 and consider any additional environmental issues that their stakeholders may have an interest in, considering how these may evolve over time. This should be taken into account when adapting or adding to the discretionary content of DNOs' Reports.
- 1.13. The majority of smart grids and innovation activity is linked to environmental matters and the low carbon transition. To provide stakeholders with a single location to find information, the Report should include the information required under this Guidance on smart grids and innovation activity, even if not directly related to the environment and the low carbon transition.
- 1.14. There are other licence requirements for RIIO-ED1 and DNOs may also have other overarching strategies in place to deliver on their commitments. These include:
  - reporting to Ofgem under the Regulatory Instructions and Guidance (RIGs) in accordance with SLC 46 (Regulatory Instructions and Guidance)
  - producing and maintaining an Innovation Strategy in accordance with SLC 48 (The Innovation Strategy)
  - producing a Distribution Losses Strategy in accordance with Part B of SLC 49 (Electricity Distribution Losses Management Obligation)
  - reporting in respect of RIIO-ED1 commitments on an annual basis in accordance with SLC 50 (Business Plan Commitment Reporting).
- 1.15. We have designed this Guidance to limit duplication of effort required in meeting certain licence requirements. DNOs may provide summaries of key information in their Reports, ensuring the required content is covered, and include links to other publicly available documents, although the Report should provide stakeholders with a full picture of the DNOs' environmental activities. This may include signposting to those documents listed in paragraph 1.14, and the RIGs documents and commentary published alongside the Report.
- 1.16. In some areas the Environment Report Template, below, requires additional content to what will be available in the documents listed in paragraph 1.14. DNOs may also choose to include further specific content in their Reports, which they consider to be of interest to their stakeholders. In particular, we expect the Report to include details of year-on-year progress and the roll out of a specific approach or activity eg

integration of an activity into business as usual in order to realise specific environmental benefits.

- 1.17. Data, including that from other regulatory reporting, should be used where it aids justification of the benefits of specific solutions or strategies, even if it is not specifically required by the Guidance.

## Structure and Content of the Report

- 1.18. The Environment Report Template below outlines the section headings, sub-headings and table headings that must be used by DNOs in their Reports. However, DNOs do not have to use the table and section numbers used here.
- 1.19. The information provided under the headings in the Environment Report Template outlines the content requirements for each section of the Report.
- 1.20. As previously noted, DNOs may also provide additional areas of content for the benefit of their stakeholders. We have not attempted to include an exhaustive list. DNOs should engage with their stakeholders in developing the scope of their reporting. We anticipate any discretionary content will evolve over time as the DNOs engage with their stakeholders to shape the Report.
- 1.21. DNOs must publish the completed Environment and Innovation Reporting Pack (part of Annex J of the RIIO-ED1 RIGs) from their most recent RIGs submissions for each DSP covered by the Report. DNOs must include any associated commentary and other supporting documentation required, such as an and methodology or CBAs, in addition to the Environment and Innovation Reporting Pack as appendices to their Report, unless they are published elsewhere as part of the RIGs, in which case they may instead elect to provide a link to these documents within the Report.
- 1.22. DNOs may request Ofgem's approval to redact specific information from the Environment and Innovation Reporting Pack or other supporting information required in the Guidance prior to publication. Any request to redact information must include explanation and evidence which demonstrates that publication of the information concerned will result in consumer detriment. Ofgem will decide on a case-by-case basis whether information may be redacted.
- 1.23. Any terms used in the required appended documents which are not listed in Appendix 1 of the Guidance should be interpreted as per the definition provided in the RIGs, where they are included in the RIGs glossary. DNOs should ensure they provide clarity for stakeholders about the meaning of terms used in their Reports. The DNO is responsible for explaining the information provided in appendices to its Report or information published elsewhere for which a link is provided in the report, in a way that is meaningful to its stakeholders. DNOs should signpost and explain key information from appendices within the relevant sections of the Report.

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### Use of estimates

- 1.24. In certain circumstances DNOs may not be able to measure or record actual information eg forecast information or 'counterfactual' information about alternatives that were discounted. In circumstances where DNOs are not able to measure and record actual information they may estimate the information they provide. Where estimated data is provided, DNOs must provide the reason why the information could not be measured or recorded and the method they used to derive any estimate. Where this is already given in commentary appended to the Report, DNOs do not need to repeat it. Any new information should be provided as an appendix to the relevant section of the Report, clearly signposted from within the Report text.

### **Accuracy of reporting**

- 1.25. DNOs are required under standard licence condition 45 (Data Assurance requirements) to perform a risk assessment and carry out data assurance activities on specified information submitted in the RIGs and published in the Environment Report. The data assurance activities carried out should ensure the accuracy of the information submitted.
- 1.26. Where actual volumes differ from estimates previously given, DNOs should provide an explanation of any variances if required in the Guidance for that section.

### **Provision of forecast data**

- 1.27. Reporting of forecast expenditure should be in 2012-13 prices and include the expected impact of real price effects but not the expected impact of economy-wide inflation.<sup>2</sup>

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<sup>2</sup> Real price effects are the changes in prices of inputs purchased, relative to economy-wide inflation. When considering the impact of real price effects DNOs should reference economy-wide inflation as measured by the retail prices index (RPI).

## 2. Environment Report Template

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### 1. Introduction

#### 1.1. Executive Summary

- Highlights, summary of progress and summary of challenges in the preceding Regulatory Year and discussion of those anticipated in the coming year and beyond.

#### 1.2. Our Business/Who We Are

- How the DNO manages its network in an environmental context including discussion of relevant aspects of its operational strategy with a focus on impact, assumptions and responsibilities.

#### 1.3. Purpose of the Report

- A summary of why the environment is important to the DNO's business and what the DNO's commitments are in this area (under its licence and other relevant commitments).
- How the DNO does its work and what the impact of its work is in relation to environmental matters.
- A description of the role of stakeholders in how the DNO manages its impact on the environment.

## 2. Managing Our Environmental Impact

### 2.1. Introduction

- An introduction to this section, and each subsection within it, setting it in the context of its environmental importance and how it relates to its business activities.

### 2.2. Visual Amenity

- Details of Visual Amenity Projects in Designated Areas, including:
  - A description of the DNO's strategy for project assessment and delivery, including analysis of costs and benefits, stakeholder engagement and support.
  - The DNO's approach to assessments of projects, a list of projects assessed and selected, with a description of the projects and outcome of the assessment, and a list of forthcoming projects.
  - Details of schemes in progress, including their location and the nature of the relevant Designated Area.<sup>3</sup>

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<sup>3</sup> There are specific reporting requirements on DNOs relating to Visual Amenity Projects. This core set of requirements, as well as any other discretionary activities, should be covered in this Report.

- Impacts and benefits of schemes including visual, carbon (such as in peat land) and others where applicable.
  - Discussion of instances which the DNO believes represent best practice, for example in their use of the 10 per cent allowance for Visual Amenity Outside Designated Areas.<sup>4</sup>
  - Signposting to the RIGs worksheet E1 – Visual Amenity (published as an appendix to the Report), including a summary of the DNO’s Visual Amenity activity at a DSP level, should be included in this section. The DNO is responsible for explaining this additional information in a way that is meaningful to its stakeholders.
- The DNO should provide a level of detail in this area which can demonstrate to local communities the benefits of this scheme.

### **2.3. Oil Leakage<sup>5</sup>**

- Details of Oil Leakage from Fluid Filled Cables, including:
  - Strategy/policy to address leakage including engagement with relevant stakeholders, eg Environment Agency, new technology/detection strategies and other applicable areas.
  - Relevant actions and programmes - current and forthcoming, including planned asset replacement.
  - Actual and expected estimated benefits in terms of reduced impacts such as lower-level leakage, reduced excavation, faster detection.
  - Analysis of costs and estimated benefits in terms of volume of Fluid Recovered and Fluid Used to Top Up Cables, and kilometres of Fluid-Filled Cables replaced or affected by leakage mitigation actions.
  - Signposting to relevant sections of the RIGs worksheet E2 – Environmental Reporting (published as an appendix to the Report), including a summary of the DNO’s Oil Leakage activity and performance at a DSP level, should be included in this section. The DNO is responsible for explaining this additional information in a way that is meaningful to its stakeholders.

### **2.4. Carbon Impact and Climate Change**

#### **2.4.1. Business Carbon Footprint**

- Information on the Business Carbon Footprint (BCF) in accordance with the Greenhouse Gas (GHG) Protocol including the following information:
  - Summary of public reporting.
  - Business policy and strategy for carbon reduction including analysis of costs and benefits and challenges.

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<sup>4</sup> Under CRC 3J DNOs are allowed to spend up to 10 per cent of their allocated expenditure for undergrounding of lines which extend beyond the boundaries of Designated Areas, as per the definition Visual Amenity Outside Designated Areas in the RIGs glossary.

<sup>5</sup> There are specific requirements on DNOs for reports relating to this leakage to be submitted to Ofgem. This core set of requirements, as well as any other relevant discretionary activities, should be covered in this Report.



- A description of relevant actions and programmes to reduce their BCF - current and forthcoming.
- Actual and forecast benefits and impacts of these actions and programmes, eg carbon equivalent savings including losses (as reported to the Department of Energy & Climate Change (DECC)), reduction in energy consumption and others as applicable.
- Signposting to the RIGs worksheet E3 – BCF (published as an appendix to the Report), including a summary of the DNO's BCF performance at a DSP level, should be included in this section. This should include a table of performance against GHG Scope 1-3, both including and without losses, and separately, the emissions due to SF<sub>6</sub> leakage, as reported to Ofgem in the RIGs at a DSP level. The DNO is responsible for explaining this additional information in a way that is meaningful to its stakeholders. The total losses should be equivalent to the tCO<sub>2e</sub> figure reported as part of the DNO's Business Carbon Footprint.

#### **2.4.2. Sulphur Hexafluoride Emissions (SF<sub>6</sub> Emitted)**

- Details of SF<sub>6</sub> emissions, including:
  - A description of the expected trajectory of the DNO's SF<sub>6</sub> Bank and SF<sub>6</sub> Emitted and the impact of the DNO's network strategy on SF<sub>6</sub> Bank and SF<sub>6</sub> Emitted over the RIIO-ED1 period and its intended actions to mitigate these impacts.
  - A description of the DNO's strategy/policy to address the level of SF<sub>6</sub> Emitted including engagement with relevant stakeholders, new technology/detection strategies and other relevant areas.
  - A description of actions and programmes to reduce emissions - current and forthcoming.
  - Actual and forecast benefits and impacts of these actions and programmes and other developments on their network, with analysis of costs and benefits, eg carbon equivalent savings/leakage reduction. This should include discussion of expected installations of new sources of SF<sub>6</sub> emissions.
  - Signposting to the RIGs worksheet E2 – Environmental Reporting and the RIGs worksheet E3 – BCF (published as an appendix to the Report), including a summary of the DNO's SF<sub>6</sub> emission reduction activity and performance at a DSP level, should be included in this section. The DNO is responsible for explaining this additional information in a way that is meaningful to its stakeholders.

#### **2.4.3. Distribution Losses**

- An introduction describing what Distribution Losses are, where they are generated and why they are important.
- A high-level summary of the latest Distribution Losses Strategy, for instance summarising key points from the executive summary of the Distribution Losses Strategy and signposting what additional information on losses it contains.
- Current assessment of Distribution Losses (Technical Losses & Non-Technical Losses) including a description and statement of the level of total losses (GWh) at the Electricity Distribution Group level. This should be equivalent to the tCO<sub>2e</sub> figure

reported as part of DNOs' Business Carbon Footprint, but presented at the Electricity Distribution Group level.<sup>6</sup>

- A description of activities undertaken in the Regulatory Reporting Year and those planned for the Regulatory Year which follows the Regulatory Reporting Year (the 'Following Regulatory Year'), ie details of current and forthcoming programmes to manage Distribution Losses including:
  - The losses investment profile over the RIIO-ED1 price control period.
  - Assessment of the progress in developing tools and a methodology for Distribution Losses, recognising the options, including modelling, in addition to direct measurement and monitoring.
  - Cost benefit analysis and impacts, eg carbon equivalent savings.
- Signposting to the RIGs worksheet E4 – Losses Snapshot (published as an appendix to the Report) should be included in this section. Any associated evidence such as CBAs and/or additional commentary which relates to these tables must also be published.<sup>7</sup> The DNO is responsible for explaining this additional information in a way that is meaningful to its stakeholders.
- Using the latest information from E4 – Losses Snapshot and the associated CBAs, as a minimum, the DNO must include Tables 1 and 2, below, within this section of its Report. The tables should be presented at an Electricity Distribution Group level. The DNO may also provide this information at a DSP level if it is considered desirable by its stakeholders. The relationship between the tables in this Guidance and the E4 – Losses Snapshot is explained in Table A<sup>8</sup>, below.

SLC 49, paragraph 49.9(b), requires DNOs to publish information on their actions to manage Distribution Losses and to deal with Relevant Theft of Electricity. We would consider this obligation to have been met where the DNO annually publishes the Report, including worksheet E4 – Losses Snapshot and any associated documents eg CBAs and commentary.

**Table 1– Summary of Losses Costs and Benefits from Activities in RIIO-ED1**

Programme/project title	Regulatory Reporting Year			RIIO-ED1
	Distribution Losses-Justified Costs	Reduced Losses	Reduced Emissions Associated with Losses	Cumulative reduced losses to date
	£m	MWh	tCO <sub>2</sub> e	MWh
Total				

**Table 2 – Summary of Amount of Losses Activities in Regulatory Reporting Year and Estimate for the Following Regulatory Year**

<sup>6</sup> DNO may also provide this information at a DSP level if it is considered desirable by its stakeholders.

<sup>7</sup> This information must be provided at a DSP level.

<sup>8</sup> Table A is provided for information only and DNOs do not need to include it in their Reports.

Programme/project title	Description of unit	Volumes in Regulatory Reporting Year	Forecast volumes for Following Regulatory Year

**Table A – Explanation of the Relationship Between the Losses Headings in the Report Tables and the E4 - Losses Snapshot**

Column heading in the Report	Column heading in E4 - Losses Snapshot
Programme/project title	Programme/project title
Estimated Distribution Losses-Justified Costs	Estimated Distribution Losses-Justified Costs
Estimated Reduced Losses	Estimated Distribution Losses benefits over 'Baseline Scenario'
Reduced Emissions Associated with Losses	N/A. 'Reduced losses' converted to tCO <sub>2</sub> e based on the electricity GHG conversion factor in the RIIO-ED1 CBA Tool
Cumulative estimated reduced losses to date	Sum of Estimated Distribution Losses benefits over 'Baseline Scenario' for RIIO-ED1 years to date
Description of unit	Description of unit
Volumes in Regulatory Reporting Year	Volumes
Forecast volumes for Following Regulatory Year	N/A

## 2.5. Other Environment-related Activities

- This section is an opportunity for the DNO to outline any additional environment-related activities. The DNO should use this section to describe any further relevant activities which it considers may be of interest to its stakeholders, including those outside regulatory obligations. It is also a section where best practice and innovation can be highlighted. Signposting to relevant details in the RIGs worksheets published as an appendix to the Report, in particular E2 – Environmental Reporting, must be included in this section.<sup>9</sup> The DNO is responsible for explaining this additional information in a way that is meaningful to its stakeholders.
- Examples (non-exhaustive) of activities which may be included in this section are:
  - Other relevant undergrounding/environmental impact mitigation schemes funded outside the allowance provided for in CRC 3J (Allowed Expenditure on Visual Amenity Projects) of the electricity distribution licence.
  - Waste/landfill/recycling.
  - Noise Pollution and air quality/pollution reduction activities and strategy.
  - Street Works.

<sup>9</sup> This information must be provided at a DSP level

- Environmental employee awareness schemes/incentives/practices.
- Community awareness/environmental commitments eg protection of habitats, community and wildlife.
- Adaptation/flood preparedness.
- Habitat enhancement/ecological best practice/protected species management.
- Joint partnership agreements.<sup>10</sup>

### **3. Smart Grids, Innovation and Our Role in the Low Carbon Transition**

#### **3.1. Introduction**

- An introduction to this section, and each subsection within it, setting it in the context of its environmental importance and how it relates to the DNO's business activities.
- What the key challenges are and how the DNO will address these. This section is an opportunity for DNOs to provide an overview of the impacts and challenges affecting them, including government policy and EU-wide trends. The DNO must provide the rationale for its particular company focus, activities and highlights of specific work being undertaken.
- The DNO's role in the low carbon transition, including the approach to facilitating the low carbon transition, providing insight into the progress to date and plans going forward including its key successes and challenges.
- Information on the numbers of Low Carbon Technologies (LCTs) and amount of Distributed Generation connected in the preceding Regulatory Year must also be provided, signposting worksheet E7 – LCTs (published as an appendix to the Report). The DNO should also indicate expectations for LCTs up-take trajectory for the Following Regulatory Year, signposting the commentary to E7 – LCTs (published as an appendix to the Report).

#### **3.2. Progress of the Innovation Strategy**

- An outline of the progress the DNO has made against its Innovation Strategy, including a summary explanation of material changes since the version submitted alongside the RIIO-ED1 Business Plan.
- A summary of the key themes of the trials the DNO has undertaken in the Regulatory Reporting Year and how they link back to themes in its Innovation Strategy. The Report should include a hyperlink to the Network Innovation Allowance (NIA) Annual Summary for a more detailed view.

#### **3.3. Roll Out of Smart Grids and Innovation into Business as Usual<sup>11</sup>**

- An outline of how Innovative Solutions<sup>12</sup> are transitioning into business as usual. The DNO is required to include the following content in its Report. The DNOs have

<sup>10</sup> For example, through WRAP – waste prevention and resource efficiency

<sup>11</sup> Smart grids (including smart metering) and innovation are grouped together in recognition of the overlap between the two. All Innovative Solutions must be included in this section.

<sup>12</sup> Innovative Solutions are those reported in worksheet E6 Innovative Solutions in the RIGs.

discretion over the precise structure of tables or figures to provide information in a way which is clear for stakeholders.

- A description of the DNO's strategy for rolling out Innovative Solutions into business as usual to maximise the benefits they can provide, including:
  - A description of its process to monitor the output of innovation trials<sup>13</sup> (including those of other DNOs) and assess the merits (costs and benefits) of rolling out Innovative Solutions.
  - A hyperlink to where the relevant completed [tool and methodology or](#) RIIO-ED1 CBA Tool can be found assessing the costs and benefits of rolling out new Innovative Solutions (including, where considered necessary by the DNO, those not chosen for roll out). If a solution has not been chosen for roll out and [an assessment tool or](#) CBA has not been completed, a brief explanation for each solution why it has not been chosen for roll out should be provided.
  - A summary of the benefits and impacts of rolling out Innovative Solutions into business as usual.<sup>14</sup> This information should be taken from worksheet E6 – Innovative Solutions (published as an appendix to the Report). Benefits and impacts should be reported in the same units as in this worksheet.
  - Signposting to the Cost by Scheme section of RIGs worksheet E8 – IRM (published as an appendix to the Report) should be included in this section.
- A description of the DNO's strategy for maximising the net benefits of smart metering for consumers, including:
  - The percentage penetration of Smart Meters in each of the DNO's Distribution Services Areas at the end of the preceding Regulatory Year. This information should be taken from Costs and Volumes Reporting Pack (part of the RIGs) worksheet CV34 – Smart Meters.
  - The current status of IT and communications investments which are required to maximise the benefits of smart metering data. Worksheet E5 – Smart Metering (published as an appendix to the Report) and accompanying commentary must be signposted.
  - A description of the actions the DNO has taken in the relevant Regulatory Reporting Year to maximise the value of smart metering data and how these actions relate to their strategy for use of smart metering data. Worksheet E5 – Smart metering (published as an appendix to the Report) and accompanying commentary and [an explanation of the tool and methodology or](#) RIIO-ED1 CBA Tools must be signposted. Actions should be categorised against the benefit categories in worksheet E5 – Smart Metering (as listed in DECC's January 2014 Impact Assessment<sup>15</sup>).
  - A summary of the estimated actual benefits of using smart metering data. This information should be taken from worksheet E5 – Smart Metering (published as an appendix to the Report) and categorised against the

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<sup>13</sup> As referenced in the definition of Innovative Solutions.

<sup>14</sup> Benefits and impacts, wherever referred to in this section, include all the following information on worksheet E6 – Innovative Solutions (published as an appendix to the Report) where relevant: avoided cost, capacity released, distribution losses, customer interruptions, and customer minutes lost.

<sup>15</sup> DECC Smart meter roll-out for the domestic and small and medium non-domestic sectors (GB): Impact Assessment (Jan 2014): <https://www.gov.uk/government/publications/smart-meter-roll-out-for-the-domestic-and-small-and-medium-non-domestic-sectors-gb-impact-assessment>

benefit categories in this worksheet (as listed in DECC's January 2014 Impact Assessment). Direct consumer benefits should be reported non-monetised.

- A forecast of the actions the DNO expects to take relating to each of the benefit categories in worksheet E5 – Smart Metering in the Following Regulatory Year.
- A description of the DNO's strategy for using Innovative Solutions for new Connections, including:
  - A description of how Innovative Solutions have been used to accelerate Connections and reduce costs.
  - A summary of the benefits of using Innovative Solutions for Connections. This information should be taken from worksheet E6 – Innovative Solutions (published as an appendix to the Report). This worksheet, ~~and~~ accompanying commentary and an explanation of the tool and methodology used to derive the benefits and impacts or RIIO-ED1 CBA Tools should be signposted.
- For each Innovative Solution deployed since the start of RIIO-ED1 or expected to be deployed in the Following Regulatory Year, DNOs must include:
  - A description of the solution so that stakeholders can understand what is being done and how this is more innovative than the alternatives.
  - The RIIO output(s)<sup>16</sup> that the solution is intended to facilitate.
  - The benefits and impacts of rolling out the solution. This information should be taken from worksheet E6 – Innovative Solutions (published as an appendix to the Report). Benefits and impacts should be reported in the same units as in this worksheet. This worksheet, ~~and~~ accompanying commentary and an explanation of the tool and methodology used to derive the benefits and impacts or ~~and~~ RIIO-ED1 CBA Tools should be signposted.
  - A forecast of the number of times the Innovative Solution is expected to be deployed in the Following Regulatory Year. This should use the same units as for worksheet E6 – Innovative Solutions.
  - A brief description of the innovation trials from which the solution has been derived, with explanation where relevant on what has changed since the trial, and hyperlinks to trial documentation (eg the ENA portal).
  - Where smart metering data is used in the solution, this should be noted.
  - Where the version of the tool and methodology used to derive the benefits and impacts or RIIO-ED1 CBA Tool, for the Innovative Solution has been updated during the Regulatory Reporting Year, provide details on what changed in the inputs, the impact on the assessment of benefits, and how this has changed the DNO's plan to deploy the solution. Where the plan remains unchanged, ensure this is stated. the reasons should be provided. Any updated tool and methodology or RIIO-ED1 CBA Tools should be appended to the report.

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<sup>16</sup> The RIIO outputs are: safety, environment, customer satisfaction, connections, social obligations, reliability and availability.

- The completed tools and methodology, or CBAs, used for the worksheets in the appendix (part of Annex J of the RIIO-ED1 RIGs) must be published as an appendix to the Report or signposted if published elsewhere.
- If the DNO's stakeholders would find it clearer, where the information is included in the DNO's Innovation Strategy, the DNO may provide links to the information and provide a summary in the Report.

#### 4. Annexes and Appendices

This must include the following documentation, or a link to these documents, if already published elsewhere:

- The completed Environment and Innovation Reporting Pack (part of Annex J of the RIIO-ED1 RIGs) from the DNO's most recent RIGs submissions for each DSP covered by the Report, as required in paragraph 1.21,
- Any associated commentary, tool and methodology or ~~and~~-associated CBAs which relate to these RIGs or other supporting documents required by the Guidance.

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The published appendices may be subject to any redactions approved by us in accordance with the process described in paragraph 1.22 of this Guidance. Where the DNO considers that further information beyond that required above would be desirable, it may additionally include further appendices or annexes.

## Appendix 1 – Relevant terms

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### Business Carbon Footprint (BCF)

A measure of the total Greenhouse Gas Emissions (in tonnes of CO<sub>2</sub> equivalent) resulting from operations on which the DNO has full authority to introduce and implement its operating policy and contractors emissions.

### Data Assurance Guidance

Has the meaning given in SLC 45 (Data Assurance requirements) of the electricity distribution licence.

### Designated Area

Areas in which Visual Amenity Projects may be undertaken, according to the relevant definitions in CRC 3J (Allowed expenditure on Visual Amenity Projects).

### Distributed Generation (DG)

Has the meaning given to it in Standard Condition 1 of the electricity distribution licence.

### Distribution Losses

Has the meaning given in Standard Condition 1 of the electricity distribution licence.

### Distribution Losses-Justified Costs

Means the incremental component of the total activity cost that is justified by Distribution Losses benefits.

### Distribution Losses Strategy

Has the meaning given in Standard Condition 49 (Electricity Distribution Losses Management Obligation and Distribution Losses Strategy) of the electricity distribution licence.

### Distribution Services Area (DSA)

Has the meaning given in SLC 1 of the electricity distribution licence. In this Guidance, the term 'DNO' refers to the Electricity Distribution Group.

### Distribution Services Provider (DSP)

Has the meaning given in CRC 1 of the electricity distribution licence. In this Guidance, the term 'DNO' refers to the Electricity Distribution Group.

### Electricity Distribution Group

Has the meaning given in CRC 2H (The Network Innovation Allowance).

### Environment Report

Has the meaning given to it in Standard Condition 47 of the electricity distribution licence.

### Fluid Filled Cables

Pressurised fluid-filled underground cables.

### Fluid Recovered

Fluid associated with pressurised fluid-filled underground cables that has leaked from a cable and is subsequently recovered and includes:

- fluid captured in a container whilst jointing works are being undertaken
- spoil removed from site because it has become saturated with fluid during a cable leak.

In order to avoid double counting, the volume of fluid used to top up a cable in order to prevent pressure reaching the Pressure emergency (Pe) level prior to jointing or repair should be excluded.



#### Fluid Used to Top Up Cables

Fluid pumped into pressurised fluid-filled underground cables and includes fluid used to:

- bring a circuit back up to pressure from a lower pressure level
- sustain a circuit fluid pressure from reaching Pressure emergency level prior to jointing or repair of a leak.

#### Greenhouse Gas Emission

The release of greenhouse gases into the atmosphere, including carbon emissions. Within the BCF, greenhouse gas emissions, eg SF<sub>6</sub>, are calculated as equivalent carbon dioxide emissions.

#### Innovative Solution

A Working Group will determine the definitions of Innovative Solutions. Until such time as the Working Group can provide definitions, only solutions that meet one of the following criteria can be defined as Innovative Solutions:

- Has been trialled by any DNO as part of an LCNF, NIC, NIA, or IFI innovation project during DPCR5 or RIIO-ED1.
- Was considered a smart solution as part of the RIIO-ED1 smart solutions assessment.
- Involves the application of technology, systems or processes not in widespread use at the beginning of RIIO-ED1 to provide long term direct benefits to distribution network customers through:
  - Improving the utilisation or provision of network capacity for demand or generation (including demand side solutions),
  - Improving the management of asset condition to reduce lifetime costs,
  - Increasing the DNO's ability to manage network performance, safety or security, or
  - Improving the level of service provided to network customers.

Direct benefits can include improvements in economic performance, environmental benefits, safety, quality of service, reliability, and/or resilience.

#### Innovation Strategy

Has the meaning given in SLC 48 (The Innovation Strategy) of the electricity distribution licence.

#### Low Carbon Technologies (LCTs)

LCTs is the collective term for the following technologies:

- Heat pumps at existing connections that do not lead to a new or modified connection
- Electric vehicle (EV) chargers, both slow and fast charging, at existing connections that do not lead to a new or modified connection
- Photovoltaics (PV) connected under Engineering Recommendation G83
- Other renewable distributed generation (DG), excluding PV, connected under Engineering Recommendation G83
- Renewable DG not connected under Engineering Recommendation G83.

#### Noise Pollution

The activity of investigating reports of noise pollution, and consequential remedial works (if necessary). In this context, noise pollution is defined as levels of noise associated with the normal operational characteristics of electrical distribution assets that may be deemed to be a nuisance and subject to Part III of the Environmental Protection Act 1990 (EPA).

#### Non-Technical Losses

Electricity units lost for non-physical reasons, including theft and measurement inaccuracy.

#### Oil Leakage

The discharging of insulating oil into the environment as a result of DNO's equipment and activities.

#### Reduced Losses

An estimate of reduced losses from the activity relative to the Baseline Scenario. This should be taken from the 'Reduced losses' row under 'Non-DNO benefits' in the RIIO-ED1 CBA Tool, calculated based on actual activity volumes.

#### Reduced Emissions Associated with Losses

An estimate of reduced emissions associated with losses from the activity relative to the baseline scenario. This should be taken from the 'Reduced emissions associated with losses' row under 'Non-DNO benefits' in the RIIO-ED1 CBA Tool, calculated based on actual activity volumes.

#### Regulatory Year

Has the meaning given in SLC 1 (Definitions for the standard conditions) of the electricity distribution licence.

#### Regulatory Instructions and Guidance (RIGs)

The term RIGs refers to a collection of documents issued by Ofgem to the DNOs to enable them to complete the reporting requirements associated with the RIIO-ED1 price control arrangements. It includes excel reporting packs, instructions and guidance, commentaries and the glossary.

#### RIIO-ED1 Business Plan

Has the meaning given in SLC 1 (Definitions for the standard conditions) of the electricity distribution licence.

#### RIIO-ED1 CBA Tool

The CBA tool DNOs used when completing their RIIO-ED1 Business Plans.

#### SF<sub>6</sub>

The chemical symbol for Sulphur hexafluoride, a gas that is used as both an insulating and arc extinction medium in electrical plant. The reporting requirement is in respect of fugitive BCF emissions attributed to SF<sub>6</sub> lost from electrical plant.

#### SF<sub>6</sub> Bank

The total mass (in kg) of sulphur hexafluoride held by the DNO for both assets installed on the network and those held in inventory. Each DNO's SF<sub>6</sub> bank should be calculated according to the methods set out in ENA Engineering Recommendation S38.

#### SF<sub>6</sub> Emitted

The total mass (in kg) of sulphur hexafluoride emitted during asset installation (only if gassed by the DNO), service life and decommissioning. Service life emissions include those due to leakage (measured through top-ups); those measured during service activity requiring gassing and degassing; and those due to equipment failure resulting in the loss of all gas contained by the asset. The SF<sub>6</sub> emitted value should account for gas recovered.

Each DNO's SF<sub>6</sub> emitted should be calculated according to the methods set out in ENA Engineering Recommendation S38. DNOs should not assume a percentage leakage rate to determine any element of SF<sub>6</sub> emitted and if a DNO does not have measured records of SF<sub>6</sub> emitted, this should be highlighted in the accompanying commentary.

#### Smart Meters

Has the meaning given to it in Condition 1 of the Smart Meter Communication Licence.

#### tCO<sub>2</sub>e

Carbon dioxide (CO<sub>2</sub>) equivalent, measured in tonnes. This is a measure for describing how much global warming a given type and amount of greenhouse gas may cause, using the functionally equivalent amount or concentration of carbon dioxide (CO<sub>2</sub>) as the reference.

#### Technical Losses

Electricity units lost owing to the physical properties of the network. This also includes the way the network is configured and operated.

#### Visual Amenity Inside Designated Areas

Activity undertaken as part of a Visual Amenity Project funded under the Visual Amenity Allowance funding mechanism described in CRC 3J (Allowed expenditure on Visual Amenity Projects) of the electricity distribution licence which relates to overhead distribution assets located within a Designated Area.

#### Visual Amenity Outside Designated Areas

Activity undertaken as part of a Visual Amenity Project funded under the Visual Amenity Allowance funding mechanism described in CRC 3J (Allowed expenditure on Visual Amenity Projects) of the electricity distribution licence which relates to overhead distribution assets which form part of an overhead line which spans the boundary of a Designated Area and is located outside the boundaries of the DNO's Designated Area, for which up to 10% of the Visual Amenity Allowance funding mechanism described in CRC 3J (Allowed expenditure on Visual Amenity Projects) of the electricity distribution licence may be used.

#### Visual Amenity Projects

Has the meaning given to it in CRC 3J (Allowed expenditure on Visual Amenity Projects).