

Guidance

RIIO-2 Environmental Reporting Guidance

Draft for consultation

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This guidance covers the Annual Environmental Report (AER) that is a licence obligation introduced as part of the RIIO-2 gas transmission, electricity transmission and gas distribution price control.

This document is for the gas transmission, electricity transmission and gas distribution licensees, and interested stakeholders, who want to know about the requirements for publishing the AER. It explains requirements for the format of the report, the structure and content, including the topics to be covered, and the preferred reporting methodologies that the transmission and gas distribution licensees should adopt over the course of RIIO-2.

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Contents

Context	4
1. Introduction	5
Background	5
Annual Environmental Report Obligations	5
What is the purpose of this guidance?	5
2. General instructions and requirements	7
Purpose of the AER	7
Principles for reporting environmental impacts	7
Reporting boundary	8
Report type and availability	8
Reporting date	9
Reporting year	9
Scope of report	9
3. Annual Environmental Report template.....	10
Section summary	10
Introduction.....	10
Who we are.....	10
Managing Director/Chief Executive message.....	10
Our environmental responsibilities	10
Dashboard indicators	10
EAP commitments and environmental impacts	11
EAP commitments	12
Decarbonisation	12
Climate change impact	15
Sustainable procurement, resource use and waste	27
Local environment.....	30
Statement on scope and quality of data	33
Appendices.....	35

Context

Ofgem is the Office of Gas and Electricity Markets, which regulates the gas and electricity industries in Great Britain. Our principal objective is to protect the interests of existing and future gas and electricity consumers. Consumers' interests are taken as a whole, including their interests in the reduction of greenhouse gases and in the security of the supply, and in the fulfilment of relevant statutory objectives when we are carrying out our functions as the gas and electricity regulator of Great Britain.

We work in various ways to protect the interests of consumers and one way in which we do so is by regulating the network companies through price controls. We set price controls to specify the services and level of performance that the network companies must provide for users and consumers and to restrict the amount of money that the network companies can recover through network charges over the length of a price control period.

1. Introduction

Background

1.1. In December 2020 we published our RIIO-2 Final Determinations for the transmission and gas distribution price controls. These set out the key elements of the price control from 1 April 2021 to 31 March 2026. This included a licence obligation for the gas transmission, electricity transmission and gas distribution licence holders to publish an Annual Environmental Report.

Annual Environmental Report Obligations

1.2. Special Condition 9.1 (SpC 9.1) of the gas transmission (GT), electricity transmission (ET) and gas distribution (GD) licences require the licence holder (licensee) to publish an Annual Environment Report (AER).

1.3. The AER must meet the requirements of the Environmental Reporting Guidance Document (Guidance). This document constitutes the Environmental Reporting Guidance Document referred to in SpC 9.1 and may be amended and updated in accordance with the process described in SpC 9.1.

1.4. The licensee is required to comply with this Guidance as if it were part of their gas transmission, electricity transmission or gas distribution licence.

What is the purpose of this guidance?

1.5. This Guidance is to help the licensee comply with their licence obligation to publish an AER in a manner that meets the needs of wider stakeholders. We have included in this Guidance requirements on structure and content to help to ensure that the licensee's AER focuses on material environmental matters, is relevant, easy to understand, accurate and, where possible, is comparable across companies.

1.6. The AER will ensure each licensee is accountable on a yearly basis for their approach to environmental management and their environmental performance during RIIO-2.

1.7. We consider that this will enhance the reputational incentives on the licensee and provide accountability and transparency for stakeholders that the licensee is delivering against their RIIO-2 EAP commitments.

2. General instructions and requirements

Purpose of the AER

2.1. The purpose of the AER is to provide a yearly update to interested stakeholders on:

- the licensee’s progress in achieving the commitments set out in their RIIO-2 Environmental Action Plan¹ (EAP commitments),
- their performance in specified environment-related aspects of their price control, and
- an annual update on the environmental impacts of the network.

Principles for reporting environmental impacts

2.2. The following principles should be applied when collecting and reporting on environmental impacts in the AER:²

- **Relevant:** Ensure the data collected and reported reflects the environmental impacts of the company.
- **Quantitative:** Ideally performance is measured, and compared over time and to a target to reduce a particular impact or achieve a positive outcome. In this way the effectiveness of environmental policies and management systems can be evaluated and validated. Where appropriate, each environmental impact in chapter 4 of this Guidance proposes the measures to be used for that subject area. Quantitative information should be accompanied by a narrative, explaining its purpose, impacts, and giving comparators where appropriate.
- **Accuracy:** Seek to reduce uncertainties in reported figures where practical. Achieve sufficient accuracy to ensure confidence as to the integrity of the reported information.

¹ In the price control review for RIIO-2, we adopted a cross-sector environmental framework. As part of this, the gas transmission, electricity transmission and gas distribution companies had to include an Environmental Action Plan (EAP) as part of their Business Plan. The companies included proposals in their EAPs to improve their environmental performance or mitigate the adverse impact of network activities on the environment.

² Drawn from accounting principles and the internationally-recognised Greenhouse Gas Protocol Corporate Accounting and Reporting Standard from the World Resources Institute and World Business Council for Sustainable Development, known as the “GHG Protocol Corporate Standard”

- **Completeness:** Quantify and report on all the sources of environmental impact within the reporting boundary that have been defined in this Guidance. Disclose and justify any specific exclusions.
- **Consistent:** Use similar methodologies to allow for meaningful comparisons of environmental impact data over time. Document any changes to the data, changes in the reporting boundary, methods, or any other relevant factors.
- **Comparable:** Report data using accepted objective KPIs (as specified in this Guidance) rather than licensees inventing their own versions of indicators. The narrative part of a report provides the opportunity for a licensee to discuss any tensions that exist between providing comparable data and reporting Licensee-specific KPIs. Use of accepted KPIs will help stakeholders to compare performance across companies.
- **Transparent:** Address relevant issues in a factual and coherent manner, keeping a record of all assumptions, calculations, and methodologies used. Internal processes, systems and procedures are important, and the quantitative data will be greatly enhanced if accompanied by a description of how and why the data are collected. Report on any relevant assumptions and make appropriate references to methodologies and data sources used.

Reporting boundary

2.3. A licensee that forms part of a larger corporate group must provide a brief introduction outlining the structure of the group. The commentary must detail which companies are within the reporting boundary for the purpose of the AER.

2.4. If primary data is collected for company group and then apportioned to the licensee then the licensee must explain the methodology.

Report type and availability

2.5. The AER must be a single document covering the content specified in this Guidance. Ideally a licensee's AER is not longer than 40 to 45 pages.

2.6. In cases where a gas distribution corporate group, covers multiple licensees, a single AER can be published for the group. For example, a SGN report could cover SGN Scotland and SGN Southern as the licensees in the SGN group. This Guidance specifies where information must be provided at the individual licensee level.

2.7. The AER should be published on each licensee’s website.

Reporting date

2.8. On, or before, 1 October 2022 and yearly by each subsequent 1 October, the licensee must publish their AER for the reporting year.

Reporting year

2.9. The licensee’s AER must include information and data for the preceding financial year of RIIO-2 (April to March).

Scope of report

2.10. This Guidance defines the form and compulsory content of the AER. The licensee’s AER should be provided in the form specified in this Guidance and must include the content specified. The licensee can include links to other publicly available documents and include summaries of key information in the AER.

2.11. The AER should provide stakeholders with a reasonable picture of the licensee’s environmental activities. This includes reporting on progress implementing EAP commitments, and their EAP targets, where applicable. The licensee should use the AER to demonstrate to stakeholders what steps or activities they have undertaken to manage, and if possible reduce, their environmental impact more generally.

2.12. A licensee may include additional discretionary content where this is in response to their stakeholders’ interests or to address bespoke elements of their EAP commitments.

3. Annual Environmental Report template

Section summary

This section sets out the requirements for the structure of the AER and specifies the environmental impact areas that the AER must cover.

Introduction

Who we are

3.1. In this section the licensee should give an overview of the company and the environmental context it operates. A one page limit applies.

Managing Director/Chief Executive message

3.2. This section should set out a statement or commentary by a senior leader in the company on the key achievements of preceding regulatory year, and areas for improvement. A one page limit applies.

Our environmental responsibilities

3.3. This section should summarise the licensee’s role in looking after the environment, including external and internal drivers, its strategy for delivering an environmentally sustainable network and alignment with relevant environmental goals. A two page limit applies.

Dashboard indicators

3.4. Each licensee must include a section covering the key environmental performance indicators listed directly below. A two page limit applies.

Contribution to energy system decarbonisation

- Annual addition of low carbon and renewable energy capacity connected to the network
- Investment (£m) in innovation for decarbonisation

Climate change impacts

- Annual change in licensee’s business carbon footprint excluding losses/shrinkage
- Annual change in SF₆ emissions (ET only)
- Annual change in compressor emissions (GT only)
- Annual change in total shrinkage (GD only)

Waste and recycling

- Recycling rates
- Final destination of waste

Sustainable procurement

- Percentage of suppliers (by value) meeting the licensee’s supplier code

Local environment

- Annual investment (£m) in schemes to enhance/restore local environmental quality
- Net change in biodiversity units from network development projects that impact the local environment
- Number of environmental incidents

EAP commitments and environmental impacts

3.5. The licensee must include each of the environmental topics specified in this section in its AER, unless otherwise specified. Where applicable, each environmental topic should include the following:

- A short introduction, that provides some context of the materiality of the environmental area.
- A status update on the implementation of any EAP commitments and targets that are relevant to the topic area.
- Measures of impact or activity as specified, including annual time series data where this is available.
- Measures of performance trends such as intensity ratios or normalised data as specified in the following sections.
- Tables as specified below, and we also encourage the licensee to also use visuals such as charts to show actual performance relative to the target performance level for the end of RIIO-2.

- A short narrative on performance in reporting year that explains any changes in level and trends.
- One or two relevant case studies.

EAP commitments

3.6. The licensee must include a table listing all the commitments in their RIIO-2 EAP. The table should set out for each EAP commitment:

- one sentence description of the EAP commitment
- one sentence summary of the expected benefit or outcome
- key milestones for implementing the EAP commitment over the course of RIIO-2
- a red/amber/green status indicator on progress against the implementation milestones
- a brief explanation (one to two sentences) of the reasons for any amber or red indicator

3.7. A two to three page limit applies for this section.

Table 1 – Status update on EAP commitments

EAP commitment	Description and expected benefit	Implementation milestones	RAG indicator	Status update

Decarbonisation

Connections of low carbon energy

Biomethane and other low carbon gas connections (GD only)

3.8. The gas distribution licensees must report on the following:

- Connections data for the reporting year, including a breakdown of the different gases that are included in 'Other green gas' as per Table 2.
- A summary of licensees' green gas connections processes and awareness of ongoing issues, as well as the overarching strategy to address these.
- Relevant internal KPIs in relation to green gas connections.

- Engagement events with relevant stakeholders in the reporting year and any learnings of best practice. Licensees should also outline any upcoming stakeholder events in the forthcoming year and the objectives of these.
- An update on ongoing work to improve and standardise low carbon gas connections methodologies including collaborative efforts across networks.³

Table 2 – Summary of connections activity for low carbon sources of gas

Unit		2021/22	2022/23	2023/24	2024/25	2025/26
Biomethane connections						
Enquiries	Number					
Enquiries accepted	Number					
Connection studies	Number					
Capacity of connection studies	Standard cubic metres per hour (SCMH)					
Connections	Number					
Capacity connected	SCMH					
Average monthly flow rate	SCMH					
Volume of biomethane injected	GWh					
Other green gas						
Enquiries	Number					
Connection studies	Number					
Capacity of connection studies	SCMH					
Connections	Number					
Capacity connected	SCMH					

³ For biomethane, this could include collaborative efforts to standardise the content of capacity studies, designs for grid entry units and the rules for green gas entry quotations.

Biomethane and other low carbon gas connections (GT only)

3.9. The gas transmission licensee must report on the following:

- Connections data for the reporting year, including a breakdown of the different gases that are included in 'Other green gas' as per Table 3.

Table 3 – Summary of connections activity for low carbon sources of gas

Unit		2021/22	2022/23	2023/24	2024/25	2025/26
Biomethane connections						
Enquiries	Number					
Enquiries accepted	Number					
Connections	Number					
Capacity connected	SCMH					
Average monthly flow rate	SCMH					
Volume of biomethane injected	GWh					
Other green gas						
Enquiries	Number					
Connections	Number					
Capacity connected	SCMH					

Connecting low carbon generation (ET only)

3.10. The electricity transmission licensees must report on the following:

- Capacity of renewable and low carbon generation that connected to the licensee’s network in the reporting year
- Low carbon generation as a percentage of total generation connected to the licensee’s transmission network
- The number of connection offers accepted

- The average time the licensee took to develop and issue a generation connection offer for customers
- The licensee’s score from the Quality of Connections survey

Table 4 – Summary of generation connections activity

	2021/22	2022/23	2023/24	2024/25	2025/26
Low carbon generation connected (GW)					
Low carbon share of generation (%)					
Average time to issue connection offer (days)					
Connection offers accepted					
Quality of connections survey score					

Innovating for decarbonisation

3.11. All licensees must report on the top three contributing innovation activities to the low carbon transition that they have undertaken in the year. This should summarise:

- the issue or barrier that the innovation aims to address
- what has been achieved in the past year
- the expected benefits of the innovation for the low carbon transition
- the timescales and next steps

Table 5 – Top three innovation activities contributing to the low carbon transition

Innovation	Issue or barrier	Annual achievements	Expected Innovation benefits	Timescales

Climate change impact

Business carbon footprint – scope 1 and scope 2

3.12. All licensees must clearly state their science-based target for greenhouse gas reduction validated by the SBT initiative⁴, and their reduction target for business carbon footprint (BCF) excluding losses/shrinkage at the end of RIIO-2 (interpolated from their science-based target).

3.13. The licensee must report on all Scope 1 and Scope 2 emissions⁵ on an “operational control” basis, ie report all emissions from operations on which the licensee has authority to introduce and implement its operating policy.

3.14. Reporting should be in total tCO₂e in the following areas:

- Building energy use
- Operational transport
- Business milage
- Fugitive emissions
- Fuel combustion

3.15. ET licensees must report on transmission losses.

3.16. GD and GT licensees must report on shrinkage.

3.17. All the relevant BCF scope 1 and 2 emissions at licensee level should be reported in the AER as reported by the licensee to Ofgem yearly in the regulatory reporting pack.

Table 6 – Scope 1 and 2 emissions

Emissions in tCO ₂ e	Specific area	2021/22	2022/23	2023/24	2024/25	2025/26
Building energy use	Building - electricity					

⁴ SBTi: <https://sciencebasedtargets.org/about-us>

⁵ For more information on how to identify and assess scope 1 and 2 emissions please refer to the GHG protocol corporate standard: <https://ghgprotocol.org/corporate-standard> and GHG protocol scope 2 guidance: https://ghgprotocol.org/scope_2_guidance

	Building – other fuels					
	Substation electricity					
Operational transport	Road					
	Rail					
	Sea					
	Air					
Business mileage	Road					
Fugitive emissions	SF6					
	Methane					
Fuel combustion	Diesel/Gas					
	Oil					
Total excluding losses and shrinkage						
Transmission losses (ET only)						
Shrinkage (GT and GD only)						
Total including losses and shrinkage						

3.18. The licensee should also include the following charts:

- A stacked column chart to showing the composition of total scope 1 and 2 emissions excluding losses/shrinkage over time. This chart should include the licensee’s BCF target for the end of RIIO-2.
- A column chart showing the evolution over time of the CO₂e intensity of an operational mile travelled.

Shrinkage (GT only)

3.19. The gas transmission licensee must report on:

- Compressor fuel usage: the energy used to run compressors to manage pressures within the gas transmission system. This can either be gas or electricity, depending on the power source for the specific compressor.
- Calorific value shrinkage: This is caused where multiple sources of gas with different calorific values are transported and delivered through different offtakes. When the energy

is billed, the calorific of all the gas is capped at a set quantity above the lowest calorific value, hence there will be some energy that has been delivered but not billed.

- Unaccounted for gas: This is the remaining quantity of gas which is unallocated after taking into account all measured inputs and outputs from the system⁶.
- Natural Gas Vented from all Compressors: Natural Gas Vented should be calculated in accordance with the Greenhouse Gas Emissions Calculation Methodology.⁷

3.20. The gas transmission licensee must also report on the projects undertaken by the licensee to investigate the accuracy of measurements at NTS entry and exit points, and any activity related to investigation and analysis of data to identify causes of gas that is unaccounted for as above.

Table 7: Breakdown of GT Shrinkage (GT)

	Unit	2021/22	2022/23	2023/24	2024/25	2025/26
Compressor fuel usage	GWh					
Calorific value shrinkage	GWh					
Unaccounted for gas	GWh					
Natural Gas ventet from all compressors	Tonnes natural gas					

Shrinkage (GD only)

3.21. The gas distribution licensees must report on:

- Annual shrinkage volumes in the licensee's distribution network in GWh, and in tonnes of CO₂e, broken down by the categories set out in Tables 8 and 9.

⁶ the amount of gas (GWh) that remains unaccounted for after the Entry Close-out Date following the assessment of NTS Shrinkage performed in accordance with the Uniform Network Code⁶ which is the legal and contractual framework to supply and transport gas

⁷ The gas transmission licensee is required according to License condition 5.6 part E to maintain a GHG emission calculation methodology approved by the authority.

- Any activities undertaken during the year (other than theft investigations) that are expected to materially affect shrinkage volumes but which are not reflected in the calculations of the Shrinkage & Leakage Model⁸

Table 8: Shrinkage volumes (GD)

GWh		2021/22	2022/23	2023/24	2024/25	2025/26
Leakage	Low Pressure Mains					
	Medium Pressure Mains					
	Services					
	AGIs					
	Interference					
	Total					
Other Shrinkage	Own Use					
	Theft					
Total Shrinkage						
Shrinkage ODI-R target						

Table 9: Shrinkage emissions

tCO2e		2021/22	2022/23	2023/24	2024/25	2025/26
Leakage	Low Pressure Mains					
	Medium Pressure Mains					
	Services					
	AGIs					
	Interference					
	Total					
Other Shrinkage	Own Use					
	Theft					
Total Shrinkage						

Electricity transmission losses

⁸ A definition for The Shrinkage and Leakage Model is contained in the gas distribution Licence.

3.22. The electricity transmission licensees must report on:

- Annual transmission losses⁹ from the licensee’s transmission network in TWh, as a percentage of total electricity transmitted, and in tonnes of CO₂e.
- Actions or interventions in the reporting year that the licensee completed from its Losses Strategy¹⁰, including an estimate of the impact of those activities on transmissions losses.
- Any changes or revisions the licensee has made to its RIIO-2 Transmission Losses Strategy.

Table 10 – Electricity transmission losses

	2021/22	2022/23	2023/24	2024/25	2025/26
Annual losses (TWh)					
Share of total electricity (%)					
Carbon equivalent (tCO ₂ e)					
Interventions per annum					
Impact of interventions (tCO ₂ e)					

Sulphur hexafluoride (SF₆) gas emissions

3.23. The electricity transmission licensees must report on:

- Annual SF₆ leakage from the licensee’s transmission network in tonnes of CO₂e and as a percentage of total inventory.

⁹ Measured as the difference between the units of electricity metered on entry to the licensee’s transmission system and the units of electricity metered on leaving that system;

¹⁰ All ET licensees submitted a Transmission Losses Strategy as part of their RIIO-2 Business Plans.

- Interventions in the year that the licensee has completed from its Insulation and Interruption Gas Reduction Strategy¹¹, submitted as part of its EAP commitments, including an estimate of the impact of those activities on SF₆ emissions.

Table 11 – SF₆ emissions

	2021/22	2022/23	2023/24	2024/25	2025/26
Annual emissions (tCO ₂ e)					
Leakage rate (%)					
Interventions per annum					
Impact of interventions (tCO ₂ e)					

Business carbon footprint - Scope 3 emissions

3.24. At the start of RIIO-2, the level and quality of reporting on scope 3 emissions will likely vary between sectors as well as between companies in the same sector. This is because of differences in coverage, ie the categories¹² that the licensees currently report on, the methodologies used to calculate scope 3 emissions, as well as the availability and quality of data. As a result, the comparability of reported scope 3 emissions will likely be limited in the first few years of reporting.

3.25. Nonetheless, we expect the licensee’s reporting on scope 3 emissions to evolve and improve over RIIO-2. We expect the licensee to:

- carry out a screening exercise to identify the most relevant scope 3 emissions for their network
- develop a programme to improve the calculation of their scope 3 emissions, in terms of completeness, accuracy and quality, based on its screening results, and

¹¹ SF₆ is an insulation and interruption gas (IIG) used in electricity switchgear that has a very potent greenhouse gas warming potential. All ET licensees submitted a IIG Strategy to reduce emissions through asset management practices and procurement of alternatives when commercially available.

¹²The Greenhouse Gas Protocol [Technical Guidance for Calculating Scope 3 Emissions \(v1\)](#) identifies 15 reporting categories for S3 emissions.

- work towards setting a science-based target for scope 3 emissions in the future.

Screening scope 3 emissions

3.26. Ahead of the first AER, companies must complete a screening of their scope 3 emissions in line with the GHG Protocol: Technical Guidance for Calculating Scope 3 Emissions (V1).¹³ We expect the screening to cover all upstream and downstream categories defined in the protocol.

3.27. Based on its scope 3 emissions screening results, the licensee must identify the upstream and downstream categories which are relevant to the company. The licensee should identify data issues (both in terms of gaps in coverage as well as quality) as well as material emissions (relative to overall scope 3 emissions).

Improvement programme

3.28. The licensee must also outline in the AER its programme and milestones to improve its scope 3 emissions data quality over time. Improvement should focus on both scope (for example coverage - % of contractors reporting) and in quality (for example – moving from financial spend based data to the collation of emissions data for products and services provided by suppliers and contractors).

3.29. We expect that by year 2025/26 that the licensees calculation of all material scope 3 emissions will have improved significantly. The licensee should include progress updates in the AER, including updates on initiatives, change in policies, changes to approach to contractors etc.

3.30. Where relevant and applicable¹⁴, science based targets for scope three emissions may also be set.

Reporting requirements in AER

¹³ Page 11 in the GHG Protocol [Technical Guidance for Calculating Scope 3 Emissions \(v1\)](#)

¹⁴ Companies are required to set SBT to scope 3 emissions if the latter is estimated to be 40% or more of their overall GHG emissions OR if they are in a position to set those targets and if they committed to do so as part of their EAP.

3.31. In the first AER, the licensee must include the results of the screening exercise. The licensee must present the results in appropriate data tables and in charts.

3.32. The licensee also should include narrative on the material categories relevant to its network as well as a summary of the most significant issues it faces in calculating its scope three emissions. Supplementary information on the screening methodology, data used (financial spend vs emissions data), and any estimations or assumptions should be included in the AER as specified in the additional requirements below.

3.33. In addition, the licensee must outline its planned programme to improve its scope 3 emissions reporting.

3.34. From the second AER onwards, licensees must report on their annual scope 3 emissions in the material categories that are most relevant to their network. We expect that scope three emission covering at least the first 7 of the upstream categories will be included in the AER¹⁵ of all licensees.

3.35. The licensee must present scope 3 emissions in appropriate data tables, with supporting visuals such as charts. For example, a stacked column chart to present the composition of total scope three emissions over time.

3.36. Any significant changes in emissions between reporting years should be explained. If the reason is external to actual emissions such as changes to data source or coverage this should be clearly flagged.

3.37. Changes to methodologies may also cause year on year changes, however we don't expect such changes to be made unless necessary. For transparency, and if possible, the licensee may re-state its scope 3 emissions based on updated methodology.

Excluded areas

3.38. End user emissions are not required to be reported as part of this section.

¹⁵ We expect licensees to report on all 7 of the 8 "upstream" categories but recognise the last scope 3 category includes "upstream leased assets" which may not be relevant to all licensees.

3.39. Emissions offsetting also is not required to be reported in this section. Licensees that wish to report in this area should do so in line with the GHG protocol for project accounting.

Reporting requirement: additional information

3.40. Assumptions, methodologies and data sources used in the calculation of scope 3 emissions must be summarised in an appendix to the AER. Any changes to the methodology or data source should also be flagged clearly, for example as a result of improvement of database from one year to another, or change from assumptions base to real data base as a result of improvements to the data collection process.

3.41. If the data collected is not complete (for example, if information is extracted from a portion of the activity - % of contractors or % of projects), this should be flagged as part of the methodology. The approach should be clearly explained and justified.

Appendix 1: Scope 3 categories: methodology, assumption and data source¹⁶

Category	Methodology and assumptions	Data source	Confidence in data (completeness and accuracy): RAG rating
Purchased goods and services			
Capital goods			
Fuel and energy related activity ¹⁷			
Upstream transportation and distribution			
Waste generated in operations			

¹⁶ This table only covers only seven of the categories in the GHG protocol (scope 3 emissions) and should include all the categories reported by the licensee

¹⁷ Not included in scope 1 or scope 2

Business travel			
Employee commuting			

Embodied carbon

3.42. Embodied carbon is defined in the UK Green Building Council as “*The total greenhouse gas (GHG) emissions (often simplified to “carbon”) generated to produce a built asset. This includes emissions caused by extraction, manufacture/processing, transportation and assembly of every product and element in an asset*”¹⁸

3.43. The licensee must report on embodied carbon (EC) on new construction projects in the AER. Licensees within each sector should collaborate to ensure consistency in reporting methodology and reported units within the gas and electricity transmission sectors, and within the gas distribution networks. We also expect some cross sector consistency to develop.

3.44. The licensee must report on their EC using bar charts. Charts should at least include annual EC. Reporting could also be against individual projects.

3.45. Methodology and assumptions and data sources (see below) should clearly be set out in an annex.

Embodied carbon: reporting on the design versus as built

3.46. Estimating the embodied carbon of projects based on the final design is a relatively straight forward exercise, subject to the availability of data. However, the design of a project will not necessary match the final project “as built”. A project can often diverge from design as a result of changes made to adjust and optimise construction work. However, the embodied carbon informaiton of a built project can sometimes be less reliable because

¹⁸ Embodied carbon:developing a client brief: <https://www.ukgbc.org/wp-content/uploads/2017/09/UK-GBC-EC-Developing-Client-Brief.pdf>

contractors and suppliers working on the project may not be in a position to report embodied carbon accurately.

3.47. For this reason, the licensee must report on both estimated embodied carbon of a project at final design and as built. If a licensee has a target for embodied carbon in new projects, it should clarify whether the target is for the design stage or as built or both.

3.48. Given the time lag between design and project completion, which can span over several years, both assessments of embodied carbon should be reported alongside each other when the project is completed in a reporting year.

3.49. We note that some of the information will not be readily available to accurately assess embodied carbon, particularly for as-built stage. Where this is the case, the licensee should seek information from suppliers or if not available, from carbon databases such (ICE, DEFRA, etc.). Any assumptions should be clearly flagged in the report

3.50. Some types of construction works such as street works may not include detailed design stage and so assessment of embodied carbon will only refer to “as built”.

3.51. The licensee must set out clearly its plan and milestones to improve data collection from its supply chain, including any changes to policy and or procurement strategy, and report on its progress against this plan.

Methodology and reporting units

3.52. To ensure consistency in reporting and use of terminology, embodied carbon should be reported in alignment with Publicly Available Specification (PAS)2080¹⁹.

3.53. The licensee should use tCO₂e/£m as the default embodied carbon reporting unit. When reporting on cables, overhead lines (OHL) and pipes²⁰ tCO₂e/m should be used. Additional reporting metrics can be considered. For example, tCO₂e/kV for substations can be used by ET and GT licensees.

¹⁹ "PAS 2080:2016 Carbon management in infrastructure" is a carbon management framework available for purchase online here: <https://shop.bsigroup.com/ProductDetail?pid=00000000030323493> .

²⁰ GT and GD licensees only.

3.54. When reporting on progress against targets and/or reporting on initiatives to reduce or avoid embodied carbon, licensees should explain what actions have been taken for example changes to design, material selection and/or optioneering.

Sustainable procurement, resource use and waste

Supply chain

3.55. Sustainable procurement is a new area of reporting for RIIO-2. We recognise that the licensee may have already initiated onboarding suppliers prior to publishing this guidance. This may result in new information gathering systems needing to be established or further developed within the RIIO-2 period to work towards fulfilling the reporting requirements set out in this area.

3.56. We think it is a challenge to establish common reporting metrics for supply chains that will vary by, for example, the products and services procured by each licensee and note company concerns that initial reports may consist of mostly qualitative information until reporting has matured. As a result, the comparability of reporting on supply chain procurement may be limited in the first few years of reporting.

3.57. Nonetheless, this section should provide guidance where procurement contracts are to be renewed to further consider sustainability in company procurement processes, with a view to improve reporting in this area over RIIO-2. The metrics outlined below represent common areas of reporting that the licensee will ideally provide information for where this data is available to them and focus on improving efforts to capture data where this is limited.

3.58. For supply chain, the licensee must report on progress made in integrating environmental sustainability in their procurement practices, including:²¹

- A description of the overarching strategy to address environmental sustainability in procurement and actions in the previous reporting year to embed this into practices, such as developments to the licensee’s supplier code²², KPIs, or pre-qualification questionnaires

²¹ [ISO 20400](#) provides guidance to companies regarding integrating sustainability into procurement processes. [ISO 14040](#) provides guidance to companies undertaking life cycle assessments.

²² Supplier codes of conduct ensure company suppliers have responsible and sustainable production processes. Recommendations to developing a supplier code can be found [here](#).

(PQQ) in tender processes. This could also include collaborative work among network companies or following ISO guidelines.²³

- The 80% of spend on suppliers by value split into categories of products and services this covers as defined by the licensee. The licensee should comment on the life cycle impact of categories where possible.²⁴ The licensee must present categories in appropriate data tables, with supporting visuals such as charts. For example, a stacked column chart to present the composition of 80% of spend over time.
- The percentage of suppliers that implement their own sustainability management systems.
- The percentage of suppliers (by value) meeting the licensee’s supplier code.
- Relevant internal KPIs in relation to sustainability in the supply chain.
- Engagement events with relevant procurement stakeholders in the previous reporting year and any learnings of best practice.

Table 12 – Sustainable procurement performance indicators

Supply chain		2021/22	2022/23	2023/24	2024/25	2025/26
Percentage of suppliers (by value) meeting licensee’s supplier code	%					

Efficient resource use and waste

3.59. There are strong and clear links between measures taken to improve resource efficiency and those to minimise waste.²⁵ The licensee must report in their AER:

- Actions it has taken to improve resource efficiency²⁶, waste prevention and the diversion of waste from landfill.

²³ For example, [ISO 14000](#) provides guidelines regarding environmental management systems, eco labelling, environmental auditing, performance evaluation and environmental aspects in product standards and life cycle assessments.

²⁴ This should consider manufacturing (including reliance on raw materials and carbon intensive processes), transportation, consumption and disposal of products and services where data is available.

²⁵ [WRAP](#) and [Zero Waste Scotland](#) provide guidance to businesses in the UK with regard to looking at and improving resource efficiency.

²⁶ Defined as company use of materials.

- The top 10 key materials by value and/or mass²⁷ consumed directly by the company and where relevant, the supply chain. Licencees should comment on whether materials are raw, renewable, recyclable, reuseable or repairable.
- The total metric tonnes of waste produced directly by the company in the previous reporting year.
- The licensee must provide a breakdown of how they segregate their direct waste streams, for example, metal, wood, organics, dry mixed recyclables²⁸, hazardous, and/or general. The licensee should use t/£m as the default normalised reporting unit for these figures. The percentage contribution to the total of direct waste reported should also be provided for each waste stream category.
- The final destination of total waste reported eg % re-used, % recycled, % incinerated with energy recover, % to landfill by weight, volume, or best available data.

3.60. Where the licensee reports on categories within resource use and waste, they must present information in appropriate data tables or visuals such as charts. For example, pie charts to present the composition of material useage or segregated waste streams.

Table 13 – Total waste

	2021/22	2022/23	2023/24	2024/25	2025/26
Total metric tonnes of waste produced directly by the company					

Climate change resilience

3.61. The licensee must report on the following climate change resilience and adaptation activities, where relevant:

- Physical asset protection interventions (licensee to define physical protection categories relevant to their network in Table 14)
- A high level summary of research, monitoring and ongoing analysis undertaken by the licensee on the climate change risks across its network.

²⁷ kg, litres or m³

²⁸ Cardboard, plastics, paper.

Table 14 – Climate change adaptation interventions

Interventions per annum	2021/22	2022/23	2023/24	2024/25	2025/26
Licensee to define					
Licensee to define					
Licensee to define					
Licensee to define					

Local environment

Enhancing the local environment

3.62. The licensee must report on the following:

- Schemes the licensee has initiated to enhance or restore environmental quality on network sites within the reporting year. This could include land remediation schemes.
- Schemes to enhance the environment in the local community that the licensee has initiated or contributed to within the reporting year.

Table 15 – Schemes to enhance or restore local environmental value

Scheme name	Location	Description	Environmental benefit	Timescales

3.63. We would like to see all licensees move towards adopting a formal natural capital valuation (NCV) tool over the course of RIIO-2 to provide better information about the provision of ecosystem services from long-term land assets they hold. However, we note that NCV is an evolving methodology, and is also resource intensive to implement. Therefore, we

consider it would not be proportionate to require every licensee to report a NCV of its land holdings in the AER.²⁹

3.64. Only licensees that have an EAP commitment, an Output Delivery Incentive or a Consumer Value Proposition included in their RIIO-2 price control, that is directly linked to a measure of NCV, will be required to report on this measure. In such cases, we expect the licensee to include summary information on:

- The type and condition of natural assets
- The type and quantity of ecosystem services – provisioning, regulating and cultural ecosystem services
- A valuation of the annual flow of ecosystem services
- A valuation of the natural capital assets

3.65. We note that some licensees have EAP commitments to work towards adopting a natural capital asset valuation tool over the course of RIIO-2 to incorporate this information in business planning process. We have set out some principles for the development of ecosystem and natural capital asset reporting in Appendix 1 to help guide convergence in the approaches taken by the licensees. We also encourage the licensees to provide updates on their progress developing and implementing these tools as part of their AER.

Biodiversity

3.66. The licensee must report on the impact on biodiversity from network development projects that affect the local environment where, in the reporting year, the final design of a project receives either:

- external approval from a relevant planning authority, or
- sanction to proceed from within the licensee’s internal governance process for capital project delivery in cases where external planning consent is not required for a project.

3.67. The licensee must report on:

- The initial baseline assessment of biodiversity units
-

²⁹ There is a big range in the size of land holdings held by the different licensees.

- The post intervention assessment of biodiversity units
- The total net percentage change in biodiversity

Table 16 – Impact on biodiversity

Project	Onsite baseline units	Offsite baseline units	Onsite post intervention units	Offsite post intervention units	Total net unit change

Visual amenity schemes in designated areas (ET only)

3.68. The electricity transmission licensees must report on the following:

Table 17 – Visual amenity schemes in designated areas³⁰

	2021/22	2022/23	2023/24	2024/25	2025/26
Removal of overhead lines (km)					
Non-technical mitigation projects per annum					

Oil loss from fluid-filled cables and transformers (ET only)

3.69. The electricity transmission licensees must report on oil loss from:

- Fluid filled cables, and
- Transformers

³⁰ National Parks, Areas of Outstanding Natural Beauty and National Scenic Areas.

Table 18 – Oil loss

	2021/22	2022/23	2023/24	2024/25	2025/26
Oil in service (litres)					
Cable oil top up (litres)					
Transformer oil top ups (litres)					

Environmental incidents

3.70. The licensee must report on:

- reportable environmental incidents
- environmental civil sanctions.

Table 19 – Environmental incidents

	2021/22	2022/23	2023/24	2024/25	2025/26
Reportable environmental incidents					
Environmental civil sanctions					

Statement on scope and quality of data

3.71. In this section, the licensee must include some narrative about the scope and quality of the data and information included in its AER.

Scope

3.72. The licensee must advise on the completeness of the specified information in the AER. If there are any data gaps for any of the specified environmental topics within the licensee’s reporting boundary, it should explain the reasons for the omission.

Quality

3.73. The licensee must outline the data assurance process it has undertaken on the specified data and information published in the AER. The licensee should also highlight whether or not the AER or some of the information reported in the AER has received an independent external assurance review. We would encourage the licensee to include the associated external review statement as an appendix to the AER.

3.74. The licensee should also highlight if it has made any changes to the collection, estimation and reporting of performance data contained in the AER.

Appendices

Index

Appendix	Name of Appendix	Page No.
1	Principles for the development of natural capital reporting	37

Appendix 1 Principles for the development of natural capital reporting

- 1.1. Include land assets that the company has management control over.
- 1.2. Adopt a geographic and habitat-based approach.
- 1.3. Identify indicators of habitat based on suitability for describing natural capital and measuring change. Select datasets that most closely depict the preferred indicators.
- 1.4. Evaluate both extent and quality of physical natural asset to derive a natural capital asset register.
- 1.5. Align ecosystem service categories on the Common International Classification of Ecosystem Services (CICES) (consistent with the approach taken by the Office of National Statistics).
- 1.6. Identify the relative significance of the ecosystem services derived from land assets.
- 1.7. Adopt an integrated (or hybrid) assessment of the benefits from all service categories ie both quantitative and qualitative.
- 1.8. Indicate the degree of confidence for final estimated values.