

Consultation

RIIO-2 Draft Determinations - Gas Distribution Annex

Publication date	09 July 2020	Contact:	RIIO Team
		Team:	Network Price Controls
Response deadline	04 September 2020	Tel:	020 7901 7000
		Email:	RIIO2@ofgem.gov.uk

Our aim for the RIIO-2 price controls is to ensure energy consumers across GB get better value, better quality of service and environmentally sustainable outcomes from their networks.

In May 2019, we set out the framework for the price controls in our Sector Specific Methodology Decisions. In December 2019, Transmission and Gas Distribution network companies and the Electricity System Operator (ESO) submitted their Business Plans to Ofgem setting out proposed expenditure for RIIO-2. We have now assessed these plans. This document, and others published alongside it, set out our Draft Determinations for company allowances under the RIIO-2 price controls, for consultation. We are seeking responses to the questions posed in these documents by 4 September 2020.

Following consideration of responses we will make our Final Determinations at the end of the year. This document outlines the scope, purpose and questions of the consultation and how you can get involved. Once the consultation is closed, we will consider all responses. We want to be transparent in our consultations. We will publish the non-confidential responses we receive alongside a decision on next steps on our website at [Ofgem.gov.uk/consultations](https://www.ofgem.gov.uk/consultations). If you want your response – in whole or in part – to be considered confidential, please tell us in your response and explain why. Please clearly mark the parts of your response that you consider to be confidential, and if possible, put the confidential material in separate appendices to your response.

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psi@nationalarchives.gsi.gov.uk

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1. Introduction

Purpose of this document

- 1.1 This document sets out our Draft Determinations and consultation positions for the gas distribution sector. It covers outputs, costs and uncertainty mechanisms for the RIIO-GD2 price control period 1 April 2021 to 31 March 2026.
- 1.2 The structure of this document, and how it fits with the wider RIIO-2 Draft Determinations publications, is set out in Figure 1. We intend this document to be read alongside several other documents, including the RIIO-2 Draft Determinations Core Document and relevant annexes.

Delivering the investment for Net Zero

- 1.3 The gas distribution network companies (GDNs) are responsible for transporting gas locally to approximately 22 million homes and businesses in Great Britain (GB). The GDNs own, manage and operate the gas distribution networks. Eight GDNs operate in GB - Cadent (North West, West Midlands, East of England and North London), NGN (Northern England), SGN (Scotland and South East England) and WWU (Wales and West Utilities).
- 1.4 Gas plays a major role in the day-to-day heating of households and functioning of industrial and manufacturing processes. However, looking ahead, the energy system will need to change to support the transition to a carbon-free economy by 2050 to achieve Net Zero. This poses some significant challenges for the sector. While it is not known exactly how GB will decarbonise heat, researchers and policy makers are exploring potential pathways, including electrification, local low carbon heat networks and hydrogen networks. Each alternative pathway would result in a very different future use of the gas distribution networks.
- 1.5 RIIO-GD2 is ready to support the potential substantial Net Zero investment that is likely to be needed across the energy system. Innovation funding will be available to support research and development projects needed to build the evidence base for technologies like hydrogen, and uncertainty mechanisms will ensure that the price control can adapt quickly as clarity on the decarbonisation pathway emerges.

We have high expectations for the GDNs to deliver efficiency improvements - reducing the costs of service

1.6 In these Draft Determinations, we are setting high expectations for the efficiency gains the GDNs should be delivering, including by reducing their submitted expenditure (totex) by nearly 20%. Table 1 sets out our proposals.

Table 1: Summary of baseline totex (£m, 2018/19)¹

Network company	Company submitted totex	Ofgem proposed totex
Cadent	5,317	4,078
NGN	1,249	1,083
SGN	3,058	2,527
WWU	1,182	997
Industry total	10,806	8,685

1.7 We have put in place uncertainty mechanisms to assess additional funding, as need, cost or timing becomes clearer during the RIIO-GD2 price control period. This will ensure that consumers fund projects only when there is clear evidence of benefits and that the price control can adapt as the clarity on future heat policy develops.

1.8 Our proposals hold GDNs to account for delivering efficiently without compromising quality. Key elements include:

- Ensuring GDNs provide value for consumers while maintaining their networks appropriately. Over 50% of baseline totex is linked to specific outputs and uncertainty mechanisms (UMs) to ensure that GDNs are only funded for what they deliver.
- Giving GDNs flexibility to respond to future challenges, using UMs where costs and/or timing are not yet well understood. This includes re-openers that will help GDNs to respond to the government's Net Zero policy as clarity on the decarbonisation pathway emerges.
- Setting the benchmarking efficiency frontier at the 85th percentile and removing the 'glide path' for less efficient companies to catch up with the

¹ Submitted and allowed totex excludes RPEs, non-controllable opex and any other pass-through cost. It does also not include any re-openers. Baseline totex includes any uncertainty mechanism with a separate baseline component (PCDs, volume drivers and UIOLI), but excludes any re-openers.

frontier. This sets high but achievable expectations, building on the improvements they were funded to deliver over RIIO-GD1.

- We have set stretching ongoing efficiency targets of -1.2% for the GDNs. This means GDNs will need to look for new ways to drive costs lower, including by becoming more productive and innovative, saving consumers an additional £343m relative to network company plans.
- Protecting networks and consumers from variations in cost pressure through Real Price Effects (RPEs). Under RIIO-GD2, RPEs are indexed and trued up annually, protecting consumers by ensuring that RPE adjustments are no higher than they need to be. We forecast RPEs of +1.20% in 2021/22 rising to +1.22% in 2025/26.

- 1.9 The totex incentive mechanism provides GDNs with a powerful incentive to deliver more efficiently while enabling customers to share the benefits of outperformance. We propose to reduce the totex incentive sharing factor from 63% in RIIO-GD1 to 50% for the RIIO-GD2 price control, meaning that customers will share more of the benefits of any outperformance, while still maintaining strong efficiency incentives on companies.

We expect to see a reduction in GDNs' charges which flow into customer bills.

- 1.10 As a result of our proposed actions for RIIO-GD2, we expect to see reductions of around 16% in gas distribution network charges relative to RIIO-GD1. This could reduce the average annual household bill by around £19 per year.²

Delivering a quality service for all consumers

- 1.11 We want to see a sector that is:

- **Meeting the needs of consumers and network users**, with a greater focus on supporting those in vulnerable situations (through new dedicated £30m funding and outputs). In RIIO-GD2, excellent customer service is expected. Companies that can 'raise the bar' and deliver exceptional performance will be rewarded, while poor service will be penalised. We are proposing that penalty payments made directly to consumers will be doubled if minimum standards are not met. There will also be incentives to keep unplanned interruption times down, particularly in blocks of flats.

² These bill impacts are based on total revenue for charges in Ofgem's financial model (PCFM).

- **Maintaining a safe and resilient network**, which remains paramount, while keeping costs to customers as low as possible. The HSE's Iron Mains Risk Reduction Programme (IMRRP) is a key driver of replacement expenditure (Repex) over RIIO-GD2. It improves safety and resilience, and reduces leakage of greenhouse gases. Our suite of outputs and uncertainty mechanisms will ensure GDNs are only funded for what they deliver, and enable changes to funding if the scope of the work changes significantly during RIIO-GD2. We are setting high expectations on efficient delivery of Repex and have removed around £860m³ of proposed Repex from GDNs' Business Plans that we think is discretionary, uncertain or has long paybacks.
- **Supporting the delivery of an environmentally sustainable network** including playing a full role in heat decarbonisation. We are proposing uncertainty mechanisms to ensure that the price control is adaptable to policy and new technology aimed at achieving Net Zero. We're also supporting GDNs to reduce their business carbon footprints: the iron mains risk reduction programme will continue to drive down leakage, alongside new GDN environmental initiatives. The new annual reporting of GDNs' environmental actions will provide transparency concerning their targets and deliverables.

Navigating the Draft Determinations

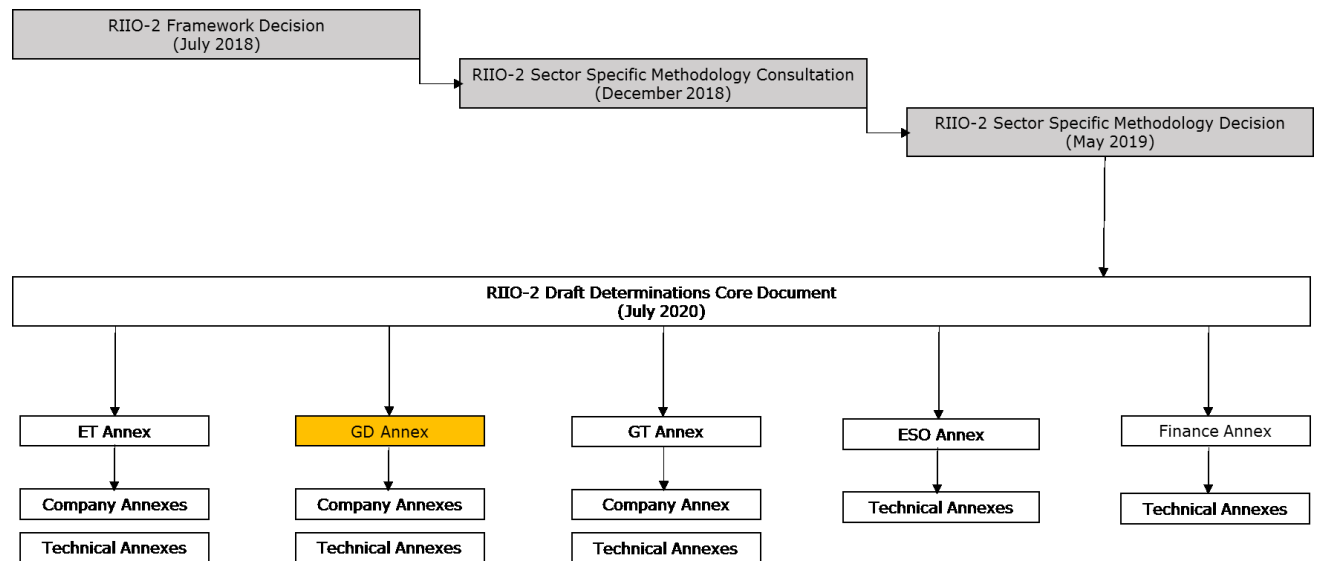
1.12 The RIIO-2 Draft Determinations are comprised of a Core Document and sector annexes for Gas Transmission (GT), Gas Distribution (GD), Electricity Transmission (ET), and the Electricity System Operator (ESO). The sector annexes are underpinned by company⁴ and technical annexes⁵ (see Figure 1 for all documents).

³ This reflects our challenges to GDNs' repex proposals. We have not included accelerated projects and have also challenged most non-mandatory steel mains replacement activity.

⁴ Throughout this document, 'company annexes' refers to the four GDN specific annexes to this document (their abbreviated names are Cadent Annex, NGN Annex, SGN Annex, and WWU Annex).

⁵ RIIO-GD2 specific technical annexes are: Unplanned Interruptions Model Annex (Interruptions Annex), Repex Steel Services Policy Annex (Services Policy Annex), Exit Capacity Enhanced Obligations Annex (Exit Capacity Annex), Step-by-Step Guide to Cost Assessment Annex (SBSG Annex), Regional and Company Specific Factors Annex (Regional Factors Annex), Synthetic Unit Costs Update Annex, Note for Ofgem on Alternative Methodologies: Some Preliminary Analysis, Note for Ofgem on computation of CSV weights, GD Totex Models, and QEM/ARV Engineering Review Annex (GD Engineering Review). See also RIIO-2 technical annex: IT and Telecoms Assessment Annex (IT and Telecoms Annex).

Figure 1: RIIO-2 Draft Determinations documents map



2. Quality of service - setting outputs for RIIO-GD2

Introduction

- 2.1 This chapter sets out the outputs that we are proposing for RIIO-GD2 (Table 2). It largely focuses on the common outputs (which apply to all GDNs). Some of the common outputs reflect positions we set out in our SSMD.⁶ Others have developed through engaging with stakeholders and from the GDNs' Business Plans. We discuss our position on bespoke outputs in the company annexes.
- 2.2 Our overarching approach to outputs is set out in the Core Document. Our approach to the Consumer Value Proposition (CVP) is set out in the Core Document and the company annexes.

Table 2: Outputs included in our Draft Determinations

Output name	Output type*	Companies applied to	Draft Determination Section
Common outputs			
Meeting the needs of consumers and network users			
Consumer vulnerability minimum standards	LO	All	Not covered (no change since our SSMD)
Consumer vulnerability reputational incentive	ODI-R	All	Chapter 2 ⁷
Consumer vulnerability and carbon monoxide safety use-it-or-lose-it allowance	PCD	All	Chapter 2
Fuel Poor Network Extension Scheme	ODI-R and capped volume driver	All	Chapter 2
Customer satisfaction survey	ODI-F	All	Chapter 2
Complaints metric	ODI-F	All	Chapter 2
Guaranteed Standards of Performance (GSOPs)	LO ⁸	All	Chapter 2
Appointments for restoring supply to appliances	ODI-R	All	Chapter 2 (within GSOPs section)
Emergency response time	LO	All	Chapter 2

⁶ All references to 'our SSMD' in this document refer to the RIIO-GD2 Sector Decision Annex to the RIIO-2 Sector Specific Methodology Decision, <https://www.ofgem.gov.uk/publications-and-updates/riio-2-sector-specific-methodology-decision>.

⁷ Where the source document is not stated, we are referring to this document (GD Annex).

⁸ GSOPs are set out in statutory instruments due to the requirement for network companies to make direct payments to their customers. Some GSOPs also have accompanying target pass rates (percentage of times the standard has been met). These are set out in the licence to provide additional protection to customers.

Output name	Output type*	Companies applied to	Draft Determination Section
Unplanned interruptions	ODI-F	All (except Cadent North London)	Chapter 2
Digitalisation Strategy and Action Plan	LO	All	Core Document
Data Best Practice	LO	All	Core Document
Deliver an environmentally sustainable network			
Shrinkage and environmental emissions	ODI-F and ODI-R	All	Chapter 2
Environmental action plan and annual environmental report	LO and ODI-R	All	Core Document, this document Chapter 2
Business Carbon Footprint (BCF) reporting	ODI-R	All	Core Document
Maintain a safe and resilient network			
Repex - tier 1 mains replacement	PCD	All	Chapter 2
Repex - tier 1 services	PCD	All	Chapter 2
Gas holder demolitions	PCD	All	Chapter 2
Network Asset Risk Metric	PCD and ODI-F	All	Core Document, GD Annex Chapter 2
Cyber resilience Operational Technology (OT)	PCD	All	Confidential annexes
Cyber resilience Operational Technology (IT)	PCD	All	Confidential annexes
Capital projects	PCD	All	Chapter 2
Bespoke outputs			
Meeting the needs of consumers and network users			
Multiple occupancy building (MOB) interruptions and Non-MOB interruptions	ODI-F x 2	Cadent North London	Chapter 2 (see Unplanned interruptions)
High-Rise Building plans	ODI-R	Cadent	Cadent Annex
Community fund	ODI-R	Cadent	Cadent Annex
Job completion lead time including re-installment	ODI-R	NGN	NGN Annex
Outstanding repairs	ODI-R	NGN	NGN Annex
Community Partnering Fund	ODI-R	NGN	NGN Annex
Hardship Fund	ODI-R	NGN	NGN Annex
Deliver an environmentally sustainable network			
Biomethane improved access rollout	PCD	SGN	SGN Annex
Maintain a safe and resilient network			
[REDACTED]	PCD	SGN	SGN Annex
Intermediate pressure reconfigurations	PCD	SGN	SGN Annex
Remote Pressure Management	PCD	SGN	SGN Annex

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

Output consultation questions

GDQ1. Do you have any views on our common outputs that haven't been covered through any of the specific consultation questions set out elsewhere in this chapter? If so, please set them out, making clear which output you are referring to.

Meeting the needs of consumers and network users

2.3 Our RIIO-2 Framework supports the delivery of high quality and reliable service to all network users and consumers, including those in vulnerable situations. Our proposals for how RIIO-GD2 can achieve this largely build on RIIO-GD1 ODIs.

2.4 We have set out our decisions on bespoke outputs in the company annexes.

Vulnerability package

2.5 Our SSMD set out a package of outputs to support consumers in vulnerable situations in RIIO-GD2.⁹ This package comprises minimum standards, funding for activities going beyond business as usual, and incentives to encourage best practice and collaborative activities. We outline below our consultation positions for the components of the package where we have changed or developed our approach since our SSMD.

Consumer vulnerability reputational incentive

Consumer vulnerability reputational incentive	
Purpose	To highlight performance related to consumers in vulnerable situations and carbon monoxide (CO) awareness.
Benefits	To encourage greater focus on these areas and highlight how each GDN is performing in comparison with its peers.

Background

2.6 In our SSMD¹⁰ we decided to implement a reputational ODI focussed on consumers in vulnerable situations comprising:

- An annual showcase event to raise awareness of GDNs' work and disseminate learning from their use-it-or-lose-it (UIOLI) allowance initiatives.

⁹ SSMD GD Annex, paragraphs 2.14-2.17.

¹⁰ SSMD, GD Annex, paragraph 2.47.

- Common reporting metrics for consumers in vulnerable situations, fuel poverty and carbon monoxide (CO) awareness.

Consultation position

Output parameter	Consultation position
Annual showcase event	First event in 2021/22 organised by the GDNs. We welcome views on its design.
Implementation	The Regulatory Instructions and Guidance (RIGs) will detail the common reporting metrics. The governance document for the consumer vulnerability and CO safety UIOLI allowance will include requirements for the annual showcase events. See the next section for details on the UIOLI allowance.
Metrics	Three common measures must be reported via the RIGs: <ul style="list-style-type: none"> • Average Customer Satisfaction for priority services register (PSR) customers • Number of Fuel Poor Network Extension Scheme (FPNES) connections, and percentage of FPNES target delivered • Average CO awareness score via a common survey.¹¹

Rationale for consultation position

- 2.7 We think the first annual showcase event should happen in 2021/22 to allow stakeholders to engage with use of the consumer vulnerability and CO safety UIOLI allowance from the start of RIIO-2. We will include further requirements for the event in the consumer vulnerability and CO safety UIOLI allowance governance document which we will develop with stakeholders this year. We welcome views on whether the events should be held nationally or regionally.
- 2.8 We have engaged with stakeholders through working groups to develop our proposals for common reporting metrics to cover GDN performance across a range of vulnerability and CO safety services. We will include the reporting metrics in the RRP, and our annual reports, along with reporting on related outputs such as the FPNES, GSOPs and the Customer Satisfaction Survey.
- 2.9 We considered a metric on the number of households receiving FPNES connections evidenced to be in fuel poverty. We have not included this because evidencing fuel poverty can be an intrusive process. Nonetheless, we expect GDNs to demonstrate improvements to FPNES targeting through the annual showcase event.

¹¹ Survey to be undertaken at awareness sessions.

- 2.10 We also considered a metric focused on number of referrals to the PSR, but we don't think this would drive best practice to provide high quality, appropriate referrals.
- 2.11 We also considered a common Social Return on Investment (SROI) metric. However, this would mean developing a common SROI tool. As this tool is not yet in place, we are not proposing to include this metric.

Consultation question

- GDQ2. What are your views on the reporting metrics we have proposed for the consumer vulnerability ODI-R?
- GDQ3. What are your views on the design of the annual showcase events, including whether they should be held at a national or regional level?

Consumer vulnerability and Carbon Monoxide (CO) safety use-it or lose-it allowance

Consumer vulnerability and Carbon Monoxide safety use-it or lose-it allowance	
Purpose	An allowance for GDNs to fund programmes addressing consumer vulnerability and CO safety.
Benefits	Allows GDNs to provide bespoke services to support consumers in vulnerable situations and raise awareness of CO.

Background

- 2.12 In our SSMD we decided to provide a £30m UIOLI allowance (PCD) for programmes addressing consumer vulnerability and CO safety that go beyond business as usual. We decided that 25% of this allowance would be ring-fenced for collaborative projects. The remaining 75% would be split between GDNs in proportion to number of customers served.¹²
- 2.13 We are encouraged by the GDNs' vulnerability strategies presented within their Business Plans, which outlined how they intended to use the UIOLI allowance.

Consultation position

Output parameter	Consultation position
Proportion of allowance for each GDN	To split the £30m allowance between each GDN by the percentage of domestic gas customers they serve.

¹² SSMD GD Annex, paragraph 2.34-2.37

Rationale for Consultation Position

- 2.14 We think the most appropriate way to split the allowance is by percentage of GB domestic customers each GDN forecasts they will serve in the first year of RIIO-GD2 (see Table 3). We think this approach will avoid regional service disparities, providing a proportionate per customer allowance regardless which network serves them.
- 2.15 Stakeholders have been supportive of establishing a cross-sector, cross-utility PSR. We think the ring-fenced collaborative funding can provide some support to deliver this valuable service.

Table 3: Vulnerability and CO safety use-it-or-lose-it allowance by GDN

Network company	Allowance (£m)
Cadent	11.12
NGN	2.59
SGN	6.11
WWU	2.68
Collaborative projects ¹³	7.50

Fuel Poor Network Extension Scheme

Fuel Poor Network Extension Scheme	
Purpose	To help tackle fuel poverty by supporting off-grid, fuel poor households to connect to the gas network.
Benefits	Provides access to affordable heating for fuel poor households.

Background

- 2.16 In our SSMD we decided to retain the FPNES as a PCD in RIIO-GD2. We also introduced flexibility to stop the FPNES in response to developments in government heat policy.¹⁴
- 2.17 In their Business Plans, all GDNs cited a high level of uncertainty for the volumes of work achievable in RIIO-GD2, highlighting the end of ECO3 and lack of funding for first time central heating. Three GDNs proposed lower targets than RIIO-GD1.

¹³ We have ring-fenced 25% of the allowance for collaborative projects between the GDNs, as set out in paragraph 2.36 of our SSMD GD Annex.

¹⁴ SSMD GD Annex, paragraph 2.68-2.69

SGN proposed a small net increase following stakeholder engagement and feedback from its Customer Engagement Group (CEG). NGN proposed a volume driver beyond its target as part of its CVP, with the aim of doubling them.

Consultation position

Output parameter	Consultation position
ODI design	Reputational ODI for the delivery of FPNES connections targets.
ODI target	Each GDN's target is set at the levels proposed in its Business Plans.
Proposed approach to allowance clawback	Volume driver for FPNES connections instead of a PCD. Capped at the greater of RIIO-GD2 or RIIO-GD1 annual target.

Rationale for consultation position

- 2.18 We agree that uncertainty makes it harder for GDNs to put forward ambitious targets relative to RIIO-GD1, but their proposals were generally at the lower end of our expectations.
- 2.19 We propose a reputational ODI to make GDNs accountable for their performance. The target for each GDN will be set at the level it proposed in its Business Plan. These targets are outlined in the company annexes.
- 2.20 If GDNs are able to deliver more FPNES connections, the additional costs will be provided through a volume driver. We will cap the volume driver to limit delivery to the greater of the RIIO-GD2 or RIIO-GD1 annual target. We will provide the GDNs with the appropriate funding to match their RIIO-GD2 targets within their baseline allowances. We will include a breakdown of the unit costs associated with FPNES connections within the licence. This unit cost will be used to adjust total allowed revenue in line with the number of connections delivered during RIIO-GD2.
- 2.21 This is a change from our SSMD, where we decided that the FPNES should be a PCD. We think a capped volume driver enables GDNs to be ambitious with their delivery despite uncertainty of funding available for associated central heating systems. We think a cap is appropriate to limit spending to levels that the GDNs have engaged with their stakeholders on. It also ensures that number of new gas connections is controlled, given the uncertainty about the role gas may play in a decarbonised energy network.
- 2.22 The volume driver will include the provision for us to stop, or amend, the scheme in response to changes in government policy.

Consultation question

GDQ4. Do you agree with our position to change the FPNES from a PCD to a capped volume driver?

Customer satisfaction survey

Customer satisfaction surveys	
Purpose	To incentivise GDNs to improve the quality of their customer service.
Benefits	GDNs will receive a reward if there is exceptional customer service for planned interruptions, emergency and response, and connections work.

Background

2.23 In our SSMD¹⁵ we set out our decision to update elements of the current customer satisfaction survey output for RIIO-GD2:

- update the survey content (questions) and methodology (population and distribution channels)
- increase the quarterly volumes of responses required
- retain as a financial ODI
- retain the use of common targets across the surveys.

2.24 The areas for consultation relate to detailed target setting and calibration.

Approach to GD assessment

2.25 To help us address outstanding design features, in October 2019 we published an Open Letter Consultation¹⁶ on managing the survey trial, including proposals for new survey content and methodology.¹⁷ All responses to the letter supported our proposal.¹⁸ GDNs conducted the trial in October 2019-March 2020. The results have informed our proposals.

¹⁵ SSMD GD Annex, Paragraph 2.174

¹⁶ Open Letter Consultation on the customer satisfaction incentive in RIIO-GD1 and RIIO-GD2 trial period, <https://www.ofgem.gov.uk/publications-and-updates/open-letter-consultation-customer-satisfaction-incentive-riio-gd1-and-riio-gd2-trial-period>

¹⁷ The trial surveys are in Appendix 2.

¹⁸ Responses published: <https://www.ofgem.gov.uk/publications-and-updates/open-letter-consultation-customer-satisfaction-incentive-riio-gd1-and-riio-gd2-trial-period>

Consultation position

Incentive parameter	Consultation position
Fixed or dynamic targets	Retain common fixed targets under each survey.
Targets	Average performance data from 6 month RIIO-GD2 survey trial. Targets of 8.38, 8.51 and 9.37 for connections work, planned work and unplanned work surveys respectively.
Incentive value	Retain $\pm 0.5\%$ of Base Revenue ¹⁹ as the financial weighting for rewards or penalties.
Financial incentive	Maximum reward and penalty scores set at an equal distribution around the target score. Introduce an outperformance deadband so that only companies scoring above the upper quartile trial scores will be rewarded.
Implementation	Adopt trial survey content and methodology. Revert to monthly distribution frequency for the connections survey. Retain key question 'Overall, how satisfied are you with the service that you received from Cadent/NGN/SGN/WWU?' to score performance. Segment PSR responses to survey from beginning of RIIO-GD2. We will use this metric in the consumer vulnerability reputational incentive.

Rationale for consultation position

Table 4: Our proposed weightings and scores

	Weight	Max penalty score	Target score	Deadband: UQ Score	Max reward score
Connections	33.33%	7.43	8.38	8.86	9.33
Planned work	33.33%	7.87	8.51	8.77	9.13
Emergency and Response/Unplanned work	33.33%	9.15	9.37	9.44	9.58
This represents a combined target score of 8.75 across all surveys. ²⁰					

Fixed or dynamic targets

2.26 We have observed GDNs maintaining similar good performance scores achieved in RIIO-GD1 using the trial RIIO-GD2 surveys. We propose to use fixed targets set at a level that embeds GDN's current good performance. We think that setting

¹⁹ For our proposals on what Base Revenue means in the context of caps and collars, please see Chapter 11 of the Finance Annex.

²⁰ Rewards and penalties are not based on the combined target score.

dynamic targets is unnecessary, as we have limited the scope for consistent outperformance by introducing a deadband so that rewards will only be available for notable performance improvements beyond the target (see 'Financial Incentive' below).

Targets

- 2.27 We propose to set targets using average performance data during the survey trial. This gives baselines of 8.38, 8.51 and 9.37 for the connections work, planned work and unplanned work surveys respectively (see values in Table 4). Trial scores were generally consistent with RIIO-GD1 but declined slightly in some areas, likely due to changes in survey content and methodology. Using the average score embeds improved performance during RIIO-GD1 into business as usual and takes account of new survey methodologies and content used in the trial.

Incentive value

- 2.28 We propose to retain the maximum reward and penalty at $\pm 0.5\%$ of Base Revenue. We think it is appropriate to reward companies performing well above the target score and this value will incentivise companies to continue to focus on this area and drive improvements. Similarly, the value is significant enough to incentivise companies that fall below the target score to improve their performance in line with other companies in the sector.

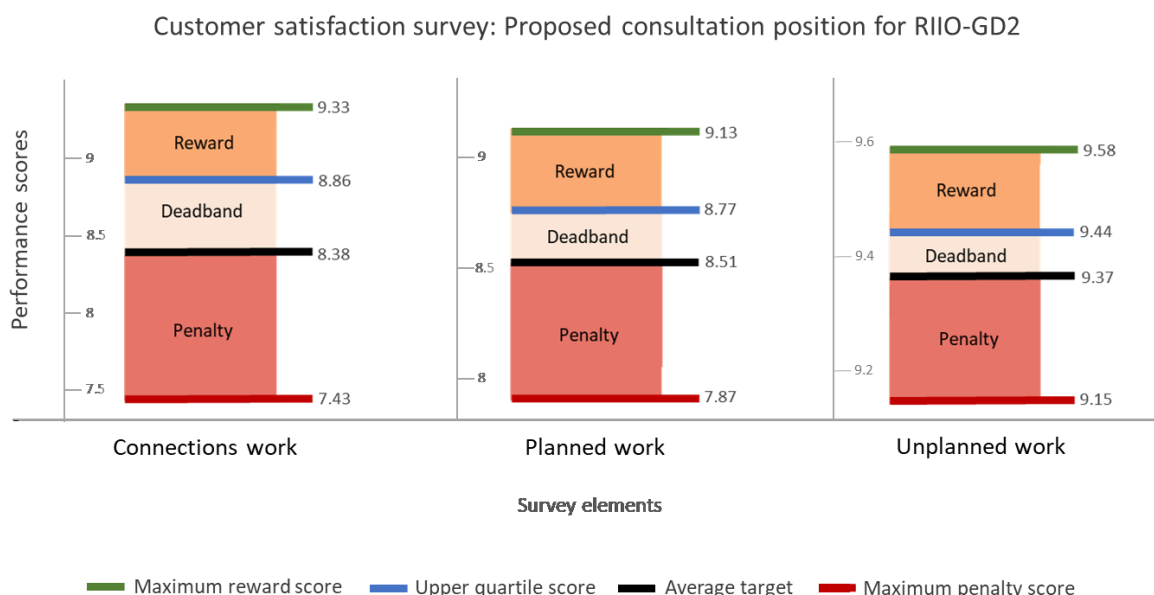
Financial incentive

- 2.29 At our Customer and Social Working Group,²¹ GDNs proposed to use a deadband between the lower and upper quartile trial scores, where neither reward nor penalty would apply. We propose to introduce a deadband between the average target and upper quartile scores. Figure 2 sets out our consultation position.²²

²¹ https://www.ofgem.gov.uk/system/files/docs/2020/06/riio-gd2_customer_and_social_sq4.5.pdf

²² Note the GDNs' proposal reflects the first five months of trial data. Our proposed approach reflects the full six month trial data.

Figure 2: Our consultation position for customer satisfaction survey incentive



2.30 We do not consider it necessary to reward companies for maintaining their current average performance, or to reward small performance improvements around this, as GDNs have received substantial rewards for attaining these performance levels in RIIO-GD1. However, we think it is appropriate to reward those scoring above the upper quartile scores, as this will represent exceptional performance and a notable improvement in service for customers.

2.31 We propose to set the maximum reward and penalty scores at 1.75 standard deviations around the average target. The deadband will make the incentive asymmetrical, with a larger reward available over a smaller range of scores. This acknowledges the effort required to deliver exceptional performance and a notable improvement in service for customers.²³

2.32 We propose that a penalty applies to companies falling below the average target, to incentivise them to prevent deterioration of current performance. We do not think it is appropriate to apply a penalty from the lower quartile score, as this would allow companies' current average performance to deteriorate from levels they have received rewards for in RIIO-GD1, without a penalty applying.

²³ Greater reward is available for a given improvement in the reward band than penalty for the same amount of deterioration in the penalty band.

- 2.33 We recognise companies would be penalised for falling below 9.37 on the unplanned survey. However, the penalty applies for deteriorating below the sector average that should now be business as usual performance. For context, no GDN has scored below nine on the unplanned survey since 2015-16 and the average performance score in 2018-19 was 9.41. Table 4 summarises these proposals.
- 2.34 Rewards and penalties of up to 0.5% of Base Revenue will apply linearly within their respective bands.²⁴

Implementation

- 2.35 We propose to retain the survey content and methodology used in the trial. The questions are easier to interpret and the new survey channels (eg email and telephone) have been successful in widening the response demographic compared with the RIIO-GD1 survey.²⁵ We propose to revert to a monthly distribution for the planned work survey, as response rates fell due to the change in frequency, but maintain a weekly distribution for the connections and unplanned work surveys. The quarterly volumes required will remain as set out in our SSMD.²⁶
- 2.36 The trial showed little change in performance scores when using an average of responses to all questions on the survey as opposed to retaining the RIIO-GD1 approach of measuring responses to one question on customer's 'overall satisfaction'. We propose to continue scoring performance by measuring the latter.²⁷ This will also allow for greater comparability between RIIO-GD1 and RIIO-GD2 and across price control sectors. This is consistent with our consultation position in gas transmission and avoids an implied equal weighting of importance across all survey questions.
- 2.37 We asked GDNs to explore whether PSR customer responses can be segmented. Though this was not possible for the trial, companies have confirmed that they will capture this data by the beginning of RIIO-GD2. We propose the GDNs should report on this through our consumer vulnerability ODI-R, which will incentivise targeted service improvements for PSR customers. Further details on this are in

²⁴ For penalties, this means for each decremental point below the average target, an equal proportion of the overall penalty will be applied up to the maximum penalty score. For rewards, this means for each incremental point above the upper quartile score (to exclude the deadband), an equal proportion of the overall reward will be applied up to the maximum reward score.

²⁵ A comparison of the RIIO-1 and new RIIO-2 surveys are in the Appendix 2 and 3 of our Open Letter Consultation on the customer satisfaction incentive in RIIO-GD1 and RIIO-GD2 trial period, <https://www.ofgem.gov.uk/publications-and-updates/open-letter-consultation-customer-satisfaction-incentive-riio-gd1-and-riio-gd2-trial-period>.

²⁶ SSMD GD Annex, paragraph 2.174

²⁷ Q1 on the survey. The RIIO-2 surveys are provided in Appendix 2.

the beginning of this chapter. We will expect companies to continue reporting on all survey results (PSR and non-PSR responses combined) as well as PSR responses, separately.

Complaints

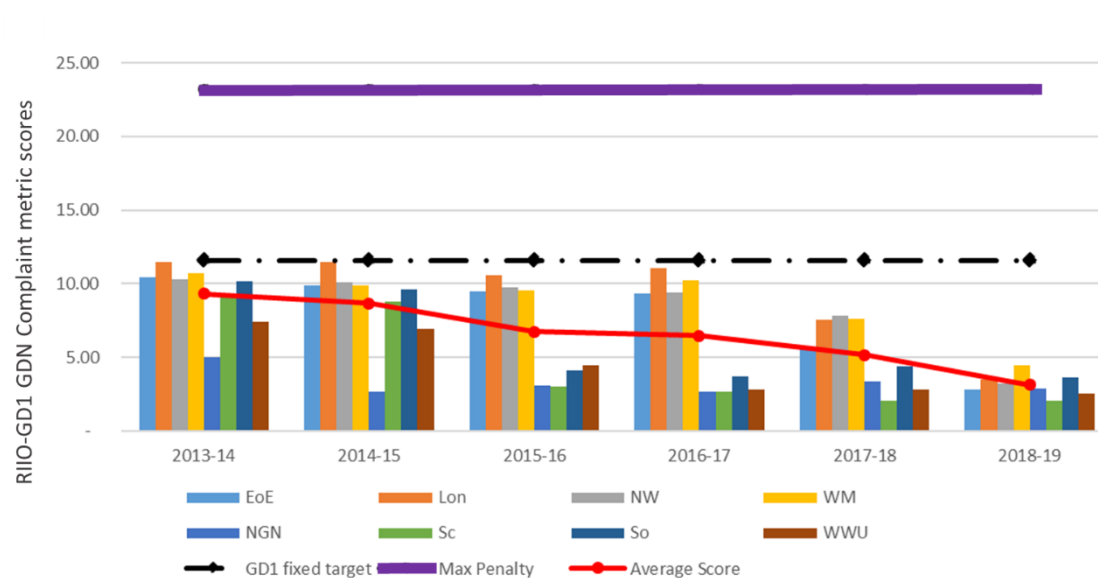
Complaints Metric	
Purpose	To ensure GDNs maintain good performance in their handling of complaints.
Benefits	Having a penalty-only incentive to monitor complaints resolution will ensure consumers' complaints are dealt with quickly and effectively.

Background

2.38 In our SSMD, we decided to retain the RIIO-GD1 output.²⁸ We left open the decision on target setting and the level of penalty if the target is not met.

2.39 The complaints metric has been successful in RIIO-GD1, with all GDNs improving complaints handling performance over the price control period (see Figure 3). We expect this performance to be maintained in RIIO-GD2.

Figure 3: GDN complaints index scores in RIIO-GD1



²⁸ SSMD GD Annex, paragraph 2.198. Complaints performance is measured against four weighted indicators, based on the percentages of: Complaints unresolved in one day (10%), Complaints unresolved in 31 days (30%), Repeat complaints (50%) and number of Energy Ombudsman decisions that go against the GDN (as a percentage of total complaints) (10%). Performance against each indicator is combined to derive an overall score.

Approach to GD assessment

2.40 To establish a new minimum performance level (after which penalties would be incurred) we used historical data from RIIO-GD1. The options we considered are set out in Table 5.²⁹

Table 5: Options analysis in setting a complaints minimum performance level

	Most recent year of RIIO-GD1: 2018/19	Multiple recent years of RIIO-GD1: 2017/18 - 2018/19	RIIO-GD1: 2013/14 - 2018/19
Average	3.12	4.14	6.58
Max score recorded	4.43	7.79	11.45
Min score recorded	2.06	2.06	2.06
Analysis	All scores may be too stretching as a minimum performance level.	Average score may be too stretching as a minimum performance level, maximum score recorded too easily outperformed.	All scores too easily outperformed and therefore not representative of minimum level expected.

Consultation position

Output parameter	Consultation position
Minimum performance level	Set the minimum performance level at five.
Incentive value	Maximum penalty of 0.5% of Base Revenue for scores of ten or above. Penalties applied linearly above the minimum performance level.

Rationale for consultation position

Methodology for setting minimum performance level

2.41 We think setting a minimum performance level of five is appropriate as it is within the range of average scores achieved in RIIO-GD1. The approach is simple and provides a clear minimum performance level for stakeholders. It embeds the improvements made in RIIO-GD1 Incentives maintaining these performance levels.

²⁹ Note: The lower the score, the better the GDN is at resolving complaints.

Incentive value

- 2.42 We think retaining a penalty of up to 0.5% of Base Revenue is appropriate to ensure GDNs focus on this area of customer service and performance is maintained.
- 2.43 We propose to apply the penalty linearly between the minimum performance level of five upwards to a maximum penalty score of ten. No GDN has scored above ten since 2016-17, therefore companies will only receive the maximum penalty if they score much worse than their current level of performance.³⁰

GSOPs³¹

Guaranteed Standards of Performance (GSOPs)	
Purpose	Common statutory minimum performance standards for interruptions, connections and customer service. If not met, customers are paid compensation by the GDN.
Benefits	Ensures consumers are compensated if minimum service levels are not met.

Background

- 2.44 The GSOPs have not been reviewed, or updated, for over ten years. In our SSMD we decided:³²
- to revise five of the fourteen existing standards which were outdated
 - that all GSOP compensation payments will be automatic
 - that all payments and caps would be increased by CPIH as a minimum.
- 2.45 We said we would further consider GSOP payment levels and caps, and work with the GDNs to establish the need for any new GSOPs.

³⁰ Each incremental point a network company's performance deteriorates between the minimum performance level of five and ten, an equal proportion of the overall penalty (0.5% of Base Revenue) will be applied. For example, if 0.5% of Base Revenue is equal to £5m, each additional point above 5 would be a further £1m penalty.

³¹ GSOPs are set out in a statutory instrument (SI) due to the requirement for network companies to make direct payments to their customers. Some GSOPs also have accompanying target pass rates (% of times the standard has been met). These are set out in the licence to provide additional protection to customers. GSOPs are not outputs and amendments must follow a statutory process, which we have aligned with the implementation of RIIO-GD2. This is so any changes made to GSOPs are effective from the start of the RIIO-GD2 price control.

³² SSMD GD Annex, paragraphs 2.208, 2.216 and 2.225.

2.46 Our proposed revisions to GSOP standards, payment levels and payment caps are in Appendix 3.

Consultation position

LO Parameter	Consultation position
Existing GSOP standards	Amend GSOP2 and GSOP3 that are associated with interruptions to provide further support for consumers in vulnerable situations.
Payments and caps	Double all GSOP payments and payment caps from RIIO-GD1 levels. Index payments and caps annually, rounded to the nearest £5, in line with CPIH.
Exemptions from GSOP payments	Reduce exemption time-period for GSOP3 to 10pm-6am. Extend connections quotations GSOPs to more connection customers.
Bespoke outputs	Not to include proposals for enhancing existing GSOPs as bespoke ODIs.
New common ODI design	Common reputational ODI for GDNs to report on % of time they provide and meet 2-4 hour appointment timeslots for restoring gas to appliances or new connections.
Statutory Instrument (SI) changes	Consult on the GSOP SI changes in autumn 2020.

Rationale for consultation position

Existing GSOP Standards

2.47 In our SSMD we set out expectations for GDNs to work with us, to consider further whether changes to the GSOPs are needed to support consumers in vulnerable situations.³³ GDNs provided evidence on the requirements, and expectations, informed by their collective stakeholder engagement research.³⁴ This evidence suggests that an update of GSOP2³⁵ and GSOP3³⁶ would be beneficial to enable enhanced support for consumers on the Priority Service Register (PSR). We propose to update these standards in line with the GDNs' proposals. We also propose amending an existing exemption that affects GSOP3 (see relevant section below).³⁷

³³ SSMD GD Annex, paragraph 2.235

³⁴ https://www.ofgem.gov.uk/system/files/docs/2020/06/riio-gd2_customer_and_social_sg4.5.pdf

³⁵ GSOP2 relates to the reinstatement of customers' premises following work carried out at a property. The current standard requires companies to complete this within 5 days.

³⁶ GSOP3 relates to service provided to PSR domestic customers in the event of an interruption. The current standard requires companies to offer alternative heating and cooking facilities within 4 hours unless the interruption affects 250 or more customers and the customer not notified beforehand, in which case services must be provided within 8 hours.

³⁷ Further information on all existing GSOPs provided in our Guidance on Guaranteed Standards of Performance and Standard Special Licence Condition D10, <https://www.ofgem.gov.uk/publications-and-updates/guidance-guaranteed-standards-performance-and-standard-conditions-special-licence-condition-d10>

- 2.48 For GSOP2, this means that the standard for reinstating a customers' premises following work carried out at the property:
- remains the same for general customers (five days)
 - but is reduced to three days for PSR customers.
- 2.49 This will help ensure that particularly vulnerable groups of consumers are prioritised for quick restoration of supply.
- 2.50 For GSOP3, this means that, for PSR customers experiencing planned and unplanned interruptions, the existing requirement to offer alternative heating and cooking facilities will widen to include access to washing facilities (hot water) and a hot meal for every 24 hours of a major incident,³⁸ excluding the first 48 hours.³⁹ This change will ensure that particularly vulnerable groups of consumers are provided with the essentials to stay safe and warm in major incidents. We welcome views on whether an initial 48-hour exclusion period is reasonable for GSOP3. We are also proposing to revise the associated payments for GSOP3, as explained later in this chapter.
- 2.51 We are not proposing to introduce any new common GSOPs for PSR customers. This is in line with the conclusions from GDNs' stakeholder engagement. We think our wider RIIO-GD2 Framework will help further support this area - in particular our vulnerability package.
- 2.52 Some companies proposed new GSOPs as voluntary bespoke outputs in their Business Plans, which are addressed later in this section.

Payments and caps

- 2.53 The GSOP payment levels and caps have not been updated in over ten years. In our SSMD, we decided that these would be updated by at least inflation (CPIH).⁴⁰ However, we are now proposing to go further and double all RIIO-GD1 GSOP payment levels, and associated payment caps, where these apply.
- 2.54 Several companies are already doubling payments voluntarily for all GSOPs and propose to continue to do so in RIIO-GD2. Doubling current payments for all

³⁸ A major incident or large interruption is defined as when 250 or more customers are affected.

³⁹ GDNs proposed an initial 48 hour exclusion period to mobilise resources and contact relevant organisations (such as catering partners or leisure centres) to allow access to hot food and water in an area.

⁴⁰ Paragraph 2.216

companies will ensure customers do not receive different levels of compensation depending on the GDN that serves them.

- 2.55 We also propose to index payment and associated cap levels by linking them to inflation (CPIH). We would expect GDNs to assess the need for any increases each year by comparing the CPIH index against a baseline of February 2021⁴¹. Once the index has moved sufficiently, GDNs should round payment (up or down) to the next multiple of £5, and increase associated caps at a commensurate rate⁴². We do not propose to move caps independently of payment levels. The effect of this is that a revision to the payment levels will continue to take place once there has been sufficient inflation, and that the caps will be increased in line with this. Current inflation forecasts suggest that these changes should not occur so frequently as to become burdensome, but by indexing payments and caps we will ensure that they remain up to date and reflective of consumer expectations, and remove the need to regularly update the relevant Statutory Instrument (the SI).⁴³
- 2.56 For GSOP3, we are proposing to increase the duration period for payments for failure to provide alternative heating and cooking facilities. Currently, one off payments apply when these services are not provided within four or eight hours.⁴⁴ We propose additional payments are made every 24 hours thereafter during which services are not provided, so GDNs are still incentivised to offer these services after an initial failure to meet the standard.
- 2.57 For the provision of access to hot water and meals, under GSOP3, we propose these services are offered to PSR customers every 24 hours of a major incident, and payments are therefore made every 24 hours these services are not provided. Given the changes set out above, we propose GSOP3 be subject to a new £500 indexed payment cap.

⁴¹ This will refer to a monthly index published by the [Office for National Statistics](#) and allow for changes (if required) to be implemented for the new financial year. The February 2021 CPIH monthly index would be used as this will be the latest available index before the 2021-2022 financial year.

⁴² eg GSOPX requires a payment level of £20 with a cap of £200. Assuming inflation of 2% a year against a base year 0, we should expect GSOPX to move to a payment level of £25 in year 6, by which point the indexed payment would have increased to £22.53, and would therefore require rounding to the new nearest multiple of £5. At this point, we would expect the cap to also be increased to £250. We would not expect to see the next increase, until the indexed payment level reached >£27.50 (using this example year 15).

⁴³ The [Gas \(Standards of Performance\) Regulations 2005 \(as amended\)](#).

⁴⁴ Four hours, unless the interruption affects 250 or more customers (this is classed as a 'major incident') and the customer was not notified beforehand (an unplanned interruption), in which case services should be provided within eight hours.

Exemptions

- 2.58 Some GSOPs contain exemptions to clarify where for specific reasons (typically factors outside the GDNs' control) the GSOP standard, or payment, may not need to apply. We propose to make changes in light of GDN proposals put forward in our Customer and Social Working Group and network company Business Plans.
- 2.59 We propose reducing the exemption period under GSOP3 from 10pm to 6am.⁴⁵ GDNs' stakeholder research concluded that reducing, or removing, the exemption period would enable greater flexibility for PSR customers requiring interruption services. We think that a reduction in the exemption period is appropriate because it extends the time in which customers can be provided essential services. However, we do not propose to remove the exemption as it is designed to prevent inappropriate appointment times. In addition, GDNs retain the ability to 'stop the clock' upon customer request or in specific circumstances.⁴⁶
- 2.60 We propose to amend the exemption for connection quotation GSOPs⁴⁷ so that the standards would extend to domestic developments and non-domestic developments of more than five properties, isolations (ie disconnections) and diversions (including mains diversions and diversions related to pipes of up to 7 bar gauge of pressure) for exit connections, and green gas enquiries for entry connections. This is in line with WWU's and NGN's Business Plan proposals to extend connection quotation GSOPs to these customer groups. Connections for these customer groups form a significant proportion, around 8-16% of all GDNs' workload request volumes. In addition, extending these GSOPs to green gas entry enquiries would support greater accountability and improved service provision towards green gas producers. The extended Guaranteed Standards of Performance for green gas entry will apply to the timeliness of providing an initial capacity study (with information about available network capacity) and a full capacity study (which would include the cost of the connection project and proposed pipeline route).
- 2.61 These proposals will require changes to the SI, Standard Special Condition (SSC) D10⁴⁸ and SSC D12.⁴⁹

⁴⁵ Hours that do not count towards the obligation are currently 8pm-8am for GSOP3.

⁴⁶ GDNs have the ability to 'stop the clock' if, for example, the property is not accessible due to exceptional circumstances, such as severe weather conditions. These are set out under the regulation's exemptions.

⁴⁷ GSOPs 4, 5, 6 and 8.

⁴⁸ Quality of Service Standards

⁴⁹ Requirement to offer terms for the provision of gas entry points

Bespoke outputs

2.62 GDNs put forward bespoke ODI proposals related to GSOPs, which are detailed in the company annexes. These included:

- **Enhanced existing standards and payments:** Reduced timeframes to complete a GSOP activity and make payments to customers.
- **New standards - appointments:** Timeslots offered to customers for appointments to restore supply and connect appliances, following the resolution of an interruption.

2.63 We recognise the GDNs' ambition in proposing to strengthen existing GSOPs beyond the decisions set out in our SSMD, but we propose not to include these as bespoke ODIs. Our rationale and proposed way forward is explained further below.

Enhanced existing standards and payments

2.64 In our SSMD, we decided to update existing GSOPs to reflect the minimum standard expected by analysing current industry performance.⁵⁰ We cannot accept further revisions to existing GSOPs as bespoke outputs because of their design to be applicable sector wide through the SI⁵¹ and a common LO. This allows payments to customers when minimum standards are not met. We also do not think we can justify enhancing common standards in line with network company bespoke outputs, as this will not represent the minimum level of service expected across all GDNs.

2.65 If GDNs want to strengthen standards and/or payments voluntarily we are supportive of this, on the condition that funds required (if any) are sourced from company shareholders, not customer bills.

Appointments for restoring supply to appliances ODI

2.66 In our SSMD,⁵² we said that we would not introduce any new GSOPs for appointment standards, including for restoring supplies to appliances following an

⁵⁰ Paragraph 2.206

⁵¹ A Statutory Instrument (SI) is a form of secondary legislation made under powers set out in an Act of Parliament. An SI making power is conferred onto the Authority and allows the Authority to make laws relating to the matters identified in the Act. This process is necessary for GSOPs due to the requirement for firms to make payments to their customers.

⁵² Paragraph 2.235

interruption.⁵³ At the time, GDN research indicated that customers did not expect compensation for failure in this area, therefore a GSOP was not appropriate.

2.67 In their Business Plans, Cadent, NGN and WWU put forward proposals relating to time bound appointment slots to support purge and relight activity, as these require a technician to visit a customer's premises:

- Cadent: ODI-R to offer four hour and two hour time bound appointment slots for gas supply restoration and connection to appliances, to be met 90% of the time.
- NGN: ODI-Fs to restore supply to appliances within 12 hours of a planned interruption or two hours following restoration to the ECV for an unplanned interruption, offering two hour timeslots when customers are not present, otherwise incur a £20 penalty.
- WWU: ODI-F to restore supply to appliances within 12 hours of either a planned or an unplanned interruption, leaving a card if customer is unavailable. Technician to attend within two hours of customer call or offer a two hour timeslot, otherwise pay £20 compensation.

2.68 From the evidence provided in GDNs' plans, we agree that there is consumer appetite for time bound appointment slots.⁵⁴ Therefore, we think there is merit in seeking to introduce a common ODI-R for all GDNs, instead of the bespoke outputs. We think appointment timeslots will provide customers with greater flexibility, and certainty, in planning for an appointment at their property. This could be particularly helpful for consumers in vulnerable situations that may need to dedicate more time or effort to appointments.

2.69 We think a common ODI-R to provide two to four hour timeslots for appointments is appropriate.⁵⁵ This will incentivise GDNs to guarantee appointment times with their customers and ensure these are met. We think a time range of two to four hours is appropriate as it:

- provides a small enough window for customers to have certainty over a technician's arrival and to manage any other personal commitments

⁵³ GDNs commonly refer to this activity as 'purge and relight'.

⁵⁴ We are assured of customer appetite for the proposal given the results of stakeholder engagement exercises included in company Business Plans. [Cadent's appendix](#), and [NGN's appendix](#) include further details on their proposals.

⁵⁵ This would be irrespective of whether the interruption is planned or unplanned.

- provides some flexibility to GDNs to implement this service - which is being offered for the first time.
- 2.70 Under the ODI-R, where GDNs need to restore gas supply and purge and relight a customer's appliances, we think GDNs should report on the:
- percentage of times an appointment timeslot is offered
 - percentage of times a timeslot is agreed with the customer
 - percentage of times the technician arrives at the premises within the agreed timeslot.
- 2.71 We think it would be useful to monitor these reporting metrics in relation to two hour (or less) timeslots and timeslots greater than two (but less than four) hours. This is because we want to incentivise GDNs to provide smaller range timeslots where possible and reduce uncertainty for customers. We welcome views on whether this reporting is reasonable, or if other elements should be monitored.
- 2.72 Two of the proposed bespoke ODIs had targets that included the length of time to restore supply to customer appliances after engineers have entered the home. Because customers will ultimately choose when the appointment is scheduled, it is not clear how GDNs will target this. We have therefore not included this element in the proposed ODI-R. GDNs may want to consider monitoring the length of time to restore supply to customers' appliances as separate key performance indicators (KPIs) for their customers. We may review this data to form an output or GSOP in the future.
- 2.73 We commend NGN and WWU for including compensation in their proposals set out above. While we will not require GDNs to pay compensation for not providing or meeting an appointment, we encourage GDNs to do this voluntarily on the condition that they source the funds required from company shareholders.
- 2.74 Cadent, NGN and WWU also attached CVP rewards to their proposed outputs with varying materiality. We propose not to include CVP rewards for time bound 'purge and relight' appointment proposals. We do not consider this appropriate, given that we previously asked companies to consider these measures to mirror

regulatory precedent in other sectors,⁵⁶ therefore they are not innovative or beyond current customer expectations.⁵⁷

SI Changes

- 2.75 To implement our proposed changes by the start of RIIO-GD2, we will need to follow the statutory process to change the SI⁵⁸. This will include a consultation on the proposed text amendments that will ultimately require the consent of the Secretary of State.
- 2.76 We intend to consult on the SI changes in autumn 2020 and continue to discuss drafting with companies until then. We are proposing for the SI amending regulations to come into force on 1 April 2021 to coincide with the start of RIIO-GD2.

Consultation questions

GDQ5. For GSOP3, is a 48 hour exclusion period for the provision of access to hot water and food in the event of a major incident appropriate? Should this be extended to cover interruptions that are not a major incident?

GDQ6. In relation to our proposal to extend quotation GSOPs on entry and exit connections, is it sufficient – in regard to green gas entry enquiries – for these GSOPs to apply to the provision of initial and full capacity studies? Are there other parts of the green gas entry process we need to consider to ensure an improved service provision?

GDQ7. What are your views on our consultation position to monitor the provision of and adherence to appointment timeslots for purge and relight activity through an ODI-R? Are our suggested reporting measurements reasonable?

Emergency Response

Emergency response	
Purpose	To ensure GDNs respond to 97% of reported gas escapes within one hour for uncontrolled escapes and within two hours for controlled escapes.
Benefits	Changes to the existing output to bring clarity and certainty on what is expected from GDNs when attending gas escapes.

⁵⁶ Ofwat describes their approach to the provision and keeping of appointments under their guaranteed standards scheme in this [summary document](#).

⁵⁷ RIIO-GD2 GD Sector Annex to the RIIO-2 Sector Specific Methodology Consultation, paragraph 3.133. https://www.ofgem.gov.uk/system/files/docs/2018/12/riio-gd2_sector_annex_0.pdf

⁵⁸ This process is laid out in sections 33AA and 33BAA of the Gas Act 1986

Background

2.77 In our SSMD we stated that we would retain the emergency response time output for RIIO-GD2 and the 97% performance standard.⁵⁹ We stated that we would review the relevant licence condition⁶⁰ to ensure clarity over the minimum conduct requirements for meeting the 97% performance standard.

Consultation position

Output parameter	Consultation position
Licence condition	<p>To modify the licence condition to be clear that in meeting the performance standard:</p> <ol style="list-style-type: none"> 1. Those attending gas escapes must have completed sufficient training that they are able to deal with the situation competently and appropriately. 2. The licensee must be able to demonstrate that those attending gas escapes are able to deal with the situation competently and appropriately.

Rationale for consultation position

2.78 The 97% performance standard provides a clear obligation on GDNs to attend reported gas escapes promptly. However, the licence is not explicit on first responders' training and skills. This means the performance standard is potentially less effective in ensuring public safety.

2.79 We propose to introduce an explicit licence obligation to demonstrate that those attending gas escapes have the necessary skills and training to deal with the situation competently and appropriately. We think this modification clarifies the behaviours we expect from GDNs.

Unplanned Interruptions

Unplanned Interruptions ODI	
Purpose:	A financial ODI to protect consumers by ensuring that companies do not allow the duration of unplanned interruptions to deteriorate.
Benefits:	Managing interruption duration reduces the negative impact on consumers and ensures that they do not experience extended periods without gas.

⁵⁹ Paragraph 2.109

⁶⁰ SSC D10 Quality of Service Standards

Background

2.80 In our SSMD, we decided to introduce a penalty only ODI based on the average duration of unplanned interruptions, incorporating major incidents.⁶¹ We also said that Cadent North London would have two individual ODIs, to allow a separate measure of MOB interruption performance, while each of the other seven networks would have a single one.⁶² Our proposals for Cadent North London are set out separately below.

2.81 This ODI is based on a minimum performance level as opposed to a target. The latter defines the level that companies should be aiming to meet or exceed, while the minimum performance level represents the point at which there is sufficient deterioration in performance that a penalty should be applied. Companies should therefore be aiming to comfortably exceed these levels in order to avoid any risk of penalty.

ODI for all network companies (excluding Cadent's North London network)

Consultation position

Output parameter	Consultation position
Minimum performance levels	Set levels for each network based on our assessment of historical performance. ⁶³
Incentive value	Up to 0.5% of Base Revenue.
ODI type	Financial - penalty only.
Penalty collar and consequence of excessive deterioration	Penalties will increase linearly between the minimum performance level and the Excessive Deterioration level. The Excessive Deterioration level for each network company represents the point at which the maximum penalty would apply. GDNs that breach this level will be required to submit a report setting out the causes of the breach and the mitigating actions being taken.

Rationale for consultation position

Minimum performance levels

2.82 In our SSMD, we said that we consider a penalty-only financial incentive to be appropriate to protect consumers from any significant deterioration in

⁶¹ The methodology for incorporating major incidents is set out in our SSMD GD Annex Appendix 1

⁶² Paragraphs 2.126 - 2.166.

⁶³ Minimum performance levels are set out in the company annexes.

performance relating to unplanned interruptions.⁶⁴ We noted that in most regions performance in RIIO-GD1 had been satisfactory, and that some network companies may consider their current performance better than their consumer's minimum expectations. We asked GDNs to propose, and justify, their own specific values for a minimum performance level for each network.⁶⁵

- 2.83 Some of the CEGs questioned why the GDNs were not proposing more stretching targets. As noted above, since we defined the targets as minimum performance levels, we only expect these to be stretching in cases where current network performance is poor.
- 2.84 We reviewed the GDNs' proposed values, which ranged from a minimum of ten hours to a maximum of 42 hours. Much of the variance is due to major incidents: two GDNs made almost no allowance while another allowed for a greater impact than was experienced by any network in RIIO-GD1. Given the inconsistency in values and methodologies in the GDNs' proposed minimum performance levels we have adopted an alternative approach to determine appropriate weightings for different types of interruptions.
- 2.85 We reviewed GDN performance in RIIO-GD1 and, excepting North London, do not consider that any networks have breached minimum performance levels. It follows that if network companies maintain their current performance they should not expect to receive a penalty.
- 2.86 We propose to adopt an approach where breaching the minimum performance level should equate to a 1-in-20 event in relation to each network's historical performance. We think this would represent strong evidence of genuine performance deterioration rather than normal variation. We created a Monte Carlo simulation model to calculate 1-in-20 performance for each network company. The model assesses each network company individually using historical performance data on the frequencies and durations of major incidents and those of all other interruptions. This methodology, including the model itself, is published in the Interruptions Annex.
- 2.87 The model used to set these values assumes that the RIIO-GD2 frequency of major incidents is likely to be similar to that seen in the past. There is therefore a small risk that a higher than expected number could result in a network company

⁶⁴ Paragraph 2.136

⁶⁵ Paragraphs 2.148-2.152

breaching their minimum performance level, despite otherwise performing well.

Within the licence condition for the ODI, we propose to include the ability for us to consider a discretionary adjustment to the penalty amount in the case of such an outcome.

- 2.88 The minimum performance levels are set out in the company annexes. We have also set out the highest modelled number of major incidents for each network.

Incentive value

- 2.89 In RIIO-GD1, we saw some interruptions that lasted several months or more, demonstrating the potential for significant consumer detriment. If a substantial performance deterioration occurs, we think a penalty of up to 0.5% of Base Revenue is justified, to ensure that sufficient attention is given to this area.

- 2.90 We used the same Monte Carlo model to develop an Excessive Deterioration level for each network company.⁶⁶ This represents the point at which the maximum penalty is reached. We equated this to a 1-in-1,000 event, where it would be clear that substantial deterioration had occurred. This analysis produced Excessive Deterioration levels that were between three and seven hours beyond minimum performance levels. We decided to set a minimum of five hours for this range, given the potential for major incidents to skew performance in any given year.

Consequence of excessive deterioration

- 2.91 We considered the need for additional measures to address excessive performance deterioration.⁶⁷ We propose that, if a network company's average restoration time exceeds the Excessive Deterioration level, it must submit a report detailing reasons for this and the measures being taken to remedy it. We will use this report to consider whether any further regulatory action is required (including the possibility of enforcement) to ensure a return to acceptable performance levels.

ODIs for Cadent's North London network

- 2.92 In our SSMD,⁶⁸ we decided that Cadent's North London network would have one ODI for interruptions in MOBs and a separate ODI for all other interruptions.

⁶⁶ Published in the Interruptions Annex.

⁶⁷ As set out in our SSMD, paragraph 2.166

⁶⁸ SSMD, paragraph 2.137

Consultation position

Output parameter	Consultation position
Definition	Interruptions will be allocated to the relevant ODI based on whether a riser is needed to be repaired/replaced. The same criterion will be used for interruptions that are part of a major incident.
Minimum Performance Level	For MOB Interruptions ODI: value set to reflect Cadent's MOB Improvement Plan For Non-MOB Interruptions ODI: value set on same basis as other networks
Incentive value	Up to 0.5% of Base Revenue in total, with a cap of 0.25% for each ODI
Penalty collar / Consequence of excessive deterioration	Penalties for each ODI will increase linearly between the minimum performance level and the Excessive Deterioration level. The Excessive Deterioration level for each ODI represents the point at which the maximum penalty of 0.25% would apply. If Cadent breaches this level it will be required to submit a report setting out the causes of the breach and the mitigating actions being taken.

Rationale for consultation position

Definition

2.93 We are proposing a clarification to the scope of Cadent's MOB Interruptions ODI. This will relate specifically to "MOB Riser Interruptions", where a riser must be replaced, or repaired, before supply can be restored, regardless of the original cause. These incidents are more complex to resolve and have historically been responsible for the longest running interruptions. All other interruptions will be allocated to the Non-MOB Interruptions ODI.

2.94 Interruptions that occur as part of a major incident will also be allocated to the relevant ODI based on the same criterion.

Minimum performance and Excessive Deterioration levels – MOB Interruptions ODI

2.95 Following our May 2019 settlement agreement for MOBs,⁶⁹ Cadent has implemented an improvement plan on its North London network designed to restore performance to an acceptable level by the end of RIIO-GD1. Cadent proposed a minimum performance level for RIIO-GD2 based on the level set out in its improvement plan for the end of RIIO-GD1. We propose to accept this, on the

⁶⁹ <https://www.ofgem.gov.uk/publications-and-updates/decision-gas-and-electricity-markets-authority-close-its-investigation-cadent-s-compliance-its-gas-transporter-licence-standard-special-conditions-a40-a50-and-a55-and-section-9-gas-act-1986>

basis that Cadent will need to deliver further improvements in performance in RIIO-GD2 if it is to be confident of avoiding a penalty. We also note that its Business Plan sets out its intention to deliver continued improvement in RIIO-GD2.

- 2.96 We have set the Excessive Deterioration level at a point midway between Cadent's minimum performance level and its worst annual performance recorded in RIIO-GD1. This means the maximum penalty and explanatory report would be triggered well before consumers experienced the same level of deterioration seen in RIIO-GD1.

Minimum performance and Excessive Deterioration levels – Non-MOB Interruptions ODI

- 2.97 Cadent's performance in relation to non-MOB interruptions in its North London area has remained acceptable in RIIO-GD1. Consequently, we have adopted the same approach for this ODI as for the other GDNs' ODIs (as set out in paragraphs 2.82 – 2.88 above).

Division of total penalty

- 2.98 We asked Cadent to propose, and justify, the distribution of the total penalty amount between its MOB and non-MOB ODIs within its Business Plan. Cadent failed to provide the information requested within its Business Plan. However, following supplementary questions, it recommended that the penalty be distributed evenly. It noted the importance of maintaining focus on both measures, given that, while the MOB ODI will cover the highest impact interruptions, the non-MOB ODI will affect more customers. We propose to accept Cadent's recommendation on the basis of the justification provided.

Consequence of excessive deterioration

- 2.99 We propose the same approach for the North London ODIs as for other networks (see paragraph 2.91).

Bespoke targets

- 2.100 Cadent proposed a bespoke reputational ODI for unplanned interruptions, which would go beyond minimum performance levels, by setting targets for a 10% improvement in average durations compared to current performance. We commend Cadent for this proposal, but do not think this is necessary as an additional ODI, as the outturn performance of all GDNs will continue to be reported on as part of our annual report. However, Cadent may want to retain its target as a separate key performance indicator (KPI) for its customers.

2.101 Cadent also proposed an alternative method of measuring interruptions performance. While we have not changed our decision on how to measure the ODI, we think that the proposed method could also be used in its stakeholder engagement.

Consistency of interruptions reporting

2.102 In our SSMD, we noted the issues around data comparability in interruptions reporting. Further to a series of meetings with the GDNs last year, we have considered changes needed to the definitions and reporting formats for unplanned interruptions. We intend to consult on introducing these changes in the RIGs for the first year of RIIO-GD2, with the aim of achieving full consistency by the end of the period. We are aware this creates a small risk that the change in definitions could result in a material change to reported average durations. We welcome views on whether there is a need to make a provision in the licence that would allow us to take account of this.

Other policy areas

Collaborative streetworks

Collaborative streetworks	
Purpose	To facilitate collaboration between utilities to deliver streetworks, particularly in Greater London.
Benefits	Reduce disruption for local residents and road users by aligning works for multiple parties within one project.

Background

2.103 Cadent and SGN proposed similar ODIs for working with other utilities and authorities to plan and deliver streetworks. The aim is to reduce disruption for local residents and road users by aligning works for multiple utilities (eg telecoms and water) at overlapping locations.

Consultation position

Output parameter	Consultation position
Separate bespoke ODIs for Cadent and SGN	Not to take forward their bespoke ODIs as requested in their BPs, but consider that a consistent approach for both Cadent and SGN is appropriate.
Target and metric	Consistent target and metric across both companies to be developed.
ODI type	A reputational or financial ODI for both GDNs.

Rationale for consultation position

2.104 *Consistent approach:* Cadent and SGN are already participating in a trial of collaborative projects in London as part of a programme facilitated by the Greater London Authority (GLA) and we think that an output in this area could provide a greater impetus for GDNs to work with stakeholders. We acknowledge these novel collaborative projects require additional resources from the companies in this early phase. Therefore, we consider a common approach is necessary to incentivise the co-development of efficient collaborative processes and ultimately, to incorporate these processes into both companies' business as usual streetworks.

2.105 *Target and metric:* The ODI could incentivise the number of collaborative projects completed or potentially, the number of days saved compared to the projects being completed separately. We also note that there are different levels of collaboration⁷⁰ and project sizes that may be considered when developing a target. At this stage, we think it is appropriate to focus the measure on Greater London to build on the existing work Cadent and SGN are undertaking with the GLA.

2.106 *ODI type:* We consider there could be a reputational or financial ODI to drive this work forward with stakeholders. We recognise there are potential cost barriers to doing this work, so Cadent and SGN will need to challenge themselves to develop cost-effective processes over RIIO-GD2. Any funding request for the additional costs incurred must be justified whether through totex baseline or a financial ODI. For a financial ODI, we would consider caps and collars to protect consumers, and companies, from excessive gain or loss.

2.107 We will work with Cadent, SGN and other stakeholders to develop an appropriate incentive for collaborative streetworks for Final Determinations. A key part of this

⁷⁰ We note the London Councils define the collaboration levels as business as usual or paced, semi and complete collaboration in its Collaboration Manual, <https://www.londoncouncils.gov.uk/our-key-themes/infrastructure/collaboration-handbook>.

incentive will be to share learning, not only among GDNs, but wider stakeholders including other utilities and Local Authorities. This could take a similar form to the knowledge transfer requirements and intellectual property rights for projects funded under our NIA.

Consultation question

GDQ8. Do you agree with our proposed option to provide Cadent and SGN with consumer funding through totex baseline or a financial ODI reward for collaborative streetworks activities?

Deliver an environmentally sustainable network

2.108 The gas networks and related business activities can be harmful to the environment and stakeholders expect the companies to take appropriate steps to mitigate their environmental impacts such as pollution to the local environment, resource waste, biodiversity loss.

2.109 In this section, we set out our consultation position on our common ODI to minimise gas lost (shrinkage), and the GDNs' Environmental Action Plans (EAP).

2.110 Our consultation position on the minimum requirements of the EAP for RIIO-2, is in the Core document. Our consideration of the GDNs' bespoke environmental RIIO-2 proposals is in the company annexes.

Shrinkage and environmental emissions

Shrinkage and environmental emissions ODI	
Purpose	Incentivise GDNs to reduce shrinkage of gas from their pipe networks.
Benefits	Reducing shrinkage reduces methane emissions and avoids the cost of purchasing replacement gas.

Background

2.111 In our SSMD,⁷¹ we said there would be a three-part shrinkage incentive:

- A reputational ODI to cover total shrinkage volumes.
- A financial ODI based on the impact of pressure and gas conditioning on shrinkage levels.

⁷¹ Paragraph 3.22

- Potential bespoke outputs for any shrinkage reduction activities not currently captured in the Shrinkage and Leakage Model.

Consultation position – Shrinkage and environmental emissions ODI-R

Output parameter	Consultation position
Targets	Targets will be equal to the annual shrinkage totals set out in each network's Business Plan Data Tables (BPDTs), subject to any necessary adjustments.

Rationale for consultation position - Shrinkage and environmental emissions ODI-R

2.112 We propose to set targets using the forecast shrinkage volumes set out in companies' BPDTs, subject to any adjustments needed to reflect decisions on the repex programme at Final Determinations. We think this ODI-R should be reported on in companies' Annual Environmental Report (AER).

Consultation position - Shrinkage and environmental emissions ODI-F

Output parameter	Consultation position
Targets	Targets will be based on the values for pressure and gas conditioning levels used to close out the RIIO-GD1 incentive.
Cap and collar	Maximum and minimum value of rewards and penalties of 0.25% of Base Revenue.

Rationale for consultation position - Shrinkage and environmental emissions ODI-F

Targets

2.113 In our SSMD we decided to use the levels of pressure and gas conditioning recorded in the final year of RIIO-GD1.⁷² In recent meetings, some GDNs questioned this decision, given that external factors such as the severity of the winter can cause annual fluctuations in pressure. We took this approach because the final year of RIIO-GD1 will determine the total value of the current incentive, and it is therefore appropriate to use these values as the new target.

2.114 We are aware, however, that COVID-19 may also affect shrinkage levels in 2020/21. This could relate to the impact of COVID-19 on repex work, but also changes in operational staffing levels and overall demand patterns may also affect pressure and conditioning levels. If we decide that we need to change the way that final year performance under the RIIO-GD1 incentive is assessed, we may

⁷² Paragraph 3.29

also need to change how the RIIO-GD2 targets are set. However, we would still expect to maintain the link between the two incentives. We have considered two further options for setting targets:

- the pressure and gas conditioning values recorded for 2019-20
- an average of the values recorded from 2017-18 to 2019-20.

2.115 If either of these options were adopted we would need a means of reflecting them in the final RIIO-GD1 incentive calculations. We seek views on how RIIO-GD2 targets could be set that would both allow for any potential COVID-19 impact and maintain the link with the current incentive.

2.116 We have considered whether a deadband should apply, to allow for annual fluctuations due to external factors such as weather. While we accept that such factors can influence pressure levels, we have not yet seen convincing evidence of how this could be quantified.

2.117 In our SSMD⁷³, we said that the targets would determine the impact of pressure management and gas conditioning each year, by calculating a benchmark shrinkage volume to compare with actual shrinkage volumes. Within the BPDTs we set out the approach and requested the data. Based on Business Plans, and through further discussions with the GDNs, some clarifications may be required to ensure there is a consistent methodology for calculating these. We plan to continue working with the GDNs on this.

Incentive value

2.118 We propose that a cap/collar of $\pm 0.25\%$ of Base Revenue will apply to any rewards or penalties. Since the scope of this incentive is narrower than in RIIO-GD1 (due to its exclusion of repex-related reductions) we think this is an appropriate level. It provides appropriate protection to consumers, and GDNs, if the shrinkage impact of outturn pressure and conditioning levels differs significantly from forecast due to unanticipated external factors.

⁷³ Paragraph 3.29

Bespoke proposals related to shrinkage

2.119 Cadent, SGN and WWU proposed an incentive related to theft of gas which we propose to develop into a common approach to incentivise GDNs to undertake more proactive work in this area (see Chapter 4).

2.120 SGN proposed two PCDs to reduce shrinkage through minimising leakage during high-volume gas escapes, and remote pressure management. We have not accepted the former but accepted the latter as proposed see our SGN Annex.

Consultation questions

GDQ9. How should we set targets for the shrinkage financial incentive?

GDQ10. Do you have any views on what clarifications are needed to ensure a consistent method of calculating the benchmark shrinkage volumes?

GDQ11. Do you think a deadband should apply to the financial incentive? If so, please provide evidence as to how this could be quantified.

Environmental Action Plan and Annual Environmental Report

Environmental Action Plans and Annual Environment Report	
Purpose	To ensure that GDNs take responsibility for the environmental impacts arising from their networks and are more transparent on what they are doing to mitigate these.
Benefits	These mechanisms will support greater cross-sector consistency and environmental ambition from the companies.

Background

2.121 In our SSMD we adopted a cross-sectoral environmental framework requiring the GDNs to develop Environmental Action Plans (EAPs) as part of their RIIO-2 Business Plans.⁷⁴

2.122 In the Core Document we have set out the EAP framework, including the desire for companies to propose specific EAP Commitments. This section provides more detail on our consultation position on the GDNs' EAP proposals relating to:

- reducing business carbon footprint (BCF)
- sustainable resource use, recycling and waste

⁷⁴ SSMD Core Document, paragraph 3.10

- enhancing biodiversity and natural capital.

2.123 We are proposing that companies report on progress against all accepted EAP Commitments as part of their Annual Environmental Report (AER).

Consultation position

Output parameter	Consultation position
ODI-R for business carbon footprint (BCF) reduction	Introduce a common ODI-R for BCF reduction targets. GDNs to submit further information before September 2020 on their science based CO2e reduction targets for RIIO-2.
ODI-R for Shrinkage and environmental emissions	Include reporting for the ODI-R on shrinkage in the AER.
EAP commitments	<p>We propose to accept all of the GDNs' proposals with the following conditions or revisions for specific areas:</p> <p><i>Commercial fleet and charging infrastructure</i></p> <ul style="list-style-type: none"> • All GDNs to submit further information on their proposals and associated cost assumptions before September 2020, with a view to set a PCD. <p><i>Sustainable resource use recycling and waste</i></p> <ul style="list-style-type: none"> • Cadent to clarify their commitment to establish a target of 80% of suppliers (by value) meeting a sustainable procurement policy (supplier code). <p><i>Enhancing biodiversity and natural capital</i></p> <ul style="list-style-type: none"> • Our consultation positions on SGN's and WWU's bespoke proposals on land remediation are set out in the relevant company annexes. • Our consultation position on SGN's bespoke PCD on biodiversity enhancements is set out in our SGN Annex.
Other areas	<p><i>Decarbonisation of Heat - Biomethane</i></p> <ul style="list-style-type: none"> • Include progress on biomethane engagement and connections framework improvements in the AERs, alongside relevant connections data. <p><i>Climate change adaptation</i></p> <ul style="list-style-type: none"> • Not include reporting on climate change adaptation in the AER. • Our position on SGN's and NGN's bespoke proposals related to climate change adaptation are in the relevant company annexes.

Rationale for consultation position

2.124 We are consulting on accepting the vast majority of the GDNs' EAP Commitments, mostly without amendment, but there are several cases, in which we think that modifications are appropriate.

2.125 In a few cases, GDNs have requested funding for an EAP commitment. We propose to include the funding as part of the GDN's baseline allowance rather than specify a PCD. This is because the costs are insufficiently material, and we consider the reputational incentive of the AER to offer sufficient safeguard against the risk that a GDN does not deliver on the commitment.

2.126 We have also highlighted where there may be merit in particular initiatives but GDNs need to provide further information to justify the funding requests, and/or better specify the proposal. In the remainder of this section, we provide more detail on the GDNs' EAP proposals and the reasoning behind our consultation position.^{75 76}

Reducing business carbon footprint

Table 6: GDNs' proposals for science-based targets for reducing Business Carbon Footprint (BCF)

Network company	Proposals in GDN's EAPs
Cadent	Commitment of 26,750 tCO ₂ e (BCF) reduction by 2026 before offsetting (43.32% compared to 2021 ⁷⁷). (Excluding leakage) ODI-R to achieve Net Zero BCF by 2026 – (Excluding leakage)
SGN	Commitment for more than 25% reduction in Total Carbon Footprint (BCF + leakage) by 2026 compared to 2018/19. Commitment to Net Zero BCF by 2045 (including leakage).
NGN	ODI-R to achieve 52% reduction in BCF by 2026 compared to 2017/18. (Excluding leakage) Commitment of 28% reduction in scope 1 + 2 + 3 emissions by 2026 compared to 2017/18. Commitment to achieve Net Zero BCF by 2030/31 (Excluding leakage).
WWU	Commitment to achieve 63% reduction in BCF by 2034 compared to 2017/18. (Including leakage) Commitment to achieve Net Zero BCF by 2050. (Including leakage)

Note: GDNs' BCF targets cover scope 1 and 2 greenhouse gas emissions.⁷⁸

⁷⁵ The tables included in this section on the GDNs' EAP proposals are not an exhaustive list of all the initiatives that are included in the GDNs' EAPs. We have only included initiatives in each area that we consider are the most significant to highlight in our consultation position. If an EAP commitment is not listed in the table it can be taken as meaning that we are consulting on accepting these without amendment.

⁷⁶ For more detail on all of the initiatives included in the GDNs' EAPs: [Cadent's EAP](#), [SGN's EAP](#), [NGN's EAP](#) and [WWU's EAP](#).

⁷⁷ Our analysis of the plan has established this percentage target as Cadent did not specify this.

⁷⁸ Scope definitions are from the Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard. Scope 1 emissions are direct emissions from sources owned or controlled by the reporting company, eg emissions from company owned or operated boilers or vehicles. Scope 2 emissions are from the generation of purchased electricity (or other forms of imported energy or cooling). Scope 3 emissions are all the other indirect emissions which are related to the reporting company's activities, such as the embodied emissions of purchased goods and services, business travel in third-party owned vehicles.

2.127 As shown in Table 6, all GDNs have committed to science-based targets (SBT) for reducing their business carbon footprint (BCF) and have committed to achieving the various government Net Zero targets.⁷⁹ We propose to accept the GDNs' proposed BCF reduction targets because they are based on a robust and accepted methodology, and carbon reduction is in the interests of existing and future consumers.⁸⁰

2.128 In our SSMD, we said BCF reporting would no longer be a standalone reputational incentive as it is in RIIO-GD1.⁸¹ However, given companies have now proposed reduction targets (some as bespoke ODI-Rs), which are driven by actions broadly supported by their stakeholders, we think introducing a common ODI-R for BCF targets is appropriate. We want to see clear and consistent reporting of progress against BCF reduction targets in the AER. Carbon reduction is a priority for stakeholders and we think information on what companies are doing to achieve their targets should be easily accessible and comparable.

2.129 Companies presented their BCF reduction targets in different ways, such as the date they expect to achieve the reduction and whether this includes leakage. Ahead of Final Determinations⁸², we want companies to update their SBT to exclude leakage and present the expected reductions, on an annual basis, to the end of RIIO-2 (2025/26) compared to a year no earlier than 2017/18.⁸³

2.130 Leakage is a subset of losses under Shrinkage and is the largest contributor to GDNs' total BCF. Its reduction over RIIO-GD2 is largely driven by the repex programme, and will be measured under the Shrinkage and environmental emissions ODI-R (see previous section). Given its importance, we propose that progress under this ODI-R is also reported in the AER.

2.131 To achieve the target BCF reductions, GDNs all proposed actions to mitigate the main sources of their greenhouse gas emissions. These include:

- reducing emissions from building energy use
- reducing emissions from operational and business transport

⁷⁹ Scotland and England have targets to achieve Net Zero by 2045 and 2050, respectively. In June 2019, the Welsh government announced its ambition to bring forward a target to achieve Net Zero no later than 2050.

⁸⁰ A science based target for greenhouse gas emissions is consistent with what the latest climate science says is necessary to meet the goals of the Paris Agreement — to limit global warming to well below 2°C above pre-industrial levels and pursue efforts to limit warming to 1.5°C.

⁸¹ Paragraph 3.95

⁸² Before September 2020

⁸³ NGN is not required to provide an update on their SBT, as they have presented their targets as expected.

- reducing embodied carbon in new projects.

Table 7: Reducing emissions from building energy use

Company	Proposals in GDN's EAPs
Cadent	Commitment to reduce all utility energy consumption by at least 10% by 2024. Commitment to purchase 100% certified renewable energy by end of RIIO-2.
SGN	Bespoke PCD to install solar PV panels on 44 network sites and suitable profiling governor stations. Bespoke PCD to install energy efficiency measures at 14 sites. Commitment to purchase 100% certified renewable energy for beginning of RIIO-2.
NGN	Commitment to invest in on-site renewables and energy efficiency measures at offices and depots to deliver 10% reduction in electricity consumption by end of RIIO-2. Commitment to invest in energy efficient gas pre-heating systems at over 50 sites by end of RIIO-2. Commitment to purchase 100% certified renewable energy for RIIO-2.
WWU	Commitment to use on-site renewables where possible and to research and develop business case for investing in energy efficient measures. Commitment to purchase certified renewable energy where costs to consumers are not prohibitive.

2.132 We propose to accept all proposed EAP Commitments for reducing emissions from building energy use. We have included the associated, generally immaterial, costs in company baseline allowances.

Table 8: Reducing emissions from commercial fleet and business travel

Company	Proposals in GDN's EAPs
Cadent	<p>Business travel: Commitment to reduce emission intensity in business mileage by 15% over RIIO-2.</p> <p>Commercial fleet and charging infrastructure: Commitment to replace all First Call Operative (FCO) vehicles (30% of fleet) with electric vehicles by end of RIIO-2. Commitment to reduce commercial fleet emissions by more than 30% by end of RIIO-2. Commitment to install EV charging points at every office and depot site (approximately 175 points) by end of RIIO-2.</p>
SGN	<p>Business travel: Commitment to reduce emission intensity in business mileage by 780 tCO₂e over RIIO-2.</p> <p>Commercial fleet and charging infrastructure: Bespoke PCD to replace 50% of commercial fleet as ultra-low emission vehicles (ULEV)⁸⁴ by end of RIIO-2 including installation of charging points and an accelerated replacement of vehicles.</p>
NGN	<p>Business travel: Commitment to replace 100% of company cars to ULEV or hybrid by the end of RIIO-2.</p> <p>Commercial fleet and charging infrastructure: Commitment to replace at least 25% of commercial fleet to ULEV or hybrid by end of RIIO-2. Commitment to install EV charging points at every office and depot site by end of RIIO-2.</p>
WWU	<p>Business travel: Commitment to replace at least 75% of company cars to hybrid or ULEV by end of RIIO-2.</p> <p>Commercial fleet and charging infrastructure: Commitment to target zero emissions of commercial fleet by 2035.</p>

2.133 We welcome the GDNs' proposals to reduce carbon emissions caused by vehicle use. Network companies should be leading by example to convert their own fleets to low carbon alternatives.

Business travel

2.134 We propose to accept GDN's commitments. No GDN requested additional costs for converting their company cars, but all GDNs committed to reducing carbon emissions from company cars in RIIO-GD2. This will be driven by new business practices to cut car usage and/or moving to low carbon alternatives. We welcome this and expect efforts to be reported on as part of the AER.

⁸⁴ ULEV is the term used to describe any vehicle which uses low carbon technologies, emits less than 75g of CO₂/km from the tailpipe and is capable of operating in zero tailpipe emission mode for a range of at least ten miles.

Commercial fleet and charging infrastructure

Summary of Business Plans

2.135 Cadent, SGN and NGN requested additional costs for converting parts of their commercial fleet. WWU did not request additional costs, but committed to exploring a strategy to target zero emissions on their commercial fleet by 2035, as they are waiting until there is more certainty on market prices to deliver value for money for their consumers.

Consultation position

2.136 We are supportive of companies transitioning their commercial vehicles fleets where there is clear value for money for consumers and environmental benefits. However, given the variance of Business Plan proposals, we are unsure of the best approach for RIIO-GD2.

2.137 At this stage, we have included NGN's additional costs for its commercial fleet and charging infrastructure in its baseline allowance. They are relatively immaterial, and well justified.

2.138 For Cadent and SGN's commercial vehicles, when compared against NGN and across network companies in other sectors, their proposals appear to have significantly higher unit costs.⁸⁵ SGN also included costs for back-up vehicle purchases and early retirement of vehicles before the end of their asset life. We do not think that these are in the consumers' interests based on the evidence provided. We have therefore not provided funding for either company at this stage.

2.139 Given the variance in costs and approaches across GDNs, we think that it is prudent to ask all GDNs to provide additional information as part of their response to the Draft Determinations. We think it may be appropriate to establish a commercial vehicles PCD for all GDNs. A PCD could provide protection for consumers against the risk of delayed roll out of these vehicles, against well justified unit costs for the types of vehicles being replaced.

2.140 We have set out the cost/volume data below that we think is needed and will work with GDNs to identify any further information that may be required to reach a view by Final Determinations.

⁸⁵ Cadent estimates the capital cost of EV vans at around £70,000, resulting in around £51m additional costs.

2.141 For each commercial vehicle type proposed to be replaced, GDNs should set out on an annual basis from RIIO-GD1 to RIIO-GD2:

- Volumes of Internal Combustion (IC) vehicles and EV at the end of GD1, owned and leased.⁸⁶
- Volumes of IC and EV at each year end through RIIO-GD2 as part of baseline.
- Proposed incremental volumes of IC and EV at each year end through RIIO-GD2 in addition to baseline.
- Actual and forecast unit costs (2018/19 prices) for both IC and EV, each year, in RIIO-GD1 and RIIO-GD2.
- How the unit costs were derived and whether the company included potential savings from economies of scale etc.
- Whether IC vehicles are being replaced with EV earlier than they would otherwise have been. If so, set out average life of IC vehicles replaced.
- Similar but separate data for any supporting costs, eg charging infrastructure.
- How the above costs relate to opex and capex.

2.142 If GDNs fail to provide this information, we may consider alternative regulatory mechanisms to ensure that they look to decarbonise their fleet over RIIO-GD2 without additional funding.

⁸⁶ Internal Combustion engines are fuelled by petrol/diesel.

Table 9: Reducing embodied (embedded) carbon⁸⁷

Company	Proposals in GDN's EAPs
Cadent	Commitment to continue reporting on embedded carbon in pipes, fittings and contractor vehicles and extend this to include other indirect emissions in supply chain, with aim to set target to reduce this by 31 March 2021. Commitment to develop a methodology to measure and report carbon intensity of major construction projects, including change between design and delivery stage.
SGN	Commitment to establish baseline and target to reduce embedded carbon in new projects with a contract value >£20m. Commitment to measure embedded carbon across three main products: polyethylene (PE) pipes, concrete and asphalt, steel pipes and fittings. Commitment to identify an appropriate tool and methodology for measuring embedded carbon.
NGN	Commitment to identify an appropriate tool and methodology for measuring embodied carbon in key projects and establish baseline and reduction targets using this by end of RIIO-2.
WWU	Commitment to identify an appropriate tool and methodology for measuring embodied carbon and set key performance indicators for mains replacement, land management and capital delivery projects. Commitment to undertake whole life carbon assessment on projects to drive reductions.

2.143 Physical infrastructure assets are a significant source of the UK's carbon emissions.⁸⁸ If the UK is to achieve its Net Zero ambition, it is imperative that the whole life carbon of infrastructure assets, covering construction maintenance and decommissioning, is significantly reduced.

2.144 We welcome the GDNs' commitments to measure and target reductions in embodied carbon and are consulting on accepting these without amendment. Cadent is the only GDN to have proposed to establish a target to reduce embodied carbon emissions prior to the start of RIIO-GD2. We encourage other GDNs to strengthen their ambitions in this area by setting a target for reducing the amount of carbon embedded in new infrastructure during the course of RIIO-2.

⁸⁷ Embodied carbon is the carbon footprint of materials. It can be used to monitor the carbon footprint of constructing new infrastructure.

⁸⁸ The 2013 Infrastructure Carbon Review estimated that the total impact of infrastructure on UK carbon emissions is 53%. Infrastructure industries directly control 16% of the UK's total carbon emissions and have influence over a further 37%.

Sustainable resource use, recycling and waste**Table 10: Embedding circular economy principles and improving supply chain sustainability⁸⁹**

Company	Proposals in GDN's EAPs
Cadent	Commitment to embed circular economy principles into business processes and measure the success of outcomes. Commitment to establish a revised scope 3 emissions baseline that accounts for at least 80% of supply chain (by value) and establish targets to reduce this. Commitment to increase weighting on environmental standards in procurement processes.
SGN	Commitment to embed circular economy principles into business processes and measure the success of outcomes. Commitment to target 80% of suppliers (by value) to meet SGN's Sustainable Procurement Policy by 2026. Commitment to set KPIs and targets to improve supply chain performance on key sustainability themes.
NGN	Commitment to embed circular economy principles into business processes and measure the success of outcomes. Commitment to target 80% of suppliers (by value) to meet NGN's Sustainable Procurement Policy by 2026.
WWU	Commitment to embed circular economy principles into business processes and measure the success of outcomes. Commitment to target 80% of suppliers (by value) to meet WWU's Sustainable Procurement Policy by 2026. Increase minimum environmental standard procurement questions and increase weighting on this over RIIO-2. Commitment to retain ISO14001 accreditation.

2.145 Infrastructure businesses are resource intensive. There are good economic reasons for GDNs to improve the resource efficiency of their infrastructure assets and move to a more sustainable business model. Embedding environmental considerations into investment decisions can result in significant environmental improvements throughout the supply chain.

2.146 We welcome the GDNs' commitments and propose to accept these without amendment. This is because embedding circular economy principles into the business will help to reduce the whole life environmental impact of network infrastructure. It could also result in cost savings for consumers if GDNs realise the value of reusing, refurbishing or remanufacturing materials and components.

2.147 Cadent has committed to establishing a scope 3 emissions baseline that accounts for at least 80% of its supply chain (by value). We think this lacks clarity

⁸⁹ A circular economy is an economic system that trades products and services in closed loops or cycles. This is so they can re-enter the economy as much as possible, maximising their value and minimising waste.

compared with the other GDNs' commitments to target 80% of their suppliers meeting a sustainable procurement policy, in line with the BPG.⁹⁰ We expect Cadent to clarify this commitment as part of its response to Draft Determinations, to provide us with the necessary confidence that it has defined this EAP requirement.

2.148 All companies have ISO14001 accreditation, but only WWU proposed maintaining this as an EAP Commitment. We expect all companies to retain this accreditation in RIIO-2 and to clarify this in their response to this document.

Table 11: Resource use and waste

Company	Proposals in GDN's EAPs		
	Office and depot resource use and waste commitments	Aggregate use commitments ⁹¹	Zero avoidable waste to landfill commitments ⁹²
Cadent	Remove all single use plastics by end of 2019. Monitor and measure water use.	Less than 10% of backfill to be first use aggregate in North West and East of England. Target of 5% in West Midlands and North London.	Zero avoidable waste to landfill by 2021.
SGN	Zero office and depot waste to landfill by 2026.	None.	Zero avoidable waste to landfill by 2026.
NGN	Remove all single use plastics by 2026. Reduce paper use by 50% from 2017/18 baseline by 2026.	Reduce virgin aggregate to no greater than 2.5% per year by 2026.	Zero avoidable waste to landfill by 2026.
WWU	Eliminate single use plastics by 2022. Reduce paper consumption by 75% by 2026.	Increase use of recycled aggregate to greater than 20% by 2026.	Zero avoidable waste to landfill by 2035. Less than 20% sent to landfill by 2026.

2.149 As required in the BPG EAP minimum requirements, all GDNs have set time-bound targets for achieving zero waste to landfill. We welcome this, noting that waste reduction and recycling targets can have benefits through influencing project design, logistics and supply chain decisions as well as improving waste management and recycling considerations.

⁹⁰ BPG, Appendix 2. We said we expect companies to adopt high standards of environmental management in their supplier codes (procurement policies) and adopt a target of more than 80% of suppliers (by value) meeting the code in RIIO-2.

⁹¹ GDNs use aggregate to reinstate streetwork excavations. The aggregate used for backfilling can either be newly quarried ('virgin') or recycled materials. Recycled aggregate has environmental benefits over virgin material, including driving the circular economy.

⁹² 'Avoidable' waste excludes excavation spoil classified as hazardous waste, considered 'unavoidable' waste to landfill as it cannot feasibly be diverted.

2.150 We propose to accept all of the GDNs' proposals because it will reduce their environmental impact at minimal additional cost to consumers. SGN missed its RIIO-GD1 target for reducing virgin aggregate use and did not set a revised target for RIIO-GD2, unlike other GDNs. We also note WWU's ambition for aggregate use is weaker than other GDNs. We expect SGN and WWU to be more ambitious and propose stretching targets in this area for RIIO-GD2, to report on in the AER.

Enhancing biodiversity and natural capital

Table 12: Biodiversity and natural capital

Company	Proposals in GDN's EAPs
Cadent	Commitment to publish key site environmental enhancement plan before the start of RIIO-2 and update throughout and to undertake Wildlife Trust biodiversity benchmarking. EAP Commitment to use community fund to support environmental initiatives such as tree planting and habitat creation eg planting four trees for every one cut down.
SGN	Commitment to achieve no net biodiversity loss and target net gain by end of RIIO-2. PCD to undertake surveys and develop biodiversity improvement strategies at 153 sites. PCD to implement biodiversity enhancement measures and resurvey sites to monitor success.
NGN	Commitment to adopt a tool and methodology to measure net changes in ecosystem services from asset sites covering more than 0.5 hectares (maximum of 50 sites). Commitment to measure natural capital changes for key projects <£0.25m. PCD to continue land remediation programme managing 150 sites built on former gasworks. PCD to decontaminate and demolish 24 gas holders.
WWU	Commitment to adopt a tool and methodology to measure biodiversity and quantify contribution to ecosystem services from long term assets. Commitment to achieve natural capital net gain by 2050 and biodiversity net gain across all activities by 2039. Commitment to achieve no net biodiversity loss on designated projects within RIIO-2 and achieve biodiversity net gain on all projects from 2026. PCD to deliver 85 land management (remediation) outputs.

2.151 Many parts of the UK's natural environment are in decline.⁹³ In its 2020 annual report, the Natural Capital Committee said that an environmental census is urgently needed to assess fully the state of natural capital assets and measure progress towards the goals in the UK government's 25-year environmental plan.⁹⁴

⁹³ Sixth National Report to the UN Convention on biological diversity: overview of the UK assessments of progress for the Aichi Targets, March 2019, <http://data.jncc.gov.uk/data/527ff89f-5f6b-4e06-bde6-b823e0ddcb9a/UK-CBD-Overview-UKAssessmentsOfProgress-AichiTargets-web.pdf>

⁹⁴ Natural Capital Committee Annual Report, January 2020, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/858739/nc-c-annual-report-2020.pdf

2.152 In line with the EAP minimum requirements, all the GDNs, who are also significant landowners, have committed to measure and report on biodiversity and/or natural capital values in RIIO-GD2.

2.153 We propose to accept all the GDNs' EAP commitments in this area because there is evidence of stakeholder support for improvements. The measures will deliver environmental benefits at minimal additional cost to consumers. We have included SGN's proposals for biodiversity enhancements in their baseline allowance but not as a PCD, as they are well-justified, insufficiently material, and we consider the reputational incentive of the AER to offer sufficient safeguard against the risk that a GDN does not deliver on the commitment.

2.154 Both SGN and WWU proposed PCDs for land remediation and SGN included a PCD for gas holder demolition. We have included the costs for land remediation activity in company baseline allowances but not as PCDs, as there is a very limited risk of non-delivery. We are already setting a common PCD for gas holder demolition, making SGN's bespoke output redundant (see discussion later in this chapter).

Other: Decarbonisation of Heat – Biomethane and hydrogen

2.155 In our SSMD⁹⁵, we set out our expectations for GDNs to engage with biomethane stakeholders to improve connection processes and the provision of information in RIIO-GD2. We said biomethane connections data would be reported on as part of the AER, but did not require EAP commitments in this area.⁹⁶

2.156 In their Business Plans, GDNs committed to improving their stakeholder engagement with biomethane producers as well as the current connections processes to support biomethane enablement. This includes proposals:

- to establish targeted forums, workshops and panels to identify framework issues and best practice
- for GDNs to work together to standardise the biomethane connections methodology and process

2.157 Other areas of the RIIO-GD2 package supporting biomethane customers include:

- proposals to extend the connection quotation GSOPs to green gas enquiries, as part of WWU's and NGN's Business Plan proposals (see GSOP section).
- Cadent's ongoing charging review, considering the potential for the increased socialisation of costs for biomethane connections,⁹⁷ which, is part of our Heat

⁹⁵ Paragraph 3.6

⁹⁶ Connections (outcomes) data includes connection studies, connection requests and actual connections.

⁹⁷ https://cadentgas.com/ngqdwdev/media/Downloads/business-plan/APP_CAD_07-04-08-Entry-Capacity-Enablement.pdf

Policy re-opener, so the price control can respond if changes occur (see Chapter 4).

- Funding for SGN to rollout innovative technology to support increased biomethane injection.

2.158 Our position on GDN's bespoke proposals related to biomethane are discussed in company's respective annexes.

2.159 Though biomethane commitments were not required as part of the EAP, given the proposals GDNs have made, and stakeholder interest in this area, we propose progress related to the above is included in GDNs' AERs. We think this information will be valuable to biomethane stakeholders that may want to engage further with GDNs on these issues.

2.160 We propose to respond to decarbonisation of heat projects, including those related to green gases (such as hydrogen and biomethane), using our proposed innovation stimulus, Net Zero re-opener, and Heat Policy re-opener. Please see the following, for further details on:

- Chapter 10 of the Core Document, for details on our proposed innovation stimulus and Net Zero re-opener
- Chapter 4 of this document, for details on our proposed Heat Policy re-opener and our consultation position on decarbonisation of heat uncertainty mechanisms relating to hydrogen, included in company business plans.

Other: Climate change adaptation

2.161 Some GDNs included proposals for climate change adaption in their EAPs. We think this relates to maintaining a safe and resilient network and propose not to include these items in AER reporting. The additional environmental benefit (beyond mitigation of asset life risk) is not clear. Our position on SGN's bespoke PCDs is discussed in our SGN Annex.

Consultation questions

GDQ12. What are your views on our consultation position for the four GDNs' EAP proposals in RIIO-2 as set out in this document?

GDQ13. Do you agree with our consultation position to include progress on biomethane in GDN's AERs, alongside standard connections data?

GDQ14. Do you have any other comments in relation to this section?

Maintain a safe and resilient network

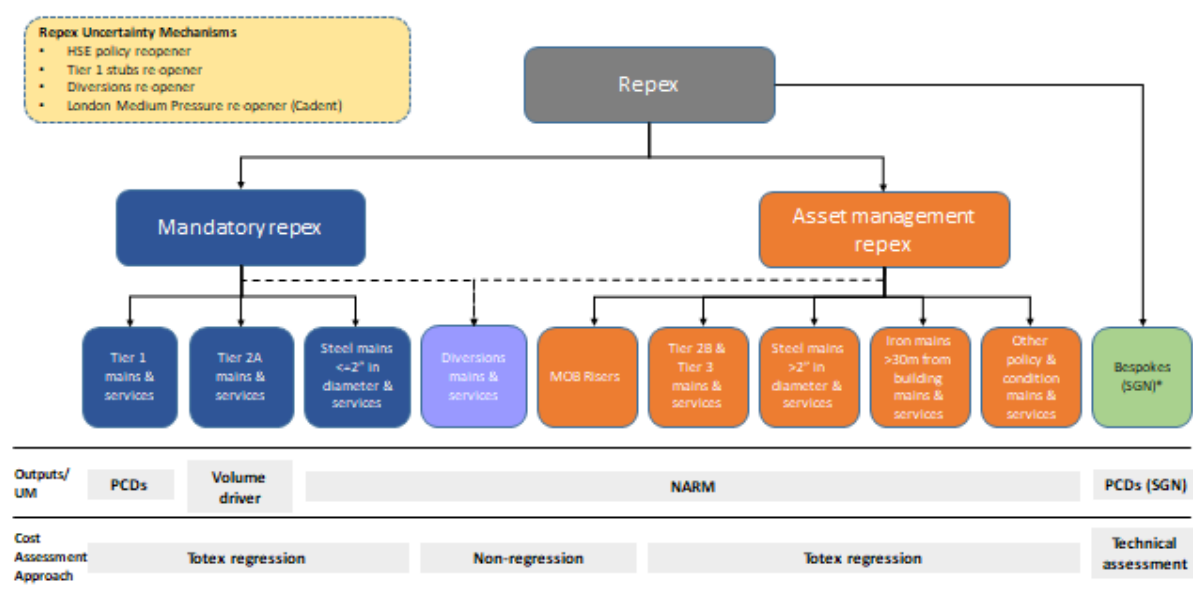
2.162 Our RIIO-2 Framework aims for companies to deliver a safe and resilient network that is efficient and responsive to change. We discuss our proposals for common outputs in this section.

Repex

2.163 Repex is the term we use to describe the long term programme of work to replace old and deteriorating metal mains and services with plastic pipes.⁹⁸ It is a large and complex programme and we have designed a suite of outputs and uncertainty mechanisms for RIIO-2 to support its delivery.

2.164 The diagram below provides an overview of our approach to outputs and cost assessment for each category of repex costs in RIIO-GD2.

Figure 4: Overview of our approach to repex in RIIO-GD2



* We have accepted two bespoke projects from SGN which were assessed under our technical assessment category.
Note: capitalised replacement costs have been included in the relevant category (ie Tier 1, Tier 2A etc).

Tier 1 PCDs for main and services

2.165 Tier 1 mains replacement and associated service interventions represent the largest share⁹⁹ of costs within repex. The scale of the Tier 1 replacement

⁹⁸ Repex also covers the replacement of risers supplying multi occupancy buildings (MOBs), which may be replaced with either plastic or steel pipes.

⁹⁹ Around 70% of submitted costs across the industry.

programme means there is a degree of uncertainty about the exact workload mix that will be delivered over RIIO-GD2.

2.166 For RIIO-GD2, we are implementing two PCDs for Tier 1 repex: Tier 1 mains PCD and Tier 1 services PCD. We have designed the PCDs to ensure alignment between workloads delivered and cost allowances. We think the proposed design provides the GDNs with flexibility to efficiently manage the programme, while ensuring that consumers only pay for the workloads that are delivered.

2.167 Both PCDs have the following general design characteristics:

- **Baseline Target Workload** – the workload volume that GDNs are expected deliver and on which the Baseline Cost Allowance is set. This incorporates the Baseline Workload Mix.
- **Baseline Workload Mix** – is the forecast mix of Workload Activities within the Baseline Target Workload.
- **Workload Activities** are defined by characteristics such as material type (ie cast & spun iron), physical characteristics of the assets (ie 3" in diameter) or type of activity (ie service relay).
- **Baseline Cost Allowance** - set through our totex modelling approach. Our approach to setting allowances is explained in more detail in Chapter 3 and the SBSG Annex.
- **Allowance Adjustment Mechanism** – the mechanism that is used to adjust allowances at close-out to reflect the Outturn Workload Mix based on ex ante unit costs.
- **Outturn Workload** – the total workload volume delivered at the end of RIIO-GD2.
- **Outturn Workload Mix** – is the final delivered mix of Workload Activities within the Outturn Workload at the end of RIIO-GD2.
- **Ex ante unit costs** – fixed upfront ('ex ante') unit costs for each Workload Activity.
- **Allowance Adjustment Restrictions** – specific conditions that restrict the amount by which allowances can be adjusted by placing restrictions on either allowance or workload variations.

2.168 The details of the Tier 1 mains and Tier 1 services PCDs are set out below.

Tier 1 mains replacement

Tier 1 Mains Replacement PCD	
Purpose	To fund Tier 1 iron mains decommissioning and replacement activities.
Benefits	Provides clarity over Baseline Target Workload for RIIO-GD2. The Allowance Adjustment Mechanism will ensure that costs to consumers reflect what is delivered (based on the Outturn Workload Mix), while maintaining an incentive for GDNs to deliver work efficiently.

Background

2.169 In our SSMD, we introduced a PCD for Tier 1 mains abandonment in RIIO-GD2,¹⁰⁰ and proposed:

- To set targets on total kilometres of Tier 1 iron mains abandoned over RIIO-GD2.
- Not to include a funded deadband around overall target volumes.
- To introduce a mechanism requiring networks to deliver a specific diameter band mix within Tier 1 (with some tolerance around each diameter band workload).
- Not to apply financial penalties or rewards:
 - We would include any over-delivery in the NARM, and not in the PCD.
 - We would adjust allowances down for any under-delivery.

2.170 We also committed to continue developing the PCD for Draft Determinations.

¹⁰⁰ Paragraphs 4.23-4.28

Consultation position

Output parameter	Consultation position
Baseline Target Workload	Deliver Baseline Target Workloads which are set out in the company annexes.
Expected timing of delivery	End of RIIO-GD2
Allowance Adjustment Mechanism	PCD will adjust the Baseline Cost Allowances to reflect the Outturn Workload Mix based on ex ante unit costs for mains decommissioned, subject to Allowance Adjustment Restrictions.
Workload Activities	We propose 12 categories of Workload Activities based on mains decommissioned, distinguishing between materials, diameter bands and type of activity. For mains decommissioned, we propose to distinguish between mains decommissioned and replaced with plastic ¹⁰¹ and mains decommissioned and not replaced.
Allowance Adjustment Restriction	We will restrict any upward adjustment to the Baseline Cost Allowance to 2% of this allowance. No lower limit on adjustments to the Baseline Cost Allowance, but we will require GDNs to submit an explanatory report if allowances are reduced by more than 2% of this allowance.
Delivery beyond the Allowance Adjustment Restriction	Over delivery beyond the 2% limit will be reflected in the NARM. No additional funding will be provided through the PCD.
Accountability mechanism	RRP

Rationale for consultation position

Establishing the Baseline Target Workload and Baseline Workload Mix

2.171 The PCD will apply to total kilometres of Tier 1 mains decommissioned.¹⁰² The level of the Baseline Target Workload for each network is established as part of our engineering and costs assessment review of RIIO-GD2 Business Plans. This process also determines the Baseline Workload Mix (see the company annexes for details).

Tier 1 repex Workload Activities

2.172 We propose that the Baseline Cost Allowance will be adjusted on the basis of mains decommissioned. This is a change to our previous discussions with GDNs,¹⁰³

¹⁰¹ Plastic mains are made from polyethylene (PE). Hereafter, we use plastic and PE interchangeably.

¹⁰² Plastic mains are made from polyethylene (PE). Hereafter, we use plastic and PE interchangeably.

¹⁰³ At the Repex Working Group on 11th March 2020

which focused on mains commissioned. We think that basing the Allowance Adjustment Mechanism on mains decommissioned is consistent with the HSE mandating a programme of decommissioning. It should also result in a simpler mechanism and maintains incentives for GDNs to optimise engineering design to deliver efficient projects.

2.173 To make the adjustment to the Baseline Cost Allowance, we propose using 12 Workload Activities, made up of three types of mains decommissioning activity, each divided into four diameter band sizes.

2.174 The three types of activity are:

- decommissioned and not replaced
- decommissioned and replaced with polyethylene (PE) – Cast/Spun Iron: Low and Medium Pressure
- decommissioned and replaced with PE – Ductile Iron: Low Pressure.

2.175 The four diameter band sizes of the decommissioned mains are:

- A: Less than or equal to 3"
- B: 4" to 5" (inclusive)
- C: 6" to 7" (inclusive)
- D: 8"

2.176 For each of the 12 Workload Activities, we will calculate an ex ante unit cost (see below) which will be fixed during RIIO-GD2. This ensures that GDNs are incentivised to deliver each Workload Activity at an efficient cost, with any outperformance shared through the TIM.

Establishing the Baseline Cost Allowance

2.177 The Baseline Target Workloads are used to calculate the Baseline Cost Allowance, as part of our overall totex modelling approach¹⁰⁴ (see Chapter 3). The specific Baseline Target Workload and Baseline Cost Allowances are in the company annexes.

¹⁰⁴ Baseline Target Allowances are an input into the overall top-down totex modelling process. We do not use Baseline Target Workloads to calculate Baseline Cost Allowances on a bottom-up basis.

Establishing the unit costs for each Workload Activity

2.178 We propose to set unit costs for each distribution network across the 12 Workload Activities, expressed in £/km mains decommissioned. Our preferred approach is to calculate the industry average unit costs for each activity, and adjust for regional factors, to derive distribution network-specific unit costs. These unit costs would be used to adjust the Baseline Cost Allowance at the end of RIIO-GD2. We think that using industry average unit costs (plus regional factors) is appropriate, as Tier 1 mains replacement is a high volume, repeatable activity that is common across all GDNs.

2.179 We also propose to use the same methodology to calculate unit costs for Tier 1 services as we use for Tier 1 mains.

2.180 Our proposed approach requires the GDNs to provide clarifications to their submitted cost and workload data provided in their RIIO-GD2 BPDTs. We have recently requested this clarificatory data.¹⁰⁵

2.181 We have also asked for data on 'mains decommissioned and not replaced' as we think that the costs could be substantially lower compared to 'decommission and replace with PE' which is the basis of the data we received in the Business Plans.

2.182 If we cannot make robust estimates of the costs for 'decommissioned and not replaced', we propose to use a percentage of the relevant average 'decommission and replace with PE' unit costs per diameter band, and think a figure in the 10-30% range could be appropriate. This will provide an incentive for companies to undertake decommissioning only activity where possible saving consumers money.

2.183 Depending on the quality of data received, we may also consider alternative design options, including revising the 12 Workload Activities set out above, or reverting to making adjustments to the Baseline Cost Allowance on the basis of mains commissioned.

Allowance Adjustment Mechanism

2.184 The Allowance Adjustment Mechanism will automatically adjust Baseline Cost Allowances at RIIO-GD2 close-out, reflecting the variance between the Baseline Workload Mix and Outturn Workload Mix at the end of RIIO-GD2. These

¹⁰⁵ Our data clarification supplementary question (SQ) was sent to the GDNs on 17 June with a deadline of 8 July.

adjustments will be made using ex ante unit costs for each of the 12 Workload Activities. Summing the resulting differences gives an overall adjustment value, subject to any Allowance Adjustment Restrictions (discussed below). Table 13 gives a worked example.

Table 13: Worked example of the Allowance Adjustment Mechanism for the Tier 1 mains PCD (covering one of the three work types)

Workload Activities		Baseline Workload Mix (km)	Allowance adjustment mechanism			
Activity	Diameter band		Outturn Workload Mix (km)	Difference from Baseline	Ex ante unit costs (£m/km)	Adjustment value (£m)
Decommission and Replace: Cast/Spun Iron Low/Med Pressure	A: ≤3"	50	50	0	0.10	0
	B: 4"-5"	800	700	-100	0.13	-13
	C: 6"-7"	600	650	50	0.20	10
	D: 8"	400	450	50	0.25	12.5
Decommission and Replace: Ductile Iron Low Pressure	A: ≤3"	25	50	25	0.12	3
	B: 4"-5"	400	375	-25	0.15	-3.75
	C: 6"-7"	300	250	-50	0.22	-11
	D: 8"	200	250	50	0.27	13.5
Decommission and Not Replace (all materials/pressures)	A: ≤3"	3	3	0	0.02	0
	B: 4"-5"	40	35	-5	0.03	-0.13
	C: 6"-7"	30	35	5	0.04	0.2
	D: 8"	20	20	0	0.05	0
Baseline Target Workload		2,868	Outturn Workload	2,868	Total adjustment	11.32

Outturn Workload Mix

2.185 The Outturn Workload Mix is determined by the workloads the GDNs report as part of their RIIO-GD2 Regulatory Reporting Packs (RRPs). It will be based on total reported workloads over RIIO-GD2 for each of the Workload Activities.

Allowance Adjustment Restrictions

Table 14: Summary of the Allowance Adjustment Restrictions that will apply

	Over delivery	Under delivery
Baseline Target Workload	No funding above target through PCD	<ul style="list-style-type: none"> No limit to downward adjustments (whether related to Outturn Workload or Outturn Workload Mix) Reputational penalty applies to downward adjustments >2% of Baseline Cost Allowance
Baseline Cost Allowance	Upward adjustments limited to 2%	

2.186 We will not fund delivery of Outturn Workload beyond the Baseline Target Workload through the PCD at close-out. However, the monetised risk scores for any over delivered workloads (Outturn Workload exceeding Baseline Target Workload) will be included in the assessment of each GDN's overall NARM delivery and subject to the rules around risk trading within the NARM. Any volume allocated to the NARM will reflect the Outturn Workload Mix. See the NARM Annex for further detail on the mechanism for risk trading.

2.187 We will restrict any upwards adjustments to Baseline Cost Allowances to 2% of this allowance. This protects the interests of consumers, as they will not pay for significant increases in costs from changes to the Baseline Workload Mix. It provides some flexibility to the GDNs recognising that the Baseline Workload Mix is difficult to forecast.

2.188 If Outturn Workload is below the GDN's Baseline Target Workload, the Baseline Costs Allowance will be reduced to reflect the volume of work delivered. We will not apply a financial penalty, although under delivery will be taken into account when applying the 2% lower threshold (see next paragraph). Should the GDNs fail to comply with their decommissioning programmes approved under HSE's Iron Mains Risk Reduction Programme (IMRRP) then HSE will consider appropriate enforcement action.¹⁰⁶

2.189 We will not limit the value of downward adjustments to the Baseline Cost Allowances. However, if a GDN's outturn spending for RIIO-GD2 is more than 2% below the Baseline Cost Allowance, we will require the relevant GDN to submit a report to us setting out:

- why the work mix has diverged substantially from forecasts
- the impact on consumers
- the impact on workloads and costs in the next price control period.

2.190 We think the report is appropriate because we want to ensure that GDNs deliver a broadly consistent workload mix over the remainder of the programme, which is due to be finished in 2032. Should they fail to provide sufficient justification, we

¹⁰⁶ In line with its published enforcement policy statement

may consider whether this should be taken into account when setting allowances and targets for RIIO-GD3.

Additional data requirements and further engagement

2.191 Our proposed approach for calculating both the Tier 1 mains PCD and the Tier 2A volume driver mains unit costs used to adjust allowances requires the GDNs to provide additional data to clarify the data already provided in Business Plans, by providing costs on the basis of mains decommissioned.

2.192 Using this additional data, we will finalise the methodology for estimating the ex ante unit costs to be used to adjust allowances at RIIO-GD2 close-out under the Tier 1 mains PCD, the Tier 1 services PCD and the Tier 2A volume driver. We will continue to lead open engagement with stakeholders, including through regular working groups, to finalise the methodology ahead of Final Determinations.

Consultation questions

GDQ15. What are your views on the proposed set of Workload Activities for the Tier 1 mains replacement PCD?

GDQ16. What are your views on our proposal to adjust allowances for the Tier 1 mains replacement PCD on the basis of mains decommissioned?

GDQ17. What are your views on our proposed approach to setting unit costs for the Tier 1 mains replacement PCD?

GDQ18. What are your views on our proposed Allowance Adjustment Mechanism and Allowance Adjustment Restrictions for the Tier 1 mains replacement PCD?

Tier 1 services PCD

Tier 1 Services PCD	
Purpose	To fund services interventions associated with Tier 1 mains decommissioning activities.
Benefits	Provides clarity over Baseline Target Workload for RIIO-GD2. The Allowance Adjustment Mechanism will ensure that costs to consumers reflect what is delivered (based on the Outturn Workload Mix), while maintaining an incentive for GDNs to deliver work efficiently.

Background

2.193 GDNs carry out interventions on Tier 1 services during the decommissioning of Tier 1 mains, either transferring existing plastic services to replacement mains, or

relaying old steel services with new plastic ones.¹⁰⁷ In our SSMD, we decided to postpone a decision on our approach to Tier 1 services until we had reviewed the network companies' BPDTs. We noted several options including a PCD, a volume driver, and including this workload as part of the NARM.

2.194 Following submission of the BPDTs, we engaged CEPA to produce an independent report (see Services Policy Annex) to consider the options in our SSMD. CEPA used an assessment framework to score each option against criteria. CEPA's recommended option was for a PCD target with a funded deadband.

Consultation position

Output parameter	Consultation position
Baseline Target Workload	Deliver Baseline Target Workloads, which are set out in the company annexes.
Expected timing of delivery	End of RIIO-GD2
Allowance Adjustment Mechanism	PCD will adjust the Baseline Cost Allowance to reflect the Outturn Workload and the Outturn Workload Mix based on ex ante unit costs for service interventions, subject to Allowance Adjustment Restrictions.
Workload Activities	We propose four categories of Workload Activities based on services intervention, distinguishing between type of activity (relays and test & transfer) and type of property (domestic and non-domestic).
Allowance Adjustment Restriction	We will not fund any Outturn Workload which exceeds 10% above Baseline Target Workloads. No lower limit on funding adjustments to Baseline Cost Allowances, but Outturn Workload variances more than 10% below the Baseline Target Workloads will require an explanatory report.
Delivery beyond the Allowance Adjustment Restriction	Over delivery beyond the 10% limit will be reflected in the NARM. No additional funding will be provided through the PCD.
Accountability mechanism	RRP

Rationale for consultation position

2.195 We have carefully considered CEPA's report and agree with its assessment that a PCD with a form of a funded deadband is the best option. This is because:

¹⁰⁷ The GDNs are expected by the HSE to replace non-PE services when the parent iron mains are decommissioned and replaced with PE.

- It aligns with the funding and incentive structure for the Tier 1 mains PCD. Since Tier 1 service workloads are driven directly by mains replacement workloads, we think it is important to align the respective outputs.¹⁰⁸
- It will create clarity of expectations for GDNs' delivery of Baseline Target Workloads, but with sufficient flexibility to account for natural variations observed in Outturn Workload Mix.

Establishing the Baseline Target Workload and Baseline Workload Mix

2.196 The PCD will apply to the total number of Tier 1 service interventions.¹⁰⁹ The level of the Baseline Target Workload for each network is established as part of our engineering and costs assessment review of RIIO-GD2 Business Plans. This process also determines the Baseline Workload Mix (see the company annexes for details).

Tier 1 services Workload Activities

2.197 To make the adjustment to the Baseline Cost Allowance, we propose using four Workload Activities. These are:

- service relays (domestic properties)
- service relays (non-domestic properties)
- service test and transfer (domestic properties)
- service test and transfer (non-domestic properties).

2.198 For each of the four Workload Activities, we will calculate an ex ante unit cost (see below for how we will do this) which will be fixed during RIIO-GD2. This ensures that GDNs are incentivised to deliver each Workload Activity at an efficient cost, with any outperformance shared through the TIM.

Establishing the Baseline Cost Allowance

2.199 The Baseline Target Workloads are used to calculate the Baseline Cost Allowance, as part of our overall totex modelling approach¹¹⁰ (see Chapter 3). The specific Baseline Target Workloads and Baseline Cost Allowances are in the company annexes.

¹⁰⁸ Similarly, we propose the Tier 2A volume driver will account for services, while services associated with other mains replacement activities and services not associated with mains replacement will be included within the NARM.

¹⁰⁹ Excludes steel mains ≤ 2 " in diameter

¹¹⁰ Baseline Target Allowances are an input into the overall top-down totex modelling process. We do not use Baseline Target Workloads to calculate Baseline Cost Allowances on a bottom-up basis.

Establishing the unit cost for each Workload Activity

2.200 We propose to set unit costs for each distribution network across the four Workload Activities, expressed in £/service. Our preferred approach is to calculate the industry average unit costs for each activity, and adjust for regional factors, to derive distribution network-specific unit costs. These unit costs would be used to adjust the Baseline Cost Allowance at the end of RIIO-GD2. We think that using industry average unit costs (plus regional factors) is appropriate, as Tier 1 service interventions are high volume, repeatable workloads that are common across all GDNs.

2.201 Please see the Tier 1 mains replacement section for further discussion of our proposed common approach to calculating unit costs.

Allowance Adjustment Mechanism

2.202 The Allowance Adjustment Mechanism will automatically make adjustments to the Baseline Cost Allowance at RIIO-GD2 close-out, reflecting variances between the Baseline Target Workload and the Outturn Workload and, the Baseline Workload Mix and Outturn Workload Mix at the end of RIIO-GD2. These adjustments will be made using ex ante unit costs for each of the 4 Workload Activities. Summing the resulting differences gives an overall adjustment value, subject to any Allowance Adjustment Restrictions (discussed below). Table 15 gives a worked example.

Table 15: Worked example of the Allowance Adjustment Mechanism for the Tier 1 services PCD

Workload Activities		Baseline Workload Mix (interventions)	Allowance adjustment mechanism				
Activity type	Property type		Outturn Workload Mix (interventions)	Difference from Baseline	Unit cost (£/intervention)	Value (£m) (Unit cost * Workload difference)	
Relay	Domestic		110,000	105,000	-5,000	750	3.75
Test & Transfer	Domestic		130,000	150,000	20,000	550	11.00
Relay	Non-domestic		250	350	100	800	0.08
Test & Transfer	Non-domestic	750	850	100	600	0.06	
		241,000	256,200	15,200	7.39		
		% Workload Variance	6%	(Variance <10% so adjustment applied in full)			

Outturn Workload Mix

2.203 The Outturn Workload Mix is determined by the workloads the GDNs report as part of their RIIO-GD2 Regulatory Reporting Packs (RRPs). It will be based on total reported workloads over RIIO-GD2 for each of the Workload Activities.

Allowance Adjustment Restrictions

2.204 For Tier 1 services, we are basing Allowance Adjustment Restrictions on the total number of service interventions delivered, rather than the costs associated with these service interventions. Total service interventions workloads are driven by Tier 1 mains replacement activities and, therefore, can vary depending on the characteristics of Tier 1 projects. Additionally, the mix of relay to test and transfer will also vary project-by-project. Given these uncertainties, we think it is appropriate to restrict variances in the Outturn Workload, rather than the value of allowance adjustments.

2.205 The Allowance Adjustment Mechanism will restrict over delivery of Outturn Workload to 10% above Base Target Workload. Any over delivery beyond this will not be funded through the PCD, but the associated monetised risk scores will be included in the assessment of the GDN's overall NARM delivery and subject to the rules around risk trading within the NARM. Any volume allocated to the NARM will reflect the average mix of work in the Outturn Workload Mix.

2.206 We will not place a lower limit on allowance adjustments relating to under delivery against the Baseline Target Workloads. However, if the Outturn Workload is not within 10% of the Baseline Workload Target (ie at least 90% of the Baseline Target Workloads), then we will request an explanatory report to be provided. We think the report is appropriate because we want to ensure that GDNs deliver a broadly consistent workload mix over the remainder of the programme, which is due to be finished in 2032. Should they fail to provide sufficient justification, we may consider whether this should be taken into account when setting allowances and targets for RIIO-GD3.

Consultation questions

GDQ19. What are your views on our proposed Workload Activities for the Tier 1 services PCD?

GDQ20. What are your views on our proposed approach to setting unit costs for the Tier 1 services PCD?

GDQ21. What are your views on our proposed Allowance Adjustment Mechanism and Allowance Adjustment Restrictions for the Tier 1 services PCD?

Gas Holder demolitions

Gas Holder demolitions	
Purpose	To ensure gas holders are decommissioned in a timely and cost-efficient way.
Benefits	Removes ongoing maintenance costs associated with these redundant assets.

Background

2.207 In our SSMD, we decided to introduce a PCD for gas holders based on each GDN's Gas Holder Strategy.¹¹¹ We expect that GDNs will have no gas holders on their networks by end of RIIO-GD2.

2.208 In their Gas Holder Strategies, SGN, NGN and WWU stated their aim to have no gas holders on their networks. SGN aims to complete this during RIIO-GD1 while NGN and WWU will complete this by the end of RIIO-GD2.

2.209 Cadent has already transferred its gas holders to a non-regulated company along with the responsibility for maintaining them to HSE requirements.

2.210 Some structures will remain due to listed building status and these will require ongoing maintenance to remain compliant with health and safety regulations.

Consultation position

Output parameter	Consultation position
Proposed approach to allowance clawback	A mechanism to return money to customers for any gas holder not demolished, excepting those with listed building status. The return mechanism will cover all gas holders not demolished by the end of the price control, including those that were due for demolition in RIIO-GD1.

Rationale for consultation position

2.211 Using a return mechanism covering both RIIO-GD1 and RIIO-GD2 will ensure that any under-delivery over both price controls will result in funds being returned to

¹¹¹ Paragraph 4.83

customers. As the original programme was set to be delivered over two price controls we will not recoup any funding as part of our RIIO-GD1 close out.

2.212 Section 3.156 details our cost assessment approach for gas holder demolitions including our proposal for the unit rate.

Network Asset Risk Metric

Network Asset Risk Metric (NARM)	
Purpose	To set outputs relating to the replacement and refurbishment of network assets and link them to a funding adjustment and penalty mechanism. Full details can be found in the NARM Annex.
Benefits	Ensures that network companies manage their existing network assets appropriately and maintain the risk of asset failure within acceptable bounds.

2.213 Network asset risk relates to the consequence of failure of a network asset and the likelihood of a failure occurring. If a network company does not maintain, replace, or refurbish its assets, the likelihood of them failing will generally increase over time, and so will the risk of the consequence of failure materialising. To keep network asset risk within reasonable bounds, gas and electricity network companies are funded to carry out asset management activities such as replacement or refurbishment.

2.214 The NARM has been developed to allow us to quantify the benefit to consumers of the companies' asset management activities. In RIIO-2, this will be used as the output to hold the companies accountable for their investment decisions.

2.215 Our Draft Determinations for NARM (full details in 'Draft Determinations – NARM Annex') sets out the proposed:

- the outputs to be associated with the relevant baseline allowances
- our proposed PCD mechanism for adjusting the baseline allowances,
- the ODI-F, applying a penalty in certain delivery scenarios.

Capital projects

Capital projects PCD	
Purpose	To hold companies to account for the delivery of specifically funded capital investments.
Benefits	To protect consumers in the event that any funded discrete capital investment is not delivered as planned.

Background

2.216 GDNs submitted a number of discrete capex investment proposals in their Business Plans and for some investments, we propose to allow specific funding based on our assessment of the scope and justification provided.

2.217 We stated in our SSMD Core Document that we will use PCDs to capture outputs that are directly funded through the price control and where the funding provided is not transferrable to a different output or project.¹¹² Among the investments proposed, we received a bespoke UM proposal from NGN for its TransPennine Rail Electrification project.

Approach to GD assessment

2.218 The capex section under technically assessed costs in Chapter 3 contains further detail on our proposed approach to establishing this PCD. We have also assessed our proposed PCD against the criteria for bespoke outputs in our BPG.

Consultation position

Output parameter	Consultation position
Description and purpose of the deliverable	Common PCD with company-specific project listings to recover funds for customers in the event of failure to deliver projects in line with agreed specifications. We have set out our proposed list of projects for inclusion in each PCD in the company annexes.
Delivery	Fully delivered.
Expected timing of delivery	End of RIIO-GD2.
Accountability mechanism	Independently audited engineering report confirming the completion of each project as specified in the Business Plan.
Proposed approach to allowance clawback	Automatic adjustment using ex-ante project costs to clawback 100% of funding for full or partial non-delivery.

¹¹² SSMD Core Document, paragraph 4.23

Rationale for consultation position

- 2.219 Description and purpose: We propose to allow £267m of capital investments across all GDNs as part of this PCD. We consider that customers should be protected if GDNs do not deliver these specific projects in line with agreed specifications and a PCD mechanism enables funds to be returned to customers in this event. We think that a common PCD is appropriate because the discrete nature of these capital investments is consistent across the sector.
- 2.220 Expected timing of delivery: We consider that each investment must be delivered in-full by the end of RIIO-GD2 as proposed by the GDNs.
- 2.221 Delivery: We expect these investments to be delivered in full, prior to the end of RIIO-GD2, as per each investment's Engineering Justification Paper (EJP) in order to retain the allowed funding. Failure to deliver an investment in line with these agreed specifications will result in the full cost of the investment being recovered, as will partial or late delivery unless we receive compelling justification.
- 2.222 Accountability mechanism: Each investment for each GDN has a custom engineering specification. Therefore, we propose a common deliverable that evidences the delivery of each investment to the level specified in the EJPs. We may need to work with companies to confirm the deliverables for each investment prior to the start of RIIO-2.
- 2.223 Proposed approach to allowance clawback: To align with the proposal for full delivery or non-delivery, we consider that any late, partial or non-delivery should return 100% of funding to consumers.
- 2.224 We assessed NGN's proposed PCD for the TransPennine Rail Electrification project and have included it within this proposal.
- 2.225 We have set out our proposed list of projects for inclusion in each PCD in the company annexes.

Consultation questions

- GDQ22. What are your views on our proposal for a common PCD for capital investments?
- GDQ23. What are your views on our proposals for delivery, clawback and deliverables for the capital projects PCD?

Other policy areas

Physical security

Physical security	
Purpose	Ensure network companies maintain, or enhance, physical security at Critical National Infrastructure (CNI) sites.
Benefits	Compliance with government policy to meet security standards.

Background

2.226 Network companies own assets and sites that are designated as CNI. The Secretary of State has initiated the Physical Security Upgrade Programme (PSUP), a BEIS-led national programme to enhance physical security at CNI sites.

2.227 The level of security at each site and the type of solution required is determined through the PSUP and must adhere to BEIS PSUP Guidance Document and Centre for the Protection of National Infrastructure (CPNI) High Level Security principles (both confidential).

2.228 In our SSMD, we decided to use a PCD for the PSUP and stated that we would also consider baseline allowances for totex.

2.229 Cadent and SGN submitted baseline totex requests in their business plans. We describe our cost assessment approach in Chapter 3 of this annex and set out our proposed baseline totex allowances in the company annexes.

Consultation position

Approach	Consultation position
Baseline allowance, no PCD	Provide baseline funding for physical security to retain compliance with government policy. We no longer think that linking physical security costs to a PCD is necessary.

Rationale for consultation position

2.230 We acknowledge that we set cross-sector PCD for PSUP in our SSMD. However we received a range of submissions in the network company business plans, both in terms of scope and scale.

2.231 The GD sector was at the lower end of the scale compared to transmission.¹¹³

SGN's submitted costs covered PSUP sites, whereas Cadent submitted both PSUP and non-PSUP costs. Our cost assessment found Cadent and SGN had sufficiently justified their submitted £4m and £2m of PSUP capex, respectively. .

2.232 We consider that the low materiality of costs across all GDNs combined with the mandatory PSUP and existing governance frameworks, mean there is a low risk to customers of non-delivery.

2.233 As a result, we propose to remove the physical security PCD for the GD sector. Instead we provide the funding as part of our proposed baseline totex for Cadent and SGN.

2.234 In our SSMD, we also decided to have a physical security re-opener (further details on how it will work are set out in Chapter 7 of our Core Document). We are confident that this will address any variations in PSUP investment as a result of changes in government policy.

Consultation questions

GDQ24. Do you agree with our approach for funding physical security for the GD sector? And do you agree that in light of the proposed baseline totex that the physical security PCD is no longer required for the GD sector?

NTS exit capacity

NTS exit capacity	
Purpose	To encourage GDNs to book NTS exit capacity efficiently.
Benefits	Efficient capacity booking optimises use of existing capacity and minimises the risk of redundant network reinforcement.

Background

2.235 In RIIO-GD1 we used an ODI-F to incentivise GDNs to make efficient exit capacity bookings, either by reducing total volumes or by booking from less constrained offtakes.

¹¹³ In transmission both National Grid Gas and National Grid Electricity submitted PSUP costs greater than £20m.

2.236 An interaction between the RIIO-GD1 ODI-F and Uniform Network Code (UNC) Modification 678 prevented us from making a decision on the ODI-F at SSMD. Following a minded-to decision on UNC678,¹¹⁴ we issued a consultation in February 2020 on the approach to exit capacity in RIIO-GD2, and proposed removing the ODI-F,¹¹⁵ because:

- under UNC678, exit capacity prices will no longer reflect levels of spare capacity, meaning the current incentive will cease to work in the way in which it was designed
- the NTS now operates with significant levels of spare capacity on aggregate
- the rewards and penalties associated with the existing incentive are not directly linked to the benefits seen by consumers.

2.237 In our consultation, we set out the option of using enhanced obligations to maintain efficient exit capacity bookings.

Responses¹¹⁶

2.238 The majority of responders, including two GDNs, agreed that UNC678 will invalidate the current approach, and an ODI-F would be inappropriate for RIIO-GD2. The other two GDNs argued that the RIIO-GD1 incentive could be modified to deliver value for consumers.

2.239 On the potential benefits of a new ODI-F, there was general agreement that the NTS system overall is not capacity constrained. However, some noted that, where localised constraints exist, they should be incentivised to manage them. Another benefit identified was that incentives help free up capacity for other users such as power stations. Several respondents noted that whatever replaced the RIIO-GD1 ODI should take whole system impacts into account.

2.240 There were mixed opinions on creating enhanced obligations. Some respondents expressed concern about the risk of constraining interaction between networks, and adding complexity. Ideas for obligations included comparing capacity bookings with peak demand forecasts, and publishing an annual report. One respondent

¹¹⁴ On 28 May 2020, the Authority approved modification proposal UNC678A: 'Amendments to Gas Charging Regime (Postage Stamp)', <https://www.ofgem.gov.uk/publications-and-updates/amendments-gas-transmission-charging-regime-decision-and-final-impact-assessment-unc678abcdefghij>

¹¹⁵ RIIO-2 NTS exit capacity incentive consultation, <https://www.ofgem.gov.uk/publications-and-updates/riio-2-nts-exit-capacity-incentive-consultation>

¹¹⁶ We have published these responses on our website at <https://www.ofgem.gov.uk/publications-and-updates/riio-2-nts-exit-capacity-incentive-consultation>

stressed that it would be inappropriate to introduce a subjective assessment of booking efficiency.

Decision on February 2020 consultation

2.241 We have decided to remove the existing incentive mechanism and not to set an exit capacity output in RIIO-GD2. There are three reasons for this:

- We consider that GDNs' improvements in booking efficiency made (and rewarded) in RIIO-GD1 should endure without the need for an ongoing financial incentive.
- We have not seen a convincing explanation of how the current incentive could remain viable under UNC678, or how the design of a new or amended incentive could work. UNC678 creates a challenge in designing a replacement financial incentive, as the uniform charging methodology removes the prices signals for spare capacity, meaning there is no clear way of calibrating rewards against consumer value delivered.
- We do not think it is feasible to design a robust replacement financial incentive now, given that NGGT and other stakeholders have recently launched a wide-ranging review of the principles and long-term strategy for the NTS capacity access regime.¹¹⁷

2.242 However, we note stakeholders' views on the importance of whole system impacts being factored into booking strategies, and the role played by the current incentive in helping to keep capacity available for use, as required by other parties. Consequently, we think there would be a risk in relying purely on existing legislative and licence obligations.

Consultation position

Parameter	Consultation position
Booking processes	Introduce enhanced obligations relating to exit capacity booking (GDNs and National Grid Gas Transmission (NGGT)).
Cost treatment	Create a separate mechanism for the pass through of exit capacity costs (GDNs only) (See Chapter 4 for our treatment of pass-through costs).

¹¹⁷ The NTS Capacity Access Review. See <https://gasgovernance.co.uk/0705>

Enhanced obligations framework

2.243 We propose to introduce an enhanced obligations framework, covering both GDNs and NGGT with the following objectives:

- GDNs' booking processes should be efficient.¹¹⁸
- The National Transmission System (NTS) and GDNs should be provided with the information necessary to make appropriate investment decisions.

2.244 We think this framework should be made up of the following building blocks:

- **Methodology:** including for establishing GDNs' 1-in-20 peak demand forecasts¹¹⁹ and how these forecasts inform required capacity and pressure bookings.
- **Engagement:** including how and when GDNs engage NGGT and other stakeholders to maximise booking efficiency across the gas system.
- **Reporting:** annually on booking methodology, stakeholder engagement, decision-making and data to demonstrate efficient booking outcomes.

2.245 These building blocks will allow us to define requirements that ensure GDNs have a transparent and consistent methodology for forecasting and booking, and that the GDNs and NGGT follow a collaborative approach to optimise use of existing capacity and to take account of whole gas system impacts.

2.246 The GDNs and NGGT already undertake some of the tasks outlined above to varying degrees. Other tasks may be new. Formalising requirements through our enhanced obligations framework will help to ensure consistency across the industry.

2.247 For the framework to function effectively, NGGT will need to be transparent in its planning and forecasting, and engage fully with the GDNs. We are proposing counterpart obligations for NGGT, which are set out in the GT Annex.

2.248 We propose a new licence obligation requiring the GDNs and NGGT to publish an annual report setting out how they have complied with our requirements for efficient booking. We will publish an accompanying guidance document setting out what must be included in the report. We plan to work with the GDNs, NGGT and other interested stakeholders to develop our guidance over the coming months.

¹¹⁸ We discuss the definition of efficiency in the Exit Capacity Annex.

¹¹⁹ Peak demand being as defined in SSpC A9 of the gas transporter licence.

This guidance will then be part of the licence and may be adapted over time through engagement with stakeholders.

2.249 For a more detailed discussion on the enhanced obligations framework see the Exit Capacity Annex.

Rationale for consultation position

2.250 We expect the enhanced obligations framework will encourage GDNs to book NTS products efficiently, through more open and transparent dialogue on booking and decision-making, as well as ensuring the right information is available to a wider audience to demonstrate efficiency. We expect the framework to lead to a wider debate on how the booking of all NTS products by GDNs supports whole gas system efficiency, rather than focussing only on single products like flat capacity.

Consultation question

GDQ25. Do you consider that the enhanced obligations framework for exit capacity and the additional information being sought are appropriate?

GDN record keeping (including multiple occupancy building record keeping strategy)

GDN Record Keeping	
Purpose	To ensure a clear understanding of GDNs' record keeping processes and systems, including how they will evolve over RIIO-GD2 with an additional specific focus on multiple occupancy buildings (MOBs).
Benefits	Effective record keeping is a necessary requirement for operating and developing an efficient and safe gas network.

Background

2.251 In our SSMD we decided that no specific common output was required for record keeping, noting potential difficulties with designing a meaningful output.¹²⁰ However, we stated our desire to explore whether further licence conditions and/or guidance is required to ensure GDNs fully understand our minimum expectations (and the consequences of non-delivery).

¹²⁰ Paragraph 4.77

2.252 In our SSMD we also required all GDNs to include a specific MOB record keeping section in their Business Plans to ensure that all GDNs place sufficient focus on this.¹²¹

Consultation position

Next Steps	Consultation position
During RIIO-GD2, look to develop a cross-sector approach to record keeping	We are currently reviewing how best to take this work forward to deliver value for consumers. At some point during the RIIO-GD2 period, we will engage with stakeholders on the possible approaches, including whether introducing a licence obligation is required.
Continued improvement in MOB record keeping	GDNs should continue to develop and update their approach as necessary, in line with our BPG.

Rationale for consultation position

2.253 We believe that effective record keeping is a cross sector issue. We think that, our expectations and companies' understanding of acceptable record keeping should be broadly consistent across sectors. This will facilitate the timely adoption of best practice across all network companies. It will mean that, a body of precedent is more quickly established and will provide clarity and certainty to network companies on what is expected. We are currently reviewing how best to take this work forward to deliver value for consumers. At some point during the RIIO-GD2 period, we will engage with stakeholders on the possible approaches, including whether introducing a licence obligation is required to ensure companies fully comply with our minimum expectations and understand that there could be consequences of non-delivery.

2.254 With respect to MOB record keeping, given the materiality of maintenance and replacement works related to MOB, it is essential for GDNs to have accurate records of relevant assets as part of developing and maintaining an economical and efficient network. GDNs should continue to develop and update their approach as necessary, in line with our Business Plan Guidance.

Sub-deducts off risk

2.255 A sub-deduct network is a gas pipe network arrangement that is beyond the GDN's main gas meter. All GDNs received funding in RIIO-GD1 to ensure that all sub-deduct networks are evidenced as 'off-risk' (ie have an owner responsible for them) by the end RIIO-GD1. In our SSMD we decided to remove this output for

¹²¹ Paragraph 4.73

RIIO-2, but said we would consider if revenue adjustments or specific deliverables may be required during RIIO-GD2.¹²²

2.256 We required the GDNs to complete this work in RIIO-GD1 and the latest evidence suggests this programme of work will be completed by the end of RIIO-GD1. In the unlikely event that work is not complete by the end RIIO-GD1, we may consider if revenue adjustments or specific deliverables are appropriate as part of close-out. We do not propose to provide any additional allowances for this work in RIIO-GD2. This includes if the GDNs discover additional sub-deducts, as the RIIO-GD1 funding was provided to identify all sub-deduct networks.

¹²² Paragraphs 4.91-4.92

3. Cost of service - setting baseline allowances

Introduction

3.1 This chapter provides an overview of our approach to assessing gas distribution networks' (GDNs') forecast totex and developing a view of efficient costs that will form our proposed baseline totex allowance for RIIO-GD2.

3.2 In developing the proposed approach, we have used information drawn from:

- companies' business plans and Business Plan Data Templates (BPDTs) submitted in December 2019
- information provided in response to supplementary questions (SQs)
- stakeholders' feedback from our RIIO-2 Sector Specific Methodology Consultation (SSMC) and RIIO-2 Tools for Cost Assessment consultation¹²³
- discussions with GDNs at cost assessment working groups (CAWGs)
- independent reviews and reports commissioned by Ofgem.

3.3 We have also undertaken a combination of engineering and economic reviews to help inform our position. Where we believe GDNs costs and needs cases are not fully justified and where we believe the case for inclusion in the RIIO-GD2 price control is inadequate, we have proposed removing costs. Further details on our engineering assessment can be found in the company annexes and the GD Engineering Review by QEM/ARV.

Baseline totex allowances

3.4 Baseline totex referenced in this section comprises forecast controllable costs,¹²⁴ including direct and indirect opex, capex and repex and is inclusive of an ongoing efficiency challenge.¹²⁵ Non-controllable costs, pass-through costs and RPEs, while included in overall allowed revenue recoverable by GDNs, are not included in baseline totex and are treated separately.¹²⁶

¹²³ The RIIO-2 Sector Specific Methodology consultation (SSMC) and related stakeholders' responses and decision can be found [here](#). The RIIO-2 Tools for Cost Assessment consultation and stakeholders' responses can be found [here](#).

¹²⁴ Baseline totex and forecast controllable costs will be used interchangeably.

¹²⁵ Baseline totex also includes the baseline components of uncertainty mechanisms (UIOLI and VD).

¹²⁶ Any costs not included in baseline totex, but included in allowed revenue, are captured in the licence model.

3.5 Our proposed baseline totex for each GDN is presented below in Table 16, together with the submitted baseline totex and any corresponding differences. For more details at a cost activity and individual networks level, refer to the company annexes.

Table 16: RIIO-GD2 Submitted totex vs. proposed totex¹²⁷ (£m, 2018/19)

Network company	GDN	Submitted totex (£m)	Proposed totex (£m)	Difference (£m)	Difference (%)
Cadent	EoE	1,621	1,286	-335	-20.7%
	Lon	1,569	1,040	-529	-33.7%
	NW	1,171	972	-199	-17.0%
	WM	957	780	-177	-18.5%
NGN	NGN	1,249	1,083	-166	-13.3%
SGN	Sc	998	840	-158	-15.8%
	So	2,060	1,687	-373	-18.1%
WWU	WWU	1,182	997	-185	-15.6%
Total		10,806	8,685	-2,121	-19.6%

Approach to GD cost assessment

3.6 Our goal in cost assessment is to set baseline totex at an efficient level. A key aspect of this is identifying potential adjustments where costs have not been adequately justified in full or in part. Our proposed adjustments are the result of:

- unjustified projects / units of work, which we refer to as “volume adjustments”
- unjustified unit costs associated with the projects / units of work, which we refer to as “efficiency adjustments”.

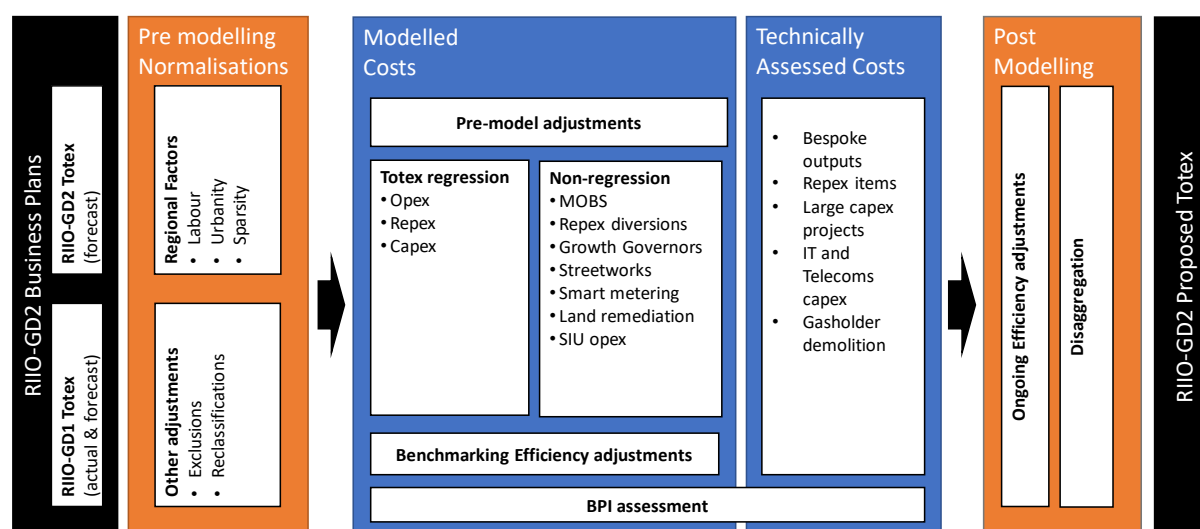
3.7 Volume adjustments result in reductions to both GDNs’ submitted costs and corresponding workloads or drivers, preserving any unit cost structure.

3.8 Efficiency adjustments fall into two categories: those we estimate through benchmarking (“benchmarking efficiency”), and those relating to changes in productivity over time (“ongoing efficiency”).

¹²⁷ Company Submitted Totex excludes RPEs, non-controllable opex, pass-through costs, and includes company view of ongoing efficiency. Allowed totex is on a similar basis, excluding RPEs, non-controllable opex and pass-through costs, and including Ofgem’s view of ongoing efficiency.

- 3.9 In our RIIO-2 Tools for Cost Assessment Consultation we outlined the tools available in determining our proposed baseline totex for each GDN. For RIIO-GD2, we propose to use regression and non-regression analysis which allow for benchmarking, and technical assessment where this is not suitable and costs are company or project specific.
- 3.10 After testing a variety of models at different levels of aggregation,¹²⁸ we propose a single top-down “totex regression” model for RIIO-GD2. We also propose separate non-regression models for MOB, repex diversions, growth governors, streetworks, smart metering, land remediation and Statutory Independent Undertakings (SIU) opex. We also propose technical assessment for costs relating to large capex and repex projects, bespoke outputs, IT and Telecoms capex and specialist areas, such as gasholder demolition and physical security costs.
- 3.11 Below is a visual representation of our process.

Figure 5: RIIO-GD2 cost assessment process map



Details of our proposed assessment approach

- 3.12 We label costs assessed via either regression or non-regression analysis as “modelled costs”, comprising 92% of forecast controllable costs.
- 3.13 Regression analysis was our main tool for assessment for modelled costs, comprising 84% of forecast controllable costs. The remaining modelled costs were

¹²⁸ For details on the list of models tested and discussed with GDNs, see SBSG Annex and CAWGs minutes and presentations [here](#).

assessed in separate non-regression models, where cost drivers vary across GDNs or are unique to a subset of GDNs.

- 3.14 The results from our regression and non-regression models are subjected to a benchmarking efficiency adjustment based on GDNs' relative performance. For RIIO-GD2 we propose the 85th percentile of the efficiency scores to set this adjustment. Less efficient GDNs will perform below this threshold and thus incur an additional "catch up" adjustment to their modelled costs. It is worth noting that more efficient companies may result in modelled costs exceeding their submitted costs (depending on pre-model adjustments).
- 3.15 We have separated out 8% of forecast controllable costs for separate technical/engineering assessment. The output of our technical assessment is an efficient view of both volumes and costs, which as a result are not subject to the benchmarking efficiency adjustment.
- 3.16 As stated in the Core Document, we also expect network companies to deliver productivity improvements over time, throughout the price control, in line with similar comparison industries. We have applied an ongoing efficiency adjustment to our view of both modelled and technically assessed costs in order to derive our proposed view of baseline totex for each GDN.
- 3.17 Table 17 presents a breakdown of our assessment approach for each of the networks, together with a summary of the overall percentage in each category.

Table 17: Totex assessment approach (£m, 2018/19)

Network company	GDN	Submitted totex	Assessment approach		
			Modelled Costs		Technically assessed costs
			Regression	Non-regression	
Cadent	EoE	1,621	1,413	122	87
	Lon	1,569	1,174	259	136
	NW	1,171	1,013	81	76
	WM	957	851	60	45
NGN	NGN	1,249	1,095	51	103
SGN	Sc	998	717	99	181
	So	2,060	1,643	206	211
WWU	WWU	1,182	1,139	22	21
Total		10,806	9,045	901	860
% of total submitted totex		100%	83.7%	8.3%	8.0%

3.18 Table 18 summarises our proposed adjustments and each component of our assessment.

Table 18: Totex adjustments and reductions (£m, 2018/19)

Network company	GDN	Modelled Cost adjustments		Technically assessed adjustments	Ongoing efficiency adjustments	Total adjustments
		Pre model	Benchmark efficiency			
Cadent	EoE	-44	-195	-45	-51	-335
	Lon	-175	-210	-104	-40	-529
	NW	-44	-78	-39	-38	-199
	WM	-61	-59	-27	-30	-177
NGN	NGN	-169	61	-14	-44	-166
SGN	Sc	-53	4	-71	-35	-155
	So	-129	-53	-126	-65	-373
WWU	WWU	-96	-49	0	-40	-185
Total		-772	-580	-424	-343	-2,118
% of total reductions		36%	27%	20%	16%	100%

3.19 As all GDNs have negative total net adjustments, all GDNs would receive our proposed baseline totex, rather than their submitted baseline totex.

3.20 A short overview of the key decisions, that underpin the adjustments and reductions in our proposed baseline totex, are provided below or in the support documents indicated.

Normalisations and pre model adjustments

3.21 Our cost benchmarking seeks to compare companies against each other to determine the efficient level of expenditure required to operate a network. However, there may be reasons why companies are not directly comparable, even within a sector.

- **Regional factors** are applied to regression costs pre modelling and added back post modelling after efficiency adjustments have been applied. These impact the relative efficiency of a given network, rather than overall totex.
- **Pre model adjustments** are applied to regression costs pre modelling where costs have been removed or reclassified from submitted costs. Removed costs relate to items that we do not consider have been justified during our review. In some cases we made upward adjustments to costs to ensure comparable baseline forecasts among GDNs. Reclassified costs include items placed in an uncertainty mechanism and removed from baseline costs.

- 3.22 Further details and justifications of our assessment relating to normalisations are provided later in the chapter and in the company annexes.

Benchmark efficiency adjustments

- 3.23 We provide funding for an efficiently operating network, consistent with our duties to protect consumers. To achieve this we apply a benchmark efficiency or catch-up adjustment to less efficient GDNs. We base this adjustment on the relative efficiency of a GDN compared to a defined level, which represents the minimum level we would expect an efficient GDN to operate at. In RIIO-GD1 we implemented a glide path, where we provided GDNs with funding to reach a target efficient level over time. In our SSMD, we stated that we would not provide a glide path in RIIO-GD2.
- 3.24 For RIIO-GD2, we propose to set the benchmarking efficiency challenge at the 85th percentile.

Justification for our proposed position

- 3.25 In previous price controls, we used benchmarking tools to drive cost efficiency in the sector. For RIIO-GD2, we further developed our approaches, building on more detailed and extensive data collection via BPDTs submissions. We have undertaken significant work to normalise GDNs data submissions through the use of adjustments and regional factors. We consider this has delivered improved comparability across GDNs, which in turn has enabled us to develop robust models, better reflecting industry cost structures.
- 3.26 In RIIO-GD1, we used the upper quartile (75th percentile) to set what we believed was an ambitious catch up efficiency challenge. Cost allowances were around 8% lower than GDNs final submissions. We note that all GDNs have consistently outperformed their cost allowances to date while generally delivering a good quality of service. This is shown in the RIIO-GD1 annual reports, which highlight continuous efficiency improvements.
- 3.27 Moreover, the results of our regression analysis confirm an average yearly decrease in totex (everything else equal), as the estimated coefficient of the historical time trend is negative. Overall for the GDNs, actual totex over the period 2013-14 to 2018-19 is on average 14% lower than RIIO-GD1 allowed costs for RIIO-GD2, and 25% lower than RIIO-GD1 final Business Plan submissions. We

therefore believe it is reasonable to expect that all networks should be able to continue delivering efficiency improvements and achieve efficient performance over RIIO-GD2. We also note that all GDNs have stated in their Business Plans their ambition to be at or close to the frontier in RIIO-GD2.

3.28 We propose to set the efficiency frontier at the 85th percentile. This is approximately equivalent to setting it at the level of the 2nd most efficient company, and provides an extra 2% cost challenge to the GDNs as compared to the upper quartile. This results in a proposed totex allowance for GDNs around 20% lower than GDNs RIIO-GD2 submissions.

3.29 This sets high but achievable expectations for the less efficient GDNs, building on the improvements they were funded to deliver over RIIO-GD1.

Technically assessed cost adjustments

3.30 We have conducted technical assessments on costs relating to large capex and repx projects, bespoke outputs, IT and Telecoms capex and specialist areas, such as gasholder demolition and physical security costs.

3.31 Further details and justifications on our assessment relating to technically assessed costs are provided later in the chapter and in the relevant company annexes.

Ongoing efficiency adjustment

3.32 We propose to set GDNs a challenging ongoing efficiency target over the RIIO-GD2 period. Our ongoing efficiency target for GD is 1.4% for opex, and 1.2% for capex and repx. This target represents the productivity increases we expect even the most efficient GDN to deliver, year on year during the RIIO-GD2 price control period relating to productivity increases. For further details on our methodology and rationale see our Core Document.

3.33 By selecting a top-down econometric model that uses information from both RIIO-GD1 and RIIO-GD2, we acknowledge that our view of modelled efficient costs and technically assessed costs is likely to have captured a level of embedded ongoing efficiency within it. We believe this would not have been the case had we opted for an historical only model.

3.34 Table 19 summarises the additional challenge by cost category.

Table 19: Summary of embedded, target and shortfall for ongoing efficiency

Cost category	Embedded ongoing efficiency	Target ongoing efficiency	Shortfall (additional challenge)
Direct Opex	0.68%	1.44%	0.76%
Indirect Opex	0.51%	1.44%	0.93%
Capex	0.25%	1.22%	0.97%
Repex Mains	0.63%	1.22%	0.59%
Repex Services	0.63%	1.22%	0.59%

Justification for our proposed position

3.35 GDNs submitted a range of ongoing efficiency assumptions in their business plans. These included both the companies' views on suitable level for ongoing efficiency.¹²⁹ Cadent, NGN and WWU were all broadly similar at 0.53%, 0.5% and 0.5% across all cost categories, while SGN indicated 1.4% for opex and 0.7% for capex and repex. Companies also submitted ongoing efficiencies incorporated or "embedded" in their forecast costs, which in some cases varied from values above.

3.36 We propose to estimate the embedded ongoing efficiency in our view of proposed costs using a blended average of the values the GDNs provide in their BPDT. Our approach is based on taking a simple average of ongoing efficiency over the RIIO-GD2 period across GDNs and calculate the average compound annual growth rate (CAGR) over this period.¹³⁰ Table 20 presents the results from this approach.

Table 20: Impact from company stated ongoing efficiency

Network	Direct Opex		Indirect Opex		Capex		Repex	
	Start	End	Start	End	Start	End	Start	End
Average	94.2%	91.0%	95.7%	93.3%	99.0%	97.7%	99.1%	96.0%
CAGR		0.68%		0.51%		0.25%		0.63%

3.37 We then deduct the embedded ongoing efficiency from our set targets, based on compounding of both target and embedded ongoing efficiency from our reference starting year of 2018/2029.

¹²⁹ Also noted by CEPA in 'RIIO-GD2 and T2: Cost Assessment - Frontier shift methodology paper'. CEPA, RIIO-GD2 and T2: Cost Assessment - Frontier shift methodology paper (May 2020).

¹³⁰ Using the stated compound position of ongoing efficiency from the BPDT

Approach to Cost Assessment Consultation Questions

- GDQ26. Do you agree with our proposal of using a top-down regression model?
- GDQ27. Do you agree with our proposed approach to benchmarking modelled costs at the 85th percentile?
- GDQ28. Do you agree with our proposed approach to estimating embedded ongoing efficiency and values calculated?

Normalisations

- 3.38 This section explains our proposals for regional and company-specific factors. It also explains the data adjustments, normalisations and reclassifications we have made to the submitted data prior to our cost modelling. Further detail is set out in the Regional Factors Annex and the SBSG Annex.

Regional factors and company-specific factors

- 3.39 Some GDN costs are driven by factors outside of their control and unique to their operating area. These regional factors can lead to higher or lower costs that are not related to relative efficiency. We make regional factors adjustments pre-modelling, and then add them back post modelling.
- 3.40 In RIIO-GD1 we made a number of pre-modelling adjustments to submitted cost data to account for regional factors. These included labour costs, urbanity and sparsity effects.
- 3.41 For RIIO-GD2 we considered the GDNs' Business Plans, undertook our own analysis and concluded that some of the differences in costs between GDNs continue to be explained by factors beyond their control. We consider that the regional factors we recognised in RIIO-GD1 remain relevant for RIIO-GD2. Our position for these factors and our methodology for measuring them is summarised below and explained further in the Regional Factors Annex and the SBSG Annex.
- **Regional labour:** We make regional labour cost adjustments to account for the difference in efficient labour costs amongst GDNs due to geographical location. For GDNs operating in London and South East England, we have accepted cost differentials and adjusted costs downwards prior to regression modelling.

- **Urbanity:** We make pre-modelling cost adjustments to account for additional costs of operating in urban areas. These adjustments account for reduced labour productivity for particular capex and repex activities (due to congestion in urban areas), as well as additional reinstatement costs relating to particular opex activities.
- **Sparsity:** We make pre-modelling adjustments to account for the additional costs faced by networks containing sparsely populated areas in carrying out their Emergency and Repair activities. These adjustments compensate for reduced labour productivity due to additional travel time.

3.42 Table 21 summarises the annual average regional factor adjustments we have made to the submitted RIIO-GD1 and RIIO-GD2 data.

Table 21: Annual average regional factor adjustments – RIIO-GD1 and RIIO-GD2 (£m, 2018/19)

Adjustment factor	EoE	Lon	NW	WM	NGN	Sc	So	WWU	Industry
RIIO-GD1									
Labour	-1.8	-19.9	-	-	-	-	-16.9	-	-38.6
Urbanity (productivity)	-0.7	-8.3	-	-	-	-	-4.8	-	-13.8
Urbanity (reinstatement)	-0.1	-0.8	-	-	-	-	-0.4	-	-1.3
Sparsity	-2.4	-	-0.4	-1.0	-1.8	-1.2	-1.3	-2.1	-10.1
RIIO-GD1 Total	-5.0	-29.0	-0.4	-1.0	-1.8	-1.2	-23.4	-2.1	-63.8
RIIO-GD2									
Labour	-1.7	-17.7	-	-	-	-	-15.1	-	-34.5
Urbanity (productivity)	-0.7	-6.7	-	-	-	-	-4.3	-	-11.7
Urbanity (reinstatement)	-	-0.7	-	-	-	-	-0.4	-	-1.2
Sparsity	-1.6	-	-0.3	-0.8	-1.7	-1.0	-1.1	-2.4	-8.8
RIIO-GD2 Total	-4.1	-25.2	-0.3	-0.8	-1.7	-1.0	-20.8	-2.4	-56.2

Company-specific factors

3.43 The GDNs submitted a number of other company-specific factors, which they suggested we take account of prior to modelling. We have not accepted the majority of these because they do not meet our criteria for a valid company-specific factor. For further details, see the Regional Factors Annex.

3.44 In some cases, however, we have removed forecast large project costs for technical assessment and removed historical costs from our modelling. Our assessment of these forecast costs is detailed in the technically assessed costs section later in this chapter, and historical cost exclusions are discussed further below. Historical cost exclusions are discussed further below.

Other adjustments

3.45 We consulted with the GDNs and made a number of other adjustments to data submitted in the GDNs' BPDTs for consideration in our econometric modelling. As with regional factors, these adjustments were made to ensure a reasonable comparison of GDNs in our econometric modelling. These adjustments include the:

- exclusion of specific historical costs
- separate assessment of specific forecast costs
- reclassification of costs into another cost activity.

Adjustments to historical costs

3.46 We removed costs associated with large capex projects, IT and Telecoms capex, gasholder demolition, cyber and physical security from the RIIO-GD1 period. The removal of large capex projects was based on a materiality threshold of £0.75m. This is in line with our approach to assess the forecast costs separately in RIIO-GD2 and ensures a consistent view of totex over the 13-year time period for our econometric modelling.

3.47 Similarly, we removed historical costs associated with our non-regression cost activities. This includes costs relating to repex diversions, MOBs, streetworks, smart metering, land remediation, growth governors and SIU opex.

3.48 To ensure a consistent set of data across RIIO-GD1 and RIIO-GD2, we adjusted costs for a number of cost activities in RIIO-GD1, as these have been reclassified as non-controllable costs in RIIO-GD2 (or vice versa). This includes Xoserve, PPF Levy and Pension Scheme Administration costs.

Adjustments to forecast costs

3.49 The GDNs have taken different approaches to bespoke outputs and uncertainty. We have removed a number of forecast costs to ensure a consistent assessment. For example, we removed customer vulnerability costs from SGN and WWU, as

these costs are funded separately through a common output. We have also removed SGN's forecast fatigue related costs for Emergency and Repair to establish a consistent uncertainty level for workforce costs.

- 3.50 We made a number of volume-related adjustments, both positive and negative. We made increases to some of Cadent's forecast capex volumes to align them with the other GDNs (at a 'P50' level).

Reclassified costs

- 3.51 We reclassified Cadent's reinforcement for insertion expenditure as repex, rather than capex, because of the nature of the activity and to align with the other GDNs' reporting.
- 3.52 We reclassified SGN's gasholder maintenance costs as maintenance, to ensure equal treatment of non-routine maintenance activities reported by other GDNs. Although these activities are different to gasholder maintenance, we consider that maintenance, and modelled totex, should include both routine and non-routine maintenance activities. We also reclassified SGN's Pension Incremental Deficit Funding costs from a number of direct opex activities to Other Direct Activities opex.

Loss of meterwork adjustment

- 3.53 The GDNs have historically undertaken contract meterwork via competitive procurement. As these contracts expire, first call operative costs (FCOs)¹³¹ are shifted from metering (a non price controlled activity) into emergency (a price controlled activity). We have adjusted costs for loss of meterwork as if it has fully occurred, and made upward adjustments to Emergency costs in the RIIO-GD1 period. This ensures a consistent view of Emergency costs for GDNs over the RIIO-GD1 and RIIO-GD2 periods in our view of modelled costs.
- 3.54 Specifically, our upward adjustment is 50% of the historical labour costs associated with the Metering function (staff costs including non-salary and contractor labour). This is based on our assumption that only additional labour costs should be funded, and that GDNs can utilise 50% of these labour costs on other activities.

¹³¹ FCO (First Call Operative) cost are costs related to servicing gas related issues raised by customers.

Normalisation Consultation Questions

GDQ29. Do you agree with our proposed pre-modelling normalisations?

Regression Analysis

Econometric model considerations

- 3.55 In this section we provide a high level summary of our proposed econometric modelling choices and results, which cover 83.7% of companies' submitted costs.
- 3.56 Our assessment of costs using regression analysis is based on identifying a model (or models) establishing a relationship between a GDN's costs and a set of variables that describe any cost variation (ie drivers). In econometric modelling, the mathematical relationship between costs and drivers is referred to as the functional form, which can be estimated using different techniques.
- 3.57 Quantitative and qualitative criteria for the selection of appropriate cost drivers, functional form, estimation technique, sample size and other modelling issues are discussed in our 2019 methodology consultation.¹³²
- 3.58 A high level summary of our proposed econometric modelling choices and results are listed below. Further details can be found in the SBSG Annex.

Consultation position

Econometric modelling choices	Consultation position
Level of aggregation	Top-down
Estimation technique	Ordinary Least Squares (OLS)
Model specification	Cobb-Douglas function with a composite scale variable (CSV) as the main driver and time trends to account for unobserved time effects
Time period of data used	RIIO-GD1+RIIO-GD2 (2013-14 to 2025-26)

¹³² See RIIO-2 Tools for Cost Assessment consultation available [here](#).

Rationale for consultation position

Level of aggregation

- 3.59 After testing a variety of models at different levels of aggregation,¹³³ we propose a single top-down totex regression model for RIIO-GD2. This differs from RIIO-GD1, where we used two different levels of aggregation (top-down and bottom-up) and combined them using an arithmetic average.
- 3.60 Our proposed use of a single top-down model over other alternatives investigated is based on its ability to better account for cost complementarities, trade-offs and potential reporting inconsistencies across GDNs.¹³⁴ The alternatives, a range of bottom-up models or a combination of top-down and bottom-up, would have resulted in the inclusion of some models that were not proven to be statistically robust. The model we selected still embodies bottom-up considerations detailed below.

Estimation technique

- 3.61 As in RIIO-GD1, we selected Ordinary Least Squares (OLS) as estimation technique. We also checked the robustness of the totex model to different estimation techniques such as Random Effects and Stochastic Frontier Analysis. These are characterised by different assumptions on composition of the error term (difference between observed and modelled costs) and have different data requirements. The results of these robustness checks can be found in the SBSG Annex.

Model specification

- 3.62 We followed the RIIO-GD1 approach, choosing a Cobb-Douglas function. This functional form is widely employed in the cost assessment literature as it allows for economies of scale to be captured and estimated coefficients can be easily interpreted as cost elasticities.
- 3.63 As a main driver in the model specification, we used a Composite Scale Variable (CSV): a weighted average of scale and workload drivers, reflecting the disaggregated cost activities included in our totex definition, with weights based

¹³³ For details on the list of models tested and discussed with GDNs, see SBSG Annex and CAWGs minutes and presentations [here](#).

¹³⁴ The full list of alternative models can be found in SBSG Annex.

on industry spend proportions. As already noted, by using the drivers from the disaggregated models we have retained the information that we used in the bottom-up analysis, while allowing the model to solve the trade-offs between the expenditure on different activities. The individual components of the totex CSV are listed below, with more details available in the SBSG Annex and following subsections:

- Modern Equivalent Asset Value (MEAV, as a proxy for scale)
- maintenance MEAV
- total external condition reports
- emergency CSV
- synthetic cost driver for repex
- synthetic cost drivers for capex (mains reinforcement and connections).

3.64 We also included time trends in the model specification to account for changes in expenditure due to historical and forecast frontier shift and potentially other exogenous factors such as changes in service quality.

Time period

3.65 We considered four alternatives:

- historical (2013-14 to 2018-19)
- RIIO-GD1 (2013-14 to 2020-21)
- RIIO-GD2 (2021-22 to 2025-26)
- RIIO-GD1+RIIO-GD2 (2013-14 to 2025-26, including six years of historical data and seven years of forecasts).

3.66 Given that the performance of the totex model was very similar across the different periods, we decided to use RIIO-GD1+RIIO-GD2 data to increase the sample size and thus statistical robustness.

3.67 Moreover, this ensures that we explicitly take account of both historical performance and expected changes to totex in RIIO-GD2. These include, for example, technology changes and scope for future efficiency gains.

3.68 For our Final Determinations, we may update our modelling based on the actual costs for 2019-20 and GDNs' updated forecast costs for 2020-21 which are due by the end of August. This information may however be of limited value and may not impact results significantly if it has not been materially updated from forecasts

provided last year. Furthermore, it may or may not contain variances relating to the impact of COVID-19.

Econometric model results

3.69 We have used OLS with clustered robust standard errors to estimate a model establishing a relationship between totex (our independent variable) and totex CSV (our selected cost driver). The regression model we estimated is as follows:

$$\log(\text{totex}_{it}) = \beta_0 + \beta_1 \log(\text{totex CSV}_{it}) + \beta_2 t_1 + \beta_3 t_2 + \epsilon_{it},$$

- Where β_0 is a constant term, β_1 is the coefficient associated with the cost driver (totex CSV) and ϵ is the error term representing the component of costs not explained by the cost driver for GDN i in year t (ie noise, measurement errors and inefficiency).
- To account for time effects, this specification also includes a linear trend for historical data (t_1) and another one for forecasts (t_2).

3.70 Table 22 shows the regression model estimation results. The estimated coefficient of the totex CSV is 0.727, implying that, everything else equal, a 1% increase in the totex CSV would result in a 0.727% increase in totex. The two time trends are negative, suggesting a decrease in totex over time (everything else equal). This could be due to the frontier shift, and/or potentially other unobserved time effects such as changes in service quality. The model fit is good (adjusted R^2 of 0.865) and as noted in the SBSG Annex, statistical robustness is confirmed by the post-estimation tests and robustness checks we performed.

Table 22: Econometric model results

Ln-totex	Coefficients ¹
Ln_totex_csv	0.727*** (0.084)
t1	-0.006** (0.002)
t2	-0.018*** (0.003)
Constant	0.322 (0.606)
Adjusted R ²	0.865
Observations	104
¹ Standard errors are shown below the coefficients in parentheses * statistical significance at the 10% level ** statistical significance at the 5% level *** statistical significance at the 1% level	

3.71 In the following subsections we discuss the different drivers of opex, repex and capex activities, mirroring the composition of the totex CSV. When applicable, we also discuss the proposed adjustments to cost drivers, where in our view costs have not been adequately justified.

Model Selection Consultation Questions

GDQ30. Do you agree with the selected aggregation level, estimation technique and time period for our econometric modelling?

GDQ31. Do you believe we should take into consideration revised cost information for the remainder of GD1 including 2019-20 (actuals) and 2020-21 (forecast)?

Opex in our regression model

3.72 Opex comprises costs associated with the GDNs' operating activities. Opex is split into direct and indirect activities. Direct activities are the GDNs' key operational functions, namely Work management, Emergency, Repairs, Maintenance and Other direct activities (ODA). Indirect activities include Business support and Training and apprentices. SIU opex is excluded from our totex regression. Opex makes up 38% of the GDNs' forecast totex for RIIO-GD2.

Cost drivers

3.73 In RIIO-GD1, the Work management, Emergency, Repairs and Maintenance activities were the subject of individual regression models used in our bottom-up

modelling. The cost drivers for these activities include both scale and workload variables, and are components of the totex CSV in our RIIO-GD2 top-down model.

- 3.74 Work management is the largest component of direct opex, making up 8% of forecast totex. It is a labour-intensive activity, which includes asset management, operations management, customer management and system control centre costs. The Work management cost driver is MEAV, which we consider to be the most appropriate measure of network scale.¹³⁵
- 3.75 Emergency costs are the direct costs of providing an emergency service to respond to all reported gas escapes and make any escapes safe. The Emergency cost driver is a combination of customer numbers (80%) and the number of external condition reports (20%). Customer numbers are stable for all GDNs, and effectively account for the fixed costs of GDNs' Emergency service function. External condition reports account for the variable nature of this activity. This includes mains and services condition reports, which are undertaken following the GDN's response to a publicly reported gas escape.
- 3.76 Repair costs include the costs of attending site, locating, excavating, repairing a leaking main and reinstating all excavations. The Repairs cost driver is the number of external condition reports. In general, the GDNs have forecast a decreasing number of external condition reports, reflecting the progress made so far on repex programmes, which aim to reduce number of gas leaks.
- 3.77 The Maintenance activity includes the GDNs' preventive and corrective actions to ensure the ongoing reliable operation of their assets. It includes both routine and non-routine maintenance. The Maintenance cost driver is Maintenance MEAV, a subset of MEAV that only includes assets maintained under this activity.
- 3.78 Other direct activities, business support and training and apprentices were assessed via non-regression methods at a bottom-up level in RIIO-GD1. We consider that costs for these activities should be stable over time, and therefore in RIIO-GD2 these costs are included in our totex model, with MEAV as the cost driver. We discuss our proposed update to MEAV in the SBSG Annex.

¹³⁵ MEAV is the current replacement value of an asset. The sum of MEAVs for a GDN's assets provides a proxy for scale of operation. We think MEAV better reflects network complexity compared with the alternatives (eg network length and customer numbers), and therefore continues to be our preferred scale driver.

Table 23: Opex activities and cost driver formulation

Cost activity	Cost driver	Totex CSV weighting
Work management, Other direct activities, Business support, Training and apprentices	MEAV	34%
Emergency	Customer numbers (80%), external condition reports (20%)	5%
Repairs	External condition reports	6%
Maintenance	Maintenance MEAV	8%

Opex Consultation Questions

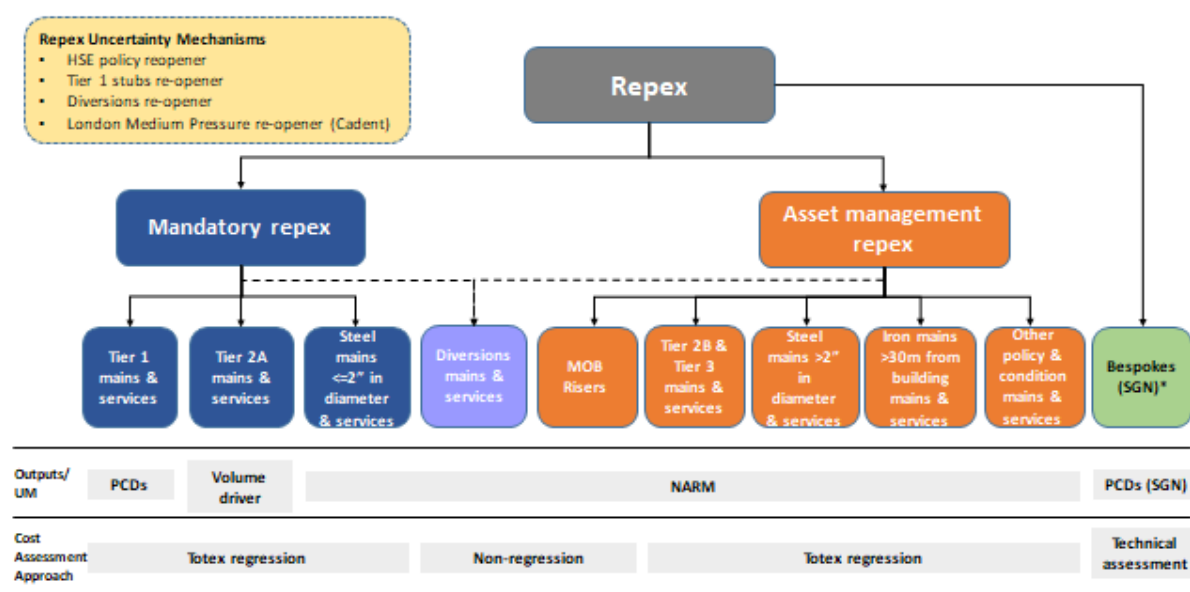
GDQ32. Do you agree with our selected cost drivers for Opex?

Repex in our regression model

3.79 We use the term repex to refer to costs associated with the asset replacement program for mains, services and risers. We have excluded multiple occupancy buildings¹³⁶ (MOBs) and pipeline diversions (and associated services) from our totex regression and assessed these separately (see the Non-Regression section for further details). Repex makes up 43% of the GDNs' forecast totex for RIIO-GD2.

3.80 The diagram below demonstrates how we classify different repex activities and our approach to cost assessment in RIIO-GD2.

¹³⁶ For example, blocks of flats, residential complexes and tenement buildings.

Figure 6: Overview of our approach to repx in RIIO-GD2

* We have accepted two bespoke projects from SGN which were assessed under our technical assessment category.
 Note: capitalised replacement costs have been included in the relevant category (ie Tier 1, Tier 2A etc).

Cost drivers

- 3.81 We are maintaining the RIIO-GD1 approach of using a synthetic cost driver for the repx component of the totex CSV in RIIO-GD2. The synthetic cost driver is the sum of the products of synthetic unit cost and volume for each disaggregated activity that is included within the repx part of the totex CSV.
- 3.82 We have updated the synthetic unit costs used to calculate the synthetic cost driver and disaggregated the activities within the driver to a greater degree. See our SBSG Annex for how we updated the synthetic unit costs.
- 3.83 We have included the following activities within the synthetic cost driver: Tier 1 iron mains, Tier 2A iron mains, Tier 2B iron mains, Tier 3 iron mains, steel mains <=2", steel mains >2", iron mains >30m from a building, other policy and condition mains, services associated with all of the aforementioned mains replacement activities, services not associated with mains replacement.¹³⁷
- 3.84 Other changes to our RIIO-GD1 repx regression approach are the exclusion of non-rechargeable diversions (separately assessed in a non-regression model) and the inclusion of services not associated with mains replacement. We have included

¹³⁷ We have included capitalised replacement costs in each category, rather than considering them separately.

services not associated with mains replacement within the totex regression, to capture any interplay with GDNs' opex activities.

Summary of workload adjustments

- 3.85 Our synthetic cost driver used for repex regression is a workload driver, meaning that variances in workloads between different activities drive different values in synthetic costs between distribution networks. We determined the workload inputs to the synthetic cost driver for repex following our engineering and cost assessment review of GDNs' investment proposals. This includes detailed reviews of the Investment Decision Packs (IDPs) provided in support of specific investments.
- 3.86 We required the GDNs to justify the repex investments included in their Business Plans on both engineering and economic grounds.
- We have applied a CBA payback cut-off of 2037¹³⁸ (ie 16 years from the beginning of RIIO-GD2) to all asset management repex mains investments (and associated services interventions). This reflects uncertainty over the future of the gas network and the risk of asset stranding. It maintains the cut-off point we applied to low pressure distribution mains assets in RIIO-GD1 (ie 2037).
 - We have not included some proposed investments where we do not consider the workloads to be justified, given the evidence provided. We think some IDPs lacked sufficient detail, particularly where annualised forecast costs and/or volumes increase significantly between RIIO-GD1 and RIIO-GD2.
 - Given the uncertainty around the future of the gas network, we asked the GDNs to consider the option for deferral for asset management repex investments and to undertake sensitivity analyses to demonstrate how the value and payback of investments changes as key assumptions vary. We think giving full consideration to deferring all or part of asset management investments is important to ensure consumers are protected against the risk of stranded assets.
- 3.87 Where we have disallowed workloads, we have disallowed the programme of works in full for each activity, in line with the splits each GDN provided in their

¹³⁸ Inclusive (ie CBAs paying back in 2037 are accepted).

CBA submissions,¹³⁹ unless the GDN has clearly divided workloads so as to allow for assessment of individual sections.

- 3.88 Where we have disallowed the workloads for mains replacement, we have proposed corresponding pro rata adjustments to associated services workloads.
- 3.89 Where we have disallowed workloads, we have not included the volumes in the calculation of the synthetic cost driver and we have also removed the corresponding costs from company submitted totex, prior to running the regression.
- 3.90 We have disallowed £548m of proposed asset management repex investments and made a further £141m of adjustments to costs on mandatory workloads. We have also removed a further £174m of costs from baseline funding linked to proposed bespoke PCDs, of which £126m could potentially be funded through our proposed re-openers. Further detail on specific workload adjustments is provided below and in the relevant company annexes.

Summary of mandatory repex workload adjustments

- 3.91 Table 24 presents an overview of the pre-modelling adjustments we made to the mandatory repex workloads for each network. Further detail on these adjustments, including the value, method and justification, can be found in the relevant company annexes.

¹³⁹ Cadent split some of its proposed workloads into CBA-driven and Safety-driven. For some of the companies' networks, we have accepted workloads in one of these categories, but rejected them in the other, based on our assessment of justification in each category.

Table 24: Summary of mandatory repex workload adjustments for RIIO-GD2

Network	Tier 1 mains	Steel mains <=2"	Associated services
EoE	Removed dynamic growth workloads	Allowed in full	Pro rata adjustments for removed dynamic growth in Tier 1
Lon	Removed dynamic growth workloads	Allowed in full	Downward adjustment to services ratio for both Tier 1 and steel mains <=2". Pro rata adjustments for removed dynamic growth in Tier 1
NW	Removed dynamic growth workloads	Allowed in full	Pro rata adjustments for removed dynamic growth in Tier 1
WM	Removed dynamic growth workloads	Allowed in full	Pro rata adjustments for removed dynamic growth in Tier 1
NGN	Allowed in full*	Allowed in full	Allowed in full
Sc	Removed dynamic growth and accelerated growth workloads	Allowed in full	Pro rata adjustments for removed dynamic growth and accelerated growth in Tier 1
So	Removed dynamic growth and accelerated growth workloads	Allowed in full	Pro rata adjustments for removed dynamic growth and accelerated growth in Tier 1
WWU	Removed dynamic growth workloads	Allowed in full	Pro rata adjustments for removed dynamic growth in Tier 1

* NGN did not include any dynamic growth assumptions in its Tier 1 forecasts.

3.92 We have disallowed all workloads associated with dynamic growth in Tier 1. Given uncertainty with forecasting workloads and the declining size of the Tier 1 population, we do not think it necessary to provide ex ante funding. We expect any dynamic growth that does occur during RIIO-GD2 to be included in RIIO-GD3 targets.

3.93 We disallowed the workloads associated with SGN's proposed bespoke PCD to accelerate its Tier 1 programme in RIIO-GD2, above a flat annual profile out to the end of the programme in 2032, in both its networks. See our SGN annex for further details.

3.94 We removed baseline costs submitted by NGN and SGN associated with Tier 1 stubs replacement. We are proposing a common re-opener for Tier 1 stubs, given the uncertainty around scope, timing and costs. See Chapter 4 for further details.

3.95 We have accepted all of the proposed workloads for Tier 2A mains replacement and associated services. Any variations in outturn workloads will result in changes to allowances through the Tier 2A volume driver.

Summary of asset management repex workload adjustments

3.96 Table 25 summarises our decisions on workload adjustments for asset management mains replacement activities in RIIO-GD2. Further detail is provided in the company annexes, including modelled workloads and justifications.

Table 25: Summary of asset management repex workload adjustments in RIIO-GD2

Network	Tier 2B	Tier 3	Steel mains >2"	Iron mains >30m	Other Policy & Condition
EoE	Allowed in full	Partially disallowed due to CBA payback	Disallowed in full due to CBA payback	Allowed in full	Allowed in full
Lon	Allowed in full	Partially disallowed due to CBA payback	Disallowed in full due to CBA payback and insufficient detail	Allowed in full	Allowed in full
NW	Disallowed in full due to CBA payback	Disallowed in full due to CBA payback	Disallowed in full due to CBA payback and insufficient detail	Allowed in full	Allowed in full
WM	Allowed in full	Partially disallowed due to CBA payback	Disallowed in full due to CBA payback and insufficient detail	Allowed in full	Allowed in full
NGN	Allowed in full	Disallowed in full due to CBA payback	Disallowed in full due to insufficient detail in CBA	Disallowed in full due to CBA payback	Disallowed in full due to CBA payback
Sc	Disallowed in full due to CBA payback	Disallowed in full due to CBA payback	Disallowed in full due to CBA payback	Allowed in full	Allowed in full
So	Disallowed in full due to CBA payback	Allowed in full	Disallowed in full due to CBA payback	Allowed in full	Disallowed in full: not supported by CBA
WWU	Disallowed in full: insufficient detail in CBA	Allowed in full	Allowed in full	Disallowed in full: not supported by CBA	N/A

Services not associated with mains replacement

3.97 We capture all service replacement activity not associated with mains replacement in a separate category. We have adjusted WWU's workloads downwards to better reflect historical workloads and industry average growth rates as we do not think its forecasts are justified. We have also adjusted workloads for non-metallic services not associated with mains downwards for all Cadent networks following our engineering review.

Table 26: Repex activities and cost driver formulation

Cost activity	Cost driver	Totex CSV weighting
<ul style="list-style-type: none"> Tier 1 mains Tier 2A iron mains Tier 2B iron mains Tier 3 iron mains Steel mains $\leq 2"$ Steel mains $> 2"$ Iron mains $> 30m$ from a building Other policy and condition mains Services associated with all aforementioned mains replacement activities Services not associated with mains replacement 	Synthetic cost	39%

Repex Consultation Questions

GDQ33. What are your views on our proposed approach to the synthetic cost driver for repex?

GDQ34. What are your views on our proposed repex workload adjustments?

GDQ35. Where we have disallowed workloads, should we consider making corresponding adjustments to opex costs? If so, how do you think this could be done?

Capex in our regression model

3.98 Capex relates to costs associated with new network investment. In RIIO-GD2, capex comprises six activities: LTS (Local Transmission System), Storage and Entry, Reinforcement, Connections, Governors, Transport and Plant, and Other Capex. On average, capex makes up 19% of the GDNs' forecast totex for RIIO-GD2.

3.99 We removed a number of capex sub-activities and investments from our totex regression, applying separate non-regression and technical assessment techniques

instead. We undertook non-regression analysis on Growth Governors, which forms part of Reinforcement. We also separated out a number of large discrete investments from within the LTS, Storage and Entry and Other Capex activities.

Cost drivers

- 3.100 Except those sub-activities and investments that we assessed using non-regression and technical assessment techniques, LTS, Storage and Entry, Governors, Transport and Plant, and Other Capex were included in our totex regression model with MEAV as the cost driver.
- 3.101 In RIIO-GD1 we included two synthetic cost drivers in the totex CSV to model some capex activities, namely Reinforcement and Connections. The synthetic cost driver is the sum of the products of synthetic unit cost and volume for each disaggregated activity included within this capex part of the totex CSV. For the top-down analysis, we retained our RIIO-GD1 approach of smoothing costs and workloads using a 7-year rolling average to make sure the lumpy nature of these activities didn't bias the econometric results.¹⁴⁰
- 3.102 For RIIO-GD2, we have maintained the same approach, as we consider it appropriate and is supported by stakeholders. However, we updated the synthetic unit costs used to calculate the drivers. Our calculation of the synthetic unit cost was based on the same level of aggregation as in RIIO-GD1 where possible, although we aggregated some cost activities because disaggregated information was not available. See the SBSG Annex for how we have updated the synthetic unit costs.
- 3.103 The synthetic cost driver for Reinforcement distinguishes between mains below and above 180mm. We made no distinction between general and specific reinforcement in calculating the synthetic unit costs, because the two types of reinforcement have similar unit costs.
- 3.104 The synthetic cost driver for Connections accounted for mains and services workloads, distinguishing between domestic and non-domestic connections. The corresponding synthetic unit costs distinguished between mains below and above 180mm diameter. We changed our RIIO-GD1 approach by aggregating new and existing housing, because the two types of connections have similar unit costs. We

¹⁴⁰ For example, costs and workloads in 2013-14 were replaced with average costs and workloads over the period 2007-08 to 2013-14.

also included connections related to the FPNES which were assessed separately in RIIO-GD1.

Workload adjustments

3.105 We adjusted SGN's Reinforcement workloads to account for the rejection of three Southern reinforcement projects (the Brackley, Marden and Wivesfield Medium Pressure projects).

3.106 Our decisions on workload adjustments are summarised in the Table 27. Further detail can be found in the company annexes.

Table 27: Proposed workload adjustments

Network	Reinforcement	Connections
EoE	Allowed workloads in full	Allowed workloads in full
Lon	Allowed workloads in full	Allowed workloads in full
NW	Allowed workloads in full	Allowed workloads in full
WM	Allowed workloads in full	Allowed workloads in full
NGN	Allowed workloads in full	Allowed workloads in full
Sc	Allowed workloads in full	Allowed workloads in full
So	Workload adjusted for disallowed projects	Allowed workloads in full
WWU	Allowed workloads in full	Allowed workloads in full

3.107 We have accepted all of the proposed workloads for Connections. Any variations in outturn new domestic and FPNES workloads will result in changes to proposed costs through the respective volume drivers.

Table 28: Capex activities and cost driver formulation

Cost activity	Cost driver	Totex CSV weighting
Connections	Synthetic cost	6%
Reinforcement	Synthetic cost	2%

Capex Consultation Questions

GDQ36. What are your views on our proposed approach to the synthetic cost driver for capex?

GDQ37. What are your views on our proposed capex adjustments?

Non-regression Analysis

3.108 We excluded a number of cost activities from our econometric modelling due to the variation of these cost across different network and that they were not well represented by our proposed cost drivers.

3.109 Our assessment of these costs included a qualitative review of information provided in the GDNs' Business Plans, and a quantitative review of historical and forecast expenditure for each cost activity to determine a value comparable to our regression modelled costs. We added our modelled view of these cost activities to the modelled totex assessed via econometric modelling, to determine an overall view of modelled totex. This value is then subject to our benchmarking efficiency.

3.110 We assessed the following activities under the non-regression category: MOBs, Streetworks, Repex diversions, Smart metering, Land remediation, SIU opex and Growth governors.

Multiple Occupancy Buildings (MOBs)

3.111 We cover repex and opex (maintenance) costs associated with multiple occupancy buildings within our MOBs assessment.

3.112 We assessed RIIO-GD2 submitted costs, volumes and unit costs against historical RIIO-GD1 run rates. Where GDNs forecasted significant increases in average annual run rates but these were not clearly justified, we considered making adjustments to workloads and costs for RIIO-GD2.

3.113 We made a total £6.3m of downward adjustments to submitted MOB repex costs in RIIO-GD2. This included reductions of £0.6m for NGN, £5.6m for WWU and <£0.1m each for SGN Scotland and Southern. See the relevant company annexes for further details.

3.114 We also made £33.0m of downward adjustments to Cadent's maintenance MOBs costs, as we did not think the increases in submitted costs were fully justified. Further detail is set out in our Cadent annex.

Diversions

3.115 Diversions are mains replacement or relay work resulting from a GDN being required to re-route sections of the network. Diversions are usually driven by third parties, and the costs are mostly rechargeable to the third party. However, in some instances, the GDNs must bear all or part of the costs.

3.116 We assessed RIIO-GD2 submitted costs, volumes and unit costs against historical RIIO-GD1 run rates for rechargeable and non-rechargeable diversions. We have proposed adjustments to workloads and costs for RIIO-GD2, where GDNs have not justified significant increases in average annual costs.

3.117 We made a total of £15.1m in downward adjustments to rechargeable diversions costs, including £12.7m for NGN, £2.1m for SGN Southern and £0.3m for SGN Scotland. We made £3.4m of downward adjustments to NGN's non-rechargeable diversions. See the relevant company annexes for further details.

Growth governors

3.118 The growth governors category relates to the installation of new district and service governors associated with network reinforcement. GDNs proposed a total gross baseline investment of £17.4m in RIIO-GD2 for growth governors.

3.119 While all GDNs recorded costs in this category in historical years of RIIO-GD1, only three GDNs (NGN, Scotland and Southern) proposed costs in RIIO-GD2. We have split out growth governors costs from reinforcement for separate assessment due to the limited and irregular nature of governor data.

3.120 We have assessed growth governor costs using unit cost benchmarking. We calculated the weighted average unit cost over RIIO-GD1 for growth governors (intermediate pressure (IP) and medium pressure (MP) combined). We used the whole RIIO-GD1 time period in the benchmark to reduce the impact of unit cost volatility between years. Historical data at the industry level shows that unit costs for IP and MP are similar, so we combined these categories, giving a larger data set for the unit cost calculations.

3.121 We made several data exclusions prior to benchmarking. We removed the cost and workload data from NGN in 2019-20 and 2020-21 because the workload volumes (eg number of governors installed) were reported as less than one. We excluded unit costs from North West and West Midlands from the benchmark

because they were significantly lower than the unit costs for all other GDNs and likely to be representative of smaller governor units.

3.122 The investment needs-case and workload volumes were reviewed as part of the engineering technical assessment, with no resulting workload adjustments. We multiplied the submitted RIIO-GD2 workloads by the benchmarked unit costs to obtain modelled costs.

3.123 Overall, our assessment of growth governors resulted in a total of £7.9m in downward adjustments to growth governors, including a downward adjustment of £1.6m and £6.8m for Scotland and Southern, respectively, and an upward adjustment of £0.5m for NGN on account of their submitted RIIO-GD2 unit costs being lower than the industry benchmark. See the relevant company annexes for further detail.

Streetworks

3.124 Streetworks relates to activities that enable and support works in the public domain, such as permits and inspections relating to working in the highway. The GDNs proposed a total gross baseline investment of £283.8m in RIIO-GD2. Total submitted streetworks costs increased over the remaining years of RIIO-GD1 before reducing to approximately 2018-19 levels and remaining relatively stable for the rest of RIIO-GD2.

3.125 Since networks face varying exposures to chargeable permit and lane rental schemes, we have based our assessment on each network's own average streetworks costs in RIIO-GD1 (between 2016-17 and 2019-20). We selected this four-year period, which includes both historical and forecast data because we consider it to be reflective of current conditions, while also reducing the impact of short-term cost volatility. We have not included the early years of RIIO-GD1 because costs were more volatile when permit schemes were less common. In calculating RIIO-GD1 averages, we have included costs for permits, lane rental, suspensions and switch-outs, inspections, administration and productivity.

3.126 Due to timing uncertainty over new permit schemes, our assessment of base streetworks costs assumes no new permit schemes in RIIO-GD2. Instead we propose to retain a common streetworks re-opener to accommodate material additional costs driven by new schemes introduced during RIIO-GD2.

3.127 Disallowed Costs:

- We have disallowed all costs relating to penalties, as we think these costs are within GDNs' control and are levied by HAs due to failure by a GDN or its contractors to comply with agreed permit conditions. These conditions are in place to ensure sites are managed safely and effectively and there must be a strong incentive on GDNs to comply with these requirements.
- We have also disallowed lane rental avoidance charges. Only one network proposed avoidance costs, and the request did not provide sufficient justification, hence we are not confident that these costs are necessary or efficient.

Smart metering

3.128 The GDNs are not responsible for installing smart meters, but may incur costs for addressing issues and faults upstream of the meter either during or after a smart meter installation. These costs are largely associated with opex (Work Management and Emergency), with some capex and repex. We have only assessed baseline totex cost, and excluded any additional costs unless stated.

3.129 The GDNs have forecast smart metering costs for the RIIO-GD2 period of £57m (an annual average of £11.5m). This compares with an annual average of £3.5m in actual smart metering expenditure to date in RIIO-GD1. Forecasts of smart metering costs vary across the GDNs. NGN and WWU did not forecast any costs in RIIO-GD2. Cadent has forecast annual average costs of £1.3m, up from £0.6m in RIIO-GD1. SGN has forecast annual average costs of £2.8m, up from £0.4m in RIIO-GD1 and also proposed a bespoke output for additional uncertain costs associated with smart metering which we excluded from our analysis.

3.130 Cadent noted in its Business Plan that, based on its historical experience, it makes an intervention in approximately 3% of cases. It also noted that its forecast is based on unit cost estimates and future volumes according to the latest smart meter rollout timetable. SGN noted in its Business Plan that it is forecasting that smart metering interventions will continue in line with the smart meter roll-out, with an increasing volume as the programme's intensity and the complexity of installations rises. Its forecast of interventions is based on an increasing profile of 2%, 4% and 6% of interventions, with the number peaking in 2023/24.

3.131 Following our review of the information provided in the Business Plans, we consider that a 2.5% intervention rate is reasonable and in line with recent industry experience. Applying this intervention rate, our modelled smart metering costs are £42m in total, a decrease of 16% and 38% to Cadent's and SGN's forecast costs respectively. We set out further detail in the company annexes.

Land remediation

3.132 Land remediation costs are part of opex, and relate to statutory remediation of gasholder and non-gasholder sites, routine site monitoring and maintenance.

3.133 The GDNs have forecast £38m of land remediation costs over RIIO-GD2, an annual average of £7.6m. This compares with an annual average of £3.5m in actual land remediation expenditure in RIIO-GD1 so far. The forecasts vary across the GDNs, with SGN forecasting a total of £23.4m in land remediation costs across its two networks.

3.134 The majority of SGN's forecast (£19.5m) relates to costs for the statutory remediation of non-gasholder sites. In justifying these costs, SGN submitted an external report from Advisian, which estimated the cost of land remediation for SGN's sites.

3.135 Overall, we consider that forecast land remediation costs are generally in line with historical costs, and large work programs such as SGN's statutory remediation of non-gasholder sites are supported by external evidence. Therefore, we have accepted the GDNs' forecast of £38m as our modelled view of land remediation costs in RIIO-GD2.

SIU opex

3.136 SGN owns and operates five independent gas networks in remote parts of Scotland, which are referred to as SIUs. It has forecast £33m of opex in RIIO-GD2, an annual average of £6.6m. This compares with an annual average of £10.3m in RIIO-GD1 so far.

3.137 We have accepted SGN's forecast of £33m as our modelled view of SIU opex in RIIO-GD2. SIU capex is subject to technical assessment.

3.138 We expect existing subsidy arrangements for SIU opex to continue in RIIO-GD2, and are working with BEIS to obtain the necessary Secretary of State authorisation for this.

Non-regression Costs Consultation Question

GDQ38. Do you agree with our assessment of non-regression costs and our proposed adjustments?

Technically Assessed Costs

3.139 The discrete nature of some investments limits our ability to model costs and benchmark through direct comparison. This may be because an investment is uncommon across networks, lacks historical comparators or has other highly unique characteristics.

3.140 In these cases, we have undertaken a technical assessment:

- Each investment proposal first underwent an initial qualitative expert review to ensure the needs case was well justified, the proposed investment option was the most appropriate, all associated workload volumes were justified, and headline costs were reasonable. This stage was based on the GDNs' individual IDPs.¹⁴¹
- The investments that we found to be unjustified were disallowed, whereas those that we found to be justified proceeded to cost assessment.
- Adjustments associated with repex and capex are based on expert assessments, undertaken by our consultants QEM/ARV. See their GD Engineering Review report for more detail.

3.141 Technically assessed activities include bespoke outputs, large repex projects, large capex projects, Information Technology and Telecoms (IT&T) capex, Physical Security Upgrade Programme (PSUP) gasholder demolition. The assessment of these costs are discussed in the following section and we provide further details in the company annexes.

3.142 Our proposed allowance for all technically assessed costs is not subject to a benchmarking efficiency adjustment, but is subject to ongoing efficiency

¹⁴¹ An IDP (Investment Decision Pack) comprises an EJP (Engineering Justification Paper) and a CBA (Cost-Benefit Analysis).

adjustments. These have not been included in this section for easier comparison to submitted costs.

Bespoke outputs

3.143 Detail on our decisions for all bespoke outputs is provided in the company annexes. Our decisions on the GDNs' forecast bespoke outputs are however summarised in the table below. Overall, we propose to exclude £356m of forecast incremental expenditure associated with bespoke outputs from our modelling for technical assessment. We have accepted £47.6m of expenditure associated with bespoke outputs.

Table 29: Assessment of technically assessed bespoke outputs

Network	Submitted allowance (£m, 2018/19)	Proposed allowance (excluding ongoing efficiency) (£m, 2018/19)	Difference (%)
EoE	31.5	0.7	-98%
Lon	106.1	9.3	-91%
NW	27.0	0.5	-98%
WM	20.9	1.0	-95%
NGN	20.1	19.6	-2%
Sc	55.1	6.3	-89%
So	95.0	10.2	-89%
WWU	0.3	0.0	-100%
All	356.1	47.6	-87%

3.144 Under the Business Plan Incentive we classified costs associated with bespoke outputs as high confidence, since comparative analysis informed our decision to include/not include the proposed outputs.

Repex projects

3.145 We assessed two Repex projects separately, due to their bespoke nature: SGN Scotland's intermediate pressure (IP) service reconfiguration project and SGN Southern's King's Ferry project. These assessments are detailed in our SGN annex.

3.146 For the IP services project, we accepted the submitted governor and small PRI costs in full, but disallowed costs associated with mains and services. We consider this work is already funded under the Tier 1 mains and Tier 1 services PCDs. We

will set a bespoke PCD on the delivery of the governors and small PRIs. We allowed the costs for King's Ferry in full as part of baseline and propose to set a bespoke PCD for the project.

Capex projects

3.147 We undertook a qualitative expert review on 124 capex investments across all GDNs. We propose to disallow a total cost of £15.9m, and also propose to disallow £18.6m of other capex costs relating to Cadent's London Medium Pressure project, as we propose that this repex-related investment be covered by a re-opener.¹⁴²

3.148 We found the scope of RIIO-GD2 investment proposals to vary significantly between Business Plan submissions, with some IDPs targeting relatively small and discrete projects, while others were more generic or related to well established schemes. Hence, we considered some investments - despite undergoing a needs-case and options assessment - are common and therefore suitable for cost modelling. We absorbed these costs into our totex regression model and assessed them with base costs.

3.149 For discrete investments, we undertook a technical assessment of costs. This covered a total of 39 discrete capital investments within the LTS, Storage and Entry and Other Capex categories, with a total proposed gross cost of £309.33m across all GDNs. This stage of our assessment resulted in a proposed total downward cost adjustment of £42.31m.

3.150 We based our technical assessment of costs on expert review, typically looking at each project cost input bottom-up. We applied a proportionate level of scrutiny, based on the materiality of the proposed investment costs.

3.151 To ensure consumers are protected if any funded discrete capital investment is not delivered as planned within RIIO-GD2, we propose to fund these investments through the common Capital Projects PCD discussed further in Chapter 4 and the company annexes.

3.152 Where we have been able to establish our own view of efficient costs for an investment using technical assessment, we have classified the resulting costs as high confidence for Business Plan Incentive (BPI) purposes. However, where we cannot establish an independent view of costs (and have accepted the

¹⁴² The re-opener would cover elements of both repex and capex expenditure associated with the project.

investment's needs-case) we have classified them as lower confidence for BPI purposes.

IT and Telecoms capex

3.153 In assessing IT and Telecoms costs, we were assisted by an external consultant, Atkins, with expertise in this subject area. This assessment reviewed the strength and traceability of the IT proposals against four criteria: robustness of project justification; credibility of planning; understanding and deliverability of resource definition; and efficiency and certainty in costing.¹⁴³

3.154 Projects that met all four assessment criteria are proposed for baseline funding. Projects that failed to meet all criteria are proposed to be subject to the Non-operational IT and Telecoms Capex Uncertainty Mechanism, details of which can be found in the Core Document.

Gas holder demolitions

3.155 NGN and WWU forecast a total of £18.7m in opex associated with the full demolition of gasholders in RIIO-GD2. NGN forecasts £16m for the demolition of 24 gasholders and WWU forecasts £2.7m for the demolition of five gasholders.

3.156 In RIIO-GD1 we provided cost allowances based on a unit rate of £0.5m per gasholder. We have maintained a unit cost approach in RIIO-GD2, providing a unit rate of £0.66m in 2018-19 prices. Our assessment provides £19m in total allowances for gasholder demolitions, representing a small decrease in NGN's forecast and a small increase in WWU's forecast.

Technically Assessed Costs Consultation Questions

GDQ39. Do you agree with areas selected for technical assessment?

GDQ40. Do you agree with our proposed approach?

Disaggregation of allowances

3.157 To allow a full comparison of costs to submitted costs we require costs at an activity level. While this does not impact the overall totex baseline, it is required

¹⁴³ See IT and Telecoms Annex for further details of the assessment approach.

for the setting of PCDs. We determine the value and the level of disaggregation of these allowances will vary by activity.

3.158 For activities which are assessed under the technically assessed category, we determine an efficient cost and use this to set any associated PCDs.

3.159 For activities which are modelled through our regression or non-regression approaches (ie excluding technical assessment), we use scale and weighting factors to derive disaggregated allowances from the top-down totex allowance for each GDN, based on company-specific data.

- Step 1: We calculate a scaling factor, which determines the average reduction to submitted totex based on our totex modelling process. We calculate the scaling factor for each network by dividing the proposed totex allowance by submitted totex.
- Step 2: We calculate a weighting factor for individual activities. We can do this to the level of disaggregation required. We calculate the weighting according to the activity's share of adjusted costs. In this way, we ensure that workload adjustments are captured in the disaggregated allowances.
- Step 3: We multiply submitted costs for each activity by the scaling factor and relevant weighting factor, to derive our proposed disaggregated allowances.

Disaggregation of Allowances Consultation Questions

GDQ41. Do you agree with our proposed disaggregation methodology?

BPI calculations

Cost Confidence

3.160 In order to calculate potential stage 3 penalties and stage 4 rewards under the BPI, we first distinguished between high and lower confidence costs. We consider that all modelled costs are high confidence, since we can use benchmarking to determine efficient cost allowances. Costs we assessed via technical assessment are a mixture of high and lower confidence costs, depending on whether we have sufficient information to be confident in the forecast costs and volumes. A detailed list of cost activities and projects we considered to be lower confidence costs is provided in the company annexes.

Stage 3 and stage 4 calculations

3.161 Under stage 3, we apply a 10% penalty to poorly justified lower confidence costs.

Under stage 4, however, no GDNs are eligible for rewards due to their poorly justified repex and capex volumes summarises our assessment of confidence, penalties and rewards under the BPI.

Table 30: Summary of BPI assessment

Network	High confidence costs (%)	Stage 3 penalty (£m, 2018/19)	Stage 4 reward (£m, 2018/19)
EoE	98.8%	-0.05	none
Lon	99.3%	-0.02	none
NW	98.6%	-0.06	none
WM	99.3%	-0.01	none
NGN	100.0%	-	none
Sc	97.2%	-0.39	none
So	98.9%	-0.71	none
WWU	98.9%	-	none

4. Adjusting baseline allowances to allow for uncertainty

Introduction

- 4.1 This chapter outlines our approach to addressing uncertainty during the RIIO-GD2 and relates to the Uncertainty Mechanisms Building Block of the price control.
- 4.2 The Uncertainty Mechanisms (UMs) that we are proposing for GDNs in RIIO-GD2 are outlined in Table 31. These have been developed through engagement with GDNs following the submission of their Business Plans. This chapter outlines the UMs we are proposing for all the GD sector. We discuss our position on cross-sector UMs in our Core Document, and bespoke UMs in the company annexes.
- 4.3 As set out in our Core Document, the four types of UM that we are proposing to utilise in the GD sector in RIIO-GD2 are volume drivers, re-openers, pass-throughs and indexation.

Common design parameters for re-openers

- 4.4 We are proposing a common set of design parameters for re-openers. Our proposal and rationale can be found in our Core Document. There may be specific circumstances where the common approach may not be suitable. Unless explicitly stated, re-openers will follow the common set of design parameters including:
- one week long re-opener windows in January of the relevant year for network company applications
 - application requirements will be set in licence conditions and guidance where possible
 - the ability for the Authority to trigger the re-opener, as well as network companies
 - a materiality threshold of 1% of annual average base revenue, multiplied by the Totex Incentive Mechanism (TIM) efficiency incentive rate, with aggregation available subject to certain criteria.

Table 31: Uncertainty mechanisms included in our Draft Determinations

UM Name	UM type	Company	Further detail
Common UMs across GD Sector			
Pension deficit charge adjustment	Pass-through	All GDNs	Not covered (no change since our SSMD)

UM Name	UM type	Company	Further detail
Third-party damage and water ingress	Pass-through	All GDNs	Chapter 4 ¹⁴⁴
Miscellaneous pass-through	Pass-through	All GDNs	Not covered (no change since our SSMD)
Gas Transporters share of Xoserve costs	Pass-through	All GDNs	Not covered (no change since our SSMD)
Repex – Tier 2A iron mains	Volume driver	All GDNs	Chapter 4
Repex – HSE policy changes	Re-opener	All GDNs	Chapter 4
Repex - Tier 1 iron stubs	Re-opener	All GDNs	Chapter 4
Diversions	Re-opener	All GDNs	Chapter 4
Multiple occupancy buildings (MOB) safety	Re-opener	All GDNs	Chapter 4
Heat policy	Re-opener	All GDNs	Chapter 4
Domestic connections	Volume driver	All GDNs	Chapter 4
New large load	Re-opener	All GDNs	Chapter 4
Smart meter rollout costs	Re-opener	All GDNs	Chapter 4
Specified streetworks	Re-opener	All GDNs	Chapter 4
Fuel Poor Network Extension Scheme (FPNES)	Re-opener	All GDNs	Chapter 2
Common UMs across all sectors¹⁴⁵			
Bad Debt	Pass-through	All	Finance Annex ¹⁴⁶
Business Rates	Pass-through	All	Not covered (no change since our SSMD)
Ofgem Licence Fee	Pass-through	All	Not covered (no change since our SSMD)
Coordinated Adjustment Mechanism	Re-opener	All	Core Document
Cyber Resilience OT*	UIOLI allowance and re-opener	All	Core Document
Cyber Resilience IT*	Re-opener	All	Core Document
Non-operational IT and Telecoms Capex	Re-opener	All	Core Document
Pensions (pension scheme established deficits)	Re-opener	All	Not covered (no change since our SSMD)
Physical Security (PSUP)	Re-opener	All	Core Document
Tax Review	Re-opener	All	Finance Annex
Net Zero	Re-opener	All	Core Document
Cost of debt indexation	Indexation	All	Finance Annex
Cost of equity indexation	Indexation	All	Finance Annex
Inflation Indexation of RAV and Allowed Return	Indexation	No	Finance Annex
Real Price Effects	Indexation	No	Core Document
Bespoke Uncertainty Mechanisms			
London medium pressure	Re-opener	Cadent	Cadent Annex

¹⁴⁴ Where the source document is not stated, we are referring to this document (GD Annex).

¹⁴⁵ Any costs not included in baseline totex, but included in allowed revenue are captured in the licence model.

¹⁴⁶ RIIO-2 Draft Determinations – Regulatory Finance Annex (abbreviated to Finance Annex)

Uncertainty Mechanisms consultation questions

GDQ42. Do you have any views on our common UMs that haven't been covered through any of the specific consultation questions set out elsewhere in this chapter? If so, please set them out, making clear which output you are referring to.

Consultation position for RIIO-GD2 specific UMs

GD specific pass-through costs

GD specific pass-through costs	
Purpose	Where GDNs have costs that are substantially outside of their control we use pass-through mechanisms. For these items, any change in the GDNs' costs is recovered fully from customers.
Benefits	Protect the companies from costs that are outside of their control.

Background

4.5 This section covers GD sector specific pass-through costs. In our SSMD we decided to retain the following GD specific pass-through mechanisms. We are not consulting on these because our position is unchanged:

- pension deficit charge adjustment¹⁴⁷
- miscellaneous pass-through¹⁴⁸
- Gas Transporters' share of Xoserve costs.¹⁴⁹

4.6 This section relates only to new pass-through items or those we have modified since our SSMD.

4.7 Our cost assessment approach to non-controllable opex including pass-through mechanisms is detailed within the cost section of each company's annex.

¹⁴⁷ Paragraph 6.34

¹⁴⁸ Paragraph 6.44

¹⁴⁹ Paragraph 6.56

Consultation position

UM parameter	Consultation position
Pass-through for third-party damage and water ingress	Retain existing pass-through mechanism and introduce a licence requirement for GDNs to seek cost recovery from third parties or insurance prior to using the mechanism.
Pass-through for costs related to gas theft	Remove pass-through mechanism. Instead, we will treat all investigation costs and money recovered as totex, subject to TIM. We will propose enabling changes to the licence (SLC7).
Pass-through for shrinkage	A new pass-through mechanism to allow for the recovery of non-controllable opex associated with shrinkage.
Pass-through for NTS exit capacity	A new pass-through mechanism to allow for the recovery of non-controllable opex associated with NTS exit capacity.

Rationale for consultation position

Third-Party Damage and Water Ingress

4.8 In our SSMD we decided to retain this mechanism and consider further whether to clarify that eligible costs should be net of any costs the GDN recovers from third parties and/or insurance claims.¹⁵⁰

4.9 We propose a licence obligation for GDNs to attempt to recover all costs from responsible parties or under relevant insurance policies prior to requesting this pass-through. Before this mechanism can be utilised, we will ensure that GDNs have exhausted all options before any cost is incurred by customers.

Costs related to gas theft

4.10 In our SSMD we decided to retain this mechanism, allowing pass-through of costs related to information requests from shippers and/or suppliers (via Xoserve) for investigating gas illegally taken. We decided to widen its scope to allow for funds recovered through the investigation of gas theft to be returned to customers.¹⁵¹ We are now proposing to change our SSMD position and remove the pass-through term and instead, enable GDNs to treat all investigation costs and money recovered for gas theft as totex.

4.11 In their Business Plans, two GDNs (Cadent and WWU) proposed bespoke outputs relating to the proactive investigation of gas theft. They identified weak incentives

¹⁵⁰ Paragraph 6.39

¹⁵¹ Paragraph 6.48

for GDNs to investigate because the licence¹⁵² prevents GDNs from benefiting from gas theft identification. The bespoke outputs would allow them to retain a percentage of funds recovered through gas theft investigations. One GDN offered to absorb investigation costs. The other proposed a baseline allowance for investigations, which could be returned to consumers.

- 4.12 We agree with the intent of these proposals: if GDNs take a more proactive approach, consumers would benefit from sharing the recovered funds. However, we believe this can be achieved through a simpler mechanism.
- 4.13 We propose to replace the current funding arrangements set out in the licence, so that we treat all investigation costs and all money recovered as totex to be shared between GDNs and customers using the TIM. (Our current requirement is that GDNs remain revenue neutral.) This amendment will bring the GDNs in line with the Electricity Distribution sector. Our proposal removes the need for a pass-through mechanism since all investigation costs are treated as totex.
- 4.14 We will need to amend Standard Licence Condition 7 to give GDNs greater discretion over investigating and seeking to recover the value of suspected gas theft. The proposed amendments would require GDNs to take all reasonable cost-effective steps to resolve suspected gas theft and seek to recover the value of stolen gas when it is likely to exceed the costs of recovery.
- 4.15 We think our proposal should apply to all GDNs as it provides effective incentives for reactive and proactive theft investigations.

Shrinkage purchases

- 4.16 GDNs are obliged to purchase replacement gas each year to cover the volume lost to shrinkage in the distribution network. The purpose of the proposed pass-through item is to fund the costs of these purchases, which are difficult to forecast accurately and largely outside of the GDNs' control. In particular, the costs of replacement gas purchases are driven by the wholesale gas markets and are therefore largely non-controllable.
- 4.17 In RIIO-GD1, there is a single mechanism that combines the pass-through of these costs with financial incentives to reduce total shrinkage¹⁵³. Since we are replacing the latter with the new Shrinkage and environmental emissions ODI-F,

¹⁵² SLC 7: Provision of Information Relating to Gas Illegally Taken

¹⁵³ Gas Transport Licence Special Condition 1F

which relates only to those aspects of shrinkage within the GDNs' control, we think it is clearer to separate the pass-through element from the incentive.

NTS exit capacity

4.18 GDNs are obliged to book sufficient NTS exit capacity for each year to meet their 1-in-20 obligations. In RIIO-GD1 GDNs had some ability to manage the costs by maximising their use of the cheapest NTS offtakes, but from October 2020 the NTS will move to a uniform pricing methodology for its offtakes.¹⁵⁴ Consequently, in RIIO-GD2 exit capacity costs will be largely non-controllable by GDNs and we are therefore creating a new pass-through item to allow for these. To help ensure, GDNs efficiently manage their exit capacity bookings, we propose to introduce the Enhanced Obligations Framework (see Chapter 2).

Repex - Tier 2A iron mains

Repex - Tier 2A iron mains	
Purpose	A volume driver to fund mains replacement for mandatory Tier 2A iron mains and associated services. Enables adjustment of Baseline Cost Allowances to reflect differences between Outturn workloads and Baseline Workloads during RIIO-GD2.
Benefits	Protects customers and GDNs from incorrect volume assumptions made when setting the RIIO-GD2 price control. Ensures GDNs are funded to undertake any additional mandatory work that may emerge during the price control period.

Background

4.19 In our SSMD¹⁵⁵ we decided to retain our RIIO-GD1 approach of adjusting cost allowances using a volume driver for Tier 2A replacement work. We will apply the volume driver through adjustments to GDNs' allowances in the annual iteration process (AIP), reflecting actual workloads in the previous year.

4.20 Since our SSMD we have worked with GDNs through working groups to finalise the scope and methodology of the proposed volume driver.

¹⁵⁴ Ofgem approved modification proposal UNC678A "Amendments to Gas Charging Regime (Postage Stamp)" on 28th May 2020.

¹⁵⁵ Paragraph 4.45

Design characteristics

4.21 We proposed the Tier 2A volume driver will have the following design characteristics:

- **Baseline Workload** – the total workload volume (across the range of Workload Activities) that GDNs forecast to deliver each year and on which Baseline Cost Allowances are set.
- **Outturn Workload** – the total workload volume (across the range of Workload Activities) actually delivered each year.
- **Workload Activities** – defined by diameter band. We propose to adjust allowances for the following activities, which reflect the HSE definition¹⁵⁶ of Tier 2 iron mains:
 - 9" in diameter
 - 10"-12" in diameter
 - >12"-17" in diameter
- **Baseline Cost Allowances** – set through our totex modelling approach. Our approach to setting allowances is explained in more detail in Chapter 3 and the SBSG Annex.
- **Ex ante unit costs** – fixed upfront (ex ante) unit costs for each Workload Activity. These are used to adjust Baseline Costs Allowances during RIIO-GD2.

Consultation position

UM parameter	Consultation position
Scope	Applies to Tier 2A iron mains and associated services only. We propose that ex ante unit costs are based on mains decommissioned.
Methodology	Volume driver will adjust Baseline Cost Allowances to account for variances between Outturn Workloads and Baseline workloads for each Workload Activity. Allowances will be adjusted for each distribution network, based on ex ante unit costs. We propose to calculate distribution network-specific unit costs for different diameter bands based on a single, industry average unit cost base, with adjustments then made for regional factors. We have requested data clarifications from the GDNs to calculate these unit costs.

¹⁵⁶ Tier 2 is defined as above 8" and below 18" in diameter:
<https://www.hse.gov.uk/gas/supply/mainsreplacement/enforcement-policy-2013-2021.htm>

Rationale for consultation position

- 4.22 We propose that the volume driver will automatically adjust Baseline Cost Allowances each year if the Outturn Workloads deviate from Baseline Workloads for each Workload Activity.
- 4.23 There is uncertainty over the total workload required during RIIO-GD2, which makes using a volume driver appropriate to protect consumers from forecast uncertainty. For example, under the HSE's Iron Mains Risk Reduction Programme (IMRRP), Tier 2 iron mains must be replaced or decommissioned¹⁵⁷ if they exceed certain GDN-specific risk thresholds.¹⁵⁸ Any main exceeding this threshold is classified as Tier 2A and changes to risk scores may occur during RIIO-GD2, adding to the volume of work. In addition, there is uncertainty in GDNs' workload forecasts, both for Baseline Workloads and the mix of Workload Activities.

Setting unit costs for adjusting Baseline Cost Allowances

- 4.24 We propose to establish distribution network-specific ex ante unit costs for each Workload Activity. We will state these unit costs in £/km mains decommissioned. We propose to calculate an industry average unit cost for each diameter band, inclusive of associated service costs, based on the following assumptions for services:
- an average rate of service interventions
 - an average split between relay and transfer.
- 4.25 We will then account for regional factors, to create distribution network-specific unit costs for each diameter band that will be used to adjust allowances.
- 4.26 We think that using industry average unit costs (plus regional factors) to make adjustments through the allowance iteration process is appropriate, as Tier 2A mains replacement is a repeatable activity that is common across all GDNs and all networks. Our proposed approach requires the GDNs to provide clarifications to their submitted cost and workload data provided in their RIIO-GD2 BPDTs. See the Tier 1 mains replacement section in Chapter 2 for additional detail on data requirements and further engagement.

¹⁵⁷ Or otherwise remediated

¹⁵⁸ As measured by the Mains Risk Prioritisation System (MRPS).

Cost adjustment

- 4.27 The value of any annual adjustment to the Baseline Cost Allowances (which may be up or down) will be determined by multiplying the difference between Outturn Workloads and Baseline Workloads for each Workload Activity by the relevant ex ante unit cost, and adding the products.

Repex - HSE policy changes

Repex - HSE policy changes	
Purpose	A common re-opener to account for changes in HSE policy or the GDNs' Approved Programmes that result in a material change to repex costs.
Benefits	Enables upward, or downward, adjustments to allowances and outputs in response to changes in HSE policy or to GDNs' Approved Programmes.

Background

- 4.28 In our SSMD¹⁵⁹ we decided to introduce a re-opener mechanism covering changes to HSE policy and GDNs' approved programmes. Since our SSMD we have worked with GDNs through the licence drafting working groups on the scope and trigger conditions.

¹⁵⁹ Paragraph 4.52

Consultation position

UM parameter	Consultation position
Trigger	<p>The re-opener would be triggered by material changes to GDNs' IMRRP costs that occur as a result of (i) or (ii) below:</p> <p>(i) Changes to a GDN's Approved Programme (agreed by the HSE) or</p> <p>(ii) amendments to legislation underpinning the Repex programme, that materially impact cost to deliver the IMRRP, including the following legislation:</p> <ul style="list-style-type: none"> • Pipeline Safety Regulations (1996) Regulation 13A • The Gas Safety Management Regulations (1996) • Pressure System Safety Regulations (2000) • Health and Safety at Work Act.
Re-opener windows (year)	<p>GDNs would have three opportunities to trigger the re-opener:</p> <ul style="list-style-type: none"> • 25 January 2022 - 31 January 2022 • 25 January 2023 - 31 January 2023 • 25 January 2024 - 31 January 2024. <p>We will deal with any relevant changes occurring in years four or five of the price control period in close out or in setting the next price control. Given the overall materiality of the IMRRP, we think having three re-opener windows throughout RIIO-GD2 ensures any material changes can be accounted for.</p>
Materiality threshold	<p>We propose a materiality threshold of 1% of annual average base revenues in either direction.</p>

Rationale for consultation position

4.29 The IMRRP drives a significant share of overall repex costs in RIIO-GD2. The programme is underpinned by HSE legislation and each GDN must comply with its Approved Programme¹⁶⁰ in order to benefit from a statutory defence to pipeline failure provided by this legislation. The GDNs' Approved Programmes outline how they will manage the risk to the public from 'at risk' iron mains on their network.

4.30 We propose that the relevant re-opener windows are in years two, three and four of RIIO-GD2. We think this provides sufficient flexibility to allow material changes to be incorporated into RIIO-GD2. We think any changes that occur after the last window could be incorporated into RIIO-GD2 close-out or in setting the next price control. We think this provides sufficient scope to respond to any material changes, agreed with HSE and Ofgem, to the repex programme.

¹⁶⁰ Under the IMRRP the GDNs submit programmes to HSE which outline how they will manage the risk to the public from 'at risk' iron mains on their network (i.e. those within 30m of occupied buildings). This includes outlining approaches to managing risk and agreeing targets for the volume of 'at risk' iron mains that each GDN will decommission over the period covered by their programme. HSE assesses each programme and if it is found to be 'suitable and sufficient' it is approved.

- 4.31 We propose a materiality threshold of 1% of annual average base revenue in either direction. The Core Document contains further discussion on materiality thresholds.

Repex - Tier 1 iron stubs re-opener

Tier 1 stubs re-opener	
Purpose	Provides GDNs with the opportunity to recover costs for decommissioning Tier 1 stubs.
Benefits	Will only commit customer funding if a clear and consistent approach across the industry can be reached.

Background

- 4.32 Stubs are short lengths¹⁶¹ of Tier 1 iron mains attached to larger diameter parent mains at one end and plastic mains at the other.¹⁶² Under the IMRRP stubs that meet the criteria¹⁶³ for Tier 1 mains must be decommissioned by 2032.¹⁶⁴ We understand that the HSE are currently reviewing the risk posed by Tier 1 stubs and we want to ensure any outcomes from this review are incorporated into the GDNs' approach to managing this area in RIIO-GD2.
- 4.33 The GDNs took various approaches to treatment of stubs in their Business Plans. NGN proposed to include stubs within baseline costs for Tier 1 mains, at a cost of £38m over RIIO-GD2, while SGN proposed a bespoke PCD, with costs of £8.7m across both of their networks. WWU and Cadent did not request specific baseline funding for stubs, noting the dependency on the outcome of the HSE review. We propose not to include any output, or baseline funding, for stubs, as we think a common re-opener is a better way to manage the uncertainty around scope, timing and costs.

¹⁶¹ Usually up to 3m in length, although definitions of a stub vary between GDNs.

¹⁶² Prior to RIIO-GD1, the Iron Mains Replacement Programme required GDNs to decommission all iron mains, regardless of diameter. Stubs were created when GDNs decommissioned (replaced) the Tier 1 main, but left a short section connected to the larger diameter parent main, with the intention of decommissioning it when replacing the parent main. Under the updated decommissioning programme, the current IMRRP, replacement of larger diameter mains should be supported by CBA, meaning many stubs will need to be addressed individually, if replacement of the parent main is not economically justified.

¹⁶³ Iron gas main that are 8" or less in diameter and within 30 metres of a building.

¹⁶⁴ Through the Iron Mains Risk Reduction Programme (IMRRP).

Consultation position

UM parameter	Consultation position
Trigger	<p>A submission of a report during the re-opener window by the GDN outlining:</p> <ul style="list-style-type: none"> the needs case for decommissioning stubs the scope, workload and delivery profile, including an overview of how Tier 1 stubs will be managed out to 2032 well-justified costs, including evidence of market testing and full consideration of innovative techniques to lower costs. <p>We think this will ensure that stubs are dealt with in a common way across the industry.</p>
Re-opener mechanism	A common re-opener to provide funding to address Tier 1 stubs during RIIO-GD2.
Re-opener window (year)	<p>GDNs should have one opportunity to trigger the re-opener:</p> <ul style="list-style-type: none"> 25 January 2022 - 31 January 2022.
Related bespoke outputs	We will not include the bespoke outputs submitted by SGN, replacing them with this common re-opener.

Rationale for consultation position

- 4.34 We propose a new common re-opener for RIIO-GD2 that can provide funding for addressing Tier 1 stubs. We think that there is too much uncertainty around the scope, timing and costs of Tier 1 stubs in RIIO-GD2 to include this activity within baseline allowances. We need further clarity on the total number of Tier 1 stubs that require decommissioning in RIIO-GD2 (and beyond), given the ongoing HSE review.
- 4.35 We consider that a common re-opener is appropriate because this uncertainty exists for all GDNs. We expect GDNs to work together to define a common approach to managing the risk from Tier 1 stubs. Therefore, we propose a single re-opener window to assess any submissions for costs associated with this area.
- 4.36 To trigger the re-opener, GDNs would submit a report to us providing the following evidence:
- the needs case for decommissioning stubs, including outlining a common approach to addressing stubs agreed between the GDNs and HSE
 - the scope, workload and delivery profile, including an overview of how Tier 1 stubs will be managed out to 2032
 - well-justified costs, including evidence of market testing and full consideration of innovative techniques to lower costs.

Consultation questions

GDQ43. What are your views on the proposed re-opener for Tier 1 stubs?

Repex - Diversions

Diversions re-opener	
Purpose	A re-opener to recover additional <7bar mains diversions costs, net of third-party contributions, driven by third-party works.
Benefits	Ensures consumers only pay for works delivered.

Background

- 4.37 GDNs are occasionally required to relocate assets to accommodate third-party works, for example when a developer plans to construct over existing gas assets. While much of this work is rechargeable, the GDN must pay for some diversions. Future work is difficult to forecast due to it being third-party driven, and historical data shows that workload can vary significantly between years.
- 4.38 NGN proposed a re-opener to deal specifically with diversions relating to HS2 and Cadent proposed a more general diversions re-opener. We considered there was merit in the proposals but that the uncertainty extended to all GDNs. Therefore, we propose a common approach.

Consultation position

UM parameter	Consultation position
Related bespoke outputs	We are proposing to replace the re-openers submitted by NGN and Cadent with a common approach that applies to all GDNs.
Trigger	A GDN submission during the re-opener window outlining costs relating to non-rechargeable diversions and justification that these costs are efficient and cannot be recovered from third parties.
Re-opener mechanism	A re-opener to provide GDNs with funding for non-rechargeable diversions costs for <7bar mains and associated services diversion works during RIIO-GD2.
Re-opener scope	Limited to non-rechargeable <7bar mains and associated services diversions work.
Re-opener window (year)	GDNs should have one opportunity to trigger the re-opener: <ul style="list-style-type: none"> 25 January 2022 - 31 January 2022.
Materiality threshold/trigger	Materiality threshold of 1% of annual average base revenues in either direction.

Rationale for consultation position

- 4.39 We think a new re-opener setting a common approach across all GDNs is an appropriate mechanism to cover additional efficient non-rechargeable costs for <7bar mains and associated services diversions work, above a materiality threshold. These costs are uncertain and largely unavoidable. We have allowed for diversions costs within baseline funding for the GDNs.¹⁶⁵ We consider that a common re-opener is appropriate because the same uncertainty over the outturn demand for diversions work from third parties exists for all GDNs.
- 4.40 We propose to limit the re-opener to <7bar mains and associated services diversions only, since these make up the majority of diversions workload. GDNs seeking to trigger the re-opener will need to provide robust evidence that the costs:
- are efficient
 - cannot be fully recovered from the requesting third-party.
- 4.41 We think a single re-opener window is appropriate as we have provided baseline funding for diversions in RIIO-GD2 and would expect the GDNs to have foresight of any significant variations from this by the re-opener window, given the typical lead times for major projects.

Consultation questions

GDQ44. What are your views on our proposal to introduce a <7bar diversions re-opener?

Repex - MOBs safety

MOBs safety re-opener	
Purpose	A re-opener to recover the costs of workload changes in response to new safety requirements for multiple occupancy buildings (MOBs).
Benefits	To ensure that GDNs are funded to implement potential new safety requirements.

¹⁶⁵ With the exception of WWU, which did not submit any diversions costs for RIIO-GD2.

Background

- 4.42 Following the Grenfell Tower tragedy, the UK Government commissioned an independent inquiry into the regulation of high-rise residential buildings (the 'Hackitt Review'). The final report was published on 17 May 2018.¹⁶⁶
- 4.43 The Ministry of Housing, Communities & Local Government (MHCLG) is leading the reform of the building safety regulatory system, which includes establishing a Building Safety Regulator within the HSE.¹⁶⁷ The outcomes of this process may affect the actions that GDNs must undertake in relation to high-rise multiple occupancy residential buildings.
- 4.44 In its Business Plan, Cadent proposed a bespoke re-opener to cover costs relating to new safety standards for MOBs.

Consultation position

UM parameter	Consultation position
Triggers	To be determined through consultation with the Licence Drafting Working Group
Re-opener window (year)	GDNs should have two opportunities to trigger the re-opener: <ul style="list-style-type: none"> • 25 January 2022 to 31 January 2022 • 25 January 2023 to 31 January 2023.
Other	Any changes to HSE policy that occur in years four and five of the Price Control period will be dealt with in close-out.

Rationale for consultation position

- 4.45 We propose a re-opener to cover material additional costs of implementing any new safety standards for MOBs that the MHCLG, HSE or other relevant regulators may introduce in response to the Hackitt Review and MHCLG consultation.
- 4.46 This re-opener will use the proposed definition of a MOB that we developed in consultation with the Interruptions Working Group for the RIGs.¹⁶⁸

¹⁶⁶ <https://www.gov.uk/government/publications/independent-review-of-building-regulations-and-fire-safety-final-report>

¹⁶⁷ <https://www.gov.uk/government/consultations/building-a-safer-future-proposals-for-reform-of-the-building-safety-regulatory-system>

¹⁶⁸ The full definition is: "Buildings containing a minimum of three individual premises, each with a separate supply point and supplied via an internal or external riser, and where at least one of those premises is more than two floors above ground level. The premises may be domestic, non-domestic, or a combination of the two. Buildings where all premises on the third floor or above are supplied through individual pipes, with the meter and ECV located at a lower level, are not included. MOBs are categorised as medium-rise (3 – 5 floors), high-rise (6 – 9 floors) or high risk (10+ floors).

- 4.47 GDNs may trigger the re-opener during specified intervals in the second and third years of the price control. The two windows cater for the uncertainty around when new requirements could take effect.
- 4.48 Our proposal is to adopt Cadent's proposal and apply it as a common re-opener because the same uncertainty exists for all GDNs. We note that the potential for additional costs differs between GDNs owing to the uneven distribution of MOBs and the impact of devolution.

Consultation questions

GDQ45. What are your views on the triggers and windows for the MOBs safety re-opener?

Heat policy (including Energy Efficiency)

Heat Policy (including Energy Efficiency) re-opener	
Purpose	A common re-opener to respond to policy-driven requirements that support a transition to low carbon heat.
Benefits	Ensure that RIIO-GD2 allowances and outputs reflect changes in relevant regulations and other instruments to support the timely decarbonisation of the heat sector

Background

- 4.49 In our SSMD¹⁶⁹ we decided to create a symmetrical Heat Policy re-opener. This responds to policy-driven requirements for some, or all GDNs, to change their spending significantly (and reconsider outputs) during RIIO-GD2 to support a transition to low carbon heat. In our SSMD¹⁷⁰ we noted that some government policies have the potential to create new roles for GDNs. This could mean we need to reconsider the outputs we set in addition to simply adjusting cost allowances.
- 4.50 Since publishing our SSMD we have worked with stakeholders through our Decarbonisation Working Group,¹⁷¹ to determine the scope and trigger conditions for the Heat Policy re-opener.

¹⁶⁹ Paragraph 3.62

¹⁷⁰ Paragraph 3.63

¹⁷¹ <https://www.ofgem.gov.uk/publications-and-updates/riio-gd2-working-groups>

Consultation position

UM parameter	Consultation position
Re-opener window (year)	<p>GDNs would have two opportunities to trigger the Heat Policy re-opener:</p> <ul style="list-style-type: none"> • 25 January 2022 to 31 January 2022 • 25 January 2023 to 31 January 2023.
Triggers	<p>We propose that there should be five triggers linked to changes in:</p> <ul style="list-style-type: none"> • the quality and composition of gas, as set out in the Gas Safety (Management) Regulations 1996 or Gas (Calculation of Thermal Energy) Regulations 1996 • the connection charging arrangements for distributed entry connections • the connection charging arrangements for domestic premises • the obligations on GDNs to include the promotion of energy efficiency amongst gas customers implemented by the making of an order under section 33BC of the Gas Act, 1986 by the Secretary of State • the future role of gas networks in the heat sector as determined by government policy that may result in parts of the existing network either being decommissioned or made ready to convey hydrogen.

Rationale for consultation position

4.51 The triggers were identified through discussions with a wide range of stakeholders, including through our Decarbonisation Working Group. The inclusion of these triggers in the re-opener facilitates timely response in the level of allowances and outputs for GDNs in reaction to key policy changes:

- **Changes to the regulations related to the quality and composition of gas** will be required to facilitate the blending of biomethane and or hydrogen gas with natural gas supplied to consumers. These changes may result in the need for investment in new systems and monitoring equipment.
- **Changes in the connection charging arrangements for distributed entry** might be required to facilitate the development of biomethane supplies. These changes may increase the costs incurred by GDNs when connecting supplies of biomethane to the distribution network. We note that Cadent have already launched a 'Distributed Entry Gas Review of Commercial Arrangements', one outcome of which could be changes to the connection charging arrangements.
- **Changes in the connection charging arrangements for domestic premises** may be required to facilitate the penetration of alternative technologies for heating homes. Both the UK and Scottish Governments have

announced their intention that new homes connecting to the gas network should cease by 2025 and 2024 respectively.¹⁷² The number of domestic premises connecting to the gas network has a direct impact on GDN costs through the Domestic Load Connection Allowance (DLCA).¹⁷³ In RIIO-GD1 each GDN received a baseline allowance to cover the cost of DLCA. For RIIO-GD2 we propose that is replaced by a volume driver.¹⁷⁴

- **Changes in the obligations placed on GDNs which impact on the costs of carrying on the licenced activity.** In March 2019 BEIS published a call for evidence relating to potential energy efficiency schemes for SMEs.¹⁷⁵ One option is to give GDNs new obligations to promote energy efficiency to SMEs. These obligations may not all relate directly to the decarbonisation of the heat sector, however we believe they are sufficiently aligned to be included in this re-opener.
- **Other government policy.** There is a possibility that government could decide that by a target date, certain sections of the gas distribution network are solely for the conveyance of hydrogen gas, while others are no longer required. These decisions are not mutually exclusive, and both could be implemented simultaneously on different parts of the network. While it is not anticipated that any such decisions would be implemented during the RIIO-GD2 period, investment could be required and or adjusted output levels deemed appropriate, in preparation for full implementation of any decision.

4.52 In our SSMC¹⁷⁶ we proposed application windows in both years two and three. We want to be able to adjust allowances in response to policy changes that occur at different points during the RIIO-GD2 period. There is no indication that any of these policy changes will occur in time to impact costs during the first year of the price control. We recognise that policy changes may occur after the third year but consider that it would be sufficient to recognise these in RIIO-GD3 allowances.

¹⁷² Scotland <https://news.gov.scot/news/new-build-homes-to-be-more-energy-efficient> England & Wales <https://www.gov.uk/government/speeches/spring-statement-2019-philip-hammonds-speech>

¹⁷³ Available to domestic premises connecting to gas distribution network excluding those in Fuel Poor Network Extension Scheme Standard Licence Condition 4B paragraph 1.

¹⁷⁴ Domestic connections section of this chapter

¹⁷⁵ <https://www.gov.uk/government/consultations/energy-efficiency-scheme-for-small-and-medium-sized-businesses-call-for-evidence>

¹⁷⁶ SSMC GD Annex, paragraph 4.38

Decarbonisation of heat

Sectoral approach for decarbonisation of heat	
Purpose	To ensure GDNs engage proactively with heat decarbonisation within the constraints of uncertainty about the future of heat.
Benefits	Our innovation stimulus, Net Zero re-opener and Heat Policy re-opener will support GDN activity on heat decarbonisation and help achieve Net Zero targets.

Background

4.53 In our SSMD we set out our intention to support heat decarbonisation through our innovation stimulus, bespoke uncertainty mechanisms and a Heat Policy re-opener.¹⁷⁷ These funding approaches along with a new Net Zero re-opener make up the suite of Net Zero and innovation stimulus mechanisms designed for RIIO-2, described in more detail in Chapter 8 of our Core Document.

4.54 SGN and Cadent put forward bespoke re-openers to develop and construct hydrogen infrastructure as part of their heat decarbonisation proposals.¹⁷⁸ In addition, WWU asked for a Net Zero re-opener for a range of reinforcement activity that may be required to help achieve the wider Net Zero objective.

Consultation position

UM parameter	Consultation position
Bespoke re-openers submitted by the GDNs relating to heat decarbonisation	We propose to consider the application of our innovation stimulus, Net Zero re-opener and Heat Policy re-opener for such investments, as opposed to using bespoke re-openers.

Rationale for consultation position

4.55 We want to ensure heat decarbonisation projects can be funded under the price control despite uncertainties at the time of setting allowances. We propose to consider the potential application of our innovation stimulus, Net Zero and Heat Policy re-opener mechanisms to fund the network components of such projects during the price control, rather than set bespoke re-openers in this area at this stage.¹⁷⁹

¹⁷⁷ Paragraph 3.39

¹⁷⁸ Bespoke uncertainty mechanisms include: Cadent - HyNet North West Hydrogen scale demonstration project - Strategic Innovation Project'. SGN - Energy System Transition Projects. WWU - Net Zero review mechanism.

¹⁷⁹ See Chapter 8 of our Core Document.

- 4.56 In the area of hydrogen, we note the importance of research and trials to support building an evidence base around its viability to support the decarbonisation of heat. Cadent's and SGN's bespoke re-opener proposals comprise a range of hydrogen development and deployment trials that are highly material and predominantly focussed on industrial conversion clusters. These projects are still at very early stages of development.
- 4.57 For large hydrogen projects, there are a number of questions that will need to be considered before providing any regulatory funding, including:
- Should costs for industrial hydrogen decarbonisation projects be socialised or targeted? What level of contribution should there be from industry for long-term asset investment projects in this space?
 - Is the project intended to inform or reflect (be triggered by) a heat policy decision? If the latter, what policy decision needs to be made? This could include changes to policy frameworks to allow increased volumes of hydrogen blends into the national or local transmission system.¹⁸⁰
 - Will there be a need for further changes to legislation, the use of derogations or involvement of other bodies (eg HSE)?
 - How are GDNs ensuring that projects are coordinated and avoiding undue duplication? Which evidence gaps will each project fill?
 - Whether the projects should be considered for our late competition model (see Chapter 9 of the Core Document).¹⁸¹
- 4.58 Given the existing uncertainties and questions around large hydrogen projects, we think that funding should be considered through our innovation stimulus, Net Zero or Heat Policy re-openers for such investments, as opposed to using bespoke re-openers (see our Cadent Annex and SGN Annex for Cadent's and SGN's respective proposals). We think the proposed structures of these mechanisms will be able to support heat decarbonisation projects that are appropriate for funding under the price control, when there is less uncertainty around their delivery. For details on the proposed mechanisms, see the previous section of this document and Chapter 8 of our Core Document.

¹⁸⁰ We are aware of ongoing work to explore changes to the current Gas Safety (Management) Regulations 1996 to allow more than 0.1% injection of hydrogen into the network. Cadent discusses this project in more detail in their [Future of Gas Appendix](#) (page 13).

¹⁸¹ Throughout the RIIO-GD2 period, all projects, including those focussed on hydrogen, that meet the criteria for competition and are brought forward under an uncertainty mechanism will be considered for delivery through a late competition model.

- 4.59 WWU's proposed uncertainty mechanism aligns closely with the Net Zero re-opener proposed in our Core Document that will be applicable across all sectors. We think this funding mechanism could also respond to the activities WWU has identified (see our WWU Annex).

Next steps

- 4.60 We will work closely with government and GDNs to develop an industry roadmap for hydrogen to help ensure the hydrogen evidence base is developed in a timely and coordinated way. This will help ensure that the questions above can be answered and help enable RIIO-GD2 to be adaptable through our suite of Net Zero investment and innovation mechanisms.
- 4.61 We will work with GDNs to understand more about heat decarbonisation projects currently in development and ensure these align with the wider strategic vision on the future of the gas network and its potential transition. This will ensure we make the right decisions on critical investment at the right time. We have established a Net Zero Advisory Group (NZAG) to assist with aligning with the wider Net Zero strategy, further details of which are in Chapter 8 of our Core Document.

Consultation questions

- GDQ46. What are your views on our consultation position to address bespoke decarbonisation of heat re-openers through our proposed innovation stimulus, Net Zero and Heat Policy re-opener mechanisms?
- GDQ47. What are your views on the questions set out in paragraph 4.57 of this document in relation to large hydrogen projects?
- GDQ48. Do you have any other comments in relation to this section?

Domestic connections

Domestic connections volume driver	
Purpose	A volume driver to fund domestic service connections. Enables adjustment of cost allowances to reflect differences between outturn workloads and baseline allowances during RIIO-GD2.
Benefits	Protects customers and GDNs from incorrect volume assumptions made when setting the RIIO-GD2 price control. Ensures GDNs are funded to undertake additional domestic connections work that may emerge during the price control period, and ensures that lower than expected workload is not funded unnecessarily.

Background

4.62 GDNs connect new customers to the gas network on an ongoing basis, but forecasts of future workload are based on anticipated future connection requests and are therefore uncertain. In RIIO-GD1 we provided fixed upfront funding for GDNs to connect new domestic customers. A number of GDNs perceive the demand for connections to be increasingly uncertain through RIIO-GD2, partly as a result of potential future changes in government heat policy, and have proposed bespoke uncertainty mechanisms to deal with this.

4.63 Both Cadent and SGN proposed volume drivers for new connections.

Consultation position

UM parameter	Consultation position
Scope	Applies to connections to new and existing homes (excluding FPNES), it does not apply to non-domestic connections or those connecting to the >7 bar network.
Methodology	We are proposing to calculate distribution network-specific unit costs for different connecting mains diameters based on a single, industry average unit cost base, with potential adjustments then made for regional factors. The unit costs will only apply to the non-rechargeable component of new connections.

Rationale for consultation position

4.64 We think the volumes associated with connecting new domestic connections are uncertain over RIIO-GD2 predominantly due to government heat policy. Both the UK and Scottish Governments have announced their intention that new homes connecting to the gas network should cease by 2025 and 2024 respectively.¹⁸²

4.65 We do not think a volume driver is appropriate for non-domestic connections, predominantly because connection volumes are significantly less than for domestic connections.

¹⁸² Scotland <https://news.gov.scot/news/new-build-homes-to-be-more-energy-efficient> England & Wales <https://www.gov.uk/government/speeches/spring-statement-2019-philip-hammonds-speech>

Consultation questions

GDQ49. What are your views on our proposal to introduce a new domestic connections volume driver?

New large loads

New large loads re-opener	
Purpose	To potentially recover network reinforcement costs due to the connection of new large industrial loads.
Benefits	Promoting the timely connection of new large industrial loads and facilitating economic growth.

Background

- 4.66 For RIIO-GD1 we put in place a re-opener to allow the recovery of costs related to network re-enforcement due to the connection of abnormally large loads such as power stations and distilleries. In our SSMD we decided to remove this mechanism for RIIO-GD2 because it has not been used; nor were there any requests by GDNs to trigger it. Stakeholders did not raise any concerns.
- 4.67 Following the submission of Business Plans, all GDNs cited uncertainty in the volume of additional gas-fired electricity generation capacity that may seek to connect to their networks during RIIO-GD2. NGN and WWU proposed large load re-openers whereas Cadent and SGN proposed to address this uncertainty through reinforcement uncertainty mechanisms.

Consultation position

UM parameter	Consultation position
Re-opener scope	A new large load connection(s).
Triggers	For a new large load to trigger this mechanism it should: <ul style="list-style-type: none"> • have passed the Economic Test • require specific reinforcement upstream of the Connection Charging Point not chargeable to the new load.
Re-opener window (year)	GDNs would have one opportunity to trigger the New Large Loads re-opener: <ul style="list-style-type: none"> • 25 January 2022 to 31 January 2022.
Materiality threshold	We propose a materiality threshold of 1% of annual average base revenues in either direction.

Rationale for consultation position

- 4.68 We propose to continue the RIIO-GD1 re-opener. This mechanism can manage the risk the GDNs identified while protecting consumers from undue costs because it would only be triggered if such loads actually occur.
- 4.69 GDNs have indicated a clear desire for a mechanism to deal with this uncertainty and provided new evidence that has led us to revise our original view. For example, NGN said that it has received over 1,000 connection enquiries relating to peaking plant electricity generation, but only ten projects have progressed to a connection. We understand that this is the result of participation requirements for the capacity market auction whereby bidders must have a connection agreement. We consider that is a legitimate source of cost uncertainty because the results of the capacity market auctions are outside of GDNs' control.
- 4.70 We consider that a common re-opener is appropriate because the same uncertainty exists for all GDNs.
- 4.71 To trigger this mechanism, the connection should meet the definition of a new large load which is, a connection to the network that has passed the Economic Test¹⁸³ and requires Specific reinforcement expenditure upstream of the Connection Charging Point¹⁸⁴ not chargeable to the new load.
- 4.72 As part of any application to trigger this re-opener GDNs will need to provide robust evidence that the costs:
- cannot be fully recovered from the connecting party
 - are not already funded through the GDN's baseline allowance
 - could not have been avoided by network management, for example through contractual arrangements with parties connected in the affected area.

Consultation questions

GDQ50. What are your views on our proposal to continue with the large loads re-opener?

¹⁸³ The Economic Test is a financial assessment tool that is designed to identify new connections where the level of investment would be considered 'uneconomic', and so avoids existing customers subsidising the new firm connection.

¹⁸⁴ Specific reinforcement costs downstream of the Connection Charging Point are always fully chargeable to the new load, whereas those upstream are subject to the Economic Test and may not be chargeable to the new load.

GDQ51. Do you agree with our definition of a 'large load' to use for this re-opener?

Smart meter rollout

Smart meter rollout re-opener	
Purpose	A re-opener that provides GDNs with the opportunity to recover efficient costs directly incurred as a result of the smart meter rollout programme.
Benefits	To avoid including uncertain smart meter rollout spend in baseline allowances, and instead address additional costs if they eventuate.

Background

4.73 In RIIO-GD1, there is a re-opener mechanism for GDNs to claim additional efficient costs incurred as a result of the smart meter rollout programme. It has not been used. In our SSMD, we encouraged companies to propose uncertainty mechanisms in their Business Plans if they thought these costs were uncertain or material.

4.74 We received bespoke re-opener proposals from NGN, SGN and WWU.

Consultation position

UM parameter	Consultation position
Trigger	A GDN submission during the re-opener window outlining costs relating directly to the installation of new smart meters, and justification that these costs are efficient and unavoidable.
Re-opener scope	Limited to direct costs relating to GDN interventions driven by the smart meter rollout programme.
Re-opener window (year)	GDNs should have one opportunity to trigger the re-opener: <ul style="list-style-type: none"> 25 January 2022 - 31 January 2022.
Materiality threshold	Materiality threshold of 1% of annual average base revenues in either direction.
Related bespoke outputs	We are proposing to replace the re-openers submitted by NGN, SGN and WWU with this common approach that applies to all GDNs.

Rationale for consultation position

4.75 We have reviewed the evidence submitted to us in Business Plans and consider that there is uncertainty around the timing and potential costs that GDNs may face in relation to the rollout of smart meters. Smart meter rollout is expected to

continue into RIIO-GD2,¹⁸⁵ and since this process is led by energy suppliers the rate and timing of rollout is outside the control of GDNs.

4.76 While GDNs have faced different levels of impact related to smart meter rollout through RIIO-GD1, we think the risk ahead remains common to all GDNs. We therefore think a common re-opener is more appropriate than a series of bespoke uncertainty mechanisms.

4.77 GDNs seeking to trigger this re-opener will need to provide robust evidence that the costs:

- are efficient and could not have been avoided
- are the direct result of new smart meter installations

Consultation questions

GDQ52. Do you agree with our proposal to continue with a smart meter rollout re-opener?

Specified streetworks

Specified streetworks re-opener	
Purpose	A re-opener that provides GDNs with the potential opportunity to recover efficient costs associated with complying with new permit and lane rental schemes, or new requirements, which are introduced by highway authorities after the RIIO-GD2 price control is set.
Benefits	To avoid including uncertain streetworks spend in baseline allowances and use a re-opener to consider potential additional efficient costs.

Background

4.78 For RIIO-GD1 we put in place a re-opener to allow potential recovery of additional efficient costs over and above fixed baseline allowances. It accommodates costs related to compliance with new permit and lane rental schemes, or new requirements, which did not exist when the price control was set. In our SSMD we encouraged companies to consider whether an uncertainty mechanism is appropriate.

¹⁸⁵ Government consultation on a proposed new post-2020 smart meter rollout obligation: <https://www.gov.uk/government/consultations/smart-meter-policy-framework-post-2020>

- 4.79 All companies included bespoke re-opener proposals for streetworks costs in RIIO-GD2, which vary in scope and materiality. The proposals included uncertain costs relating to lane rental schemes, permit schemes and some other additional costs (eg excavation disposal, reinstatement liabilities).

Consultation position

UM parameter	Consultation position
Trigger	A GDN submission during the re-opener window outlining costs relating to new permit and/or lane rental schemes, or new requirements, and justification that these costs are efficient.
Re-opener scope	Limited to streetworks costs relating to new permit and/or lane rental schemes, or new requirements, that are introduced by highway authorities after the RIIO-GD2 price control is set.
Re-opener window (year)	GDNs should have one opportunity to trigger the re-opener: <ul style="list-style-type: none"> 25 January 2022 - 31 January 2022.
Materiality threshold	Materiality threshold of 1% of annual average base revenues in either direction.
Related bespoke outputs	We are proposing to replace the re-openers submitted by GDNs with this common approach that applies to all GDNs.

- 4.80 We consider that future costs associated with existing permit and lane rental schemes, ie those that have been established prior to RIIO-GD2 being set, are suitable for inclusion in baseline allowances. Our proposed re-opener will therefore only address efficient costs associated with any permit and lane rental schemes, or new requirements, which are introduced in the future.

Rationale for consultation position

- 4.81 The Business Plan submissions indicate that uncertainty exists for new permit schemes as well as new lane rental schemes in RIIO-GD2. The number and timing of new permit and lane rental schemes that will be introduced in the future is unclear, as this is driven by individual highway authorities. We want to avoid funding such uncertain costs upfront in case they are not ultimately incurred by the GDNs.
- 4.82 While GDNs currently face significantly different levels of exposure to permit schemes in their respective areas, we think the risk of new permit and/or lane rental schemes coming online during RIIO-GD2 is common to all GDNs. We therefore think a common re-opener is more appropriate than a series of bespoke uncertainty mechanisms.

4.83 GDNs seeking to trigger this re-opener will need to provide robust evidence that the costs:

- are efficient
- are related to new permit and/or lane rental schemes, or new requirements.

Consultation questions

GDQ53. Do you agree with our proposal to continue with a common streetworks re-opener?

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Appendix 1 – Consultation questions

Output consultation questions

- GDQ1. Do you have any views on our common outputs that haven't been covered through any of the specific consultation questions set out elsewhere in this chapter? If so, please set them out, making clear which output you are referring to.
- GDQ2. What are your views on the reporting metrics we have proposed for the consumer vulnerability ODI-R?
- GDQ3. What are your views on the design of the annual showcase events, including whether they should be held at a national or regional level?
- GDQ4. Do you agree with our position to change the FPNES from a PCD to a capped volume driver?
- GDQ5. For GSOP3, is a 48 hour exclusion period for the provision of access to hot water and food in the event of a major incident appropriate? Should this be extended to cover interruptions that are not a major incident?
- GDQ6. In relation to our proposal to extend quotation GSOPs on entry and exit connections, is it sufficient – in regard to green gas entry enquiries – for these GSOPs to apply to the provision of initial and full capacity studies? Are there other parts of the green gas entry process we need to consider to ensure an improved service provision?
- GDQ7. What are your views on our consultation position to monitor the provision of and adherence to appointment timeslots for purge and relight activity through an ODI-R? Are our suggested reporting measurements reasonable?
- GDQ8. Do you agree with our proposed option to provide Cadent and SGN with consumer funding through totex baseline or a financial ODI reward for collaborative streetworks activities?
- GDQ9. How should we set targets for the shrinkage financial incentive?
- GDQ10. Do you have any views on what clarifications are needed to ensure a consistent method of calculating the benchmark shrinkage volumes?
- GDQ11. Do you think a deadband should apply to the financial incentive? If so, please provide evidence as to how this could be quantified.
- GDQ12. What are your views on our consultation position for the four GDNs' EAP proposals in RIIO-2 as set out in this document?

- GDQ13. Do you agree with our consultation position to include progress on biomethane in GDN's AERs, alongside standard connections data?
- GDQ14. Do you have any other comments in relation to this section?
- GDQ15. What are your views on the proposed set of Workload Activities for the Tier 1 mains replacement PCD?
- GDQ16. What are your views on our proposal to adjust allowances for the Tier 1 mains replacement PCD on the basis of mains decommissioned?
- GDQ17. What are your views on our proposed approach to setting unit costs for the Tier 1 mains replacement PCD?
- GDQ18. What are your views on our proposed Allowance Adjustment Mechanism and Allowance Adjustment Restrictions for the Tier 1 mains replacement PCD?
- GDQ19. What are your views on our proposed Workload Activities for the Tier 1 services PCD?
- GDQ20. What are your views on our proposed approach to setting unit costs for the Tier 1 services PCD?
- GDQ21. What are your views on our proposed Allowance Adjustment Mechanism and Allowance Adjustment Restrictions for the Tier 1 services PCD?
- GDQ22. What are your views on our proposal for a common PCD for capital investments?
- GDQ23. What are your views on our proposals for delivery, clawback and deliverables for the capital projects PCD?
- GDQ24. Do you agree with our approach for funding physical security for the GD sector? And do you agree that in light of the proposed baseline totex that the physical security PCD is no longer required for the GD sector?
- GDQ25. Do you consider that the enhanced obligations framework for exit capacity and the additional information being sought are appropriate?

Approach to Cost Assessment Consultation Questions

- GDQ26. Do you agree with our proposal of using a top-down regression model?
- GDQ27. Do you agree with our proposed approach to benchmarking modelled costs at the 85th percentile?
- GDQ28. Do you agree with our proposed approach to estimating embedded ongoing efficiency and values calculated?

Normalisation Consultation Questions

- GDQ29. Do you agree with our proposed pre-modelling normalisations?

Model Selection Consultation Questions

- GDQ30. Do you agree with the selected aggregation level, estimation technique and time period for our econometric modelling?
- GDQ31. Do you believe we should take into consideration revised cost information for the remainder of GD1 including 2019-20 (actuals) and 2020-21 (forecast)?

Opex Consultation Questions

- GDQ32. Do you agree with our selected cost drivers for Opex?
- GDQ33. What are your views on our proposed approach to the synthetic cost driver for repex?
- GDQ34. What are your views on our proposed repex workload adjustments?
- GDQ35. Where we have disallowed workloads, should we consider making corresponding adjustments to opex costs? If so, how do you think this could be done?

Capex Consultation Questions

- GDQ36. What are your views on our proposed approach to the synthetic cost driver for capex?
- GDQ37. What are your views on our proposed capex adjustments?

Non-regression Costs Consultation Question

- GDQ38. Do you agree with our assessment of non-regression costs and our proposed adjustments?

Technically Assessed Costs Consultation Questions

- GDQ39. Do you agree with areas selected for technical assessment?
- GDQ40. Do you agree with our proposed approach?

Technically Assessed Costs Consultation Questions

- GDQ41. Do you agree with our proposed disaggregation methodology?

Uncertainty Mechanisms consultation questions

- GDQ42. Do you have any views on our common UMs that haven't been covered through any of the specific consultation questions set out elsewhere in this chapter? If so, please set them out, making clear which output you are referring to.
- GDQ43. What are your views on the proposed re-opener for Tier 1 stubs?
- GDQ44. What are your views on our proposal to introduce a <7bar diversions re-opener?
- GDQ45. What are your views on the triggers and windows for the MOB's safety re-opener?

GDQ46. What are your views on our consultation position to address bespoke decarbonisation of heat re-openers through our proposed innovation stimulus, Net Zero and Heat Policy re-opener mechanisms?

GDQ47. What are your views on the questions set out in paragraph 4.57 of this document in relation to large hydrogen projects?

GDQ48. Do you have any other comments in relation to this section?

GDQ49. What are your views on our proposal to introduce a new domestic connections volume driver?

GDQ50. What are your views on our proposal to continue with the large loads re-opener?

GDQ51. Do you agree with our definition of a 'large load' to use for this re-opener?

GDQ52. Do you agree with our proposal to continue with a smart meter rollout re-opener?

GDQ53. Do you agree with our proposal to continue with a common streetworks re-opener?

Appendix 2 – Customer Satisfaction Surveys

Planned Work

[Company's name] records show that they carried out work on your incoming gas supply. Please complete the questionnaire using a black pen to put a cross in the appropriate boxes like ☒ this: Where the question asks you to indicate your level of satisfaction, please rate your level of satisfaction on a scale of one to ten.

1. Overall, how satisfied are you with the service that you received from [insert GDN]?

Very dissatisfied										Very satisfied	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1	2	3	4	5	6	7	8	9	10		

2. How satisfied were with [insert GDN]'s efforts to inform you about the gas replacement work affecting you?

Very dissatisfied										Very satisfied	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1	2	3	4	5	6	7	8	9	10		

3. What would have been your preferred method of notification?

☐ E-mail ☐ Letter ☐ Text ☐ Phone call ☐ Face to face

4. If your gas supply was interrupted during our works, how satisfied were you that your gas supply was available to use as soon as possible?

Very dissatisfied										Very satisfied	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1	2	3	4	5	6	7	8	9	10		

5. For how many hours was your gas supply interrupted?

☐ 0-4 ☐ 5-8 ☐ 9-12 ☐ 13-16 ☐ 17-23 ☐ 24+ ☐ I don't know ☐ N/A

6. How satisfied were you that our engineers were respectful to you and your property whilst the work was in progress? (e.g. kept the work area as tidy as possible, used overshoes / dust sheets to protect your property)

Very dissatisfied										Very satisfied	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1	2	3	4	5	6	7	8	9	10		

7. How satisfied were you with the communication from [insert GDN] (or their contractors) while the work was being carried out?

Very dissatisfied					Very satisfied				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5	6	7	8	9	10

8. After the work was completed, how satisfied were you with the length of time that it took to restore the area? (e.g. backfilled any holes)

Very dissatisfied					Very satisfied				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5	6	7	8	9	10

9. Whilst the work was being carried out, how satisfied were you with the professionalism of the on-site team?

Very dissatisfied					Very satisfied				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5	6	7	8	9	10

10. How easy was it to deal with [insert GDN]?

Very difficult					Very easy				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5	6	7	8	9	10

11. How could [insert GDN] have communicated better with you about the replacement works in your area?

12. Is there one thing you think (GDN) should change or improve upon?

13. Please state which of the following age groups you fall into:

☐ 24 or below ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65 or above

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All information given will be treated as strictly confidential and only your feedback will be shared with Cadent. If you are happy for us to pass on your customer details alongside your responses please opt in by ticking the box below.

☐ I am happy for my personal details to be shared with Cadent alongside my feedback.

Emergency Response and Repair Work

[Company's name] records show that:

- You reported a leak or interruption to your incoming gas supply; and/or
- They carried out a repair on your incoming gas supply

Please complete the questionnaire using a black pen to put a cross in the appropriate boxes like this: ☒ Where the question asks you to indicate your level of satisfaction, please rate your level of satisfaction on a scale of one to ten.

1. Overall, how satisfied are you with the service that you received from [insert GDN]?

Very dissatisfied										Very satisfied	
1	2	3	4	5	6	7	8	9	10		

2. If you called the national gas emergency number (0800 111 999), how satisfied were you with the information and safety advice provided by the advisor?

Very dissatisfied										Very satisfied	
1	2	3	4	5	6	7	8	9	10		

3. When the engineer arrived at your property how satisfied were you that you were informed about the gas emergency process?

Very dissatisfied										Very satisfied	
1	2	3	4	5	6	7	8	9	10		

4. If your gas supply was interrupted, how satisfied were you that your gas supply was restored as soon as possible? *(Please note that interruption here means the loss of the incoming gas supply to your property rather than an engineer disconnecting specific appliances for safety reasons)*

Very dissatisfied										Very satisfied	
1	2	3	4	5	6	7	8	9	10		

5. How satisfied were you with the way [insert GDN] communicated with you while your supply was interrupted?

Very dissatisfied										Very satisfied	
1	2	3	4	5	6	7	8	9	10		

6. How satisfied were you that our engineers were respectful to you and your property whilst the work was in progress? (e.g. kept the work area as tidy as possible, used overshoes / dust sheets to protect your property)

Very dissatisfied										Very satisfied	
1	2	3	4	5	6	7	8	9	10		

7. If we need to dig down onto your gas supply pipes in order to carry our repairs, how satisfied were you with the length of time that it took to restore the area? (e.g. backfilled any holes)

Very dissatisfied										Very satisfied	
1	2	3	4	5	6	7	8	9	10		

8. How satisfied were you with the professionalism of the workforce that carried out the work at your property?

Very dissatisfied										Very satisfied	
1	2	3	4	5	6	7	8	9	10		

9. How satisfied were you that you were left feeling safe and reassured by the engineer(s) involved?

Very dissatisfied										Very satisfied	
1	2	3	4	5	6	7	8	9	10		

10. How easy was it to deal with [insert GDN]?

Very difficult										Very easy	
1	2	3	4	5	6	7	8	9	10		

11. How could [insert GDN] have communicated better with you about the gas emergency process?

12. Is there one thing that you think [insert GDN] should change or improve upon?

13. Please state which of the following age groups you fall into:

☐ 24 or below ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65 or above

Connections Work

[Company's name] records show that they issued you a quotation and/or carried out work to lay a new connection, or to alter an existing gas supply to your property. Please complete the questionnaire using a black pen to put a cross in the appropriate boxes like ☒ this: Where the question asks you to indicate your level of satisfaction, please rate your level of satisfaction on a scale of one to ten.

1. Overall, how satisfied are you with the service that you received from [insert GDN]?

Very dissatisfied										Very satisfied	
1	2	3	4	5	6	7	8	9	10		

2. Can you confirm if you applied for your connection/alteration via the phone, website, postal or another method?

☐ Phone ☐ Website ☐ Telephone ☐ Postal ☐ Other

3. How easy did you find completing the application process for your new connection / alteration?

Very dissatisfied										Very satisfied	
1	2	3	4	5	6	7	8	9	10		

4. How satisfied were you with the time taken to provide the quotation?

Very dissatisfied										Very satisfied	
1	2	3	4	5	6	7	8	9	10		

5. How satisfied were you with the date you were given to complete the work?

Very dissatisfied										Very satisfied	
1	2	3	4	5	6	7	8	9	10		

6. Whilst the work was being carried out, how satisfied were you with the professionalism of the on-site team?

Very dissatisfied										Very satisfied	
1	2	3	4	5	6	7	8	9	10		

7. How satisfied were you that our engineers were respectful to you and your property whilst the work was in progress? (e.g. kept the work area as tidy as possible, used overshoes /dust sheets to protect your property)

Very dissatisfied										Very satisfied	
1	2	3	4	5	6	7	8	9	10		

8. After the work was completed, how satisfied were you with the length of time that it took to restore the area? (e.g. backfilled any holes)

Very dissatisfied										Very satisfied	
1	2	3	4	5	6	7	8	9	10		

9. How satisfied were you with the communication from (insert GDN) (or their contractors) while the work was being carried out?

Very dissatisfied										Very satisfied	
1	2	3	4	5	6	7	8	9	10		

10. How easy was it to deal with [insert GDN]?

Very difficult										Very easy	
1	2	3	4	5	6	7	8	9	10		

11. How could [insert GDN] have communicated better with you about the connections process?

12. Is there one thing that you think [insert GDN] should change or improve upon?

13. Please state which of the following age groups you fall into:

☐ 24 or below ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65 or above

TTi protects your privacy under the General Data Protection Regulation (GDPR). Our full policy can be viewed here: <http://www.tti-global.com/misc/europe-general-privacy-notice>

All information given will be treated as strictly confidential and only your feedback will be shared with Cadent. If you are happy for us to pass on your customer details alongside your responses please opt in by ticking the box below.

☐ I am happy for my personal details to be shared with Cadent alongside my feedback.

Appendix 3 – GSOP revisions

Table 1: Revised existing interruptions GSOPs¹⁸⁶

GSOP description	Standard		Payment level and cap	
	Current	Consultation position	Current	Consultation position
GSOP1: Gas supply restoration following an unplanned interruption	24 hours	No change	£30 domestic £50 non-domestic £1000 cap	£60 domestic per working day £100 non-domestic
*GSOP2: Reinstatement of consumer's premises	5 working days	*3 working days for PSR customers, otherwise no change.	£50 domestic £100 non-domestic	£100 domestic £200 non-domestic
*GSOP3: Provision of facilities for priority domestic customers, including, alternative heating and cooking facilities, access to hot water and a hot meal.	For alternative heating and cooking facilities: 4 hours, or; 8 hours in event of large interruption where customer not notified prior.	For alternative heating and cooking facilities: No change *For access to hot water and a hot meal: Every 24 hours (excluding first 48 hours) interruption occurs.	£24 One off payment	£48 per working day *Further payment every 24 hours fail up to £500 cap
GSOP13: Notification in advance of planned supply interruptions	5 working days	7 working days	£20 domestic £50 non-domestic	£40 domestic £100 non-domestic

¹⁸⁶ Where * is against a GSOP, this means we are consulting on changing the associated standard, as set out in Chapter 2.

Table 2: Revised existing consumer communication GSOPs

GSOP description	Standard		Payment level and cap	
	Current	Consultation position	Current	Consultation position
GSOP12: Timely payment of GSOP customer payments	20 working days	10 working days	£20 Quotation sum or £250 cap, whichever is lowest	£40 Quotation sum or £500 cap, whichever is lowest
GSOP14: Timely response to complaints	10 working days; 20 working days if site visit required	5 working days; 10 working days if site visit required	£20 £100 cap	£40 £200 cap

Table 3: Revised existing connection GSOPs

GSOP description	Standard		Payment level and cap	
	Current	Consultation position	Current	Consultation position
*GSOP4: Provision of standard quotations ($\leq 275\text{kWh}$)	6 working days	4 working days	£10 per working day Quotation sum or £250 cap, whichever is lowest	£20 per working day Quotation sum or £500 cap, whichever is lowest
*GSOP5: Provision of non-standard quotations ($\leq 275\text{kWh}$)	11 working days	No change	£10 per working day Quotation sum or £250 cap, whichever is lowest	£20 per working day Quotation sum or £500 cap, whichever is lowest
*GSOP6: Provision of non-standard quotations ($> 275\text{kWh}$)	21 working days	No change	£20 per working day Quotation sum or £500 cap, whichever is lowest	£40 per working day Quotation sum or £1000 cap, whichever is lowest
*GSOP7: Accuracy of quotations	Accurate quotation issued	No change	GSOP4, GSOP5 or GSOP6 payments until an accurate quote is issued	The cap and payments levels will reflect changes in GSOP4, GSOP5 or GSOP6
*GSOP8: Responses to land enquiries	5 working days	No change	£40 per working day £250 ($\leq 275\text{kWh}$) or £500 ($> 275\text{kWh}$) cap	£80 per working day £500 ($\leq 275\text{kWh}$) or £1000 ($> 275\text{kWh}$) cap
GSOP9: Provision of commencement and substantial completion dates ($\leq 275\text{kWh}$)	20 working days	17 working days	£20 per working day Quotation sum or £250 cap, whichever is lowest	£40 per working day Quotation sum or £500 cap, whichever is lowest
GSOP10: Provision of commencement and substantial completion dates ($> 275\text{kWh}$)	20 working days	No change	£40 per working day Quotation sum or £500 cap, whichever is lowest	£80 per working day Quotation sum or £1000 cap, whichever is lowest
GSOP11(i): Substantial completion by agreed date (contract value $\leq £1\text{k}$)	To meet substantial completion by agreed date	No change	Payment: £20 per working day Contract sum or £200 cap, whichever is lowest	Payment: £40 per working day Contract sum or £400, whichever is lowest
GSOP11(ii): Substantial completion by agreed date (contract value $\leq £4\text{k}$)	To meet substantial completion by agreed date	No change	Payment: Lesser of £100 or 2.5% of contract sum	Payment: Lesser of £200 or 2.5% of contract sum

GSOP description	Standard		Payment level and cap	
	Current	Consultation position	Current	Consultation position
GSOP11(iii): Substantial completion by agreed date (contract value ≤£20k)	To meet substantial completion by agreed date	No change	Payment: £100 per working day	Payment: £200 per working day
GSOP11(iv): Substantial completion by agreed date (contract value ≤£50k)	To meet substantial completion by agreed date	No change	Payment: £100 per working day	Payment: £200 per working day
GSOP11(v): Substantial completion by agreed date (contract value ≤£100k)	To meet substantial completion by agreed date	No change	Payment: £150 per working day	Payment: £300 per working day