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Consultation

RIIO-2 Sector Specific Methodology Annex: Gas Distribution

Publication date	18 December 2018	**Contact:**	RIIO Team
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Response deadline	14 March 2019	**Tel:**	0207 901 7000
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We are consulting on the application of the RIIO-2 Framework to the gas distribution network companies (GDNs). This document sets out our proposals in several areas including the proposed outputs that the GDNs would need to deliver over the price control period, the associated incentive mechanisms, and our proposals for managing uncertainty. Network companies' stakeholder engagement will be vital to develop well-justified Business Plans and this document also highlights key areas that should be focused on.

This document is an Annex to the RIIO-2 Sector Methodology consultation and should be read alongside it.

Any enquiries related to the text of this publication should be sent to us at:

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1. Document structure

This document is intended to be read alongside the RIIO-2 Sector Methodology to gain the full context and detail on each of the topic areas. To aid readers we have set out the structure of this document and how its content fits within the wider RIIO-2 publications.

Structure of this document and associated documents

1.1 In July 2018 we published the RIIO-2 Framework Decision which set out our proposed approach to the RIIO-2 price control, and highlighted the main areas of proposed change from the current price control, RIIO-1. This consultation comprises the RIIO-2 Sector Methodology (Core Document) and sector specific annex documents for gas distribution (GD), gas transmission (GT), electricity transmission (ET), and the electricity system operator (ESO). The sector specific documents are intended to be read alongside the Core Document.

The Core Document

1.2 The Core Document provides detail on how we propose to apply the RIIO-2 Framework Decision to areas that are relevant across the sectors. The proposals in the Core Document apply across the GD, GT and ET networks, and some elements apply to the ESO.

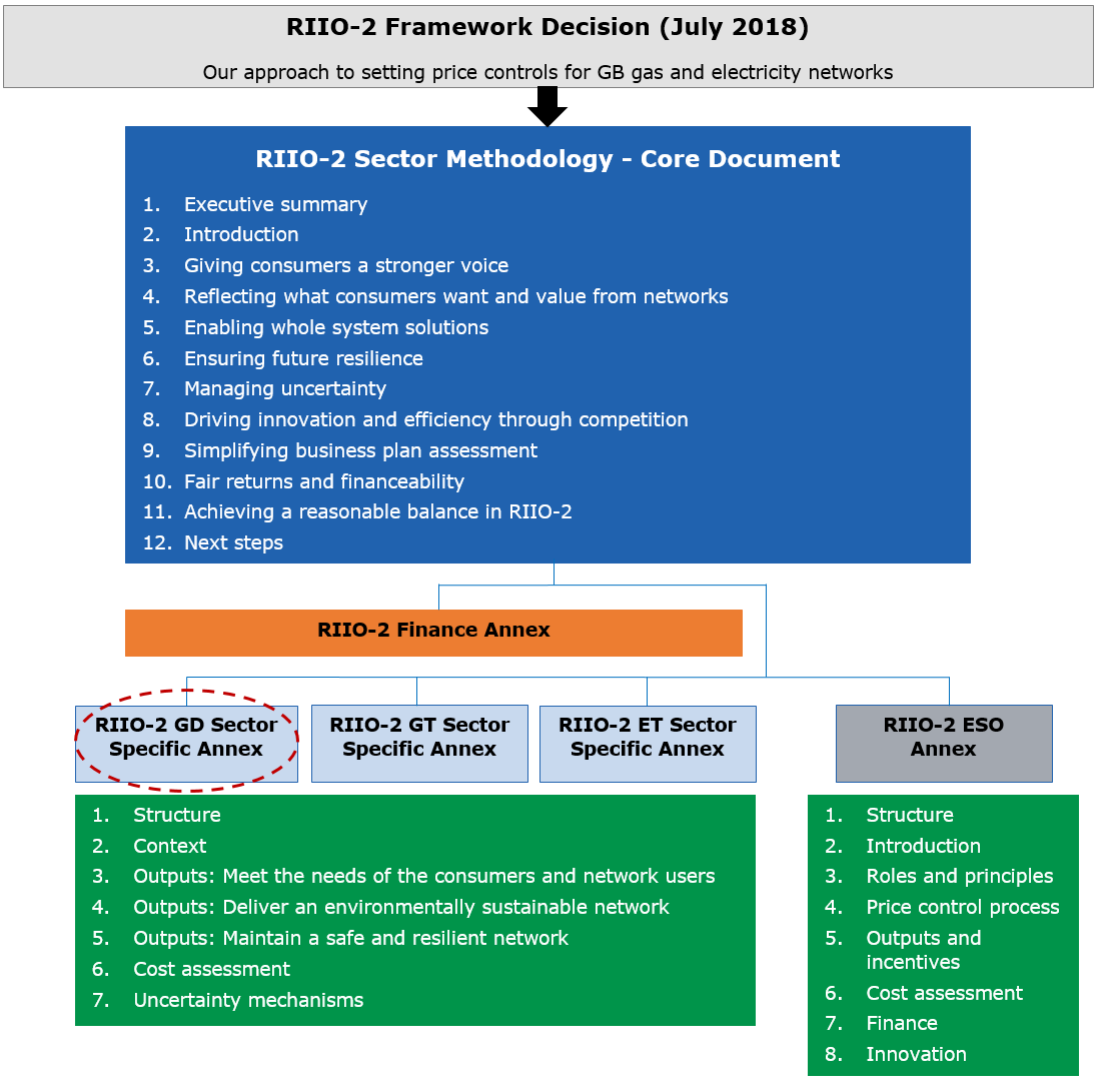
This document

1.3 This document is focused on the application of the RIIO-2 Framework, established as part of the RIIO-2 Framework Decision, to GD specific issues. It sets out our sector specific proposals that network companies need to understand to be able to put together their Business Plans.

1.4 The GD sector specific consultation document is structured as follows:

- Chapter 2 - an overview of the sector and the key challenges
- Chapter 3 - proposed outputs that we would expect to be delivered in the first output category: Meet the needs of the consumers and network users
- Chapter 4 - proposed outputs that we would expect to be delivered in the second output category: Deliver an environmentally sustainable network
- Chapter 5 - proposed outputs that we would expect to be delivered in the third output category: Maintain a safe and resilient network
- Chapter 6 - our proposed approach to cost assessment in RIIO-2
- Chapter 7 - our proposed uncertainty mechanisms
- Appendix 1 - GSOPs
- Appendix 2 – interruptions
- Appendix 3 - full list of all the consultation questions.

Figure 1: RIIO-2 Sector Methodology document map



How to respond to this consultation

1.5 We want to hear your views on this consultation. Please send your response to the contact on this document's front page by 14 March 2019.

1.6 Please refer to Chapter 2 of the Core Document for further detail on how to respond, data and confidentiality, and how to track the progress of the consultation.

2. Context

It is important to understand the context in which we will set the next price control for gas distribution. This includes understanding some of the key challenges and the engagement that has taken place so far to inform this document.

What is gas distribution

2.1 The GDNs are responsible for transporting gas at the local level to 22 million homes and businesses. GDNs operate, maintain and extend the gas distribution network, and provide a 24-hour gas emergency service. There are eight GDNs operating in Great Britain (GB), owned, operated and maintained by four companies (see figure 2). The gas distribution network is made up of 265,000 kilometres of pipe.

Figure 2: Gas distribution networks

Company	Gas Distribution Network (GDN)	GDN abbreviation
Cadent	East of England	EoE
	North London	Lon
	North West	NW
	West Midlands	WM
Northern Gas Networks Limited	Northern	NGN
SGN	Scotland	Sc
	Southern	So
Wales & West Utilities Limited	Wales and West	WWU

Challenges for RIIO-GD2

2.2 Gas continues to play a key role in the GB energy system. Millions of homes and businesses use gas as a main source of energy for things like heating, cooking, or industrial processes. The gas distribution network, as the main system for delivering our gas to end users, therefore remains critical to our energy needs.

2.3 The pace of change in gas distribution hasn't been as dramatic as in the electricity sector. In electricity, we have seen a rapid decarbonisation of generation and large changes in the location of demand and supply on the networks. In gas, demand has also varied considerably year on year, but peak usage on the coldest days of the year has remained relatively stable. New distribution connections continue at a slow but steady pace, and there has been a gradual growth in the amount of green gas, like biomethane, being injected into the system.

2.4 This relative stability doesn't mean there's been no change. The GDNs have been steadily improving their networks, in particular by replacing iron and other metal gas mains with safer and more reliable plastic pipes. The GDNs are now safer and less leaky than in the past. New, innovative techniques have been developed and deployed to carry out this work faster, with less disruption, and at lower cost.

2.5 Looking ahead, the changing energy system means a potentially increased rate of change for gas distribution. How GB will decarbonise heat remains unclear while researchers and policy makers explore several economy-wide pathways, each with very different contributions across electrification, hydrogen networks, and local low carbon heat networks. The ultimate pathway will influence the future use of our existing networks. The GDNs have been actively contributing to the thinking on heat decarbonisation, including through projects funded by our innovation stimulus.

2.6 But the pace of change in energy also raises the risk of asset stranding in the future. Under current regulatory assumptions about gas distribution asset lives, there is a risk that future consumers pay for assets that are no longer required, paying more than their fair share of the costs of those assets. In order to ensure a fair allocation of charges between current and future consumers, we plan to consider whether our current assumptions on regulatory asset lives and depreciation remain appropriate for RIIO-2. Further details of our approach are set out in the RIIO-2 Finance Annex.

2.7 Company performance in the current price control, RIIO-GD1, can be characterised by mostly strong performance on outputs, as well as strong financial outperformance by the companies. Some GDNs have been able to reach new heights in customer service, the networks are safer, and there are thousands of fuel poor households whose bills are now lower because they could access a subsidised gas connection. But in achieving this, the GDNs have underspent their cost allowances by a considerable amount, a large proportion of which the companies get to keep. Some of the cost savings have been due to efficiencies achieved by the companies, while others have been down to good luck or the structural aspects of our price controls.

2.8 Ensuring consumers in vulnerable situations receive a high standard of service that meets their needs remains a critical part of our expectations of network companies. The gas distribution companies have had some successes in this area in RIIO-GD1, and we're looking to them to take this further in RIIO-GD2. In addition, while customer satisfaction levels are mostly high, there are pockets of

poorly served consumers. For example, some consumers in blocks of flats have experienced very long interruptions to their gas supply.

2.9 All of this helps establish the context that we will be mindful of as we move to the next price control. The cross-sector objectives listed in the Core Document are just as applicable to gas distribution as they are to any other sector. In particular, we need to embed the output performance achieved in RIIO-GD1 and ensure that where incentives have led to a new business as usual, we use these to establish new baselines. We also need to keep costs down by capturing the cost savings GDNs have made, and ensure allowances reflect efficient costs. The price control needs to have a strong focus on consumers in vulnerable situations, and those who may be receiving a poor service. Finally, the price control needs to remain flexible to the uncertain pathway towards the decarbonisation of heat to ensure consumers are protected from unnecessary or stranded costs, but also to ensure consumers can experience the benefits of any policy decisions in a timely and efficient manner.

Sector specific proposals for RIIO-GD2

2.10 The remainder of this document sets out our sector specific proposals for gas distribution. Some highlights include:

- Ensuring the network meets the needs of customers and users by continuing to encourage strong customer service, maintaining and increasing a focus on consumers in vulnerable situations, and sharpening our interruptions-related incentives, particularly incentives aimed at those who experience very long outages.
- Strengthening the minimum standards we expect of companies in providing services to vulnerable customers, offering a dedicated allowance to support initiatives that will provide additional benefit to such customers, and taking into account the quality of plans in this area in the allocation of any financial reward or penalty.
- Delivering a sustainable network, including by ensuring the price control is flexible to future policy and technology developments in the decarbonisation of heat and transport.
- Maintaining a safe and resilient network, including by retaining a focus on the replacement of iron mains to improve the safety of the network, while better linking the costs of delivery to the actual work delivered.

2.11 While we have engaged extensively with our sector-specific working groups, this consultation document is our first opportunity to seek views from wider stakeholders on the issues we set out here. Within this context, this document sets out a number of potential outputs for consideration in RIIO-GD2.

2.12 As stated in our RIIO-2 Framework Decision (Framework Decision), we will continue to use outputs and incentives to drive the improvements that consumers value. At this stage, we are therefore seeking views on the extent to which the proposed outputs discussed in this consultation:

- Achieve the appropriate balance and focus on the areas that are of value to consumers and stakeholders

- Align with our overarching outputs framework as described in Chapter 4 reflecting what consumers want and value of the Core Document, in particular for financial Output Delivery Incentives (ODIs).

2.13 We also welcome views on whether there are any alternative outputs and/ or mechanisms not identified here which we should be considering.

2.14 We have set out all of the questions for each output area in Appendix 3.

Summary of stakeholder engagement to date

2.15 Engaging with stakeholders is a crucial step in our development of the RIIO-GD2 price control. As we look to set RIIO-GD2, we have been running gas distribution specific and cross-sector events, forums and seminars to get stakeholder input alongside our formal consultation process.

2.16 To date, we have run 12 gas distribution specific stakeholder engagement groups to input into the development of our initial policy thinking. The three groups we have set up are:

- Customer and Social stakeholder group
- Decarbonisation stakeholder group
- Repex stakeholder group.

2.17 We have also run five gas distribution specific Cost Assessment Working Groups (CAWG), focusing on the development of the tools for assessing the costs within the company submitted Business Plans as well as the development of the Business Plan Data Template.

2.18 For summaries of the meetings and slides see footnote.[1]

Next Steps

2.19 We will be continuing the development of the Business Plan Data Templates and our approach to cost assessment during the consultation period[2].

2.20 In addition, from February, we will restart further Customer and Social, Decarbonisation and Repex stakeholder groups and cost assessment working groups.

2.21 Dates of future meetings can be found at footnote.[3]

[1] https://www.ofgem.gov.uk/publications-and-updates/riio-gd2-working-groups
[2] Additional information on next steps associated with cost assessment and Business Plan Data Templates approach can be found in Chapter 6.
[3] https://www.ofgem.gov.uk/publications-and-updates/riio-gd2-working-groups

3. Outputs: Meet the needs of consumers and network users

The output and incentives we are proposing for RIIO-2 are intended to improve the service received by customers. This includes areas such as consumer vulnerability, those who have experienced an interruption to their supply, have a general enquiry or complaint, or those who require a new connection. This chapter should also be read in conjunction with the RIIO-2 Sector Methodology Core Document, in particular, Chapter 4 on outputs.

Chapter 3 questions

GDQ1. What are your views on the overall outputs package considered for this output category?

GDQ2. For each potential output considered (where relevant):

a) Is it of benefit to consumers, and why?

b) How, and at what level should we set targets? (eg should these be relative/absolute)

c) What are your views on the design of the incentive? (eg reward/penalty/size of allowance)

d) Where we set out options, what are your views on them and please explain whether there are further options we should consider?

GDQ3. What other outputs should we be considering, if any?

GDQ4. What are your views on the RIIO-GD1 outputs that we propose to remove?

All questions, including additional output specific questions, are set out in Appendix 3.

Introduction

3.1 Network companies must deliver a high quality and reliable service to all network users and consumers, including those in vulnerable situations. Our proposals for this output category are set out below. Under RIIO-2, companies can also come forward with additional company specific ('bespoke') output measures within their Business Plans.

3.2 Although meeting the needs of consumers and network users is a specific output category, our proposals across the other output categories will also support this, along with the wider RIIO-2 framework. For instance, efficient delivery of gas mains replacement projects should create an even more reliable gas service in the future, reducing interruptions. Elsewhere, our proposals to support the GDNs' role in the future of heat debate will help to ensure that the gas network is ready to meet the needs of future consumers.

3.3 Over RIIO-GD1, the GDNs have made progress in improving the experience for network customers. For example, the average customer satisfaction score is over 8.5/10, most GDNs are on track to meet their fuel poor connections target to connect 91,000 households to the network, and the GDNs have developed and implemented innovative approaches to identify consumers in vulnerable situations.

3.4 We want to see further improvements over RIIO-2, and the price control should ensure GDNs deliver to their customers' expectations through stretching targets and commitments. Some of the areas we've been exploring are:

- How to embed the significant gains the GDNs have made in customer service
- How to support consumers in vulnerable situations, including through better targeting
- How to drive innovative thinking for managing interruptions and supporting those worst served customers who experience outages that are too long.

3.5 This chapter should be read in parallel with Chapter 4 of the Core Document which describes:

- The rationale for having an output category to 'meet the needs of consumers and network users'
- The broad RIIO-2 approach to outputs (eg output types and the approach to proposing company specific 'bespoke' outputs).

Table 1: Summary of RIIO-2 proposed outputs

Output name	Output type*	Company driven target**	Comparison to RIIO-1
Common outputs (expected to apply to all companies)			
Consumer vulnerability minimum standards	LO	No	Revised RIIO-1 output
Consumer vulnerability incentives	ODI(R)	Yes	New output
Consumer vulnerability and carbon monoxide safety awareness use-it-or-lose-it allowance	PCD	Yes	New output
Fuel Poor Network Extension Scheme	PCD	Yes	Revised RIIO-1 output
Stakeholder engagement incentive	No ODI, ODI(F) or ODI(R)	Yes (if ODI is retained)	If retained, revised RIIO-1 output
Customer satisfaction survey	ODI(F)	No	Revised RIIO-1 output
Complaints metric	ODI(F)	Yes	Revised RIIO-1 output
Guaranteed Standards of Performance (GSOPs)	LO[4]	* No for existing GSOPs * Yes for new GSOPs	Revised RIIO-1 output
Unplanned interruptions average restoration time incentive	ODI(F)	Yes	New output
Emergency response time	LO	No	No change to RIIO-1 output
Emergency response and enquiry service	LO	No	Revised RIIO-1 output
Bespoke outputs (companies may consider other areas for inclusion in their Business Plan)			

* ODI(R/F) = Output Delivery Incentive (Reputational/Financial), PCD= Price Control Deliverable, LO= Licence Obligation
** Company driven target signifies an output where we expect to see extensive company-led engagement (including with their Customer Engagement Group (CEG)) to justify a stretching performance target. This could lead to performance targets varying by company.

[4] 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 (% of times the standard has been met). These are set out in the licence to provide additional protection to customers.

Proposed Outputs for RIIO-GD2

Consumer vulnerability

Ofgem's role in helping consumers in vulnerable situations

3.6 Supporting and protecting consumers in vulnerable situations is a priority for Ofgem. In 2013 we published our first Consumer Vulnerability Strategy which guides our work on vulnerability and sets out our priorities.[5] In our Consumer Vulnerability Strategy, we define vulnerability as when a consumer's personal circumstances and characteristics combine with aspects of the market to create situations where he or she is:

- Significantly less able than a typical consumer to protect or represent his or her interests in the energy market, and/or
- Significantly more likely than a typical consumer to suffer detriment, or that detriment is likely to be more substantial.

3.7 We also recognise that vulnerability can be transient and depends not only on personal characteristics but also the consumer's situation.

3.8 One of our five regulatory stances is to protect the interests of consumers in vulnerable situations.[6] Part of this regulatory stance sets out that we will consider potential interventions and permit industry cross-subsidy where vulnerable consumers are at significant risk, the benefits of intervention are significant and the redistributed costs are low. It also sets out that we will ensure network companies have incentives to support consumers in vulnerable situations. However, our stance also recognises that the government has the primary role in addressing fuel poverty. In particular, we think that policy aimed at redistributing substantial costs between energy consumers is for government.

Background

3.9 We think GDNs and the price control have an important role in helping consumers in vulnerable situations. In the Framework Decision, we said that network companies must play a full role in addressing consumer vulnerability and we would achieve this by:

- Expecting network companies to set out in their business plans how they will assist consumers in vulnerable situations.
- Identifying and developing appropriate output measures relating to vulnerability.
- Exploring how we can use innovation funding to support projects that deliver wide benefits, and in particular where those benefits may be most valuable for vulnerable consumers.

3.10 RIIO-GD1 includes several measures to ensure GDNs are taking action to address consumer vulnerability:

[5] We are in the process of updating our Consumer Vulnerability Strategy. We are aiming to publish our draft strategy for consultation in spring 2019 and we plan to publish the final strategy in the summer. We will take any further developments in our Consumer Vulnerability Strategy into account in our RIIO-2 Sector Methodology Decision. Our Consumer Vulnerability Strategy from 2013 is available here: https://www.ofgem.gov.uk/publications-and-updates/consumer-vulnerability-strategy

[6] Ofgem's regulatory stances: https://www.ofgem.gov.uk/publications-and-updates/ofgems-regulatory-stances

- A licence obligation to put practices and procedures in place to identify vulnerable consumers, and provide specified priority services to these customers free of charge.
- A requirement through the Guaranteed Standards of Performance (GSOPs) to provide additional support to vulnerable consumers during a supply interruption.
- Targets for the GDNs to connect fuel poor consumers to the gas grid through the Fuel Poor Network Extension Scheme (FPNES).
- A financial incentive through the Discretionary Reward Scheme (DRS) for GDNs to go beyond business as usual.

3.11 We see RIIO-GD2 as an opportunity to continue to improve the service provided by distribution network companies to consumers in vulnerable situations. In RIIO-GD1 we have seen some good initiatives delivered by the GDNs, but we think more can be done in this area.

What is the role of the network companies in supporting consumers in vulnerable situations?

3.12 We think that the GDNs' role in addressing vulnerability should be related to their existing areas of competence, activity, and consumer interaction. For example, we think that the GDNs should:

- Assist vulnerable consumers during outages
- Recognise and take proactive measures to address vulnerability when responding to emergencies
- Provide subsidised connections to fuel poor households
- Recognise and appropriately take into account vulnerability through their customer service functions
- Identify consumers in vulnerable situations and offer them some additional assistance free of charge.

3.13 We think that policy aimed at redistributing substantial costs between energy consumers is for government, as set out in our regulatory stance. We therefore don't think that the price control should fund distribution networks to address vulnerability in areas which are not directly related to their existing role. For example, we are not proposing to directly fund the installation of boilers, heating systems or energy efficiency measures. There are currently various government schemes which provide funding for heating systems and energy efficiency measures, and we do not think it is appropriate to cross-subsidise further costs in this area. However, we want to enable and encourage the GDNs to coordinate better with government schemes.

3.14 We also recognise that not all actions network companies could take fit clearly under one or more of the headings in paragraph 3.12, and as a result are seeking evidence on whether the boundaries we have set out are appropriate.

GDQ5. What activities beyond those outlined in paragraph 3.12 should we consider when defining the role of the network companies in supporting consumers in vulnerable situations?

GDQ6. Can you provide any evidence that shows how the boundary we have set out for the networks' role in consumer vulnerability could impact the benefits received by consumers in vulnerable situations?

Proposed approach for RIIO-GD2

3.15 We think that our proposed RIIO-2 consumer vulnerability package should only apply to the distribution networks because they are closer to the end consumer than the transmission networks. It should include minimum standards and requirements for supporting consumers in vulnerable situations to which the networks must adhere. We think this will protect consumers by setting a minimum standard of service across GB.

3.16 We also propose that RIIO-2 provides flexibility for the network companies to propose their own initiatives to support consumers in vulnerable situations, within clear boundaries. We think that including this flexibility will allow the companies to develop bespoke initiatives that are best practice, innovative and can cater for regional requirements. We recognise that consumers, network companies and other expert stakeholders will have strong knowledge about what can and should be done to support consumers in vulnerable situations.

3.17 We have considered a number of tools that we think could be used together to build a consumer vulnerability package for RIIO-GD2. These tools include:

- Minimum standards to define a baseline level of service that we think the GDNs must provide to consumers in vulnerable situations
- Incentives to encourage the GDNs to develop best practice and collaborative activities
- Potential funding streams for activities that go above and beyond business as usual.

3.18 We describe each of these components, and the options within them, in more detail below.

3.19 We have also developed three ways that we could combine the individual components into potential packages, which we outline below. Our current preference is the broadest potential package, because we think it is difficult to prescribe what the GDNs should do in this area and a broader package would enable additional flexibility to ensure the needs of consumers in vulnerable situations are met. However, we are interested in stakeholder views on all three potential packages that we have developed, as well as the individual component parts.

Table 2: Consumer vulnerability minimum standards

Purpose	We want to ensure there are minimum service standards for consumers in vulnerable situations.
Proposed approach	We propose to maintain the RIIO-GD1 minimum standards (with some improvements) and also introduce a new **Licence Obligation** to ensure GDNs treat consumers in vulnerable situations consistently.

3.20 We think that the minimum standards set in RIIO-GD1 could be maintained or improved by:

- Retaining the current Licence Obligation to provide additional services to specified customer groups.[7]
- Updating the GSOPs (discussed in more detail later in this chapter).
- Retaining funding and performance targets for fuel poor connections (discussed in more detail later in this chapter).

3.21 In addition to the above, we are considering introducing a new principles-based Licence Obligation for RIIO-GD2 which would require the GDNs to support consumers in vulnerable situations as part of business as usual. We think that a principles-based Licence Obligation would make the network companies more accountable for the minimum service they provide consumers in vulnerable situations.

3.22 The Licence Obligation would require the GDNs to identify and understand the characteristics, circumstances and needs of consumers in vulnerable situations. It would also require the GDNs to ensure that their actions are resulting in consumers in vulnerable situations being treated fairly, and that the GDNs' actions result in good outcomes for their consumers in vulnerable situations. This Licence Obligation would be comparable to Condition 0 of the Gas and Electricity Supply Licence.

Table 3: Consumer vulnerability incentives

Purpose	We want to encourage the GDNs to go beyond the minimum requirements to support consumers in vulnerable situations.
Proposed approach	We are considering evaluating the GDNs' approach to consumer vulnerability through the wider business plan incentive. We are also considering a new **reputational ODI** to highlight the companies that have performed well in this area and also to raise awareness of those companies who have performed poorly.

[7] Standard Special Condition D13: 'Provision of services for specific domestic customer groups' of the Gas Transporter licence.

3.23 While we think that minimum standards are important, we also think that incentives, where properly designed, could lead to better overall outcomes. This is particularly important in consumer vulnerability, where it is difficult to prescribe exactly what minimum service to expect due to the range of circumstances that consumers in vulnerable situations are in. In addition, incentives encourage companies to be creative and innovative in their approaches to consumer vulnerability.

3.24 We are considering evaluating the GDNs' approach to vulnerability as part of the wider business plan incentive, as described in Chapter 9 of the Core Document. To do this, we would assess the GDNs' proposals and strategies for supporting consumers in vulnerable situations through the Business Plan evaluation process. We think it would be a minimum requirement for the GDNs' Business Plans to include clear proposals and strategies which have been tested with stakeholder and the Customer Engagement Groups (CEGs). If the minimum standard is not reached a penalty could be applied through the business plan incentive.

3.25 We are also considering introducing an additional reputational incentive to highlight strong and weak performance during the price control. This would compare the GDNs and take into account whether they are delivering initiatives which are best practice, efficient and value for money for consumers.

3.26 We are considering three alternative ways that we could implement a reputational incentive, outlined below:

- Option 1: The CEGs could have an ongoing role to assess and challenge whether the GDNs are delivering best practice initiatives, which have clear outcomes and offer value for money. We would consider and publish the CEGs' assessment. We think this type of assessment would make good use of the CEGs' expertise.
- Option 2: A third party with expertise in consumer vulnerability issues could review the GDNs' performance in this area. We would consider and publish this assessment.
- Option 3: Ofgem could run the reputational incentive. This would require the GDNs to submit an overview of their work in this area to us and we would assess the GDNs' performance. The submission would need to highlight areas of best practice, clear outcomes and the associated cost of these initiatives.

3.27 The reputational incentive could be on an annual basis, or at another appropriate frequency over the price control.

3.28 We are seeking views on these options. Our current preference is for the CEGs to have an ongoing role because we think this would make the best use of their knowledge of the GDNs.

Table 4: Flexibility for the companies to propose their own actions

Purpose	We want to provide the flexibility for the GDNs to deliver ambitious and innovative bespoke initiatives that go beyond business as usual in supporting consumers in vulnerable situations.
Proposed approach	We are considering: • Providing funding through the RIIO-2 innovation stimulus for network-related innovation projects which seek to address consumer vulnerability. • Introducing a **PCD** in the form of a use-it-or-lose-it allowance to fund initiatives that support consumers in vulnerable situations.

3.29 We are considering providing funding for the companies to take forward individual and collaborative initiatives to support consumers in vulnerable situations. We think this would provide the GDNs flexibility to deliver ambitious, bespoke activities that are beyond business as usual. We think this approach could lead to more innovation as there will be more certainty of funding, which we think would lead to better outcomes for consumers in vulnerable situations.

3.30 One of the ways we could do this, if we decide to retain the Network Innovation Allowance (NIA) for RIIO-GD2, is by providing funding through the innovation stimulus package for network-related innovation projects that seek to address consumer vulnerability (see Chapter 1 of the Core Document).

Consumer vulnerability use-it-or-lose-it allowance

3.31 We are also considering providing the GDNs with a use-it-or-lose-it allowance to spend on vulnerability and carbon monoxide (CO) safety initiatives (as discussed later in this chapter) that go beyond business as usual. We are considering setting the allowance at £15-30m over the price control period.[8] This allowance would be divided between the GDNs, possibly on a pro rata basis to ensure that there is an even distribution of funding across GB.

3.32 The allowance would have clear parameters for the types of initiative that the GDNs could fund. Each initiative would need to have clear outcomes or deliverables attached to the funding. Any unspent allowances would be automatically returned to consumers, as would allowances for projects that did not meet their deliverables.

3.33 We have identified two potential ways to implement the use-it-or-lose-it allowance. Table 5 below summarises these two options.

[8]This is an increase in the amount available for these areas in RIIO-GD1, which incentivises social, CO safety and environmental initiatives through the Discretionary Reward Scheme which has a maximum combined reward of £12m over the price control period.

Table 5: Options for the implementation of a use-it-or-lose-it allowance

Option	Description	How this will be assessed
Option 1: Flexible Strategy	This would set an allowance for each of the GDNs, which could be used flexibly within the price control to fund vulnerability initiatives. The specific initiatives would not be set upfront in the Business Plans. We would set clear governance around what initiatives can be funded through the allowance and monitor its use during the price control. A proportion of the allowance would be ring-fenced for collaborative initiatives between the GDNs.	The GDNs would be required to include a consumer vulnerability strategy in their Business Plans which has been tested by stakeholders and endorsed by its CEG. This would be a minimum requirement for the business plan incentive. This strategy would need to outline: * The types of initiatives that the GDN intends to fund, what outcomes these initiatives would intend to achieve and how it would assess that these are beyond business as usual. In particular, it would need to highlight which particular consumer groups it would intend to support, and how it would ensure it is helping those who are most in need of support. * How the GDN would engage and collaborate with stakeholders to develop these initiatives. * How it would assess the success of any initiatives. The allowance would be set based on the number of customers the GDN serves. The GDNs would use this to fund initiatives which meet the specified governance requirements.
Option 2: Fixed on Business Plans	We would ask the GDNs to detail their full proposals within their Business Plans. We would set an allowance for each GDN based on its individual proposals.	*The GDNs would put forward fully costed proposals for initiatives to support consumers in vulnerable situations through their Business Plans. We would expect these initiatives to be supported by stakeholder engagement and endorsed by the CEGs. *We would review each initiative within the Business Plan assessment process. This would examine the cost of each initiative, how the company identified the need and developed the initiative, what the key outcomes would be and how it has engaged with stakeholders to develop these initiatives.

3.34 Under both options we are proposing to require the GDNs to report on the expenditure and outcomes of the initiatives funded through the allowance. If the outcomes attached to the funding are not met, the associated funding would be returned to customers. We would also require the network companies to host a public showcase event annually to share knowledge and best practice.

3.35 Our current preferred option for the implementation of a use-it-or-lose-it allowance is Option 1, as we think this would provide more flexibility for companies to continue to engage with partners, adapt to new ideas and continue to develop best practice initiatives over the RIIO-GD2 period.

We are seeking views on the potential use-it-or-lose-it allowance.

3.36 For the potential use-it-or-lose-it allowance:

GDQ7. What is your preference on the two approaches we have outlined to implement the allowance, and why?

GDQ8. What examples can you provide of initiatives that could be funded through the allowance, and please explain why these activities would not go ahead without specific price control funding?

Options for a RIIO-GD2: consumer vulnerability package

3.37 Listed above are several potential tools for addressing consumer vulnerability in RIIO-GD2. We think these can be built into different alternative packages that could form part of RIIO-GD2. These are shown in Table 6.

Table 6: Potential options for a consumer vulnerability package in RIIO-GD2

	Item	Option 1: Enhanced Minimum	Option 2: Incentive Based	Option 3: Combined Package
Minimum Standards	Licence Obligation to provide priority services for specific customer groups	✓	✓	✓
	Guaranteed Standards of Performance	✓	✓	✓
	Fuel Poor Connections	✓	✓	✓
	Principles-based licence obligation on treatment of consumers in vulnerable situations	✓	✓	✓
Incentives Supporting Flexibility	Business plan incentive	X	✓	✓
	Innovation Funding (if NIA is retained)	X	X	✓
	Use-it-or-lose-it allowance	X	X	✓
	Reputational Incentive	X	✓	✓

3.38 We think that the enhanced minimum option would provide a clear message that supporting consumers in vulnerable situations should be seen as business as usual for the GDNs. In particular, we think that the principles-based Licence Obligation would make the GDNs more accountable for the minimum levels of support they provide to consumers in vulnerable situations. However, we think there is a risk that this approach could result in a lower level of support for vulnerable consumers as the GDNs might not be incentivised to go beyond business as usual.

3.39 We think that the incentive based option would encourage the GDNs to go further to develop best practice and collaborative activities, without adding substantial additional costs. However, we are interested in views on whether not having specific funding streams would limit the support the GDNs would provide to consumers in vulnerable situations.

3.40 Finally, we think that the combined package option could enable the GDNs to come up with novel and best practice initiatives that deliver tangible benefits to consumers in vulnerable situations, as it provides clear upfront resources. However, we are interested in views on whether this approach would represent value for money.

3.41 Our current preferred option for RIIO-GD2 is the combined package. We think this would ensure that the companies are challenging themselves to provide the best possible service to customers in vulnerable situations. It would also promote the most innovation within this space and would allow each company to focus on the wants and needs of its customer base.

GDQ9. What is your preference on the three potential options we have outlined for a consumer vulnerability package, and why?

Table 7: Carbon monoxide safety awareness

Purpose	To support the GDNs in their role in preventing carbon monoxide (CO) poisoning and educating on the dangers of CO.
Proposed approach	We are considering including CO safety as a **PCD** in the use-it-or-lose-it allowance we are considering as part of the consumer vulnerability package.

Background

3.42 CO is a colourless and odourless gas that is produced when burning carbon fuels. It is normally undetectable, and can cause death, acute injury or chronic health problems. Research has indicated that there may be a correlation between households living in fuel poverty and the risks of CO poisoning.[9]

3.43 We think GDNs have a role to play in preventing CO poisoning and educating on the dangers of CO. In RIIO-GD1, we have seen good work in this area, including schemes dedicated to teaching children about the dangers of CO poisoning and how to spot it.

3.44 Within RIIO-GD1, CO safety awareness is part of the Discretionary Reward Scheme (DRS), as discussed from paragraph 3.201. To date we have awarded GDNs £1.6m for their work going beyond business as usual on CO safety awareness.

Proposed approach for RIIO-GD2

3.45 We think that the GDNs are still well placed to deliver CO safety activities. We would like to see continued innovation and collaboration in this area and want the companies to build upon existing initiatives.

3.46 We propose to include CO safety within our proposals for the vulnerability package. Specifically, we propose to include CO safety activities within the £15-30m use-it-or-lose-it allowance outlined from paragraph 3.31. We also propose to assess the effectiveness of these initiatives through the reputational incentive outlined from paragraph 3.25.

[9] For example, research conducted by National Energy Action: https://www.nea.org.uk/wp-content/uploads/2018/01/NEAGST-Report-2017_FINAL-1.pdf

Table 8: Fuel Poor Network Extension Scheme

Purpose	We want to help tackle fuel poverty by helping off-grid, fuel poor households connect to the gas network.
Proposed approach	To retain the FPNES as a **PCD**. We have outlined several options that we consider will improve the scheme and help make it better targeted to benefit those who need the most support.

Background

3.47 We created the Fuel Poor Network Extension Scheme (FPNES) as part of our gas distribution price controls to help off-grid households connect to the gas network by providing funding towards the cost of the connection. Access to gas, a cost effective fuel for heating, is a good way to ensure fuel poor households can access affordable energy supplies.

3.48 Under RIIO-GD1, each GDN proposed targets for the number of connections it should make over the RIIO-GD1 period. We reviewed the scheme in 2015 and as a result increased the connection targets and the GDNs' allowances for the FPNES. We also introduced the Fuel Poor Incentive Mechanism to encourage the GDNs to exceed their fuel poor connection targets.[10]

3.49 To get a gas connection under the FPNES, households need to meet the eligibility criteria set by us. To maximise the benefits of the FPNES, the criteria reflect commonly used proxies of fuel poverty or criteria employed by related measures and schemes. In December 2017, we decided to remove an area based eligibility criterion because we didn't think this was an effective proxy for fuel poverty.[11] However, we are still keen that the scheme is as best targeted as it could be, and we are seeking views on how to improve the scheme to do that.

Sia Partners Review of the FPNES

3.50 In September 2018, we engaged Sia Partners to review the effectiveness of the FPNES and to feed into our development of potential options for RIIO-GD2. The review considered whether the scheme is value for money and its interactions with other schemes aimed at tackling fuel poverty. Sia Partners found that the FPNES is broadly in line with national and devolved government fuel poverty strategies, policies and targets. It also found that the FPNES does not overlap with other currently available fuel poverty schemes, which mainly focus on energy efficiency. However, it found that the FPNES could be better coordinated with these schemes to improve its effectiveness. Sia Partners' review also found that the scheme is currently value for money, but that better targeting rates would substantially improve the value.

3.51 Sia Partners recommended that the FPNES should not be extended to offer additional types of support, such as energy efficiency measures, as this would duplicate the efforts of other existing schemes and would require the GDNs to develop capabilities that are not currently within their remit. Sia Partners recommended that linking the delivery of the FPNES to other schemes presents

[10] Our September 2015 final decision on our review of FPNES: https://www.ofgem.gov.uk/publications-and-updates/fuel-poor-network-extension-scheme-final-decision-document
[11] Our December 2017 decision to change the criteria for FPNES: https://www.ofgem.gov.uk/publications-and-updates/decision-change-criteria-fuel-poor-network-extension-scheme

the most cost effective solution to ensure the delivery of a 'whole house' solution to fuel poverty.

3.52 Sia Partners also considered the future of the scheme. It engaged with a wide range of stakeholders including GDNs, charities, government and housing associations to gather views on potential options. We have considered Sia Partners' recommendations, and taken the stakeholder views into account, when developing our proposed approach for RIIO-GD2.

3.53 We have published Sia Partners' full report alongside this document.

Proposed approach for RIIO-GD2

3.54 We think that the FPNES plays an important role in helping tackle fuel poverty. In England, households that are not connected to the gas network are 1.5 times more likely to be fuel poor than the national average,[12] and gas currently remains the cheapest fuel type for heating in most cases.

3.55 We have considered whether continuing to actively encourage new gas network connections is consistent with broader decarbonisation objectives. There is some tension between the two objectives, but we note that a wholesale change in residential heating is unlikely to happen in RIIO-GD2. We therefore think that the FPNES can still provide an appropriate cost effective solution for those currently off the gas network who are in need.

3.56 We also considered whether the scheme should be extended to include energy efficiency measures, including central heating installation, to offer a whole house solution to fuel poor consumers. As outlined in paragraph 3.13, we are not proposing to directly fund energy efficiency measures through RIIO-GD2. We consider that there are alternative funding streams available for installing energy efficiency measures, so we think duplication of these schemes will not offer value for money to consumers. We also note that the GDNs do not have expertise in energy efficiency.

3.57 However, we do want the FPNES to be well coordinated with other energy efficiency schemes to ensure better outcomes for fuel poor households. We have considered options for how to improve this below. Additionally, as outlined in our Framework Decision, we will design the price control with sufficient flexibility to respond to changes in the role of the networks in this space.

3.58 Having considered these factors, we are proposing to retain the current scheme in RIIO-GD2. We are seeking stakeholder views on retaining the FPNES and our proposed approach to implement the scheme, outlined below.

Eligibility and targeting of the FPNES

3.59 We are keen to improve the targeting of FPNES connections, to ensure that the benefits of the scheme are delivered to those who need it the most. We think this would make it better value for money, as identified in Sia Partners' report.

3.60 However, we recognise that a more targeted approach could result in lower economies of scale, which would increase the cost per connection. We think it is important to find the right balance between a well targeted and cost effective

[12] BEIS Annual Fuel Poverty Statistics Report 2018: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/719106/Fuel_Poverty_Statistics_Report_2018.pdf

scheme. We consider there is currently scope to improve the targeting further without making the scheme uneconomical.

3.61 We are interested in stakeholder views on what the future eligibility criteria of the FPNES should be to facilitate a well targeted, but effective scheme. We have outlined some potential options for how to achieve this below.

3.62 We are considering continuing to link the scheme criteria to other government energy efficiency and fuel poverty schemes.[13] Some of these schemes have broader objectives than the FPNES, such as supporting other low income and vulnerable households. However, we think that aligning the FPNES eligibility criteria with other schemes can help provide a more holistic whole house solution for fuel poor households, which in turn delivers better outcomes for scheme recipients.

3.63 We are also considering using mapping tools as an eligibility criterion for the scheme. We are aware that the GDNs are currently developing and using various mapping tools to help identify fuel poor households. We think these tools could provide additional data that would improve the current target rate of the FPNES scheme. Within this option, we could either specify the use of a common mapping tool to be used by all the GDNs, or allow each GDN to use a model that is specific to its region. We note that the models that the GDNs have developed to date are area specific, but we are interested in stakeholder views on whether having a common mapping tool across GB would deliver any additional benefits.

GDQ10. What should we include in the FPNES eligibility criteria in RIIO-GD2 to facilitate a well targeted, but effective scheme?

3.64 We are also seeking stakeholder views on additional ways to incentivise the GDNs to improve the targeting of the scheme. We have outlined two potential ways to achieve this below.

3.65 We are considering requiring the GDNs to set out how they will improve the targeting of FPNES connections within their Business Plans. This would allow for more flexibility in each approach. Before the Business Plans are submitted to us for assessment, we would expect each GDN's approach to be challenged by the CEG to ensure the connections it delivers are well targeted to reach those who need it the most.

3.66 Alternatively, we are considering introducing an ex post incentive to assess how successfully each GDN has targeted the scheme. This would require the GDNs to evidence how they have ensured the connections made through the scheme have been received by consumers who are in fuel poverty. We think this approach could incentivise innovative approaches to identifying fuel poor households and would allow flexibility for the GDNs to adapt their approach during the price control. This ex post incentive could potentially feature as part of the Stakeholder Engagement Incentive (if retained), outlined from paragraph 3.77, or the vulnerability reputational incentive (if progressed), described from paragraph 3.25. We also

[13] In RIIO-GD1, the current eligibility criteria for the FPNES are:
- To be eligible for measures under the Home Heating Cost Reduction Obligation (HHCRO) aspect of ECO, the Nest scheme in Wales or the Home Energy Efficiency Programme in Scotland, or
- To be in fuel poverty based on the latest definition/indicator for the relevant area.

think that the potential vulnerability reputational incentive could consider whether the delivery of the scheme has been value for money.

GDQ11. How should we incentivise the GDNs to improve the targeting of the FPNES?

Better coordination with other government schemes

3.67 As outlined above, we want the FPNES to be better coordinated with other initiatives, such as government (central, devolved, and local) energy efficiency schemes, to ensure better outcomes are realised for fuel poor households.

3.68 We think that it is important for the GDNs to continue to use, and further develop, effective partnership networks. We think that working with partners is key for the GDNs to improve targeting and to coordinate with other schemes to maximise the support provided to households in fuel poverty. We think this approach aligns with the GDNs', and their partners', expertise.

3.69 We are also considering requiring or incentivising the network companies to ensure that, where a household receives an FPNES connection, the property also achieves a target level of energy efficiency (eg improving the Energy Performance Certificate to a band C, where practical, or by two rating bands). We are not proposing to provide price control funding for this approach, so the GDNs and their partners would need to ensure the FPNES is well coordinated with other energy efficiency schemes. We are considering whether this could be made a requirement of the scheme. Alternatively, we could incentivise this behaviour through an ex post incentive, such as the one described in paragraph 3.66.

3.70 We think that this approach could ensure that households receive a holistic whole house solution. However, we also note that it could make it harder for houses to qualify for the FPNES, so it could mean fewer households are helped through the scheme. We would welcome stakeholder views on this approach.

GDQ12. How can we ensure that the FPNES is better coordinated with other funding sources to provide a whole house solution for the household?

GDQ13. What are your views on us requiring or incentivising the GDNs to ensure that households receiving FPNES connections also achieve a target level of energy efficiency?

Funding and setting targets for the FPNES

3.71 We are proposing to ask each GDN to outline bespoke targets for the number of FPNES connections it could achieve over RIIO-GD2 in its Business Plan. We would also require the GDNs to set out the cost assumptions behind the targets, and evidence to support these costs. The targets and costs should be justified through cost benefit analysis. We would also expect the CEGs to challenge the ambition of the targets and the efficiency of the costs.

3.72 As part of our Business Plan assessment, we would assess each company's proposals to ensure that it is setting stretching targets and the costs are efficient.

3.73 We are considering how to hold the GDNs to account for meeting their targets for fuel poor connections. We are considering two options, which we would welcome stakeholder views on:

- A penalty only financial incentive mechanism which would penalise the GDNs if they do not deliver their targets.
- Linking the baseline allowance for FPNES to the number of connections delivered, and ensuring funding is returned to consumers if the targets are not met.

3.74 We are not proposing to reward over delivery of the FPNES targets because we think this could potentially be incentivised through the reputational incentive outlined from paragraph 3.25.

The FPNES voucher

3.75 The current FPNES arrangements provide a discount to eligible households against the cost of connecting to the gas network in the form of a voucher. The voucher underpins the amount of assistance a household can receive. We are not currently proposing to change this methodology, but are interested in stakeholder views on this approach.

3.76 We also understand that the cost per connection could change in light of improved targeting, which could mean the current value of the voucher limits the number of connections that could take place under the scheme. We will therefore reassess the value of the voucher for RIIO-GD2 to ensure that it would remain appropriate.

GDQ14. Do you think the value of the FPNES voucher would need to be amended if the targeting of the scheme is increased? Please provide any evidence to support your view.

Table 9: Stakeholder Engagement Incentive

Purpose	An output in this area would drive network companies to be outward-facing and responsive to the needs of their stakeholders.
Proposed approach	We are considering whether an ODI beyond the business plan incentive is necessary for stakeholder engagement. We are consulting on three options: **no ODI, a reputational ODI, or a financial ODI**.

Background

3.77 In RIIO-GD1, we introduced the Stakeholder Engagement Incentive (SEI). It was introduced to encourage the GDNs to engage proactively with a wide range of stakeholders on an ongoing basis to anticipate their needs and deliver a consumer-focused, socially responsible and sustainable energy service.

3.78 The current SEI financially rewards network companies for undertaking high quality engagement activities and using that engagement to inform their business activities. It is worth up to 0.5% of annual allowed revenues. We use a panel of independent experts to help determine each company's annual reward.

Table 10: RIIO-1 network company performance under the SEI

	2013-14		2014-15		2015-16		2016-17		2017-18	
	Score	Reward (£m)	Score	Reward (£m)	Score	Reward (£m)	Score	Reward (£m)	Score	Reward (£m)
Cadent	7.15	£5.65	5.90	£3.42	6.90	£5.35	6.90	£5.18	6.00	£3.54
NGN	6.75	£1.09	5.50	£0.61	6.80	£1.18	7.25	£1.32	6.15	£0.85
WWU	6.30	£0.92	7.05	£1.25	6.05	£0.82	6.00	£0.80	5.00	£0.41
SGN	6.05	£2.07	6.40	£2.43	5.75	£1.76	7.00	£3.16	6.25	£2.34
SPETL	4.90	£0.26	5.50	£0.48	6.25	£0.75	6.25	£0.68	6.40	£0.78
NGET	5.75	£2.76	6.00	£3.50	6.25	£3.81	7.00	£5.05	5.10	£1.78
NGGT	5.75	£1.10	6.25	£1.49	6.15	£1.48	6.50	£1.80	4.25	£0.21
SHETL	5.40	£0.25	6.00	£0.44	6.00	£0.68	5.40	£0.48	3.25	£0.00

3.79 As the scores in Table 10 shows, company performance under the SEI has been positive overall.[14] So far in RIIO-1, stakeholder engagement has become increasingly embedded in the businesses, and the independent panel has determined that the majority of network companies are committed to engagement.

Options for consideration for RIIO-2

3.80 In light of the rate and pace of change in the energy industry, network companies will need to be outward-facing and responsive to the needs of their stakeholders in RIIO-2. We think that high quality stakeholder engagement should be a business as usual function for each company. We want a culture of engagement embedded within companies and for it to lead to tangible benefits to consumers.

Business Plan Incentive

3.81 Stakeholder engagement will be critical to developing a good business plan and as part of the business plan incentive we plan to take account of the quality of engagement in developing the plan.

3.82 We also expect companies to submit a clear strategy and plan for stakeholder engagement during the price control period. This strategy would be informed by their CEG and would describe how companies will incorporate best practice from RIIO-1 into their activities. It could also list the specific activities, deliverables, and targets that the companies are aiming for.

Potential ODIs

3.83 We have also considered whether any additional incentive for stakeholder engagement is required during the control period itself. We are consulting on three options:

- Option 1: No ODI for stakeholder engagement. Under this option, we would not have an SEI in RIIO-2.
- Option 2: Reputational incentive. Under this option, we would report annually on companies' performance on stakeholder engagement.
- Option 3: Financial incentive. Under this option, we would reward or penalise companies for their performance on stakeholder engagement.

[14] The SEI operates on a continual improvement basis, meaning that companies must demonstrate they have improved from one year to the next to obtain the same score from the previous year.

3.84 Removing the incentive would recognise that it is in companies' own interest to have strong stakeholder engagement because it facilitates better outcomes for both them and their customers. However, removing it wouldn't necessarily protect against companies choosing to deprioritise stakeholder engagement, which is what a financial or reputational incentive could provide. The main drawback of financial and reputational incentives for stakeholder engagement is that it can be challenging to evaluate objectively and, for financial incentives, it can be difficult to place a financial value on the benefit to consumers.

3.85 We welcome views from stakeholders on the above options. Stakeholder engagement must be central to network operation, but it is not clear that it needs a separate incentive in RIIO-2. We also note that the key role of the networks and their impacts are captured by other proposed RIIO-2 mechanisms (eg customer satisfaction) and do not want the networks' focus to be distracted away from these.

Design of a reputational or financial incentive

3.86 To effectively operate a reputational or financial incentive, we think it would be important for network companies to propose clear commitments up front that they would be evaluated against.[15] These could include Key Performance Indicators (KPIs), deliverables, or stretching targets. Recognising that this is an area that is difficult to be prescriptive on, we are seeking views from stakeholders on whether it would be possible to establish clear and appropriate KPIs and deliverables in this area.

3.87 Under a reputational incentive, we would report on performance against the network companies' commitments through our annual report. Under a financial incentive, we could apply a discretionary reward or penalty at the end of the price control period. This would penalise companies that have not met their commitments, and reward those that have performed beyond their own, and others', commitments. We could consider the use of relative rewards and penalties (including possibly a fixed, competed for reward pot) in order to create a degree of competition between companies.

3.88 We could also consider an ongoing role for the companies' CEGs in helping to assess company performance under a reputational or financial incentive.

Table 11: Customer satisfaction survey

Purpose	The customer satisfaction survey helps to drive improvements in the quality of customer service.
Proposed approach	We intend to retain this output as a **financial ODI**. We are consulting on the level of financial exposure and whether it should remain a reward and penalty. We are looking to update the targets and ensure the survey appropriately captures key consumer interactions.

[15] Each company's baseline allowance should enable them to deliver their stakeholder engagement strategy, including the adoption of best practice. We do not propose to provide companies with additional funding for engagement activities. If companies request specific funding then they must justify this by demonstrating that the activity would not be otherwise supported, and that it is likely to result in a measurable benefit to consumers.

Background

3.89 In RIIO-GD1, the customer satisfaction survey incentivises GDNs to improve their service to consumers, rewarding those that perform well and penalising those that perform badly. The survey covers three areas of customer satisfaction: unplanned work; planned work; and connections. The survey asks customers in each of the above categories to rate GDNs' service using a 10-point scale (where 10 is excellent), which is then used to calculate an average score. The reward or penalty associated with the survey is +/- 0.5% allowed revenue for each GDN (approximately £18m annually for all GDNs combined), equally weighted between three survey categories, with the size of the reward or penalty determined by the performance of the GDN relative to a target score. The target scores for RIIO-GD1 are based on the upper quartile level of performance from a trial of the survey in 2011-12. These are summarised in Table 12 below.

Table 12: Current financial weightings, targets and scores associated with maximum penalty and maximum reward for the customer satisfaction survey[16]

Element	Score required for maximum reward	Target	Score at which reach maximum penalty
Planned interruption	8.5	8.09	7.5
Unplanned interruption	9.0	8.81	8.0
Connection	8.4	8.04	7.3

3.90 Throughout RIIO-GD1, GDNs have made good progress in improving their customer satisfaction scores, moving to an overall industry average of 8.8/10 in 2017-18.

3.91 In most cases, GDNs are outperforming the maximum reward scores and therefore receiving the maximum reward possible. However, there are pockets of poorer performance within some survey categories, as reflected by penalties being incurred under the incentive.

Table 13: GDNs scores for the customer satisfaction survey over RIIO-GD1

Company	GDN	Scores out of 10 in 2017-18			Average Scores				
		Planned Interruption	Unplanned Interruption	Connection	2013-14	2014-15	2015-16	2016-17	2017-18
Cadent	EoE	8.46	9.44	8.44	8.31	8.35	8.52	8.69	8.78
	Lon	8.25	9.05	7.17	7.78	7.77	7.96	8.12	8.16
	NW	8.11	9.38	8.69	8.31	8.46	8.67	8.49	8.73
	WM	7.75	9.29	7.85	8.18	8.32	8.27	8.25	8.30
NGN	NGN	8.85	9.45	9.14	8.75	9.01	9.17	9.17	9.15
SGN	Sc	8.96	9.48	9.36	8.72	8.79	9.13	9.25	9.27
	So	8.70	9.34	8.89	8.56	8.64	8.83	9.01	8.98
WWU	WWU	8.74	9.53	9.19	8.69	9.04	9.05	9.11	9.15
Industry Average		8.48	9.37	8.59	8.41	8.55	8.70	8.76	8.81
Target		**8.09**	**8.81**	**8.04**					

Proposed approach for RIIO-GD2

3.92 We want to ensure that the high levels of customer satisfaction from RIIO-GD1 are maintained and that targets continue to be stretching, to encourage

[16] Ofgem (2012), RIIO-GD1: Final Proposals - Supporting Document - Outputs, incentives and innovation, December 2012.

outstanding performance. Meanwhile, we think companies that are failing to meet targets should be penalised appropriately. To improve the incentive for RIIO-GD2 we are proposing to make adjustments to the following:

- The incentive rate applied to GDNs' scores, and the size of reward/penalty
- Our approach to setting target levels
- The design and content of the survey.

3.93 Because the survey and its methodology are the same between GDNs, and because we collect the data annually, we are able to consider different approaches for the incentive and target setting. For example, we could consider whether a relative incentive is appropriate to capture sector-wide improvements. Additionally, the annual data may provide a good opportunity to put in place dynamic targets that are updated throughout the price control period. These concepts are each explored further below.

Incentive design and size of the reward/penalty

3.94 For RIIO-GD2, we are consulting on four potential options for improving the incentive including the associated rewards/penalties. These are summarised in Table 14.

Table 14: Options for improving customer satisfaction survey incentive

Option	Description	Pros	Cons
Option 1: Retain current financial incentive	Rewards and penalties available depending on performance against target score	*Equal exposure to rewards and penalties. *Simple mechanism already understood by GDNs. *Actively drives further improvements in customer service beyond target.	*Given the high level of customer satisfaction scores following RIIO-1, it may not be appropriate/necessary to reward further improvements at the rate we are currently.
Option 2: Zero-sum option	Rewards and penalties depend on where companies rank in their performance. For example, the four highest scoring companies would receive rewards where the four lowest scoring companies would receive penalties.	*Acknowledges high standard being achieved by companies and only rewards exceptional performance within the industry. *Encourages competition between the GDNs.	*Not having clearly defined targets and boundaries could reduce the incentive to achieve a higher standard as long as performing better than others. *Reduces incentive to share best practice. *If all companies achieve a high standard may be unfair to penalise those that fall in bottom four.
Option 3: Penalty-only approach	Penalty only incentive.	*Would establish a minimum level of performance. *Would prevent deterioration of high performance by establishing a penalty beyond a minimum. *Acknowledges that since a high standard has been achieved by many, it may better reflect consumer preferences to penalise companies that perform worse than the industry average.	May not incentivise improvements beyond the target.

Option 4: 'Defined penalty and reward pot' approach	Targets would be set at start of price control with reference to average performance across RIIO-GD1 (eg 8.6). Below this point, a penalty would be incurred; above this point there is a 'dead band'. If a company was to achieve above a particular performance score (eg 9+/10), it would be rewarded by a 'pot' that would be divided among any successful GDNs.	*Would minimise deterioration of high performance. *Would incentivise competition and improvement among GDNs. *Would only reward outstanding performances as opposed to business as usual activity, which may better reflect consumer preferences.	Potentially providing a reward for something that consumers do not necessarily value - eg exceptional service rather than just very good service.

Setting targets

3.95 We have identified two options for setting targets to ensure they would be stretching and would better reflect actual industry performance (see Table 15 below).

Table 15: Options for setting the target level associated with the customer satisfaction survey

Option	Description	Pros	Cons
Option 1: (Current) Static relative approach	Targets are set at the beginning of the price control period with reference to RIIO-GD1 scores, and remain constant and consistent across all companies.	*Simple mechanism that is easily understood. *Fixed targets give incentive to achieve above defined level.	*If target is easily outperformed there is no mechanism for amending target in line with actual performance. The same is true if target has been set too high given potential changes to survey content/methodology. *Fixed target arguably provides weaker incentive to improve performance once achieved.
Option 2: Dynamic relative approach – annual adjustment based on average industry performance	Targets would evolve throughout the price control and would be adjusted annually to reflect the industry average for that year or the previous year, added to a cumulative score based on previous years' scores as a rolling average.	*Would ensure targets reflect actual industry performance and adapt to improvements across the industry average. *Would provide a degree of automatic re-calibration. *Would incentivise improvements and would ensure targets are stretching.	Would provide less certainty and may make planning harder.

3.96 We currently favour the dynamic approach of option 2. This approach would allow us to capture improvements across the sector and would help to ensure that targets remain stretching. There is a risk in adopting a static approach as the target cannot adjust to reflect actual performance.

3.97 We are not currently considering a company specific approach with different targets for each company. We think consumers will benefit from the competition that the comparability of the survey will bring, particularly in the event of using dynamic relative targets.

Survey content and methodology

3.98 In RIIO-GD1, a paper based survey is distributed on a monthly basis to customers who have experienced planned, unplanned, or connection work. One high-level key question in each survey determines the overall score obtained for that survey using a ten-point scale, asking respondents: 'Overall, how satisfied were you with the service you have received from (GDN name)?'

3.99 The GDNs have been working collaboratively alongside TTi Global Research[17] to research potential changes to the methodology and content of the survey, focusing primarily on adjustments to:

- Survey audience (whether this should be widened to include more or different types of consumers to ensure results are representative)
- Survey channels (the different methods at GDNs' disposal to distribute the survey, such as through e-mail or telephone and timings for this)
- Survey questions (including the types of questions asked, how many and the approach to generating a survey score composition).

3.100 We appreciate this collaborative work. We have discussed potential options at the Customer and Social stakeholder group and have asked the GDNs to submit to us in February for evaluation a complete proposal for how they think the survey could evolve for RIIO-GD2.

3.101 We will determine which changes should be applied to the customer satisfaction survey following an analysis of data gathered by GDN's research and following the receipt and consideration of responses to this consultation.

Complaints metric

Purpose	The output helps to drive improvements in the quality of customer service by penalising GDNs for poor handling of customer complaints.
Proposed approach	Retain this output as a **financial ODI** which is penalty only. The target that GDNs will be expected to meet would be sufficient to ensure the improvements made over RIIO-GD1 are retained and poor performance is penalised.

Background

3.102 In RIIO-GD1, the complaints metric is designed to encourage GDNs to manage customer complaints efficiently and resolve them satisfactorily. GDNs can be penalised up to 0.5% of base revenue (approximately £18m annually for all GDNs combined) for not meeting the target score for customer complaints under RIIO-GD1. 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%)

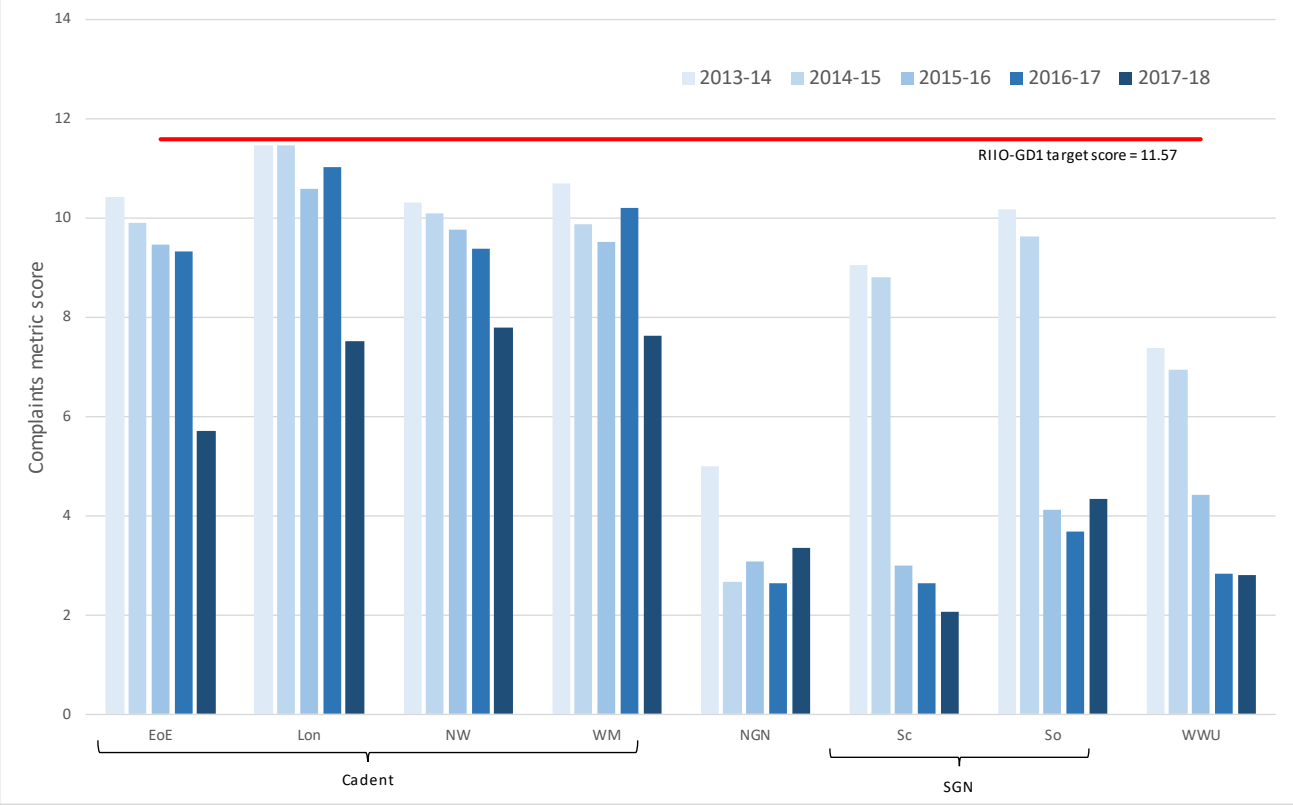
[17] TTi Global Research ran the survey trials which were used to set performance targets under RIIO-GD1.

- The number of Energy Ombudsman decisions that go against the GDN (as a percentage of total complaints) (10%).

3.103 Performance against each indicator is combined to derive an overall score, the lower the score, the better the GDN is at resolving complaints. The RIIO-GD1 target score is set as the upper quartile of 2011-12 performance.

3.104 So far in RIIO-GD1, all GDNs have performed better than the target and no financial penalties have been incurred. We think the complaints metric has been successful as an incentive, with all GDNs demonstrating improvements in handling complaints over the price control period (see Figure 3).

Figure 3: Complaints scores of GDNs, various performance percentages (combined and weighted)



Proposed approach for RIIO-GD2

Setting the level of financial incentive and new targets

3.105 Overall, we believe the complaints metric incentive has been working well and we have seen encouraging improvements across RIIO-GD1. We therefore propose to retain the complaints metric as penalty-only incentive (up to 0.5% of base revenue) and to leave the weightings applied to each category unchanged.

3.106 As a result of the improvements made over RIIO-GD1, we believe the current target score (based on industry upper quartile performance in 2011-12) appears to be outdated and not reflective of business as usual. We are therefore considering updating the target score to better reflect the new standard of complaints resolution.

3.107 The options we are considering for updating the complaints metric target are as follows:

- Option 1: Set a relative static target using the average industry performance across RIIO-GD1, above which a penalty would be incurred (increasing with worse performance to a cap of 0.5% of base revenue, as in RIIO-GD1). The static target would be based on an average of RIIO-GD1 and remain the same throughout RIIO-GD2.
- Option 2: Set a relative dynamic target using the average industry performance across RIIO-GD1, above which a penalty would be incurred (increasing with worse performance to a cap of 0.5% of base revenue). The dynamic target would initially be based on an average of RIIO-GD1 but would be adjusted annually to include the previous years' score giving a rolling average of industry performance.

3.108 We believe the relative nature of both of these options would help to drive competition and deliver the best value for consumers. We do not consider company specific targets to be appropriate for this incentive as all consumers should be able to expect the same standards of consumer service if we fund the related costs.

3.109 We are consulting on the use of both static and dynamic targets for this incentive. A dynamic approach for setting the complaints metric target would allow us to capture improvements across the sector and ensure that targets remain stretching, particularly for companies that are lagging behind the wider industry average. A static approach would risk the target being quickly outperformed as was the case in RIIO-GD1, which may result in a lack of will to further improve performance. However, as large improvements have already been made in RIIO-GD1, this may be less likely in RIIO-GD2, so a static approach may be sufficient. A static approach would also provide greater clarity on potential future penalty levels, which would be less predictable under a dynamic approach, as the target would shift each year.

Interactions with other policy areas

3.110 The complaints metric relates to several other outputs within the price control:

- GSOP14 - which sets the minimum standards for responding to customer complaints and the associated payments if these are not achieved
- Planned/unplanned interruptions
- Customer satisfaction, in that we would expect to see GDNs with the most satisfied consumer to also be those who resolve complaints most successfully.

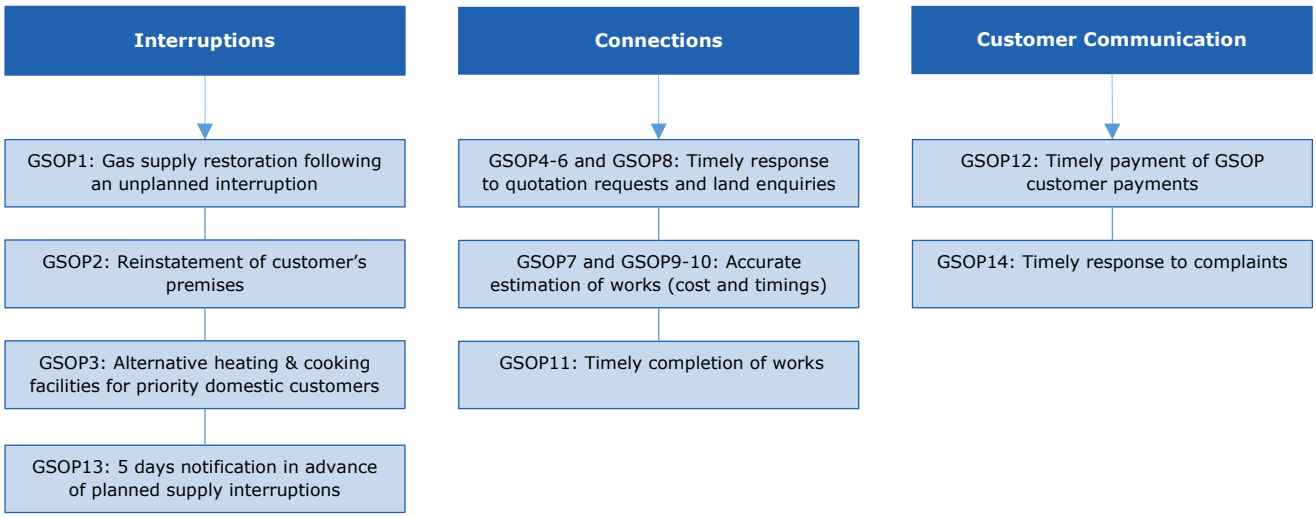
Table 16: Guaranteed Standards of Performance

Purpose	This output sets out the common minimum performance standards of service all consumers should expect to receive from GDNs with respect to interruptions, new connections and customer communication.
Proposed approach	Retain this output as a **Statutory Instrument (SI)**[18] **and Licence Obligation** with potential for strengthening in some areas eg standards and payment levels. We are also exploring areas where new GSOPs may be required.

Background

3.111 Guaranteed Standard of Performance (GSOPs) set out the minimum performance standards of service all consumers should expect to receive from their GDNs with respect to interruptions, new connections and customer communication. They help protect consumers against unacceptable levels of service. If a GDN fails to meet the set standard, the customer affected is paid a prescribed sum. The GSOPs are not in place to incentivise improvements in performance. Other outputs within the price control do this. Figure 4 below summarises the existing gas GSOPs.[19]

Figure 4: Summary of existing gas GSOPs



3.112 Although these sit outside of the price control, we think it is important to review the GSOPs ahead of RIIO-GD2 as this has not happened for over 10 years and they may not reflect business as usual performance or meet minimum service expectations of network customers.[20] Our review has consisted of:

- Assessing the appropriateness of existing GSOPs
- Identifying areas where new GSOPs could be introduced.

[18] 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 direct payments to their customers.
[19] Appendix 1.1 provides full detail of all existing GSOPs.
[20] GSOPs were last updated in 2008 (before that in 2005), but many of the 2002 standards and customer payment amounts remain the same.

3.113 In addition, we have also considered whether additional GSOP consumer protections would be required through the licence.

Proposed approach for RIIO-GD2: Revising existing GSOPs

3.114 We have considered three factors in assessing existing GSOPs:

- Whether the standard, payment levels and payment caps are still appropriate, including whether they should be strengthened, increased, or removed
- Whether there are any circumstances where no payment should be made (ie through exemptions)
- Whether GSOP payments should be automatically paid to customers when they are due or whether customers should have to claim.

GSOP standards, payment levels, and payment caps.

3.115 We have considered the appropriateness of existing GSOP standards in several ways:[21]

- Initial feedback from GDNs' RIIO-GD2 stakeholder engagement
- Analysis of GDN performance against existing and potential alternative GSOP standards, which provides an indication of the appropriateness of new/alternative standards (for example, performance against GSOP4 (provision of quotations) on average across GDNs was 99%, which may suggest that the standard should be strengthened).[22]

3.116 We have also considered regulatory precedent from other network utilities where a comparable standard exists, including electricity distribution and water.

3.117 On payment levels, as a minimum we think customer payment levels should increase in line with CPIH[23]. However, in some areas we have observed behaviour - which implies that further increases in the customer payment level may be appropriate - from:[24]

- Customer feedback sent to us by GDNs
- GDNs themselves - where one, or more are already voluntarily making higher payments, because they consider the existing mandatory payment level is not sufficient
- Electricity distribution and wholesale/waste water sectors - where higher payment levels are already set for comparable guaranteed standards.

3.118 On payment caps, we have looked at instances where standards are breached to the extent that caps are frequently reached. We are considering increasing or removing payment caps for GSOPs where a significant number or percentage of cases have required payment levels which would have exceeded the maximum cap had they been paid in full. Removing payment caps would benefit those consumers most severely affected when GDN's fail to meet the GSOP standard.

3.119 Currently, the GSOP1 (supply restoration) cap of £1000 is reached if a gas consumer is off supply for around a month. While unplanned interruptions longer

[21] A full analysis of these options is available in Appendix 1.
[22] See Appendix 1.2 for our analysis of how GDN's would have performed under different standards.
[23] CPIH refers to the Consumer Price Index including owner occupiers' housing costs.
[24] A full analysis of these options is available in Appendix 1.3.

than this are rare, there are still a significant number every year. We think that the removal of the payment cap could help to ensure these most poorly served customers continue to receive payments until their supply is restored.

3.120 Similarly, a fairly high percentage of payments for GSOP9, GSOP10 and GSOP11 (which all relate to connections) breach the respective caps. This might suggest that these caps are set too low and we are therefore considering removing the payment caps.

3.121 We have identified two options for potentially revising customer payment caps for RIIO-GD2; these are set out in Table 17 below.

Table 17: Proposed revisions for customer payment caps

Option	Description	Pros	Cons
1) Increase in proportion to any payment level increase	Customer payment caps increase proportionally to any increase in the consumer payment level. For example, if the customer payment level doubles, the payment cap would also double.	Provides a straightforward link between payment and cap.	Maintaining a cap could mean GDNs lose focus on improving service once cap is reached.
2) Remove cap	Payment caps would be removed from some or all GSOPs.	Greater protection for poorly served customers and provides incentive for GDNs to restore the service/resolve the issue quickly.	Increased liability for GDNs.

3.122 Removing all payment caps would help to better align gas distribution with electricity distribution as the latter currently has no payment caps in place for any GSOPs. We believe that appropriate exemptions should apply. Our current position on exemptions is set out later in this chapter (from paragraph 3.128).

3.123 If we were to remove all payment caps, we would suggest that GSOPs 4, 5, 6, 7, and 8 - where the current caps appear to work effectively in the context of connection quotations - would be excluded from this. The payment caps are not frequently reached for these GSOPs. This suggests they are set correctly, providing appropriate protection for consumers who are affected by the breaching of the standard. Instead, these caps could be increased in proportion with the change in the customer payment level.

GDQ15. What is your preferred option for revising customer payment caps?

3.124 Table 18The tables below present our range for consultation for standards and consumer payment levels for each existing GSOP, divided into interruptions, customer communication and connections, based on the analysis undertaken. Evidence gathered as part of this consultation will be used to help narrow these ranges such that a single point can be selected within each of the consultation ranges, for the existing GSOPs.

3.125 To arrive at GSOP standard consultation ranges, we considered:

- Consumers' / stakeholders' appetite for the GSOP standard to be strengthened
- Current GDN performance against existing GSOPs
- GDN performance against illustrative fictional standards
- Regulatory precedent in electricity distribution and wholesale water/wastewater.

3.126 To arrive at our proposed customer payment level consultation ranges, we considered:

- Increases in line with CPIH (as a minimum)
- Consumer appetite for an increase in the payment level, based on feedback sent to us by the GDNs
- Whether GDNs are currently paying higher customer payments than is necessary under the SI (GDN behaviour)
- Regulatory precedent in electricity distribution and wholesale water/wastewater.

3.127 The maximum and minimum points within the ranges are based on the maximum and minimum levels found when combining these analyses. Further information on how we arrived at our consultation ranges can be found in Appendix 1.3.

GDQ16. Where, within the consultation ranges, do you think the standard and payment levels should be set?

Table 18: Proposed revisions of existing interruptions GSOPs

GSOP description	Standard		Payment level/cap	
	Current	Consultation range	Current	Consultation range
GSOP1: Gas supply restoration following an unplanned interruption	24 hours	18–24 hours	£30 dom £50 non-dom £1000 cap	£41-£75 dom £69-£150 non-dom
GSOP2: Reinstatement of consumer's premises	5 working days	3–5 working days	£50 dom £100 non-dom	£69-£100 dom £138-£200 non-dom
GSOP3: Alternative heating & cooking facilities for priority domestic customers	4 hours	No change	£24	£33-£48
GSOP13: Notification in advance of planned supply interruptions	5 working days	5–7 working days	£20 dom £50 non-dom	£24-£40 dom £59-£100 non-dom

Table 19: Proposed revisions of existing consumer communication GSOPs

GSOP description	Standard		Payment level/cap	
	Current	Consultation range	Current	Consultation range
GSOP12: Timely payment of GSOP consumer payments	20 working days	10–20 working days	£20	£28-£40
GSOP14: Timely response to complaints	10 working days; 20 working days if site visit required	5–10 working days; 10–20 working days if site visit required	£20 £100 cap	£24-£40

Table 20: Proposed revisions of existing connection GSOPs

GSOP description	Standard		Payment level/cap	
	Current	Consultation range	Current	Consultation range
GSOP4: Provision of standard quotations (≤275kWh)	6 working days	1-3 working days	£10 per working day, up to quotation sum or £250 whichever is lowest	£12-£15 per working day, up to quotation sum or £297–£371 whichever is lowest
GSOP5: Provision of non-standard quotations (≤275kWh)	11 working days	No change	£10 per working day, up to quotation sum or £250 whichever is lowest	£12-£15 per working day, up to quotation sum or £297-£371 whichever is lowest
GSOP6: Provision of non-standard quotations (>275kWh)	21 working days	No change	£20 per working day, up to quotation sum or £500 whichever is lowest	£24-£65 per working day, up to quotation sum or £595–£1,611 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 up to up to £250 (≤275kWh) or £500 (>275kWh)	£48 per working day up to up to £297 (≤275kWh) or £595 (>275kWh)
GSOP9: Provision of commencement & substantial completion dates (≤275kWh)	20 working days	14-17 working days	£20 per working day, up to quotation sum or £250 whichever is lowest	£24 per working day
GSOP10: Provision of commencement & substantial completion dates (>275kWh)	20 working days	No change	£40 per working day, up to quotation sum or £500 whichever is lowest	£48-£65 per working day
GSOP11(i): Substantial completion by agreed date (contract value ≤£1k)	To meet substantial completion by agreed date	No change	Payment: £20 Cap: The lesser of £200 or the contract sum	Payment: £24-£35
GSOP11(ii): Substantial completion by agreed date (contract value ≤£4k)	To meet substantial completion by agreed date	No change	Payment: Lesser of £100 or 2.5% of contract sum Cap: 25% contract sum	Payment: Lesser of £119–£135 or 2.5% of contract sum
GSOP11(iii): Substantial completion by agreed date (contract value ≤£20k)	To meet substantial completion by agreed date	No change	Payment: £100 Cap: 25% of the contract sum	Payment: £119-£200
GSOP11(iv): Substantial completion by agreed date (contract value ≤£50k)	To meet substantial completion by agreed date	No change	Payment: £100 Cap: £5,000	Payment: £119-£270
GSOP11(v): Substantial completion by agreed date (contract value ≤£100k)	To meet substantial completion by agreed date	No change	Payment: £150 Cap: £9,000	Payment: £178-£270

GSOP exemptions

3.128 Exemptions exist to cover situations where it is not possible, or reasonably practical, for GDNs to meet the GSOP. We are not currently proposing to make any changes to the existing GSOP exemptions (although new exemptions will need to be considered to accompany any new GSOPs). We ask respondents to consider the appropriateness of existing GSOP exemptions).[25] Some exemptions are specific to each GSOP, while others are generic and applicable to all or multiple GSOPs.

GDQ17. Should any existing GSOP exemptions be removed or changed and should any additional exemptions be considered?

Automatic payments

3.129 We propose to make all GSOP payments automatic for RIIO-GD2.

3.130 At present, all but two GSOPs are paid automatically to customers when the standard is breached.[26] The two GSOPs that are not paid automatically are:

- GSOP3 - Alternative heating & cooking facilities for priority domestic consumers
- GSOP13 – Notification in advance of planned supply interruptions.

3.131 A recent publication by Citizens Advice recommended that automatic payment should apply to all GSOPs.[27] Their analysis suggests that approximately £1.2m in payment for gas consumers was not paid out in 2015/16 because the consumers affected did not claim it, and no mechanism for automatic payment exists for certain GSOPs.

3.132 We understand through our Customer and Social stakeholder group that some GDNs are already carrying out assessments of what changes would be required to make all payments automatic and how these might be implemented. We acknowledge that there may be barriers to making GSOP3 and GSOP13 automatic, but believe that the benefits to consumers are on balance likely to outweigh the costs of any necessary system changes, especially after accounting for the level of customer payments forgone as a result of the absence of an automatic mechanism for these GSOPs.

GDQ18. Do you support the proposal to make all GSOP payments automatic for RIIO-GD2 and why?

Proposed approach for RIIO-2: New GSOPs

3.133 We have started to explore the potential for developing new GSOPs through: our Customer and Social stakeholder group meetings; an analysis of consumer complaints data; and comparisons with guaranteed standards for electricity distribution and wholesale water/waste water.

[25] Exemptions are listed in full within: Ofgem (2018), RIIO-GD1 Gas Distribution Price Control - Regulatory Instructions and Guidance: Version 5.0, April 2018, Appendix 10.
[26] See Appendix 1.1 for more details on existing GSOPs.
[27] Citizens Advice (2017), Living up to standards? Energy networks' performance against the Guaranteed Standards of Performance in 2015-16, October 2017.

3.134 The specific areas that are currently under consideration are:

- A proposed new GSOP/revisions to existing GSOPs to better support consumers in vulnerable situations in the event of an interruption. This could include offering face to face appointments for customers on the Priority Services Register (PSR) to discuss works, or offering improved cooking facilities, hot food, shower facilities, and alternative accommodation for the duration of an interruption.
- A proposed new GSOP to enforce guaranteed appointment times, allowing customers more choice about when to allow engineers to enter their property to put them back on supply after an interruption. A GSOP in this area could also penalise companies that do not stick to these appointment times. This is similar to that which exists for electricity distributors or water companies.

3.135 Any proposed new GSOPs would be industry wide and reflect the minimum standard of performance expected of a GDN operating today.

3.136 We think that the detail of what these standards may look like and what associated payment levels may be appropriate, needs to be explored further, and tested with customers. In addition to consideration of any responses to this consultation, we see an important role for GDNs' collaborative stakeholder engagement, including working with the CEGs, to help define these standards.

3.137 We expect to use the RIIO-2 Sector Methodology Decision (Sector Decision) as an opportunity to set out our intentions on which, if any, specific new GSOP proposals we wish to take forward under RIIO-GD2, as well as providing a timeframe for their continued development and implementation.

GDQ19. Are new GSOPs (or amendments to existing GSOPs) required and what might these look like?

Proposed approach for RIIO-GD2: Additional GSOP customer protections through the licence

3.138 There is currently a target pass rate of 90% attached to all connection GSOPs, which appear in Standard Special Condition D10 of the licence.[28] If a GDN does not successfully meet its GSOP obligations in 90% of individual cases, it could be in breach of the licence and subject to potential enforcement action.

3.139 The pass rate is a percentage, which is calculated by dividing the number of times a standard has been met by the number of times a standard was applied in a given year. Therefore, while the GSOP deals with individual cases where the standard was applied, a target pass rate assesses a GDN's performance against the GSOP standard on aggregate across all individual cases. This provides additional protection to consumers.

3.140 Citizens Advice analysed GDN performance against the 90% target across all connection GSOPs and found that all GDNs were performing significantly above the 90% target.[29] In contrast, our analysis indicates that performance against

[28] GSOPs 4, 5, 6, 8, 9, 10, and 11.
[29] Citizens Advice (2017), Living up to standards? Energy networks' performance against the Guaranteed Standards of Performance in 2015-16, October 2017.

non-connection GSOPs that do not have an accompanying target pass rate was somewhat poorer.

3.141 Unplanned interruptions are one area of the price control framework where we have considered introducing greater protection to consumers in the form an accompanying target pass rate for GSOP1 (supply restoration) set out in the licence. We considered changes to this area, in particular, as part of our overall response to interruptions (the next output discussed in this chapter).

3.142 Under this option, we could introduce a complementary target pass rate/licence condition for GSOP1 (supply restoration) such that any GDN failing to restore supply within 24 hours of an unplanned interruption being reported, in a specified percentage of cases, could be subject to potential enforcement action. The protection it could offer would be against the minimum standard expected of a GDN when responding to an unplanned interruption and would be in addition to any changes to our general interruptions package.

3.143 However, having considered this, we are not currently planning to introduce a complementary target pass rate/licence condition for GSOP1. We think that our proposals to introduce an average restoration time incentive for total unplanned interruptions, alongside our proposals to increase GSOP payments, provides addition protection to consumers when they experience an unplanned interruption.

3.144 Currently we are not considering any further changes to target pass rates in licence conditions for any other GSOPs.

GDQ20. Should there be a licence condition to prevent standards for the restoration of unplanned interruptions deteriorating (GSOP1)? If so, how should we set the target, and should we take into account geographical differences. Please consider alongside our wider proposed interruptions package.

GDQ21. Is the existing 90% target pass rate for connections GSOPs still appropriate, if not how should it be revised?

GDQ22. Should licence conditions with target pass rates be introduced for any other GSOPs?

Interactions with other policy areas

3.145 GSOPs relate to a number of other RIIO-GD2 output areas but are a distinctly separate obligation and do not interact directly. GSOPs are in place to set the minimum performance standards of service that all customers should expect to receive from their GDN (with respect to interruptions, new connections and customer communication), whereas other outputs such as ODIs are in place to deliver outcomes that are above minimum standards. As such, GSOPs are seeking to achieve a different outcome, which is ensuring minimum standards rather than incentivising performance improvements.

Considerations for network companies' stakeholder engagement and Business Plans

3.146 GSOPs reflect a minimum national standard and therefore we do not envisage setting relative targets or payment levels between the GDNs. However, we do see an important role for collaborative GDN stakeholder engagement, which should include working with the CEGs, in their development.

Existing GSOPs

3.147 We would encourage GDNs to test whether our proposals for existing GSOPs reflect reasonable minimum standards that consumers can expect (including the specific level of payment and standards within the consultation ranges on) with their stakeholders.

3.148 We believe that any changes to existing GSOPs should not come at a cost to consumers. We do not envisage that the GDNs should have to undertake significant investment to achieve the revised standards, where standards have been updated to reflect GDNs' voluntary behaviour or the existing business as usual. Therefore, we do not expect additional funding to be requested within company Business Plans for existing GSOPs. In our assessment of Business Plans, we will consider the appropriate treatment of GSOP payments and whether these should be included or excluded from cost allowances.

New GSOPs

3.149 If we decide to introduce new GSOPs, there may be an associated cost for companies to meet them, and as such, testing customers' appetite for change in light of this will be important. We would expect the GDNs to work collaboratively with the CEGs to test and refine any proposals in advance of them being put forward.

3.150 While we do not expect that the introduction of new GSOPs would require significant enhancement expenditure, GDNs may propose an efficient level of funding to deliver against any new GSOPs within their Business Plans.

Our next steps

3.151 We expect, following receipt and consideration of responses to this consultation and CEG feedback, to confirm our position on GSOPs within the Sector Decision and to convert the consultation ranges for existing GSOPs into single point estimates.

3.152 We also intend to use the Sector Decision as an opportunity to flag our intentions on which, if any, new GSOP proposals we may wish to take forward under RIIO-GD2, as well as providing a timeframe for their continued development.

3.153 As noted above, GSOPs would be implemented through an SI. Any changes to GSOPs therefore requires a different implementation process to the rest of RIIO-GD2. We envisage that this process will run alongside the RIIO-GD2 process and be complete in time for the start of RIIO-GD2.

Interruptions

Background

3.154 When consumers lose their gas supply they are without an essential service. Therefore, we think it is important to ensure that particular standards are met and that GDNs are continually looking for ways to minimise disruption for consumers.

3.155 Gas supply interruptions are split into planned and unplanned:

- Planned interruptions – tend to be caused by planned maintenance or replacement work on the network, with customers knowing when they will happen.

- Unplanned interruptions – a fault/failure on the network (eg a gas escape), with customers given little or no warning that the gas supply will be cut off. Unplanned gas interruptions are rare: in 2016-17 there were around 98,000 across GB, compared with 13 million unplanned electricity interruptions.

3.156 RIIO-GD1 includes a reputational incentive that aims to hold GDNs to account for their interruptions performance. We have seen performance on unplanned interruptions worsening in some areas of GB. We think there is currently a gap in framework regarding interruptions, and that it is important that the incentive framework is strengthened for RIIO-GD2 so that performance improvements are made.

3.157 There are three key areas to consider on gas supply interruptions:

a) How often gas interruptions occur.

b) How long gas interruptions are when they do occur.

c) How customers are treated during an interruption.

3.158 We are looking to set interruptions outputs for (a) and (b). For (c), other RIIO-GD2 outputs are proposed to ensure that customers are treated appropriately during an interruption (eg customer satisfaction survey, complaints metric and GSOPs).

3.159 For (a), we will continue to collect data and monitor the volume of planned and unplanned interruptions throughout RIIO-GD2 but do not envisage any further action beyond this. For (b), which is where we have seen unplanned interruption performance worsen in some areas of GB over the course of RIIO-GD1, we propose to introduce a penalty only incentive based on average restoration time for total unplanned interruptions, worth up to 0.5% of base revenue. We think this will provide a strong incentive for GDNs to respond to unplanned interruptions more efficiently and effectively particularly when combined with our other RIIO-GD2 proposals, eg to increase the payments GDNs make directly to customers who experience interruptions.

RIIO-GD1 Interruptions Output

3.160 The RIIO-GD1 interruptions output is a reputational incentive based on targets for the number and duration of planned and unplanned interruptions for GDNs. Its aim is to minimise the number, and duration, of supply interruptions.

3.161 Targets are set for each GDN as a performance level to reach by the end RIIO-GD1. We amended them in March 2018 because of defects identified in some of the initial targets.[30]

3.162 GDN progress towards the revised targets over the first 5 years of RIIO-GD2 is presented below. With 3 years to go, there are several GDN regions at risk of missing their unplanned targets (highlighted in red).[31] None of the GDNs appear to be at risk of breaching their planned interruption targets.

[30]Decision on amendments to reliability (loss of supply) targets for RIIO-GD1 - https://www.ofgem.gov.uk/publications-and-updates/decision-revised-reliability-loss-supply-targets-riio-gd1

[31] Progress towards the RIIO-GD1 target of above 63% (or 5/8) is identified as being at risk of missing the target.

Table 21: Progress towards RIIO-GD1 interruption targets

GDN	No. Planned	Duration Planned	No. Unplanned	Duration Unplanned
EoE	61%	61%	65%	57%
Lon	59%	61%	62%	81%
NW	60%	58%	65%	68%
WM	61%	58%	63%	75%
NGN	55%	58%	61%	51%
Sc	59%	59%	51%	34%
So	62%	61%	57%	56%
WWU	52%	58%	49%	49%

3.163 For some GDNs, the duration of unplanned interruptions has worsened over time. Analysis of GDN customer complaint data also shows that the length of time to restore supply following an unplanned interruption is currently one of the most common complaints made by customers.[32]

3.164 One of the key areas that appears to be creating challenges in meeting the unplanned interruptions targets for RIIO-GD1 is restoring the gas supply to blocks of flats (multiple occupancy buildings (MOBs)). Evidence suggests that the average restoration time for unplanned interruptions in MOBs has increased significantly in recent years for some parts of GB, particularly North London, which has led to some very poorly served customers.[33]

3.165 We think this needs to improve. MOB interruptions may be more complex than those at other properties, which could make supply restoration more difficult. However, part of the increase in the unplanned average restoration time for MOBs may be the result of GDNs not effectively, or efficiently, responding to these interruptions, for example by not adopting innovative approaches to supply restoration or poorly engaging with the affected stakeholders.

3.166 We do not think the RIIO-GD1 unplanned interruptions incentive has generated the right behaviour and consider it necessary to investigate the efficacy of this output.

Table 22: Proposed approach for RIIO-GD2: Planned interruptions

Purpose	We want to ensure that customers receive a good quality service from GDNs when there is a need for a planned interruption.
Proposed approach	**No specific output for planned interruptions.** Other RIIO-GD2 output areas ensure that GDNs deliver a good quality and responsive service to their customers when a planned interruption is required (eg customer satisfaction survey, complaints metric, GSOPs, etc).

[32] GDNs provided details of their customer complaint data on request following a Customer and Social stakeholder group meeting. The findings were presented at the October 2018 meeting – https://www.ofgem.gov.uk/publications-and-updates/riio-gd2-working-groups .
[33] The table on pages 47 and 48 present average restoration time data for total unplanned interruptions.

3.167 We propose to remove the planned interruptions output for RIIO-GD2. Other output areas of RIIO-GD2 capture the responsiveness of GDNs to their customers' needs in the event of a planned interruption - specifically our proposals for the customer satisfaction survey, the complaints metric, and GSOPs.

3.168 Planned interruptions occasionally occur to ensure a safe and reliable network. We think it's more important to focus on the responsiveness of GDNs to their needs when a planned interruption occurs, rather than reducing the number and duration of planned interruptions. This viewpoint has also been expressed in discussions at our Customer and Social stakeholder group.

3.169 We would still collect data on the volume and duration of planned interruptions over the course of the price control to ensure that they do not increase unexpectedly without reason.

Proposed approach for RIIO-GD2: Average restoration time incentive for total unplanned interruptions

Purpose	To drive GDNs to restore gas supply efficiently and effectively following an unplanned interruption.
Proposed approach	Replace the RIIO-GD1 unplanned interruptions reputational incentive with a **financial ODI** that is penalty only. If GDNs, on average, do not restore customers' gas supplies quickly enough they would incur a penalty.

3.170 We propose a new output which sets targets based on the average amount of time it takes a GDN to restore customers in the event of an unplanned outage (ie average restoration time). We think it is important to ensure that unplanned interruptions are dealt with as quickly as possible when they do occur.

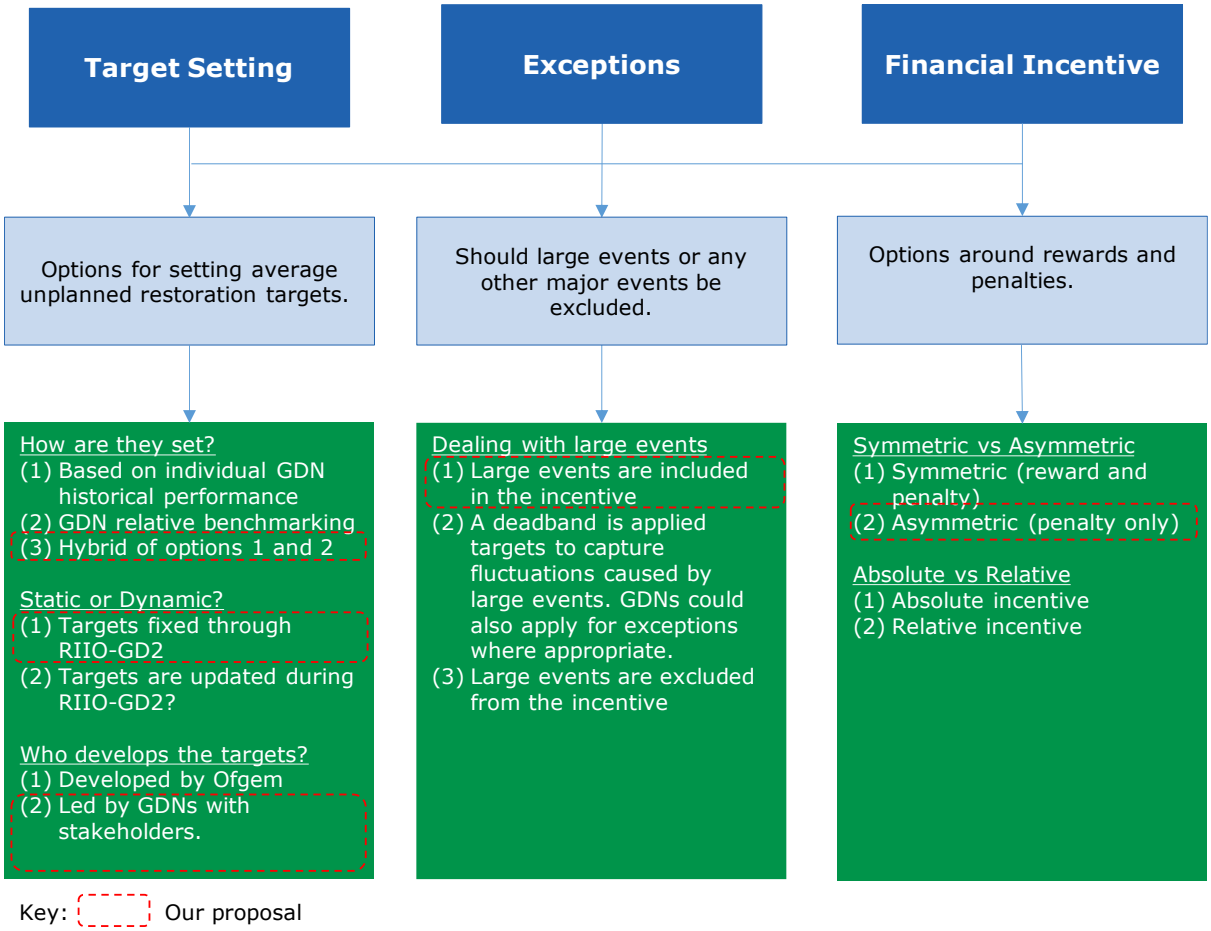
GDQ23. What do you think of the proposed new output based on average restoration time for total unplanned interruptions?

3.171 The targets would be calculated by dividing the total duration of unplanned interruptions by the total number of unplanned interruptions, which we collect through annual reporting. Presenting as an average is more transparent, and comparable across GDNs, which we think would benefit consumers.

3.172 To develop a robust output and incentive, it is important that data is consistent and comparable between companies and over time. Our analysis of unplanned interruptions data indicated that there may be some inconsistencies in reporting between GDNs at a disaggregate interruption level (eg by interruption type). However, we are confident that unplanned interruptions data we currently collect at a total level (ie total unplanned interruptions) is robust, which enables us to proceed.

3.173 We need to make a number of key decisions within the design of the proposed unplanned restoration incentive, which are summarised in Figure 5 below.

Figure 5: Key incentive design decisions



3.174 The following sections present further details underlying the proposed design of the unplanned restoration incentive for RIIO-GD2. We envisage that GDNs would use this guidance to develop stretching targets for the average restoration time incentive for total unplanned interruptions and present these targets as part of their Business Plan.

Target setting

We think the targets should be both stretching and achievable.

3.175 Table 23 shows the current performance for unplanned interruptions over the course of RIIO-GD1, if we moved to an average restoration time for total unplanned interruptions.

Table 23: Average unplanned restoration time data (hours)[34]

Year	EoE	Lon	NW	WM	NGN	Sc	So	WWU
2013-14	14.42	41.24	14.43	14.39	7.01	10.47	12.11	10.77
2014-15	19.34	79.25	10.19	19.10	5.33	13.57	19.82	15.58
2015-16	12.88	90.29	10.11	10.43	13.81	11.97	19.27	7.48

[34] Including large events, which are defined as an interruption event that effects more than 250 people.

2016-17	49.94[35]	100.71	15.00	12.24	10.46	26.72	24.01	8.19
2017-18	19.81	186.50	10.79	22.96	8.77	10.36	23.78	7.29
Average[36]	19.34	90.29	10.79	14.39	8.77	11.97	19.82	8.19

3.176 We expect GDNs will work with their stakeholders to propose targets to us for the average restoration time incentive for unplanned interruptions. We are considering three alternative approaches to assessing these proposals. These alternatives, and the associated pros and cons, are presented in Table 24.

Table 24: Approaches to considering average unplanned restoration targets

Option	Description	Pros	Cons
1) Individual GDN Historical Performance	Targets would be considered based on individual GDN historical performance without comparison to other GDNs.	Would only rely on comparability of data over time for individual GDNs and not between GDNs.	Targets may not be stretching enough, and as a result may not sufficiently drive improvements in performance.
2) GDN Relative Benchmarking	Targets would be considered by comparing average restoration time of total unplanned interruptions across GDNs.	Would be effective in driving improvements in performance.	There may be regional differences in performance that would be caused by factors outside of the GDNs' control (eg population served).
3) Hybrid	Targets would be considered using a combination of the above.	Would allow for the benefits of both approaches to setting targets.	Added degree of complexity, eg deciding how the final set of targets are obtained.

3.177 Option 3 (Hybrid) is our preferred approach for considering appropriate targets. Differences in MOB populations may be driving some of the differences in average restoration times between GDNs in Table 23. For this reason, we do not consider it appropriate to rely only on relative benchmarking (option 2) to evaluate targets. However, we think that relative benchmarking is effective at identifying where improvements in performance can be made, and therefore option 3 would allow relative benchmarking to still play an important, but not exclusive role.

3.178 Therefore, we envisage that GDNs will use a combination of their own historical performance and relative benchmarking (ie performance relative to their peers) when developing targets for the average restoration time incentive for unplanned interruptions. We would also expect the GDNs to have engaged widely with stakeholders and their CEGs.

3.179 We will assess the appropriateness of the GDNs' targets in their Business Plans and may propose alternatives if we consider the targets are not sufficiently stretching.

3.180 We also need to decide whether GDN average restoration targets for total unplanned interruptions would remain static throughout RIIO-GD2, or would be

[35] Increase in the average restoration time in 2016-17 is caused by a large event in that year.
[36] Median between 2013-14 and 2017-18. Median is chosen instead of the mean because it is less distorted by outliers.

updated year-on-year to account for performance achieved during the price control. Table 25 sets out the options here.

Table 25: Static versus dynamic average unplanned restoration targets

Option	Description	Pros	Cons
1) Static	Targets would remain fixed throughout RIIO-GD2.	*Would provide GDNs with certainty on the expected performance. *Transparent to consumers.	*Performance achieved during the price control would not be captured. *Structural changes that may take place during the price control are not captured.
2) Dynamic (either absolute or relative)	Targets would be updated year-on-year to account for performance achieved during the price control.	*Would offer protection to consumers during the price control in event of initial targets being too lenient. *Targets remain stretching.	*Would add a layer of complexity to the target setting process. *Would lower the degree of certainty for GDNs.

3.181 Currently we do not have preference on whether static or dynamic targets should be used.

Exceptions

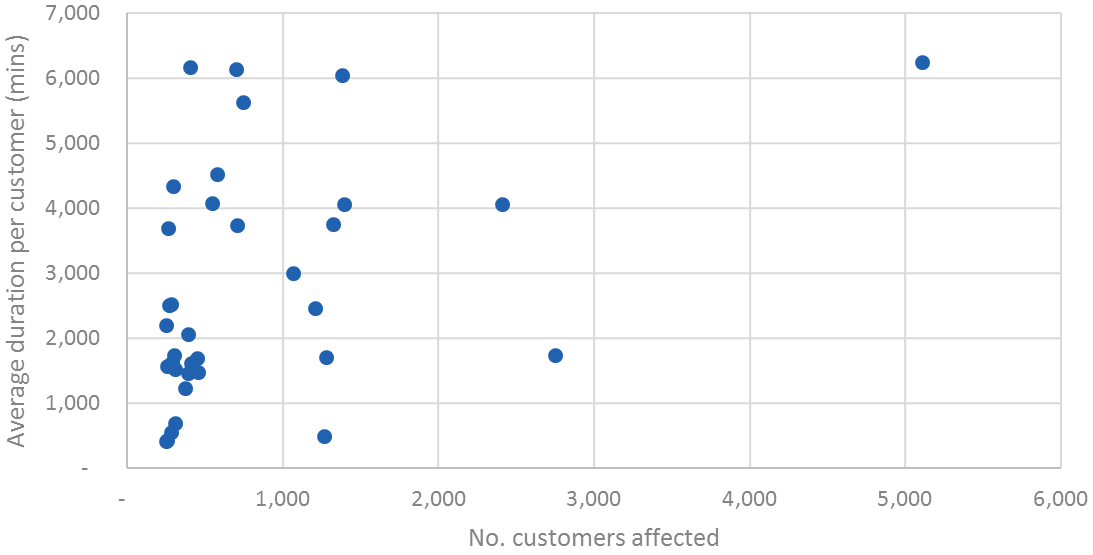
3.182 The RIIO-GD1 total volume and duration interruption targets exclude large events. A large event is where more than 250 customers have their gas supply interrupted. In RIIO-GD1 there was a view that large interruptions can distort performance as they do not represent 'normal' interruptions.

3.183 This may be true when performance is assessed on a total volume and duration basis. However, this reasoning becomes less sound when performance is assessed on the average restoration time. In addition, we don't think customers interrupted during a large event should expect to have their supply restored on a slower timescale than any other customer.[37]

3.184 We have assessed the impact of large events on the average restoration time for total unplanned interruptions. This analysis has shown that the impact varies significantly. In some cases, the inclusion of large events does increase the average restoration time significantly. However, in some cases the average restoration time for the large event is even faster than that for normal interruptions (see Appendix 2). Figure 6 also shows minimal correlation between number of customers affected and average restoration time.

[37] This is also the view of Ofwat whose water supply interruption targets for price review 2019 (PR19) do not allow any exclusions - https://www.ofwat.gov.uk/wp-content/uploads/2018/03/Reporting-guidance-supply-interruptions.pdf

Figure 6: Unplanned interruptions large event analysis 2013-14 to 2017-18



3.185 Table 26 presents three options for how large events could be treated within the average restoration time incentive for total unplanned interruptions.

Table 26: Options for dealing with large events within the average restoration time incentive for total unplanned interruptions

Option	Description	Pros	Cons
1) Large events included	Large events would be included in the incentive.	Would create an incentive for all unplanned interruptions.	Large one-offs may skew performance and distort the incentive.
2) Large events included but a deadband is applied. Exemption application process introduced for high-impact events.	As above but a deadband (eg 10%) would be applied to the targets to allow for small year-on-year fluctuations that may be caused by large events. GDNs would not incur penalties or earn rewards if performance is within the deadband. Companies could apply for an exemption for high-impact events, based on a defined set of criteria, that are not captured within the deadband.	Incentivises good performance during large events, but avoids potentially unfair penalties.	Additional regulatory burden.
3) Large events excluded	Large events would be excluded from the incentive.	Less risk of incentive being distorted by one-off large events.	Low incentive for improving large event performance.

3.186 Option 1 is our current preference, where large events would be included. This would incentivise good performance during all unplanned interruptions, including large events.

GDQ24. Should any interruption events be excluded from the average restoration time incentive for total unplanned interruptions, and why?

Financial incentive

3.187 We consider that introducing a financial incentive worth a maximum of 0.5% base revenue to efficiently and effectively restore a customer's gas supply following an unplanned interruption is important for customers. We are concerned that a reputational incentive alone is not sufficiently powerful to drive improvements in performance or even maintain existing RIIO-GD1 performance levels.

3.188 We seek views on two key choices that would need to be made when designing the financial incentive.

- Symmetric (reward and penalty) versus asymmetric (penalty only)
- Absolute versus relative financial incentive.

Symmetric versus Asymmetric

Table 27: Financial incentive - symmetric versus asymmetric

Option	Description	Pros	Cons
1) Symmetric	Rewards and penalties would be on offer through the incentive.	Could drive improvements in the quality of service provided to customers when an unplanned interruption occurs.	Most customers will never experience an interruption and therefore may apply a relatively low value on improving the quality of service they receive.
2) Asymmetric	Penalty only incentive.	It is only if an interruption happens that customers may care yet most customers will never experience an unplanned gas interruption. Therefore, a penalty only incentive may better reflect customer preferences.	May not incentivise improvements beyond any target.

3.189 Our current preference is that the average restoration time incentive for total unplanned interruptions should be penalty only (option 2) as this may better reflect customer preferences and will also drive improvements in performance where targets are set beyond current performance.

Absolute versus relative

3.190 The financial incentive could be assessed absolutely or relatively.[38] Based on our proposals for the design of the output set out above, we think that it should be assessed absolutely (ie penalty and/or reward is set for each GDN based on performance against their individual target). Because performance is unlikely to be based on a common target, a relative assessment would be challenging and would likely introduce considerable additional complexity.

Interactions with other policy areas

3.191 Our overall approach to interruptions set out here is complemented by our other outputs proposed for RIIO-GD2, and will help ensure:

- That our proposed interruption outputs do not lead to perverse outcomes (eg a decrease in the average unplanned restoration time at the expense of the quality of service received by customers)

[38] Please see paragraphs 5.9 and 5.10 on the RIIO-2 Framework Decision for further discussion on absolute and relative incentives.

- That both restoration time and the quality of the restoration are incentivised through RIIO-GD2.

Table 28: Average restoration time incentive for total unplanned interruptions - Interactions with other policy areas

Interaction	Section Ref.	Planned Interruptions	Unplanned Interruptions
GSOP1 – Supply Restoration	Chapter 3 (above)	N/A	Minimum standard that GDNs must deliver when responding to unplanned interruptions.
GSOP – New measures	Chapter 3 (above)	May introduce new standard for appointments and/or providing additional notice/services to consumers in vulnerable situations.	May introduce new standards to provide additional/enhanced services to consumers in vulnerable situations.
Customer Satisfaction Survey	Chapter 3 (above)	Maximise customer satisfaction with GDNs when experiencing a planned interruption.	Maximise customer satisfaction with GDNs when experiencing a unplanned interruption.
Complaints metric	Chapter 3 (above)	Includes complaints regarding planned interruptions, that will be monitored over RIIO-GD2.	Includes complaints regarding unplanned interruptions, that will be monitored over RIIO-GD2.
Consumer Vulnerability Package	Chapter 3 (above)	Network companies may consider how to provide additional support to consumers in vulnerable situations.	
Repex programme	Chapter 5	Will be a significant driver of the volume of planned interruptions on the network.	The repex programme should lead to a decrease in unplanned interruptions over time.

Our next steps

3.192 Our proposals above have focused on having a single output for average restoration time for total unplanned interruptions. However, we think that the separation of interruptions that occur in MOBs into a specific output may have its merits. In this scenario there would be two outputs on average restoration times for unplanned interruptions – one focused on reducing unplanned interruption times in MOBs; the other covering everything else. However, we think this would be difficult for the start of RIIO-GD2 due to data limitations.

GDQ25. What are your views on separating interruptions that occur in MOBs into a specific output?

3.193 Next year we plan to set up a dedicated interruptions working group to explore, in detail, how interruptions are reported to us and consider how this can be improved through system and process changes. This will enable us to review the reporting of interruptions data and consider whether it is currently feasible to separate interruptions that occur in MOBs into a specific output. The working group will also pick up wider regulatory reporting changes to help ensure that consistent and comparable data is available between GDNs.

Table 29: Emergency response time

Purpose	To ensure GDNs respond to 97% of reported gas escapes within one hour for uncontrolled escapes and two hours for controlled escapes
Proposed approach	This output would remain a **Licence Obligation** with unchanged performance standard

Background

3.194 The Gas Safety (Management) Regulations 1996 (GSMR) require the GDNs to attend gas escapes as soon as is reasonably practicable, and prevent the gas escaping within 12 hours. If this is not possible, they must demonstrate that they took all reasonably practicable steps to do so. This is an area where the Health and Safety Executive (HSE) is the primary enforcer.

3.195 In addition to the GSMR, we set a complementary performance standard in respect of gas escapes. The standard is set out in the licence and is that GDNs must respond to 97% of reported gas escapes within one hour for uncontrolled escapes and two hours for controlled escapes. This standard has been in place for over 25 years. This licence condition reflects the minimum national standard expected of GDNs. If a GDN falls short of this performance standard, we may consider enforcement action against it. So far over RIIO-GD1, GDNs are performing above this standard.

Proposed approach for RIIO-GD2

3.196 Our current proposal is to not change the emergency response performance standard for RIIO-GD2. We think the 97% target remains appropriate and are not proposing any changes to its level. While we are not proposing any changes to the target, we intend to review the wider licence condition to ensure it remains robust, as the wider obligations have not been assessed for a long time.

Table 30: Emergency response and enquiry service

Purpose	To ensure customers have a reliable emergency response phone line service in the event of an emergency,
Proposed approach	To potentially recognise this existing licence condition as an output **(Licence Obligation)** for RIIO-GD2 and amend the licence requirements to make it clear that the emergency response phone line should always be operational to receive calls.

Background

3.197 GDNs have a jointly established single emergency telephone service for customers to report gas leaks. The service must be continuously manned, fully available to all persons, and free of charge. In addition, all reports and enquiries to the line must be processed promptly and efficiently. The service is managed by Cadent, with the other GDNs (along with NGGT, which is also covered by the service) contributing their share of the overall funding.

Proposed approach for RIIO-GD2

3.198 We propose to amend the GDNs' licences to make it clear that the emergency response phone line should always be operational to receive calls. As it stands, Standard Special Condition A8 (Emergency Services and Enquiry Service Obligations) does not include a specific requirement to ensure that this is the case.

3.199 Given the volume of calls received by the emergency number, and the urgency of responding to these, we think it is important that the service has sufficient resilience to guarantee constant availability. The Electricity Distribution Licence includes an obligation to ensure this happens and we want to align the two sectors.[39]

3.200 We're consulting on this as a specific output for RIIO-GD2, but have not yet decided whether it requires this status.

RIIO-GD1 Outputs Proposed for Removal

Name	RIIO1 licence condition
Discretionary Reward Scheme	Special condition 1G

Discretionary Reward Scheme

Background

3.201 The Discretionary Reward Scheme (DRS) incentivises the GDNs to deliver social, carbon monoxide (CO) safety and environmental initiatives beyond those funded directly through the price control. The GDNs' activities are assessed by an independent panel which rewards initiatives that are deemed to be innovative and best practice. The reward is not intended to fund the GDNs' activities. The DRS is awarded in three tranches of £4m over RIIO-GD1.

3.202 The GDNs have performed well over RIIO-GD1. The first two DRS assessments have awarded the GDNs £5.6m.[40] We have had some feedback that the competitive nature of the DRS can prevent genuine collaboration between the companies. The DRS tried to address this by requiring the GDNs to produce a collaborative submission, but to date there has been a lot of duplication across the collaborative and individual submissions.[41]

Proposed approach for RIIO-GD2

3.203 We propose to replace the social and CO safety elements of the DRS with the consumer vulnerability package (see earlier in this chapter). Activities currently rewarded through the DRS that address social and CO safety, and go beyond business as usual, would be funded through the proposed use-it-or-lose-it allowance. Providing funding directly through the allowance, rather than providing

[39] Standard Condition 8 (Safety and Security of Supplies Enquiry Service), paragraph 3, of the Electricity Distribution Licence states that the service must "be available to receive and process telephone reports and enquiries at all times on every day of each year".
[40] RIIO-GD1 DRS assessments have taken place in 2015 and 2018. The final assessment will take place in summer 2021, which will cover the work completed during the period between April 2018 and March 2021.
[41] Our decision on the 2018 DRS: https://www.ofgem.gov.uk/publications-and-updates/decision-riio-gd1-gas-discretionary-reward-scheme-2015-18

a subjective ex post reward, would give the GDNs more certainty to propose more ambitious, bespoke initiatives. A proportion of the allowance would be reserved for collaborative initiatives.

3.204 We also propose to remove the environmental elements of the DRS, as discussed in Chapter 4.

4. Outputs: Deliver an environmentally sustainable network

A high level objective of the RIIO price control framework is for network owners to mitigate the impact of their networks and business activities on the environment and to support the transition to a low carbon energy future. This section sets out potential outputs and price control measures for consideration in RIIO-GD2, for GDNs to fully contribute to the low carbon energy transition and deliver an environmentally sustainable network and transition. This chapter should also be read in conjunction with the Core Document, in particular, Chapter 4 on outputs and business plan incentives.

Chapter 4 questions

GDQ26. What are your views on the overall outputs package considered for this output category?

GDQ27. For each potential output considered (where relevant):

a) Is it of benefit to consumers, and why?

b) How, and at what level should we set targets? (eg should these be relative/absolute)

c) What are your views on the design of the incentive? (eg reward/penalty/size of allowance)

d) Where we set out options, what are your views on them and please explain whether there are further options we should consider?

GDQ28. What other outputs should we be considering, if any?

GDQ29. What are your views on the RIIO-GD1 outputs that we propose to remove?

All questions, including additional output specific questions, are set out in Appendix 3.

Introduction

4.1 The electricity and gas networks make up the system that brings energy to UK homes and businesses. However, energy networks and the related business activities can also be harmful to the environment.

4.2 In our Framework Decision, we stated that "network companies must play a stronger role in minimising their environmental impact and facilitating the decarbonisation of the energy system", and that "RIIO-2 has to endeavor to mitigate the impact of networks on the environment".

4.3 Network infrastructure typically has a long asset life. It is important that GDNs' decisions about network investment take appropriate account of the environmental impacts, as these will persist for many decades to come.

4.4 For RIIO-GD2 we are proposing that our environmental framework should focus on the decarbonisation of the energy system. We also welcome views on the extent to which other environmental impacts should be captured.

4.5 Our RIIO-GD1 framework led to GDNs doing more to support and address the challenges of the low-carbon transition. This includes creating guidance for distributed gas connections, as well as using the RIIO-1 innovation stimulus to

undertake innovation projects to address technical issues associated with using hydrogen in distribution networks.

4.6 Over RIIO-GD2, we think the key challenges in this area for GDNs' focus are the gas networks' contribution to the low carbon transition, including the decarbonisation of heat, as well as the reduction in gas lost through the network. We welcome views on whether these should be the main focus areas over GD2.

4.7 In order to address these challenges, we are consulting on whether the RIIO-GD2 environmental framework should include:

- A specific ODI that incentivises the GDNs to reduce their shrinkage levels.
- Mechanisms that would enable the price control to be responsive to future policy decisions on the decarbonisation of heat.

4.8 We welcome views on whether further regulatory mechanisms are needed to drive the GDNs to be more proactive in reducing their impact on the environment and contributing to the transition to the low carbon energy system. In particular, we are open to receiving proposals for bespoke outputs from the GDNs and other stakeholders for specific outputs and incentives that would support the delivery of environmental objectives. Our evaluation of these would be as per the criteria outlined in the Core Document.

4.9 We note that the electricity and gas transmission sectors are considering some additional measures in this area. This includes whether companies should set out environmental initiatives through their business plan, and whether this should be reported on annually. They are also considering whether to include business carbon footprint (BCF) reporting as a reputational incentive. See the electricity and gas transmission sector annexes for further description of these proposals.

4.10 We are seeking views from stakeholders on whether such measures should apply in in gas distribution and would help address the main challenges in the sector. As part of this, we note that approximately 95% of GDNs' BCF is due to shrinkage and therefore seek views on whether BCF is a useful separate measure in gas distribution.

GDQ30. What are your views on the priorities we've identified for the gas distribution sector in delivering an environmentally sustainable network? Should measures proposed for electricity and gas transmission, such as BCF reporting and strategies for including in Business Plans, also apply to gas distribution?

Table 31: Summary of RIIO-2 proposed outputs

Output name	Output type*	Company driven target**	Comparison to RIIO-1
Common outputs (expected to apply to all companies)			
Shrinkage	ODI(F) or ODI(R)	Yes	Revised RIIO-1 output
Bespoke outputs (companies should consider for potential inclusion in their Business Plan; though not just limited to these areas)			
Specific output and incentives that will support the delivery of environmental objectives	For companies to consider	Yes	new RIIO-2 output

* ODI(R/F) = Output Delivery incentive (Reputational/Financial), PCD=Price Control Deliverable, LO=Licence Obligation
** Company driven target signifies an output where we expect to see extensive company-led engagement (including with their CEG) to justify a stretching performance target. This could lead to performance targets varying by company.

Proposals for RIIO-GD2

Table 32: Shrinkage

Purpose	To encourage GDNs to reduce the shrinkage on the network to deliver environmental and wider consumer benefits.
Proposed approach	We are considering either a **reputational ODI** linked to a clear target in shrinkage reduction, or a **financial ODI** with rewards and penalties for shrinkage reductions that are not directly related to the core repex programme.

Background

4.11 Shrinkage is gas that is lost during transportation through the network. It is made up of three elements:

- Gas leakage from the network (eg from joins between pipes)
- Gas used by the network as part of its operations (eg to preheat gas prior to pressure reduction)
- Gas stolen from the network.

4.12 The associated carbon emissions are the biggest part of GDNs' Business Carbon Footprint (approximately 95%).

4.13 As well as environmental benefits from reducing shrinkage, there are wider consumer benefits. For example, addressing a gas leak may involve costs to dig up a road and replace a pipe.

4.14 Shrinkage is hard to measure and we rely on the GDNs' model to estimate the targets and actual shrinkage. This measurement is not exact and the main influence on reducing shrinkage is from the replacement of iron pipes, which are prone to leaks, with plastic ones that are less leaky.[42] Such replacement activity is funded through the price control and, as such, we have concerns about placing an

[42] For example, replacing an iron main with a plastic main can reduce the leakage rate by 96%

additional, significant financial incentive against it when much of the activity to address shrinkage is business as usual for the GDNs.

The shrinkage allowance in RIIO-GD1

4.15 In RIIO-GD1, each GDN has with a baseline shrinkage allowance.[43] The purpose of this allowance is to account for the costs GDNs incur in having to make up for the shortfall in gas.

The incentive mechanism in RIIO-GD1

4.16 In addition to the baseline shrinkage allowance, there is an incentive mechanism to encourage the GDNs to reduce the level of shrinkage. In setting the baseline shrinkage allowance each GDN has an annual shrinkage target. If the GDNs can reduce leakage by more than the target, then they are rewarded; if they miss the target, they are penalised.

4.17 In the first five years of RIIO-GD1, the GDNs have collectively outperformed their shrinkage targets by 21%. No company has missed its annual target and to date the companies have been rewarded £75m.

Proposed approach for RIIO-2

4.18 We propose that for RIIO-GD2 shrinkage should become either a:

- Financial ODI, with a specific, lower cap and collar, relative to RIIO-GD1, on the total incentive payments available (reward and penalty)
- Reputational ODI.

4.19 While we have seen notable reductions in shrinkage, we no longer think a financial incentive for this output at the levels seen over RIIO-GD1 would be appropriate. The main driver behind the shrinkage reductions over RIIO-GD1 is repex, which is already funded under RIIO.[44]

4.20 We don't think this warrants an additional financial reward under a specific incentive. Although the existing RIIO-GD1 shrinkage incentive seeks to account for the shrinkage reduction driven by repex, this is very challenging to do. This is because there are numerous factors that affect what repex work is taken forward, which will consequently have an impact on the shrinkage.

4.21 While repex will continue to be a key driver for shrinkage reduction over RIIO-GD2, we acknowledge that there are some areas that GDNs can influence to reduce shrinkage outside of the core repex work. For example:

- Reducing leakage through pressure management and gas conditioning
- Looking for new ways to reduce gas theft.

4.22 If retained, we want any financial incentive to focus on these types of areas so that it only rewards GDNs for incremental activities that they wouldn't do without an incentive and are beyond the effects of repex.

[43] The baseline allowance is based on the forecast modelled shrinkage levels over the price control period, multiplied by the price of gas. The allowance is adjusted every year to account for the outturn price of gas which is difficult to forecast accurately and is largely outside of the GDNs' control. Forecast modelled shrinkage is calculated using the Shrinkage and Leakage Model (SLM) which the GDNs maintain, but is approved by us.

[44] See our repex proposals for RIIO-GD2 in Chapter 5.

4.23 In addition, if we retain a shrinkage allowance and incentive, we would want the GDNs to propose clear bespoke shrinkage targets that show the potential effects of GDNs' actions beyond those that would just occur as part of the core repex programme. The targets and the associated costs of these actions would be tested with stakeholders, including the CEGs. We would also want these targets to be stretching, given that so far over RIIO-GD1, we have seen companies consistently outperforming their targets.

4.24 For the incentive, we are consulting on three options (see Table 33). At this stage our favoured options are either option 2 or option 3.

Table 33: Options for a shrinkage incentive

Option	Description	Pros	Cons
Option 1: Status quo	*Financial ODI *Limited change to RIIO-GD1 approach *Uncapped incentive *Reward and penalty mechanism *Bespoke targets	*Consistent with the approach in RIIO-GD1 *Appears to have supported driving shrinkage levels lower	*Complicated mechanism to understand in terms of linking financial payments to performance. *Hard to isolate the impact of GDNs' actions that they have not been funded for under repex
Option 2: Targeted reward/penalty	*Financial ODI *Bespoke targets *Reward/penalty only applied to part of the target that relates to actions outside of the core repex programme *Introduction of a cap and collar	*Allows for regional ambition to be reflected in any financial incentive. *Drives GDNs to consider shrinkage reduction in areas beyond repex *Aligns any financial incentive to activities that have not been fully funded by the price control	*Potentially more complicated to implement than other options because more analysis (by GDNs and us) will be needed to isolate the potential impact of GDN shrinkage reduction actions from repex and non-repex activities, in order to set a financial incentive.
Option 3: Reputational	*Reputational ODI *No financial reward/penalty for over/under delivery against shrinkage target	*Simple to implement *With shrinkage reductions largely driven by repex, a financial incentive may not be appropriate	*May not drive shrinkage improvements in areas beyond the repex programme

Table 34: Decarbonisation of heat

Purpose	To ensure GDNs engage proactively with heat decarbonisation within the constraints of uncertainty about the future of heat.
Proposed approach	**We are not considering a specific output at this stage.** However, we have set out our proposals for four complementary mechanisms: low and no regret projects proposed in GDN Business Plans, innovative projects supported by the RIIO-2 innovation stimulus, bespoke uncertainty mechanisms to respond to changes in gas demand driven by heat decarbonisation, and a 'Heat Policy Re-opener' to respond to central government heat policy.

Background

4.25 The nature of the GDNs' role in long term heat decarbonisation is uncertain. Various low carbon heat scenarios are debated with different technology mixes,

ranging from widespread deployment of electrically driven heat pumps to conversion of gas systems for use of hydrogen from low carbon sources. The pathway GB will follow is uncertain, and depending on what path is followed, this will have different implications for the GDNs. It is important that the price control enables a transition to decarbonised heat at lowest cost while reducing the risk of stranded investment, particularly if GB follows a low-gas pathway.

4.26 The scale and complexity implied by any particular pathway means clear decisions on the future of the gas networks are necessary in order to coordinate the transition to decarbonised heat. The government's Clean Growth Strategy[45] recognises this, and anticipates decisions about the long term future of heat in the first half of the 2020s. To support these decisions government is building evidence, some of which has been supported through our RIIO-1 innovation stimulus. For example, we awarded £8.9m under the NIC to H21, a project led by Northern Gas Networks to demonstrate the safety of transporting 100% hydrogen. BEIS is also funding hydrogen research related to innovative non-network parts of the supply chain, including the Hy4Heat Innovation Programme which explores issues downstream of the meter. If successful, live hydrogen trials could begin during RIIO-GD2.

Proposed approach for RIIO-GD2

4.27 In the context of this uncertainty we propose not to develop an output specifically related to heat decarbonisation. We think it is premature to design an output around widespread hydrogen conversion, or any other heat decarbonisation pathway, before central government has reached a policy decision.

4.28 However, we want GDNs to engage proactively with heat decarbonisation. We think that the RIIO-GD2 framework:

- Should enable GDNs to invest in low and no regrets heat decarbonisation projects
- Should enable GDNs to continue to fund network-related innovation projects that support heat decarbonisation, providing technical evidence to inform government on future heat policy decisions
- Should enable GDNs to respond to changing demand for gas driven by, for example, emerging local, regional, devolved and national government policies to decarbonise heat
- Could be adaptable to accommodate a significant development in government policy for heat decarbonisation during the price control period.

4.29 We think that the mechanisms detailed below would deliver these aims. Each mechanism would be suitable to different kinds of activity. Well-justified low and no regrets heat decarbonisation projects would, where approved by us, be funded within baseline allowances. Innovation projects would not be suitable for baseline funding, but instead could be supported by the RIIO-2 innovation stimulus. Finally, changes to GDN investment plans arising from uncertain heat decarbonisation developments during RIIO-GD2 would be handled by uncertainty mechanisms.

[45] https://www.gov.uk/government/publications/clean-growth-strategy

Low and no regrets heat decarbonisation projects

4.30 Under RIIO-GD2 GDNs may propose network investment for low and no regret projects driven by heat decarbonisation in their Business Plans. We would expect these proposals to be backed by clear justification and appropriate evidence. We would then assess whether the proposed investments should be funded as part of baseline allowances.

4.31 Low and no regret projects are those which do not expose consumers to material stranding risk due to uncertainty in GB's pathway to decarbonised heat. This may be because the project itself has low materiality, such as selecting a slightly higher cost option when replacing an asset to help future-proof the network for decarbonisation. Projects may also be considered 'low or no regret' because they have a low risk of stranding across all plausible heat decarbonisation pathways. However, given current technology and policy uncertainties we think that this is likely to be limited.

4.32 One example raised to date by GDNs is the installation of mechanical valves alongside repex works that would allow isolation of network sections.[46] The GDNs have argued that this could support a phased conversion to hydrogen, or a phased decommissioning. We would need to see more details set out within the Business Plans before reaching a judgment on the value and need for such investments.

Network-related innovation projects for heat decarbonisation

4.33 For innovative network-related projects GDNs should use the RIIO-2 innovation stimulus for funding (for more information see Chapter 8 of the Core Document). This could include projects that would feed into the evidence base informing government decisions on the future of heat. We would also encourage GDNs to consider innovation projects that use the remaining RIIO-GD1 funding rather than waiting for the next price control period. Large multi-year projects can usually be broken down into discrete stages and we would encourage GDNs to use this as one approach to making use of the remaining GD1 innovation allowances.

Responding to changing gas demand driven by heat decarbonisation

4.34 GDNs have told us there are some projects related to heat decarbonisation that are not innovation-focused, but are too uncertain to include in their Business Plans. An example that we've heard from GDNs is investment driven by policy and planning across local, regional and devolved governments. This could include an increase in deployment of heat networks heated by gas-based technologies such as CHP, which could lead to increased demand on parts of the gas network.

4.35 In RIIO-GD2, GDNs have the opportunity to propose uncertainty mechanisms (see Chapter 7 of the Core Document). GDNs should explore this further with their stakeholders and, if appropriate, include such proposals in their Business Plan.

'Heat Policy Re-opener' uncertainty mechanism - Responding to significant development in government heat policy

4.36 While the transition to low carbon heat will take many years to complete, we recognise a substantial policy decision by central government on the future of heat could have significant implications for GDN investments over the RIIO-GD2 price control period. For example, a decision to pursue hydrogen could require a significant increase in GDNs' expenditure. Conversely, a government policy that

[46] Presented at our second Decarbonisation stakeholder group: https://www.ofgem.gov.uk/publications-and-updates/riio-gd2-working-groups

led GB away from gas-based low carbon heat scenarios could significantly reduce GDN expenditure.

4.37 We propose a 'Heat Policy Re-opener' uncertainty mechanism to respond to significant development of central government policy. This could be triggered either by us or by the GDNs. The re-opener would respond to a policy-driven requirement for some, or all, GDNs to make significant change (either upward or downwards) to their spending during RIIO-GD2 to support a transition to low carbon heat.

4.38 In terms of design, our current thinking is:

- Trigger event. The re-opener would be triggered by a substantial development in central government policy which had heat decarbonisation as an objective and which was likely to have a significant impact on the GDNs' expenditure needs. We think the trigger should be the passage of legislation as this would be the point at which the implications for GDNs were clearest. However, we welcome views on the appropriateness of alternatives, while noting that an effective trigger must substantially resolve heat decarbonisation uncertainties.
- Trigger window. If a trigger event occurs we think there should be windows for GDNs, or us, to trigger this mechanism in years two and three of RIIO-GD2. Beyond year three of RIIO-GD2 GDNs would be able to respond through their RIIO-GD3 Business Plans rather than a re-opener.
- Materiality threshold. Consistent with our approach in RIIO-GD1, there would be a materiality threshold of one per cent (following the application of the sharing factor)[47] of base revenue.
- Symmetry. As different heat decarbonisation pathways imply either a greater or lesser role for gas, the re-opener should respond both to policy changes that materially increase or decrease GDN expenditure requirements.

4.39 The re-opener would respond to central government policy. As set out above, we invite GDNs and their stakeholders to consider bespoke uncertainty mechanisms to respond to heat decarbonisation policies developed by other levels of government.

4.40 The re-opener would not be designed to support GDN investment in anticipation of new government policy. In Chapter 7[48] of the Core Document we discuss anticipatory investment and the proposal for a joint working group to consider the merits of proposals for highly anticipatory investment. We will ensure alignment between the design of the heat policy re-opener and our cross-sector approach to anticipatory investment.

4.41 We expect GDNs to set out in their Business Plan how they are preparing for government decisions on the future of heat. This should include consideration of decarbonisation scenarios in which gas distribution plays a significant role, and scenarios in which their role is considerably diminished. Consideration of these scenarios should include description of the potential impact of government decisions during RIIO-GD2 on their investment plans, which we would consider

[47] By this we mean that for example, if the sharing factor is 50 per cent then in effect the materiality threshold is two per cent of base revenue.
[48] In the sub-section 'Managing the risk of asset stranding'.

when developing a heat policy re-opener. We expect companies to consider the costs and benefits of deferring investment until uncertainties are resolved.

GDQ31. Do you agree with our proposed approaches to funding GDN activities over RIIO-GD2 related to heat decarbonisation?

Outputs considered but not proposed for RIIO-GD2

New connections for power generation and transport

Background

4.42 GDNs have suggested that increased connection requests for power generation and gas-fuelled transport may arise during RIIO-GD2. These may be driven by public policies across different levels of government. For example, the growth in intermittent renewables may stimulate further investment in gas-fired peaking generators, and transport policies may stimulate take up of gas-based vehicles. These additional connections may create a need to invest in expanding network capacity.

Proposed approach for RIIO-GD2

4.43 We propose not to develop an output for new power generation and transport connections. Given the current uncertainty in the role of gas in the transition to low carbon power generation and transport, we do not think a common output across the sector is appropriate. It is unclear to us what such an output would measure.

4.44 The existing arrangements for connecting new load and covering the costs of reinforcement (ie charging these to connectees) are outside the scope of the price control. Where stakeholders wish to propose changes to these arrangements they should direct them to the appropriate forums, such as the UNC modifications process.[49]

4.45 We don't currently anticipate specific funding mechanisms to support power generation and/or transport connections. We think it is unlikely to be appropriate for the generality of gas consumers to contribute to funding these connections, particularly if that funding runs counter to the cost reflective charging methodology. We welcome views on this, including on whether there are examples we should consider, and the rationale for doing so.

Biomethane connections

Background

4.46 Injection of biomethane to the gas networks contributes to greenhouse gas reduction, increasing use of renewable energy and diversification of gas supplies. The costs of connecting to the gas network are borne by biomethane producers and form part of the overall package of costs prospective biomethane developers consider when making investment decisions. Connection costs vary by location according to a range of factors including capacity in the network and downstream demand levels. Biomethane producers are currently supported by the Renewable Heat Incentive (RHI), though government has not decided spend on the RHI beyond 2020-21.

[49] https://www.gasgovernance.co.uk/mods

4.47 In some cases, biomethane developments can require significant network investment. GDNs have suggested that changes to the current charging arrangements could be made to enable these costs to be socialised.

Proposed approach for RIIO-GD2

4.48 We have decided not to propose a new output for biomethane connections. This is because we consider that the arrangements for subsidising or sharing connection costs are outside the scope of RIIO-GD2. We think that government should determine what, if any, subsidy regime should support biomethane. As with power generation and transport connections, proposals to amend the connection or charging regime should be directed to the Uniform Network Code (UNC) modifications process.

4.49 However, should GDNs and their stakeholders consider bespoke outputs to be appropriate, they should include well-justified proposals in their Business Plans.

4.50 RIIO-GD1 also included outputs on reporting of biomethane connections and providing information to distributed gas producers. We propose to retain these reporting and information provision obligations, but do not see them as RIIO-GD2 outputs (see the section below for our thinking on these).

RIIO-GD1 outputs proposed for removal

Table 35: Outputs we propose to remove for RIIO-GD2

Name	RIIO1 licence condition
Reporting biomethane connections and connection studies	NA – information collected through the RIGs
Distributed Gas Connections Guide and distributed gas information strategies	Standard Special Condition D20
Discretionary Reward Scheme	Special condition 1G

Reporting biomethane connections and connection studies

Background

4.51 Under RIIO-GD1 we require GDNs to report on the number and capacity of biomethane connections and connection studies. RIIO-GD1 treats this as an output, supported by a reputational incentive.

Proposed approach for RIIO-GD2

4.52 We propose to continue to require GDNs to report on biomethane connections and connection studies through the Regulatory Instructions and Guidance (RIGs), but don't think there is a strong rationale to treat it as an output under RIIO-GD2. RIIO-GD1 treated this reporting as driving a reputational incentive, but we think the effectiveness of this is limited given that much of what determines the number and capacity of biomethane connections lies beyond GDNs' control.

Distributed Gas Connections Guide and distributed gas information strategies

Background

4.53 RIIO-GD1 includes an output that requires GDNs to improve the information available for biomethane producers wanting to connect to their network. GDNs are

required to publish a Distributed Gas Connections Guide and a distributed gas information strategy.[50]

Proposed approach for RIIO-GD2

4.54 We propose to retain this licence condition and the associated GDN strategy, but do not think there is a strong rationale for it to be considered as an output under RIIO-GD2.

4.55 The provision of this information continues to be important. We would welcome views on the helpfulness, and effectiveness, of the GDNs' Distributed Gas Connections Guides and distributed gas information strategies. For example, is there a need to ensure biomethane customers are treated more consistently across GDNs, and does more need to be done to share best practice between GDNs? We note the Energy Networks Association is working with the GDNs on a Biomethane Connections Code[51] which may lead to greater alignment across the GDNs.

GDQ32. Are the GDNs' Distributed Gas Connections Guides and distributed gas information strategies helpful and effective? If not, how could they be improved?

Discretionary Reward Scheme (DRS)

Background

4.56 In RIIO-GD1, the DRS incentivises the GDNs to deliver social, carbon monoxide (CO) safety and environmental initiatives beyond those funded directly through the price control. Please see from paragraph 3.202 of Chapter 3 where we have discussed the DRS in more detail.

Proposed approach for RIIO-GD2

4.57 We propose to remove the DRS in RIIO-GD2. Our proposals to support the environment are outlined earlier in this chapter. We also propose to replace the social and CO safety elements of the DRS, as discussed in Chapter 3.

[50] The former sets out requirements and processes associated with injection of gas to the distribution network, while the latter sets out how the GDN ensures adequate information provision and satisfactory standards of service to gas producers. Both documents are updated annually.
[51] http://www.energynetworks.org/news/press-releases/2018/october/energy-networks-launch-new-code-to-help-deliver-bumper-levels-of-biomethane.html

5. Outputs: Maintain a safe and resilient network

We are proposing for a number of outputs and incentives for RIIO-GD2, designed to ensure the GDNs efficiently deliver a safe and resilient network that is also responsive to change. This chapter should be read in conjunction with the Core Document, in particular, Chapter 1 on outputs.

Chapter 5 questions

GDQ33. What are your views on the overall outputs package considered for this output category?

GDQ34. For each potential output considered (where relevant):

a) Is it of benefit to consumers, and why?

b) How, and at what level should we set targets? (eg should these be relative/absolute)

c) What are your views on the design of the incentive? (eg reward/penalty/size of allowance)

d) Where we set out options, what are your views on them and please explain whether there are further options we should consider?

GDQ35. What other outputs should we be considering, if any?

GDQ36. What are your views on the RIIO-GD1 outputs that we propose to remove?

All questions, including additional output specific questions, are set out in Appendix 3.

Introduction

5.1 Network companies need to deliver a safe and resilient network that is also efficient and responsive to change. Our proposals for this output category are set out below. Under RIIO-2, companies can also come forward with additional company specific ('bespoke') output measures within their Business Plans.

5.2 Although maintaining a safe and resilient network is identified as a specific output category for RIIO-GD2, our proposals across the other output categories will also support this goal, along with the wider RIIO-2 framework, and statutory health and safety requirements led by the HSE. By way of illustration:

- Replacing iron mains with plastic pipes under the Iron Mains Replacement Programme (IMRP) improves safety and substantially reduces the leakage of gas from pipes, cutting CO2 emissions on the network.
- Ensuring a safe network that is in compliance with HSE safety standards remains paramount and we will ensure GDNs are efficiently funded to deliver this under RIIO-GD2.

5.3 Over RIIO-GD1 we have seen GDNs make progress in delivering a safe and resilient network:

- GDNs have abandoned over 17,000km of iron mains to date, most of which have been replaced with safer plastic mains, and are on track to abandon almost 28,000 km by the end of RIIO-GD1.

- GDNs have developed an improved understanding and approach to measuring the health of their assets in RIIO-GD1, which should enhance their ability to clearly outline their approaches to managing risk in RIIO-GD2 Business Plan submissions.

5.4 We want to see further improvements over RIIO-GD2, and we challenge the GDNs to meet the expectations of their customers through setting stretching targets and strong commitments. Some of the areas we've been exploring with stakeholders include:

- How to embed the significant cost reductions in iron mains replacement seen over RIIO-GD1.
- How to ensure networks remain resilient and offer value for money for both current and future consumers, despite uncertainty over the long-term role of the gas network.

5.5 This chapter should be read in parallel with Chapter 6 of the Core Document which describes:

- The rationale for having an output category to 'Maintain a safe and resilient network'
- The broad RIIO-2 approach to specific outputs (eg types and the approach to developing company (bespoke) outputs).

Summary of RIIO-2 proposed outputs

Output name	Output type*	Company driven target**	Comparison to RIIO-1
Common outputs (expected to apply to all companies)			
Repex	PCD	No	Revised RIIO-1 output
NTS exit capacity	ODI(F)	No	Revised RIIO-1 output
GDN record keeping	LO (and/or bespoke PCD)	No	New output
Gas holder demolitions	PCD	Yes	Revised RIIO-1 output
Network Asset Risk Metric	PCD/ODI	Yes	Revised RIIO-1 output
Cyber resilience	PCD	Yes	New output
Bespoke outputs (companies should consider for potential inclusion in their Business Plan; though not just limited to these areas)			
GDN record keeping	PCD	Yes	New output
Physical security	PCD	No	Revised RIIO-1 output

* ODI(R/F) = Output Delivery Incentive (Reputational/Financial), PCD= Price Control Deliverable, LO= Licence Obligation
** Company driven target signifies an output where we expect to see extensive company-led engagement (including with their CEG) to justify a stretching performance target. This could lead to performance targets varying by company.

Proposed Outputs for RIIO-GD2

5.6 The Network Asset Risk Metric (NARM), cyber resilience and physical security are outputs that are cross sector covering RIIO-GD2 and T2.[52] Further information on these outputs can be found in the Core Document.

[52] Cyber resilience is also relevant for the ESO.

Repex

Purpose	Repex is the term we use to describe the long term programme to replace old and deteriorating gas mains, services and risers. The purpose of this output is to ensure the work is delivered efficiently.
Proposed approach	We consider the use of **Price Control Deliverables**, combined with uncertainty mechanisms, appropriate for the delivery of repex workloads in RIIO-GD2. We are consulting on a range of options.

Background

5.7 Repex is the term we use to describe the long term programme to replace old and deteriorating mains, services and risers.

5.8 Typically, iron or steel gas mains and services are replaced with plastic mains, which significantly reduce leakage and lower safety risks. Repex also has the additional benefits of reducing greenhouse gas emissions and improving the operational efficiency of the network through avoided emergency and repair costs.

5.9 HSE regulations are the primary driver of repex.[53] Around three quarters of repex spend is for activity mandated by the HSE, which requires the GDNs to manage the safety risk on their iron mains populations. Those iron mains that are within 30 metres of a building present the highest risk. Depending on their size, these iron mains must be managed either through decommissioning, remediation[54] or ongoing monitoring, as summarised below:

Table 36: Overview of iron mains categories

Tier	Description
Tier 1	Less than or equal to 8 inches in diameter. Must be decommissioned under a 30 year programme.
Tier 2A	Greater than 8 inches to less than 18 inches in diameter, which breach a risk threshold.[55] Must be decommissioned or remediated.
Tier 2B	Greater than 8 inches to less than 18 inches in diameter, which are below a risk threshold. Mains can remain operational, but decommissioning funded if supported by CBA.
Tier 3	Greater than 18 inches in diameter. Mains can remain operational, but decommissioning funded if supported by CBA.

[53] The HSE's Pipeline Safety Regulations can be found here: http://www.hse.gov.uk/pUbns/priced/l82.pdf
[54] For larger diameter mains, it may be possible for GDNs to undertake remediation action (ie internally sealing pipe joints) that prolongs the operating life of a pipe over the medium-term (ie 10-20 years). Typically, these remediation actions are less costly than full replacement, but offer shorter operating lives.
[55] The risk action threshold is agreed between the HSE and each GDN individually. It is a risk score for an individual main, above which the GDNs are expected to take appropriate action to make the pipe safe, either through remediation or decommissioning and/or replacement. The score is measured by the Mains Risk Prioritisation System (MRPS) methodology and estimates the probability of the mains pipe causing an explosion incident, per kilometre, per annum. The MRPS takes into account factors such as the fracture history of the pipe, the fracture history of other mains within the same area, the likelihood that gas will enter a building, the operating pressure of the pipe and the diameter of the main.

5.10 The remaining quarter of repex spend is incurred on non-mandatory replacement activities, which are justified through CBA, taking into account safety, leakage reduction and emissions benefits.

5.11 At the beginning of RIIO-GD2, there will be 11 years remaining of the HSE's programme to abandon all Tier 1 iron mains. The GDNs are currently required to abandon around 35,500km of mains by 2032, of which approximately 16,100km will fall within the RIIO-GD2 period.

5.12 GDNs must also manage the risk on their assets that are not included within the HSE's replacement programme. These include services, risers and mains of other materials, through ongoing monitoring and replacement, as required.

Context for policy decisions

5.13 In RIIO-GD1, repex has been the largest area of underspend for the GDNs. We have identified three overarching drivers of underspend: increases in efficiency, factors outside of the GDNs' control, and the design of the price control settlement. We are concerned that in RIIO-GD1, some GDNs' workloads delivered don't correspond to the allowances provided. We have not yet developed our approach for the close out of RIIO-GD1. In particular for repex, we have not yet decided the treatment of any deviations between works delivered and the secondary deliverable targets.[56]

5.14 In RIIO-GD2, we are aiming to design a framework that maintains the positive aspects of RIIO-GD1, such as capturing efficiencies, while also addressing some of the structural issues. At the same time we will look to ensure we retain incentives for network companies to innovate to deliver cost efficient projects.

5.15 One way we could address this would be a greater use of outputs with fixed workload targets at the aggregate level, but where allowances adjust to reflect the detailed workloads ultimately delivered. Repex is a high volume programme, and a lot of the work is reasonably certain and repeatable. Given these circumstances, we think that fixed output targets should be considered, as they can encourage accountability and create a predictable environment where companies can innovate. Tier 1 abandonment is one area where this may be appropriate.

5.16 However, there are elements of repex that are lower volume, less certain and less repeatable, and we want to ensure there is enough flexibility for the GDNs to still deliver these areas efficiently. Fixed targets may be too restrictive if needs are likely to change over the short term.

5.17 In all, whether fixed or flexible models are used, we need to ensure consumers are protected from under delivery, or delivery to a different specification[57], than funded for. While we plan to continue to maintain the incentive properties of the ex-ante price control framework, we also think that using ex post adjustments could ensure clearer alignment of allowances and workloads. We don't think these two concepts are incompatible, and our aim is to put in place a structure that encourages the GDNs to deliver genuine innovations, but limits the scope for benefitting from simply re-profiling workloads.

[56] Output targets are outlined in Chapter 6 of the RIIO-GD1: Final Proposals – Supporting Dcoument – Outputs, incentives and innovation document, which can be found here: https://www.ofgem.gov.uk/ofgem-publications/48155/2riiogd1fpoutputsincentivesdec12.pdf

[57] In this context, specification refers to the mix of workloads being delivered, rather than detailed aspects of specific projects.

5.18 The structure of repex outputs also needs to take into account our approach to cost assessment. This will be important for any in-period cost adjustments and any flexibility around output targets. We will consider this when making our final decision on the structure of repex outputs.

5.19 We have outlined different options for three areas for which we are considering having repex outputs in RIIO-GD2:

- Tier 1 mains
- Services replacement
- Asset management repex activities.

5.20 We have presented the options for each of these areas separately. In practice, we will pursue a holistic approach to structuring repex outputs, which will take into account the interactions between each of these areas and other policy decisions. We are seeking feedback on the options being considered for each category, both as a standalone output, as well as considering interactions with the other proposed outputs. We also welcome views on any alternative ways to structure the outputs given the context set out above.

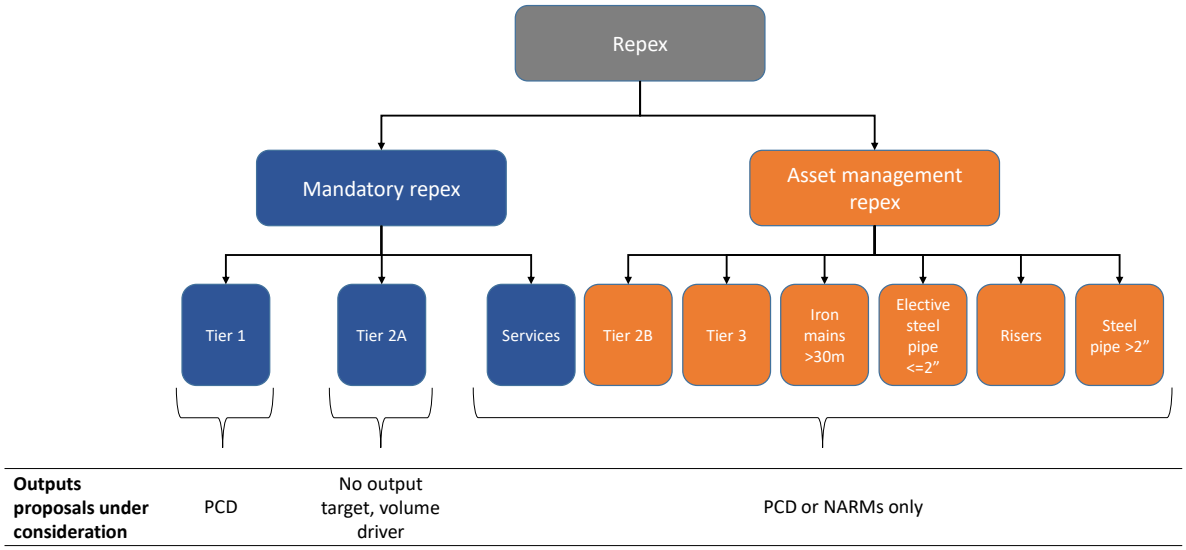
5.21 For RIIO-GD2, we are proposing to categorise repex into two sub-categories: mandatory repex activities[58] and asset management repex activities[59]. This will help distinguish between activities that are primarily safety driven, from those that have more optionality and are supported by a needs case and detailed analysis. Figure 7 shows the activities that would be captured within mandatory repex[60] and asset management repex.

[58] Mandatory repex activities would include activities that are mandated by the HSE and which the network companies are expected to undertake to remain compliant with their obligations under Pipeline Safety Regulation 13 and 13A. It would also include activities, such as replacement of services and abandoning mains of non-standard materials, which are effectively mandatory, since the HSE would expect the GDNs to act on these assets when completing repex work, even if they are not strictly mandatory under the Regulations. The HSE's Pipeline Safety Regulations can be found here: http://www.hse.gov.uk/pUbns/priced/l82.pdf Pipeline Safety Regulation 13A can be found here: http://www.hse.gov.uk/Gas/supply/13a.pdf

[59] Asset management repex activities would cover a range of interventions, from abandonment and replacement to repair and refurbishment. They are non-mandatory, with the choice on intervention generally supported by a CBA.

[60] Mandatory repex also includes steel pipe less than or equal to 2 inches in diameter associated with mains replacement, diversions, mains of inadequate integrity and non-standard materials.

Figure 7: Summary of proposed repex outputs



NB: other activities included within repex are not shown as we are not considering setting specific output targets for them.

Proposed approach for mandatory repex in RIIO-GD2

5.22 Within mandatory repex, we are considering setting outputs for Tier 1 mains replacement and services replaced. The workloads covered within this category represent high volume, repeatable activities that can be compared across GDNs and linked back to cost benchmarking. Each of the proposed outputs are volume-based, which would hold the GDNs to account for delivering a set amount of work over the course of RIIO-GD2.

5.23 Tier 1 mains replacement is mandated by the HSE and forms the bulk of repex for the GDNs. We consider it important to ensure that GDNs are held to account for delivering this work during RIIO-GD2, as it also delivers the highest benefit to customers.

5.24 In addition, GDNs usually replace non-polyethylene (non-PE) service pipes when they are undertaking Tier 1 mains replacement. Given the proximity of services to buildings, we believe that there could be value in having specific targets around non-PE service replacement in RIIO-GD2.

5.25 We outline our approach to Tier 2A mains replacement, another significant aspect of mandatory repex, in the section on uncertainty below. We do not propose to set an output target for Tier 2A mains replacement, due to the uncertain, low volume nature of this work.

Proposed Tier 1 outputs

5.26 Tier 1 mains replacement accounts for the majority of repex. Therefore, we think it is important to have a target in place that clearly links outputs to cost allowances and allows us to hold the GDNs to account should they not deliver workloads that they are funded for.

5.27 We are proposing to put in place output targets for the total volume (in kilometres) of Tier 1 iron mains abandoned over the RIIO-GD2 period. This output would be a PCD. In our view, this output would help to ensure the delivery of a

minimum level of consumer benefit and create a mechanism to recover costs for any workloads that are not delivered.

5.28 Should a company under-deliver against its Tier 1 output target in RIIO-GD2, we would seek to adjust allowances to account for the undelivered workloads relative to the RIIO-GD2 output target. We would not propose to provide additional funding for over-delivery. We would make this adjustment in RIIO-GD2 closeout. We would not seek to apply a penalty for under-delivery or reward for over-delivery relative to target level.

5.29 We think structuring the output in this way continues to encourage GDNs to design efficient projects, and develop and implement innovative techniques. At the same time, it protects consumers from GDNs gaining simply by delivering different workloads than initially forecast.

Option to address variances within Tier 1 diameter band delivery

5.30 In RIIO-GD1, we think some GDNs have gained by re-profiling their Tier 1 workloads. For example, in some instances, there have been significant variations between the diameter band mixes within the Tier 1 category that were initially presented in Business Plans and those actually delivered. As the diameter band mixes presented in Business Plans were used to determine ex ante cost allowances, some GDNs may have realised significant financial benefits from the re-profiling of the diameter band mix within Tier 1.

5.31 We are considering requiring the GDNs to deliver the Tier 1 diameter band mix outlined in their Business Plans. Acknowledging that it may not be feasible or cost efficient to require the GDNs to hit each diameter band forecast exactly[61], under this proposal we could set a +/-X% tolerance around each diameter band within Tier 1. Outside of this tolerance band, delivery would be considered to be to a different specification, and we would look to adjust allowances under the Tier 1 PCD to remove any benefit from re-profiling.

GDQ37. What are your thoughts on our proposals for Tier 1 outputs?

Proposed options for services replacement output

5.32 The GDNs usually replace non-PE service pipes alongside mains replacement projects. This activity is high volume and repeatable, which may suggest fixed targets are appropriate. However, there is less certainty around the workloads faced by each GDN, so there may be an argument for building additional flexibility into the output.[62]

5.33 Therefore, we are considering three different options for replacing non-PE services:

[61] The GDNs are expected by the HSE to follow a 20:80 rule when abandoning Tier 1 iron mains. This states that the GDNs must remove 20 percent of Tier 1 mains from the highest risk proportion of the remaining asset population. The GDNs then have the flexibility to choose any pipes from the remaining asset population to fulfil the remaining 80% of their mandatory obligation. This allows the companies flexibility to design cost efficient projects, but also means that there is greater uncertainty around the exact diameter band profile of the pipes that are abandoned.

[62] Workloads are dependent on the location of mains replacement projects. The GDNs have flexibility in choosing which mains replacement projects to undertake within the price control period, meaning the exact number of required service replacements is unknown at the start of the price control. Furthermore, service records are incomplete in some areas.

- **Option 1:** setting a PCD with a fixed target. The target would be absolute, defined as the total number of replacements over RIIO-GD2.
- **Option 2:** setting a PCD with a deadband threshold around the target. We would allow a +/-X% threshold around the target. We would require a company to justify outturn delivery that fell outside the deadband threshold. We would welcome views on the possible range of the upper and lower limits, under this option, and whether they should be symmetric. We have proposed the use of a PCD under this option, rather than a volume driver, as we think that a PCD offers the advantage of capping costs, provides a reputational incentive for the GDNs to meet their targets, and allows the option to potentially combine with an additional penalty or reward scheme.
- **Option 3:** not setting a PCD output. We expect that services will be included as an asset class within the Network Asset Risk Metric (NARM) output for RIIO-GD2. Therefore, we may consider not setting any specific targets for service replacements and rely on the GDNs requirement to meet their NARM output as the key driver of these workloads. Our proposed approach to the NARM is outlined in the Core Document, while we provide further discussion on the interaction between repex and the NARM output from paragraph 5.47.

5.34 The consequences for under or over-delivery would vary depending on the option being considered. In principle, for options 1 and 2, we are considering adjusting cost allowances for any under-delivery, but not for over-delivery. Under option 3, we would seek to align with the structure of the NARM output.

GDQ38. Do you think we should set an output for replacing non-PE services?

Proposed approach for asset management repex in RIIO-GD2

5.35 Asset management repex activities are non-mandatory, but they are important for maintaining a safe and reliable network. These activities are lower volume and less repeatable than Tier 1 mains or services replacement, but given the shorter price control period for RIIO-GD2 we feel that there is some degree of certainty over workloads. We want to ensure that GDNs are incentivised to deliver projects that maximise consumer benefits by prioritising the most cost efficient range of interventions.

5.36 For RIIO-GD2, we are considering different options for structuring outputs in this area. Similar to mandatory activities, there could be an argument for holding companies directly to account for delivering these activities through setting PCDs. However, these activities are also likely to be included within the NARM output measure, which could be used to indirectly hold companies to account for delivery of asset management workloads.

5.37 We are considering three different options for asset management repex:

- **Option 1:** We would set PCDs for each activity. PCDs would be measured in kilometres of mains abandoned for each category, with the exception of riser replacements, which would be measured by number of completed replacements. GDNs would be expected to justify the volumes of these workloads as part of their Business Plans.
- **Option 2:** We would set PCD outputs for each activity, but with a deadband threshold around the target (ie +/-X% from the target). This would provide

GDNs with increased asset management flexibility. Where outturn delivery falls within this deadband threshold, we would consider the output target to have been met. Where outturn delivery falls outside of the deadband threshold, we would require a company to justify the over/under-delivery. As with replacing services, we feel that a PCD provides certain advantages over putting in place a volume driver for these activities.

- **Option 3:** We would not set output targets for asset management repex activities. This would allow companies full flexibility to manage their assets as they deem efficient during the price control period, adapting to any changes over time. Our expectation is that each of the activities included under asset management repex would also be captured within the asset classes covered by the NARM for RIIO-GD2. Therefore, under this option, we would expect meeting the proposed NARM risk reduction output target to provide the main incentive to deliver workloads. This option may mean we have less visibility over the level of benefits consumers would receive over the price control period or beyond, and the level of associated spend.

5.38 The consequences for under or over-delivery would vary depending on the option being considered. In principle, for options 1 and 2, we are considering adjusting cost allowances for any under-delivery, but not for over-delivery. Under option 3, we would seek to align with the structure of the NARM output.

GDQ39. Do you think we should set outputs for asset maintenance repex activities?

Other RIIO-GD1 outputs and deliverables

5.39 For RIIO-GD2, we are considering removing Mains Replacement Level of Risk Removed as an output target for repex. Feedback from the repex stakeholder group suggests that doing so may allow the network companies to plan more cost efficient projects by focusing on larger geographical areas within a single project. We also think there may be more effective ways to align workloads, consumer benefits and cost allowances in RIIO-GD2, while ensuring that risk on the network continues to be effectively managed.

5.40 For RIIO-GD2, we are continuing to assess the potential value of including specific output measures linked to gas-in-buildings (GIBs) and/or fractures. In RIIO-GD1, we set targets for the occurrences of GIBs and the number of fractures on the distribution network. During the repex stakeholder group meetings, it has been raised that year-on-year variability in these measures is partly driven by external factors, particularly weather. We would encourage stakeholders to provide views and evidence on whether these measures should be included as outputs in RIIO-GD2. Our intention is to continue to record this data, whether or not we decide to attach a specific output to GIBs and/or fractures, as it acts as a useful indicator of possible safety issues on the gas networks.

GDQ40. What are your thoughts on not including Mains Replacement Level of Risk Removed, GIBs and fractures as output measures for RIIO-GD2?

Repex uncertainty mechanisms

5.41 We have outlined uncertainty mechanisms for repex below. These are designed to deal with major changes to policy directly affecting repex and activities with variable, uncertain workloads. We may also seek to establish alternative ways to address uncertainty as we develop our cost assessment approach for RIIO-GD2.

Tier 2A and ductile iron mains volume driver

5.42 In RIIO-GD1, there is a volume driver to fund mains replacement for Tier 2A mains[63] and ductile iron mains within 30 metres of a building. Volumes of Tier 2A[64] work were considered uncertain due to risk scores on individual mains changing over time. In RIIO-GD1, this mechanism adjusts allowances based on Tier 2A and ductile iron workloads delivered, which accounts for forecasting uncertainty on required volumes.

5.43 For RIIO-GD2, we are proposing to keep this mechanism to adjust cost allowances for outturn workloads. We will seek to retain and rebase, using historical reported costs, the unit costs for Tier 2A and ductile iron mains replacement.

5.44 We expect that workloads for Tier 2A and ductile iron will be relatively small, with most of these mains having been abandoned in RIIO-GD1. We think that using a volume driver is the most appropriate way to deal with the ex ante uncertainty around workloads, while retaining an incentive on GDNs to deliver projects cost efficiently. We would like to hear whether stakeholders think there are other activities that could be included within this volume driver mechanism.

HSE policy changes

5.45 Repex is heavily driven by HSE policy, both in terms of volume of work, but also the sequencing and approach that GDNs take. We propose a specific re-opener that could be triggered (by us or the GDNs) in response to any significant changes to HSE policy that result in a material impact on output targets, workload volumes or cost allowances.

5.46 In terms of design, our current thinking is:

- Trigger event. The re-opener would be activated following any change by the HSE to the Pipeline Safety Regulations or Iron Mains Replacement Programme that results in a fundamental change to the work that network companies are mandated to carry out to remain compliant. For example (but not exclusively), where there is a requirement to accelerate or decelerate the replacement of existing mandatory workloads, where there are changes to the diameter bands that are included within mandatory workloads, where new asset classes are defined as mandatory, or where the mandatory requirement is removed completely.
- Trigger window. Our current thinking is that the re-opener could be triggered at any time during RIIO-GD2. However, depending on the timing of any trigger event, we might consider it more appropriate to incorporate changes

[63] The revenue driver mechanism is set out in Special Condition 3E. Mains and Services Replacement Expenditure.
[64] Any iron mains measuring 8 inches to 18 inches in diameter, less than 30 metres from a building and that breach GDN-specific risk action thresholds are classed as Tier 2A and must be abandoned under the HSE's rules.

into the RIIO-GD2 closeout process or the baseline allowances of the following price control.

- Materiality threshold. Our current thinking is to apply a materiality threshold of one per cent (following the application of the sharing factor)[65] of base revenue.
- Symmetry. The mechanism could increase or decrease allowances depending on the changes to HSE policy.

GDQ41. Do you agree with our proposed approach to repex uncertainty mechanisms?

Interaction with the NARM output

5.47 There is interaction between the outputs we are proposing for repex and the NARM. Mains, services, and risers, are included as asset classes within the NARM and contribute to a network's overall monetised risk score.

5.48 Repex PCDs and the NARM output both provide different methods by which we could seek to hold the GDNs to account for delivering an appropriate level of consumer benefit through repex activities in RIIO-GD2. In deciding whether to pursue PCDs for different areas of repex, we need to consider whether there is the potential to achieve the same outcome through the NARM output or whether we could create conflicting incentives.

5.49 We are consulting on a number of cross-sector principles for the NARM, outlined in the Core Document, which would apply to the gas distribution sector. The structure of the NARM output in RIIO-2 could be important in determining how we structure repex outputs, including how allowances are determined, how under/over delivery is treated and how different funding mechanisms interact. Therefore, we will seek to incorporate any changes to the NARM into the final structure of our repex outputs and incentives, where relevant.

5.50 We are considering ring-fencing the NARM scores of activities for which there are drivers other than the management of the NARM, as outlined in the Core Document. We are seeking views on whether any elements of repex that have a specific PCD output attached to them and/or are mandated by the HSE should be ring-fenced.

Considerations for network companies' stakeholder engagement and Business Plans

5.51 For RIIO-GD2 repex, all of the outputs we have proposed above are volume-based. Therefore, the workload forecasts contained within companies' Business Plans will be important in informing any targets that we set. For all repex activities, we expect companies to demonstrate the needs case for these investments, the range of intervention options that have been considered, and the technical justification for the proposed course of action during RIIO-GD2.

5.52 We also want companies to draw a clear link to the feedback they have received as part of their enhanced engagement processes for RIIO-GD2. We expect asset management repex activities to be justified through cost benefit analysis and

[65] For example, if the sharing factor is 50 per cent then in effect the materiality threshold is two per cent of base revenue.

linked back to their overall approach to managing network risk under the NARM in RIIO-GD2.

NTS exit capacity

Purpose	To encourage efficient booking of NTS exit capacity in order to ensure reduced costs and accurate demand signals.
Proposed approach	We propose to retain a **financial ODI** and are consulting on a range of options to improve the link between exit capacity baselines and evolving peak demand over the price control period.

Background

5.53 In order for GDNs to offtake gas from the National Transmission System (NTS), they need to purchase exit capacity, which gives them the right to access gas in the future. The regulatory arrangements allow the GDNs to pass these costs onto consumers, so we currently have an incentive that aims to ensure capacity bookings are efficient and that:

- Costs are kept to a minimum.
- Accurate demand signals are sent to the NTS so it can plan the right level of capacity required on the network.

5.54 Under the current mechanism, GDNs are financially rewarded or penalised for booking less or more capacity.[66] Since capacity prices vary by location on the NTS, GDNs are incentivised to reduce the amount of capacity from the more expensive exit points.

5.55 During the first five years of RIIO-GD1, all GDNs have been rewarded through this incentive. At the same time, total booked capacity has decreased year-on-year. All networks have increased their use of flexible capacity, and most have allocated capacity to cheaper offtake points on the network.

5.56 We think this shows that the incentive is leading to the behaviours we intended. However, we also think that some of the benefit GDNs are receiving from the incentive are outside of the GDNs' control and more to do with incentive design than GDN action. For example:

- Baseline capacity allowances were fixed and held constant for the duration of the price control. In reality, peak demand has declined over RIIO-GD1.
- The incentive uses capacity price estimates three years ahead, which have typically been higher than actual prices, leading to high rewards relative to actual costs.

Proposed approach for RIIO-GD2

5.57 We propose to maintain an NTS exit capacity incentive in RIIO-GD2, as we think it is important to encourage GDNs to make efficient capacity bookings. Like RIIO-GD1, we expect it to be based on individual company performance rather than on relative performance.

[66] The incentive applies to flat capacity only.

5.58 However, we propose to amend the RIIO-GD1 incentive by:

- Replacing advance capacity price estimates with final offtake capacity prices when calculating rewards and penalties.
- Introducing a mechanism that enables a within-period adjustment of offtake capacity baselines, to ensure ongoing alignment between baselines and peak demand forecasts.

5.59 In addition, we note that the GDNs have earned substantial rewards in RIIO-GD1 through this mechanism (£108m in the first five years of RIIO-GD1). Our proposal to adjust the mechanism should ensure the incentive is less likely to lead to unearned gains. However, even if the incentive were to be adjusted we would want to ensure that any rewards are proportionate to the benefits to consumers. We are therefore keen to better understand the ways in which consumers benefit when GDNs book exit capacity most efficiently. We seek stakeholder views on the appropriate level of sharing with consumers, as well as the type and magnitude of benefits to consumers resulting from an effective exit capacity incentive mechanism.

Dealing with demand uncertainty

5.60 Energy demand is inherently variable and likely to deviate from any constant baseline. Under the existing mechanism, this could lead to windfall rewards or penalties. To mitigate this, we propose to introduce some form of uncertainty mechanism to enable us to adjust capacity baselines within period. GDNs are responsible for developing peak demand forecasts, so the robustness of this forecasting process is vital to achieving the above. We welcome views on how to accommodate demand uncertainty.

Addition of flexible capacity

5.61 It is important that GDNs use the various capacity products available to them efficiently, including flexible capacity. Flexible capacity was not part of the exit capacity incentive in RIIO-GD1, but due to its potential to drive flat capacity efficiencies and effective whole system outcomes, we are considering whether it should somehow be included in a RIIO-GD2 incentive. We welcome views on whether flexible capacity should be baselined and how this could be achieved without impeding whole system behaviour.

Use of capacity prices

5.62 We propose to base incentive rewards and penalties on final capacity prices rather than advance capacity price estimates, because inflated price estimates have led to high rewards in RIIO-GD1. Basing incentive rewards and penalties on final prices rather than price estimates would also ensure that GDNs focus on final prices when booking shorter-term capacity products instead of obsolete price estimates.

Interaction with UNC 0621

5.63 There is a potential interaction between this incentive and UNC Modification 0621, which considers changes to the gas transmission charging regime. The ultimate outcome of the proposed code change is not yet determined. We will continue to monitor its development and react as required to ensure that the NTS exit capacity incentive aligns with the future charging regime.

GDQ42. What are your views on our proposal to use final offtake capacity prices rather than T-3 offtake capacity price estimates in the calculation of incentive rewards and penalties in RIIO-GD2?

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 potential focus on Multiple Occupancy Buildings).
Proposed approach	To help ensure GDNs' planning, maintenance and investment programmes for RIIO-GD2 are suitability targeted for MOBs, we're looking for each GDN to include a **Price Control Deliverable** linked to its Business Plan. We're considering if additional output(s) are necessary for other specific areas of record keeping, or to cover GDN record keeping as a whole.

Background

5.64 It's vital that GDNs know where their assets are, what's connected to their network and the condition of their assets. We see this as a fundamental and business as usual activity for all GDNs for safety, operational, maintenance, and efficiency reasons.

5.65 Under RIIO-2, the NARM is intended to play a central role in ensuring that GDNs have a record of the location and condition of their network assets, to ensure that they maintain and operate them efficiently, and plan and invest appropriately (see Chapter 6 of the Core Document for further information).

5.66 One area that we want to see GDNs consider specifically as part of their RIIO-GD2 Business Plans is how they ensure their record keeping and understanding of the number and condition of assets connected to multiple occupancy buildings (MOBs) is robust. When setting RIIO-GD1, all GDNs provided some information about their work in this area over the price control period, but for RIIO-GD2 we want to ensure that we have a consistent and clear picture across all GDNs' Business Plans.

5.67 We think that GDNs having, and being able to show, an accurate record of MOBs assets is essential to help ensure their planning, maintenance and investment programmes for RIIO-GD2 are suitability targeted for this type of building. In RIIO-GD1, we provided substantial allowances for GDNs to undertake maintenance and replacement works related to MOBs pipes (circa £335m).[67] Given funding levels of this magnitude, we think it is appropriate to ask for clear commitments in this area.

Proposed approach for RIIO-GD2

5.68 For RIIO-GD2, we propose that GDNs should include a specific section on MOBs record keeping in their Business Plans, setting out:

[67] See table A3.17 of RIIO-GD1 Final Proposals: Cost Efficiency https://www.ofgem.gov.uk/ofgem-publications/48157/4-riiogd1fpcostefficiency.pdf

- Their expectations of any significant developments, or issues, affecting their record keeping relating to MOBs assets by the end of RIIO-GD2
- Any specific steps that would be taken to enhance existing MOBs record keeping (eg new systems that will be developed) and the associated timings
- Any new processes that would be in place to ensure GDNs' understanding of MOBs assets remains up-to-date
- How the above points may vary by MOB type ie low, medium and high rise buildings
- How information and learning is, or would be, shared across GDNs.

5.69 To complement this proposed Business Plan guidance on MOBs assets, we are considering whether a new output(s) would also be appropriate:

- A MOBs record keeping Price Control Deliverable (PCD) – this would involve embedding specific deliverables that are set out in GDNs' Business Plans into a PCD to monitor their progress over RIIO-GD2. Funding could also be attached to these deliverables so that if they were not achieved the costs would be returned to consumers. We propose that GDNs, working with their stakeholders, could put forward a bespoke PCD as part of their Business Plans.
- We will consider whether any other outputs might be necessary (potentially wider in scope than record keeping relating to MOBs) in light of the responses received and other work we are doing in this area.

GDQ43. Do you consider that an output(s) is necessary:

a) for MOBs record keeping (in the form of a bespoke Price Control Deliverable)?

b) for other specific areas of GDN record keeping (if so which areas)?

c) to cover GDN record keeping requirements as a whole?

Gas holder demolitions

Purpose	To ensure that gas holders are decommissioned in a timely and cost efficient manner. Demolition removes the ongoing cost of maintenance of these structures.
Proposed approach	To require GDNs to include a Gas Holder Strategy in their Business Plans which will be linked to a **Price Control Deliverable.** If a gas holder is not demolished, the associated unit cost allowance will be returned to customers.

Background

5.70 Gas holders were historically used for storage of town gas[68] from nearby gasworks. Their use dropped with the discovery of gas in the North Sea and the preference of storing gas within the pipelines (line packing). In RIIO-GD1 we provided funding to GDNs for a phased demolition of gas holders and it was anticipated that by 2029 all gas holders would be demolished. The GDNs are on track to meet their RIIO-GD1 targets in this area. Demolition removes the ongoing maintenance costs for these structures, and reduces the safety risk and leakage.

Proposed approach for RIIO-GD2

5.71 We propose that all GDNs include a Gas Holder Strategy in their Business Plans.

5.72 This strategy should state:

- The exact number of gas holders that still remain on their network
- The exact number of gas holders that are expected for demolition during the RIIO-GD2 price control
- The exact number of gas holders that would not be demolished during RIIO-GD2 and:

(i) why the holder won't be demolished (eg listed buildings)

(ii) when the holder would be expected to be demolished (if at all)

(iii) what the GDN would envisage happening to the holder if it's not demolished (eg maintained to meet health and safety requirements or repurposed for alternative use) and the costs associated with this

(iv) why is the chosen approach for not demolishing the holder in the consumer interest

(v) what the GDN plans to do with the holder site post demolition. This should consider any potential land disposal, at an arm's length fair market value, and how consumers will benefit through sharing of any proceeds from the disposal?

5.73 We propose to use the strategy, alongside cost information submitted as part of the Business Plan, to set a PCD. We would expect the PCD to link the efficient unit cost[69] for demolition to the number of gas holders set for decommissioning over RIIO-GD2. We would expect GDNs to deliver their strategy, but should a gas holder(s) not be demolished, the associated unit cost allowance will be returned to customers.

[68] Town gas is gas manufactured from coal and was the main type of gas used in GB before the discovery of natural gas in the North Sea.

[69] The efficient level of unit cost will be established through our benchmarking of GDNs' Business Plans.

RIIO-GD1 outputs proposed for removal

Table 37: Outputs we propose to remove for RIIO-GD2

Name	RIIO1 licence condition
Repair risk	N/A
Sub-deducts off-risk	N/A
Maintaining operational performance (MOPs): * Number and value of offtake meter errors – annual commitment * Duration of telemetry faults – annual commitment * Pressure Systems Safety Regulations (PSSR) fault rate – annual commitment	N/A
Major accident hazard prevention (MAHP)	N/A
Mains replacement level of risk removed	N/A

Repair risk

Background

5.74 The repair risk output was introduced at RIIO-GD1 to encourage GDNs to operate efficiently by repairing non-emergency faults in order of risk (proximity to buildings) and time (days since fault was reported). The RIIO-GD1 output is reputational.

Proposed approach for RIIO-GD2

5.75 We have reviewed this output and have not identified any significant consumer benefits that this output generates. We think the behaviour this output is incentivising (encouraging GDNs to operate efficiently) should be seen as business as usual and does not require a stand-alone output.

5.76 As a result, we propose to remove this output for RIIO-GD2.

Sub-deducts off risk

Background

5.77 A sub-deduct network is a gas pipe network arrangement that is beyond the GDN's main gas meter. Before RIIO-GD1, the statutory and regulatory arrangements did not set out explicitly who is responsible for the continuity of supply, maintenance, repair and renewal of individual sub-deduct network arrangements. This raised concerns regarding security of supply and gas safety, and the associated risks attached.

5.78 As a result, all GDNs received funding at 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. All GDNs are close to delivering this and are forecasting to deliver fully by the end of RIIO-GD1.

Proposed approach for RIIO-GD2

5.79 We don't think an output is needed because the work programme won't be repeated over RIIO-GD2. We'll assess whether companies have met their respective targets when closing out for RIIO-GD1. We don't think that GDNs would require any further specific funding for sub-deducts in RIIO-GD2.

Maintaining operational performance

Background

5.80 Maintaining operational performance (MOPs) are a set of network reliability focussed outputs introduced in RIIO-GD1. The purpose of MOPs is to ensure that the GDNs:

- Are maintaining their assets
- Can demonstrate a sufficient standard of performance in each of the areas of focus.

5.81 MOPs are measured as followed:

- The number and value of offtake meter errors
- The duration of telemetry faults
- Pressure System Safety Regulations (PSSR) fault rate
- Gas Holder Demolitions.

5.82 We set out our proposed approach for gas holder demolitions in section from paragraph 5.70 above. For the other items under MOPs, there was no explicit allowance provided to GDNs, and they are reputational incentives.

Proposed approach for RIIO-GD2

5.83 We propose to remove MOPs as an output in RIIO-GD2. We do not believe these areas provide substantial additional benefits to consumers over and above what the current reporting arrangements provide. The table below presents additional reasons why we each specific output could be removed.

Table 38: Reasons for removing MOPs

MOP name	Reasons for removal
The number and value of offtake meter errors	* Offtake meter errors are reported on, and monitored, through the current RIIO-GD1 Network Output Measures (NOMs). This is also expected to continue at RIIO-GD2 under its proposed successor the NARM (see Chapter 6 of the Core Document. We have also seen the GDNs comply with the targets set in this area over the course of RIIO-GD1, which was previously a concern for gas shippers. *We believe the performance in this area and the current reporting arrangements under the NOM/NARM, as well as the associated reporting in the RIGs removes the need for a specific RIIO-GD2 output. * We understand that shippers may find this data useful. GDNs could consider ways to publish data on meter errors to stakeholders that want it.
The number and duration of telemetered faults	* We do not think this measure warrants output status for RIIO-GD2. GDNs should be monitoring and managing these faults as part of their business as usual activities. If this is not done effectively it will increase their operating costs. * However, we expect GDNs to continue to report this data within the RIGs. Tracking this data is helpful for us to ensure that this part of the network is operating as expected.
Pressure System Safety Regulations (PSSR) Fault Rate	* We propose to remove this output and the associated reporting requirement under the RIGs. * The PSSR requires faults to be reported to the relevant enforcing authority, which is the HSE. We do not think the additional data we request, and receive, from GDNs is used by the HSE and we do not actively use it.

Major Accident Hazard Prevention

Background

5.84 GDNs are required by the HSE to prepare a Major Accident Hazard Prevention (MAHP) policy document.[70] The broad purpose of this document is to set out the company's policy for preventing major accidents. This is then submitted to the HSE for formal acceptance.[71] This process is seen as an output under RIIO-GD1, and GDNs' overall cost allowances reflect the need to comply with these statutory requirements.

Proposed approach for RIIO-GD2

5.85 We propose to continue to provide GDNs with efficient funding to remain compliant with the HSE's MAHP requirements. However, we do not consider this needs to be seen as a specific consumer facing RIIO-GD2 output. Compliance with the Control of Major Accident Hazards Regulations (COMAH) and specifically sections regarding MAHP is for the HSE to determine and enforce.

Mains replacement level of risk removed

5.86 We propose to remove the mains replacement level of risk removed output on the basis that we believe there may be more effective ways to link repex workloads with cost allowances in RIIO-GD2. Further explanation of this is provided in the repex section above.

[70] Major Accident Prevention Policy (MAPP) under the Control of Major Accident Hazards Regulations 1999 (COMAH).
[71] GDNs are required to submit a safety case, containing information required under schedule 1 of the GS(M)R for formal acceptance by the HSE.

6. Cost Assessment

We provide context to and initial thinking on our proposed cost assessment approach for RIIO-GD2. The aim is to update stakeholders and invite their early views. We outline the approach we used in RIIO-GD1 and some of the methodology options currently under consideration for RIIO-GD2. We propose the key principles we plan to use for assessing cost drivers in RIIO-GD2 and highlight areas where we are considering making changes from our RIIO-GD1 approach. We also present some initial thoughts on the structural aspects of our cost assessment approach, such as cost adjustments and combining models. We conclude by setting proposed expectations for RIIO-GD2 Business Plans and outlining next steps.

Chapter 6 questions

GDQ44. Do you agree with our intention to evolve the RIIO-GD1 approach for RIIO-GD2?

GDQ45. Do you have any comments on our initial views for cost assessment, including appropriate cost categories, cost drivers, analysis toolkit and how we combine the analysis?

GDQ46. Do you have any views on our proposed options for loss of metering work?

GDQ47. Do you agree with our proposal for implementing symmetrical adjustments for regional or company specific factors?

All questions are set out in Appendix 3.

Introduction

6.1 As in RIIO-GD1, one of the core elements of RIIO-GD2 is to assess the efficient level of costs that will enable GDNs to carry out their activities and deliver an appropriate level of service. This chapter sets out some context to, and initial thinking on, our proposed approach to assessing the efficient level of costs. We intend to publish a more detailed consultation on our proposed approach in summer 2019, whilst also recognising that we cannot finalise our approach until we have received and reviewed GDNs' Business Plans. We invite early views from stakeholders on our initial thinking.

6.2 We established a number of working groups with GDNs and other stakeholders. The Cost Assessment Working Group (CAWG) has been the main forum at which we have discussed our potential approach to cost assessment in RIIO-GD2. We will continue to hold these working groups in the coming months to facilitate ongoing dialogue, transparency and development of our approach. Full details of all RIIO-GD2 workings groups, including minutes and slide packs can be found on our website.[72]

6.3 In the remainder of this chapter we:

- Briefly summarise our approach to assessing costs in RIIO-GD1
- Discuss some of our early thinking on the proposed cost assessment approach for RIIO-GD2
- Outline some of our GD specific business plan proposals

[72] https://www.ofgem.gov.uk/publications-and-updates/riio-gd2-working-groups.

- Set out next steps.

RIIO-GD1 cost assessment

6.4 In RIIO-GD1, we used a toolkit of methodologies to assess GDNs' cost efficiency and to set baseline cost allowances.

6.5 GDNs submitted, in their Business Plans, historical and forecast cost data, along with supporting information and justification. Our assessment of this data focused on their controllable total expenditure (ie we excluded from our assessment costs we considered to be outside of their control).

6.6 In setting baseline allowances in RIIO-GD1, we used two main techniques to assess costs: regression analysis and non-regression analysis. The non-regression analysis involved a number of different approaches, such as qualitative, technical and engineering assessment as a means of analysing unit, project and operational costs.

6.7 We normalised controllable costs to ensure the comparability and consistency of data across the industry. We removed some costs we considered unsuitable for our regression analysis (and assessed these using non-regression approaches). For the purposes of our regression analysis, we also made adjustments to the cost data to account for differences arising from factors we considered beyond companies' control (eg regional labour costs, urbanity, sparsity and other environmental factors).

6.8 We used regression analysis at two different levels in setting baseline allowances:

- At an activity (or disaggregated) level (ie bottom-up)
- At a totex (or aggregated) level (ie top-down).[73]

6.9 The top-down approach used a single regression model to assess the efficient level of controllable totex (excluding certain costs considered outside the regression and adjusted for regional factors) for a base year. This gave us a high level view of GDNs' performance while accounting for opex-capex trade-offs.

6.10 The bottom-up approach used separate regression models for each of the seven cost activities (work management, maintenance, emergency, repairs, mains reinforcement, connections and repex). For each of these cost activities, we identified an appropriate cost driver (either a single driver or a combination of several drivers in a composite scale variable, CSV).[74]

6.11 We ran models using both historical data and forecast data. The historical models were estimated over four years (2008-09 to 2011-12), using data from the Regulatory Reporting Packs (RRPs). The forecast models were estimated over two years (2013-14 to 2014-15), using GDNs' forecast data from the Business Plan Data Templates (BPDT) submissions. Historical models provided an indication of the historical relative performance of GDNs, while forecast models gave insights

[73] We also conducted regression analysis at the capex, repex and opex level (ie middle-up). We did not rely on the middle-up model results to set baseline allowances in RIIO-GD1. This was not because of concerns with the results or diagnostic tests, but because the specifications were similar to the totex models and provided broadly the same efficiency scores as for the totex models.

[74] The drivers used for each benchmarked cost activity are set out in Table 5.1 in RIIO-GD1 Final Proposals – Cost Efficiency supporting document. Please note that the repex tier 1 regression was replaced with a total repex regression. https://www.ofgem.gov.uk/publications-and-updates/riio-gd1-final-proposals-%E2%80%93-overview

on their expected performance in the short run. Our models employed the Ordinary Least Squares (OLS) method of estimation.

6.12 We defined efficient costs as equal to the upper quartile GDNs' costs. We applied workload adjustments as well as our view on real price effects (RPEs), ongoing efficiency and Information Quality Incentive (IQI) interpolation.[75]

6.13 We determined our final cost allowances for GDNs based on an unweighted average of our (historical and forecast) totex and (historical and forecast) bottom-up approaches.

Options for the methodology

Overview

6.14 We intend to evolve the RIIO-GD1 cost assessment approach for RIIO-GD2, rather than establish a whole new methodology. We welcome views on this approach.

6.15 In this section, informed by the working groups held with stakeholders, we set out some of our current thinking and proposals on areas of the RIIO-GD1 approach that we may evolve for RIIO-GD2. The areas include:

- The levels at which we choose to assess costs, ie cost categories, either by expenditure areas (ie total, capex, repex, opex) or activity (eg repairs, emergency service, etc)
- Appropriate cost drivers
- Our assessment toolkit, for example regression and non-regression techniques, and the time series of data we use
- Adjustments we would make to the data to enable comparative analysis
- How we combine our analysis to determine a final cost allowance
- Real price effects.

Cost categories

6.16 As described above, in RIIO-GD1, costs were assessed at the totex level and at a more disaggregated activity level (repairs, emergency, maintenance, etc). We used seven cost activities/activity areas ("cost categories") in our regression analysis, and a number of additional cost categories in our non-regression analysis.

6.17 During engagement with certain stakeholders at working groups, concerns have been raised over some of the RIIO-GD1 disaggregated cost categories, and several suggestions have been made for ways to improve them for RIIO-GD2. One of the concerns regards unclear boundaries between cost categories that can lead to inconsistencies in reporting. Another concern regards the potential for trade-offs between cost categories. In these cases, it could be beneficial to combine the cost categories. Our approach to dealing with inconsistent cost reporting is outlined in paragraph 6.60.

[75] In the IQI interpolation we assumed that GDNs would close 75 per cent of the assessed gap between their forecasts and the upper quartile. Our proposal for an alternative to the RIIO-GD1 IQI is discussed in the Core Document.

6.18 Some of the key stakeholder suggestions for changes to cost categories for RIIO-GD2 are outlined below:

- One stakeholder noted that GDNs have several end to end processes that feed into multiple cost categories. Stakeholders suggested that we look into these end to end processes while forming cost categories.
- Emergency and repairs: it has been suggested to combine these two cost categories, plus potentially operational management, for our regression analysis as they are strongly related. We considered combining emergency and repairs in RIIO-GD1 and will continue to look into it as we develop our approach for RIIO-GD2.
- IT: stakeholders suggested combining opex and capex related to IT, and suggested we adopt a similar approach to RIIO-ED1 (where operational IT and Telecoms (IT&T) was assessed both quantitatively and qualitatively, with the quantitative assessment combining the non-operational capex costs with the operational IT&T costs).
- Non-routine maintenance: one stakeholder suggested that non-routine maintenance could be moved from opex to capex to align more closely with internal GDN management structures.
- Governors: a stakeholder suggested that the governors cost category, which is a relatively small cost, could be added to the Local Transmission System (LTS) and storage category.

6.19 **We invite early views on appropriate cost categories for RIIO-GD2.** In our consultation in summer 2019, we will consult further on the most appropriate definitions of cost categories alongside our evaluation of appropriate cost drivers in summer 2019.

Cost drivers

6.20 Our regression analysis establishes a relationship between GDNs' costs and our chosen driver of those costs. We use this analysis in understanding the relative efficiency of GDNs and as part of setting efficient cost allowances. The choice of an appropriate cost driver is, therefore, a key element of our regression analysis. There are several principles that we believe should be considered in developing appropriate cost drivers. A good cost driver should:

- Make economic and/or engineering sense – so they can be interpreted and understood as reasonable and relevant
- Be accurately and consistently measurable
- Have a relatively stable relationship with the costs over time and incorporate as much relevant information as possible – in order to be able to distinguish between costs which are explained by differences in exogenous conditions and costs which are explained by differences in efficiency
- Be beyond the control of the network company, as far as is reasonably practicable, to avoid distorting company incentives in ways which might be ultimately inefficient (see paragraph 6.22).

6.21 We are working with stakeholders to evaluate cost drivers from RIIO-GD1. We will consider potential changes to cost drivers for RIIO-GD2 informed by the principles set out above, and provide further information in summer 2019. In doing so, we

note that the choice of cost driver may involve trade-offs between these principles, as not all cost drivers will necessarily perform well against all these principles. However, we have concerns over the incentive properties of some RIIO-GD1 cost drivers, particularly when we see that GDNs have some control over the cost driver.

6.22 If a GDN has control over a cost driver this can result in perverse incentives. In general, such cost drivers should be avoided to the extent that there are better options. For example, as noted below, in RIIO-GD1 we used Modern Equivalent Asset Values (MEAV)[76] as a cost driver for some of our regressions. MEAV reflects GDNs' investment decisions and is, therefore, partially under companies' control, particularly over the longer term. This element of control provides a potential incentive for GDNs to invest more in capital solutions than might otherwise have been the case. Other things being equal, this higher MEAV will both make them appear more efficient in the regression analysis and could result in higher cost allowances.

6.23 We have received a number of comments and suggestions on cost drivers in the RIIO-GD2 cost assessment working groups, including the following:

- Repairs: the cost driver used in RIIO-GD1 for repairs is the number of external condition reports. An alternative cost driver suggested in the working groups is the number of repairs, although it was also noted that these were reported on a less consistent basis across GDNs than external condition reports. This cost driver could differentiate the costs of repairs at different diameter bands through the use of synthetic unit costs.[77] In general terms, any cost driver for repairs should not undermine the incentive for companies to invest in their networks to reduce the need for repairs and should seek to avoid unduly rewarding networks which are in poorer health due to previous underinvestment.
- Emergency: the cost driver used in RIIO-GD1 is a composite of the number of external condition reports (20%) and number of customers (80%). An alternative cost driver suggested was the maximum number of public reported escapes (PREs), over a few years, as this reflects the way GDNs set up their emergency activity.
- Mains reinforcement: the cost driver used in RIIO-GD1 is capex mains reinforcement workload. Similar to the suggestion for repairs, some stakeholders proposed that synthetic unit costs should be introduced to account for the different reinforcement costs associated with different diameter bands.
- Connections: the cost driver used in RIIO-GD1 is capex connections workload. Some stakeholders suggested that the cost driver should include fuel poor connections, and that this could be achieved by introducing an additional synthetic unit cost category for fuel poor connections. However, we recently made changes to the eligibility criteria of the Fuel Poor Network Extension Scheme (taking effect from 1 June 2018)[78] which mean historical costs may

[76] MEAV is the current replacement value of an asset.
[77] Synthetic unit costs enable a workload cost driver to weight workloads across a number of activities with different unit costs. The unit cost for each individual activity is weighted by workload to capture the differences in workload mix between network companies. For example, in RIIO-GD1, the connections synthetic unit costs account for the workload mix of different diameters of mains (180mm and less, or over 180mm) and for connections to different types of mains or services (new housing, existing housing or non-domestic).
[78] https://www.ofgem.gov.uk/system/files/docs/2017/12/fpnes_decision_letter_dec182017.pdf

not be a good guide to the future. For further information on our proposals for RIIO-GD2 on fuel poor connections, see Chapter 3.

- Repex: stakeholders suggested that the synthetic unit costs for Tier 1 mains replacement and associated services used in RIIO-GD1 should be updated for RIIO-GD2 due to proportional changes in the costs of different diameter bands.
- Modern Equivalent Asset Value: In RIIO-GD1, MEAV is used as a cost driver in the totex and work management regressions. In the maintenance regression, the cost driver is maintenance MEAV, which is an alternative version of the MEAV metric, applied specifically to the activities in the maintenance cost category. Several stakeholders suggested we look at potential improvements to MEAV and maintenance MEAV for RIIO-GD2. These suggestions arise from perceived issues with MEAV, including that it gives too much weight to LTS and that it does not take account of asset condition. As discussed above, there are also potentially perverse incentives from the use of MEAV as a cost driver.

6.24 Through our working groups, stakeholders have queried whether there is merit in including quality in our regression analyses (ie using differences in service quality and customer satisfaction to explain differences in costs across networks). While we are open to considering the most appropriate drivers and regression approach, we have reservations over the incorporation of quality. Quality is an output which is in GDNs' control, undermining its use a cost driver. Also, incorporating quality in regression analysis does not inform the value that consumers place on the level of quality delivered.

6.25 In RIIO-GD1, we used CSVs in some of our regressions to encompass a wider range of factors influencing costs than are captured in a single cost driver. The use of CSVs is most likely to be appropriate when the explanatory variables included in the regression are statistically insignificant but our engineering knowledge and other industry understanding gives us good reason to believe that such variables are relevant. Combining several factors into a CSV allows us to include more information, in a conservative way, and could better account for changes in costs. We will consider the use of CSVs in RIIO-GD2, but will also explore alternatives.

6.26 We invite early views on the principles of a good cost driver and appropriate RIIO-GD2 cost drivers. In our consultation in summer 2019, we will consult further on the most appropriate definitions of cost categories alongside our evaluation of appropriate cost drivers in summer 2019.

Cost assessment toolkit

6.27 Our cost assessment toolkit for RIIO-GD1 comprised both regression and non-regression techniques. We intend to use a similar toolkit for RIIO-GD2. We will, however, only be in a position to decide what tools to use and the appropriate treatment of costs when we receive Business Plans, as in RIIO-GD1.

6.28 We set out below our initial view of principles and considerations for choosing and applying the appropriate cost analysis toolkit.

<u>Regression analysis</u>

6.29 We propose to use the RIIO-GD1 framework as a starting point for developing our approach to regressions. We intend to rerun RIIO-GD1 regressions with actual data from the RRPs to get a preliminary view on the robustness of the models and

appropriateness of cost drivers. We will publish results from this preliminary analysis once it is complete.

6.30 Over the coming months, to inform our summer 2019 consultation, we intend to consider model options and test alternative cost categories and cost drivers, including, but not limited to, those set out above. We also think the availability of more historical data gives us the opportunity to explore alternative benchmarking techniques. This will be discussed further with stakeholders participating in future working groups and we will consult on the use of any potentially new techniques in our summer 2019 publication.

6.31 Employing a wide range of techniques has the potential to strengthen our view on efficient costs. However, we are aware that:

- The application of different benchmarking techniques requires decisions on corresponding underlying assumptions (eg choice of inputs and outputs, functional form of the production or cost function, etc), which we intend to discuss in cost assessment working groups
- Each benchmarking technique has advantages and disadvantages that need to be taken into account
- Testing alternative methodologies might lead to different, potentially contrasting results
- We still face the constraint of limited data, across eight GDNs but within four companies and three ownership groups.

6.32 In RIIO-GD1, we used both historical and forecast cost data to arrive at our final decision on cost allowances. For RIIO-GD2, we will consider the case for using forecast cost data in our regression analysis. Forecast data could inform cost allowances where the past is not expected to be a good indicator of the future. However, approaches to forecasting can vary by GDN which potentially undermines the comparability of costs between GDNs. Moreover, forecasts are inherently uncertain, so using them to inform cost allowances, when past costs are not a good indicator of the future, would undermine our confidence in cost allowances. Accordingly, using forecasts would have implications under the blended sharing factor option, which we consult on in the Core Document. As mentioned above, we have a longer consistent historical dataset on which to base our RIIO-GD2 assessment than was available to us at RIIO-GD1, which may allow us to place greater emphasis on reported data within our cost assessment approach.

Non-regression analysis

6.33 Where activities lack an appropriate cost driver, are short-term in nature, are uncommon across networks or have highly uncertain costs or volumes, it may be more appropriate to use assessment techniques other than regression analysis to determine cost allowances.

6.34 Where an activity is applicable across multiple companies, sectors or industries, we propose to leverage this extended base of data from RIIO-GD1 to enable us to perform a more robust technical assessment of costs in RIIO-GD2. For example, we may seek to compare, at a cross-sector level, some business support services costs that are common across all network companies.

6.35 Where activities are technical in nature, unique to a minority of networks and lack historical performance data, our proposal is to employ a bespoke engineering assessment of costs by, for example, a subject matter expert. The cost assessment for Statutory Independent Undertakings in RIIO-GD1 was an example of a suitable candidate for expert review given its isolated and finite nature. LTS reinforcement projects also lend themselves to engineering assessment for the same reasons.

6.36 When assessing the cost efficiency of activities with a relatively high degree of uncertainty, qualitative techniques may supplement technical measures to enable a sensible determination of costs with a higher degree of confidence. In RIIO-GD2, our proposals are increased industry stakeholder collaboration, bilateral discussions with policy-makers or any other means of revealing insightful and actionable information.

6.37 The above non-regression techniques are not necessarily mutually exclusive, rather the most appropriate method of cost assessment may rely on a combination of technical, engineering and qualitative assessment. We consider it important that the assessment is proportionate to the magnitude of costs involved.

6.38 Non-regression techniques, including both quantitative and qualitative analysis, can also be used to provide a different perspective and to cross check regression analysis results. As part of our consultation in summer 2019, we will consider what analyses of Business Plans can potentially be used to support and challenge the proposed regression models.

6.39 We invite early views on our initial view of principles and considerations for choosing the appropriate cost analysis toolkit. We will consult further on our proposed approach in summer 2019.

Loss of meterwork

6.40 GDNs are each obligated to run an emergency service, and have historically relied on ancillary activities to maximise emergency resource utilisation, and in the case of meterwork contracts, to subsidise emergency base revenue. In the past, we have allowed additional transitionary funding to GDNs to offset the higher net cost of running their emergency services as a result of losing their meterwork contracts.

6.41 As GDNs adjust to the loss of meterwork contracts, it remains vital that they continue exploring alternative means of utilising any stranded emergency resources. Whilst we recognise that GDNs are all at different points in this process, we consider that, based on the transitionary funding provided to-date, GDNs will have made demonstrable progress towards embedding enduring solutions for ensuring an efficient emergency service by alleviating stranded resources.

6.42 We used a revenue driver in GDPCR1 and an ex ante allowance in RIIO-GD1 to ensure that GDNs were able to maintain an efficient emergency service following the loss of meterwork revenue. Our current view is that GDNs must strive to offset the costs associated with the loss of meterwork contracts to minimise ongoing costs to the consumer. We're considering the following options for RIIO-GD2:

- Removing this cost allowance, since all GDNs will have embedded enduring solutions to fully offset the loss of meterwork contracts by the end of RIIO-GD1.
- Providing some form of transitional funding based on clear justification from GDNs for any remaining stranded emergency resources that are outside of their control, and should therefore be funded by consumers.

6.43 We welcome views on our proposed options for loss of meterwork**.** We expect that any request for additional loss of meterwork funding will be supported by evidence of sector collaboration and an exhaustive review of workload options, including the impact that smart meter rollout is expected to have on emergency workload.

Cost adjustments

6.44 We adjust companies' cost data to ensure our comparison of GDNs is conducted on a like-for-like basis. We expect to make cost adjustments to support an appropriate cost assessment in RIIO-GD2. Previously, we have made adjustments to costs including to:

- Ensure the consistency of data reported by GDNs
- Remove costs we consider unsuitable for our benchmarking
- Remove the impact of regional and company specific factors (discussed below).

Regional and company specific factors

6.45 Regional and company specific factors are cost drivers beyond the control of an individual GDN and that impact upon its costs disproportionately and in a predictable direction, compared to other GDNs. In RIIO-GD1, we accounted for such factors by assessing their impact on costs separately from regression analysis. This ensured we benchmarked GDNs on a comparable basis. For example, we recognised the higher cost of labour in London and the South East (compared to elsewhere in GB) and made adjustments for regional labour differences. We made adjustments for other regional and company specific factors in RIIO-GD1, including differences between GDNs in relation to sparsity (emergency and repair costs are higher in relatively sparse areas) and urbanity (working in certain dense, urban areas is more costly). We made adjustments for such factors in advance of our regression analysis, and reversed out the adjustments once the regression analysis was complete.

6.46 We will revisit the cases for regional and company specific factor adjustments in RIIO-GD2 in light of evidence provided by the GDNs, and our own analysis. As in RIIO-GD1, the onus is on GDNs to justify their case for any proposed adjustments, providing robust and transparent evidence. We expect to set a high evidential bar for accepting any cost adjustment claims. In bringing forward any claims, GDNs should consider factors that may lead to lower costs relative to other GDNs, and not just factors that may lead to higher relative costs. We would also not expect to consider claims that are not materially significant enough to account for the complexity they create.

6.47 In RIIO-GD1, for several of the regional and company specific factors, we made upward cost adjustments for some GDNs and downward adjustments for others. These opposing adjustments, when applied, did not necessarily fully offset each

other (ie they were not symmetrical). For some factors, we made adjustments in one direction only.

6.48 For RIIO-GD2, we propose to retain the use of opposing (ie upward and downward) adjustments for individual factors, where appropriate. In addition, we think there may be merit in making adjustments for individual factors symmetrical (ie fully offsetting), as Ofwat is doing, whilst recognising that this may not be appropriate for every case. In general, we believe that companies have a greater incentive to bring forward claims where their costs are relatively high (and which, if we accepted them, would reduce their costs included in our regression analysis), rather than relatively low. This may not be in consumers' interests. Introducing symmetry to claims may help address this. Also, where a company is claiming its costs are higher than average, then other companies must, by definition, have costs that are lower than the average and so a symmetrical adjustment would be appropriate.

6.49 A symmetrical approach to regional and company specific factors would mean one GDN's regional factors could affect allowances for other GDNs. Given this, we consider it would be necessary for companies to see each others' regional factors claims and have the opportunity to provide us with comments on the claims ahead of our Draft Determination in Q2 2020. If we adopted this approach, we would expect GDNs to make their regional and company specific factor claims available to other GDNs on submission of their Business Plans to us. We would then accept comments from GDNs on the regional factor claims made by other GDNs before the end of February 2020. This would give GDNs the opportunity to further inform our thinking ahead of our Draft Determination. More broadly, the GDNs could enhance the quality of their plans by engaging with each other in advance of submissions to gain awareness of different views and seek to establish robust submission.

6.50 We welcome views on implementing symmetrical adjustments for regional or company specific factors.

Combining our analysis

6.51 We propose to use a variety of tools to assess GDNs' cost efficiency in RIIO-GD2, including aggregated and disaggregated regression analysis, and technical and engineering assessments. We will only be in a position to decide how to combine these analyses once they are complete, as in RIIO-GD1. In combining the analyses, we will be mindful of the need to set allowances at a level that will enable an efficient company to deliver its outputs. For example, we would not want to set allowances for a particular activity based on an upper quartile performer that is failing to meet its targets for that activity.

6.52 We welcome any early views on how we can combine the analysis in order to ensure ex ante allowances reflect efficient costs.

Real Price Effects (RPEs)

6.53 In our RIIO-GD1 price controls, we indexed expenditure allowances to RPI, which was our preferred index of general price inflation. In addition, we provided up-front allowances to account for differences between our forecasts of RPI growth and growth in certain input price indices that reflect the external pressure on GDN's costs. We refer to these differences as real price effects (RPEs).

6.54 In our RIIO-2 decision document, we confirmed that, were we to provide allowances for RPEs in RIIO-2, we would index the RPEs to actual changes in input

price indices to protect consumers from forecasting risk. The core document sets out our proposed approach to the indexation of assessed costs for RPEs, where they are needed. Although it is for us to decide on the appropriate input price indices, we expect companies to provide evidence justifying the need for RPEs, as well as proposing and justifying input price indices as part of their business plans. We welcome evidence justifying the need for allowances for RPEs and any initial views on appropriate input price indices.

Proposals for GD Business Plans

Overview

6.55 In conjunction with this document, we will shortly be publishing updated cross sector Business Plan guidance. In the following section, we set out some of our Business Plan proposals specific to GDNs. This includes our proposed approach to the RIIO-GD2 BPDTs, and associated instructions. The BPDTs enable the collection of Business Plan data from all GDNs on a consistent basis. Business plan data could include forecasts and actuals. Please note that our proposal for a new business plan incentive is discussed in the Core Document.

Approach

6.56 We think both the RIIO-GD1 BPDTs and the RIIO-GD1 annual reporting RIGs should form the basis of data templates for RIIO-GD2.

6.57 From this baseline, we propose to work with the GDNs over the next few months to develop a draft RIIO-GD2 BPDT and associated instructions.

6.58 We intend to issue this draft RIIO-GD2 BPDT in March 2019. We expect the GDNs to use this draft BPDT when submitting draft Business Plans on 1 July 2019. We will use this draft to test whether we have all the information we require for our cost assessment and to enable us to further develop our approach to assessing efficient costs.

6.59 We will develop the RIIO-GD2 BPDT following the sector specific methodology decision in May 2019 and a review of draft Business Plan data. We will issue a final BPDT in autumn 2019.

Consistency of reporting

6.60 We are working with the GDNs to identify and resolve inconsistencies in reporting, largely due to differences in interpretation of the RIGs. We will work with the GDNs to add further clarifications, where necessary, to the RIGs to improve consistency. This reporting guidance will be reflected in the BPDT instructions. For any material changes, we will require updated RIIO-GD1 RRPs to be submitted.

6.61 Different business models are likely to make it impossible to achieve full reporting consistency (eg different companies will use different outsourcing models with consequences to where overheads are included in costs). We acknowledge the need to consider approaches in our cost assessment that reduce the impact of such inconsistent reporting.

BPDT content

6.62 In large part, we expect to ask for similar data in the RIIO-GD2 BPDTs as we collect annually in RIIO-GD1 RRPs and as we collected in RIIO-GD1 BPDTs. Some areas that we currently think will change are:

- Data that helps inform how we develop our cost assessment approach, for example on regional differences in labour costs reported as respective weights against occupational categories.
- Data that helps inform policy, for example to enable us to assess costs associated with proposed PCDs, to determine output targets and to implement indexation for RPEs if this is what we decide.
- Where we think the level of uncertainty has changed from RIIO-GD1 to RIIO-GD2 with consequences on what data we need in order to assess costs (see Chapter 7).
- To adapt to the NARM reporting requirements. This will be driven by the development of our approach to assessing the NARM in RIIO-GD2 at both cross-sector and sector-specific levels.

6.63 A guide to the key principles for cost benefit analysis will be presented in a cross-sector business plan guidance. We expect to develop these on a sector-specific basis through the stakeholder engagement process.

Next steps

6.64 We intend to continue the cost assessment working groups in 2019. Details of these meetings and how to engage are available online.[79] We will use the working groups to help us develop our approach to RIIO-GD2 cost assessment, particularly the potential regression models. We invite stakeholders to propose alternative models to us in this time.

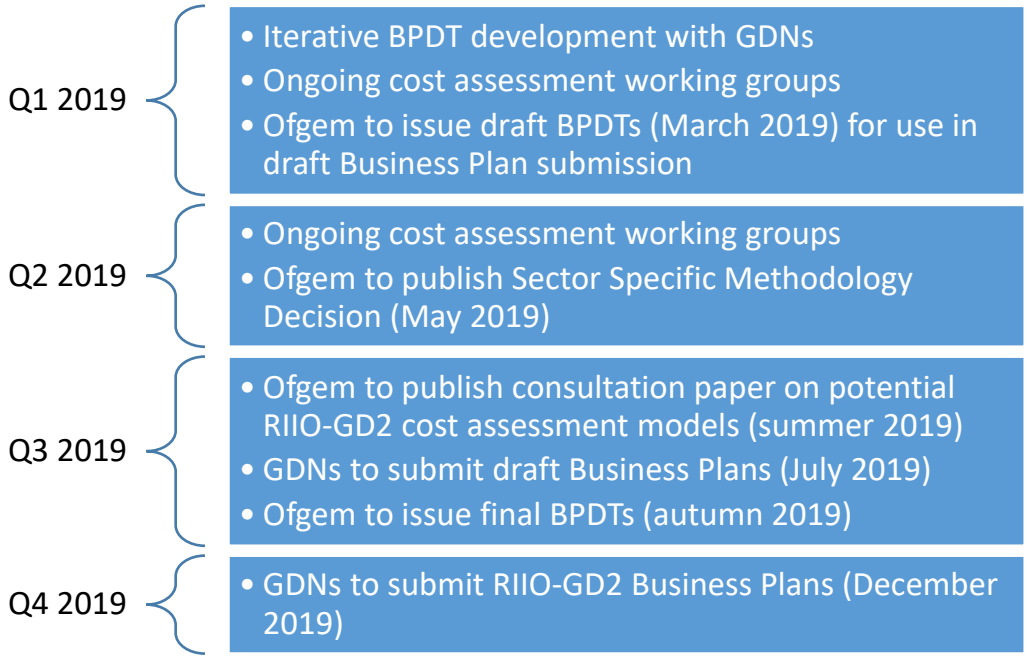
6.65 We will not decide on our approach to RIIO-GD2 cost assessment until we have: a) consulted on potential regression models and our overall approach to assessing efficient costs (in summer 2019); and b) received Business Plans (December 2019). Any modelling we do in advance of Business Plan submission has to assume historical data is an accurate indicator of the future. Business Plan evidence may warrant a different approach.

6.66 In summer 2019, we will publish a consultation that sets out more of our thinking on potential regression models that we might use in assessing efficient costs for RIIO-GD2. We intend to use this consultation to ask for views on alternative cost drivers and different approaches, including, but not limited to, our assumptions on functional form and thoughts on diagnostic testing.

6.67 The figure below summarises next steps for cost assessment in gas distribution.

[79] https://www.ofgem.gov.uk/publications-and-updates/riio-gd2-working-groups/

Figure 8: Summarised next steps for cost assessment



7. Uncertainty Mechanisms

For RIIO-GD2, we will use uncertainty mechanisms within the price control framework. We have set out our proposals for the specific areas where we intend to use them. Companies may also suggest additional uncertainty mechanisms as part of their Business Plans. There are some RIIO-GD1 uncertainty mechanisms that we propose to remove for RIIO-GD2.

Chapter 7 questions

GDQ48. What are your views on the proposed uncertainty mechanisms and their design?

GDQ49. Are there any additional uncertainty mechanisms that we should consider across the sector and if so, how should these be designed?

GDQ50. What are your views on the RIIO-GD1 uncertainty mechanisms we propose to remove?

All questions, including additional uncertainty mechanism specific questions, are set out in Appendix 3.

Introduction

7.1 Forecasting all costs and outputs with confidence for the duration of a price control is challenging. Uncertainty mechanisms allow changes to a network company's allowed revenues to be made in light of what happens during the price control period. We use the term uncertainty mechanisms to cover a range of regulatory approaches.[80] The use of uncertainty mechanisms, and their design, is important to ensure we don't damage incentives on companies to be efficient and don't expose companies to risks outside of their control.[81]

7.2 At the time of setting RIIO-GD1, some of the uncertainties included the role of biogas and the future of the FPNES following our scheduled review of its effectiveness. During the course of RIIO-GD1, some uncertainty has fallen away and we propose to remove several uncertainty mechanisms as a result.

7.3 But, additional uncertainties for the RIIO-GD2 period have arisen and uncertainty mechanisms will help ensure the price control can adapt to these. For example, in the area of heat decarbonisation policy, government decisions in the RIIO-GD2 period could have substantial implications on the gas networks of the future. In other areas, repex remains a key cost driver for GDNs and uncertainty mechanisms are proposed to better link costs to the types of work that are actually undertaken over RIIO-GD2.

7.4 Chapter 7 of the Core Document sets out our overall approach to managing uncertainty under RIIO-2. It also provides information on what network companies

[80] Mechanisms include: indexation, volume drivers, specific re-openers, and pass-through costs.
[81] In Chapter 6 we asked for stakeholders' views, on our early proposals for how we could assess GDNs' cost efficiency and their upfront (ex ante) baseline allowances. It also outlines our proposals for when, and how, we could assess costs after the price control has been set (ex post). Some types of uncertainty mechanism will involve an ex post assessment by us.

need to provide in order to propose additional uncertainty mechanisms as part of their Business Plan.

7.5 Table 39 below sets out the uncertainty mechanisms currently proposed for RIIO-GD2. Many are retained from RIIO-GD1, since we consider that the particular uncertainty still exists and the mechanisms are still appropriate.

7.6 Information on the uncertainty mechanisms that we propose to apply in the same way across RIIO-GD2 and T2 controls are described as 'Cross sector' in Table 39 below. Further information on our proposals for these 'Cross sector' uncertainty mechanism can be found in Chapter 7 of the Core Document.

Table 39: Summary of the uncertainty mechanisms proposed for RIIO-GD2

Name	Type of mechanism	Comparison to RIIO-1
Cross sector		
Ofgem licence fee	Pass-through	No change proposed
Business rates	Pass-through	No change proposed
Inflation indexation of RAV and allowed return	Indexation	Revised for RIIO-GD2
Cost of debt indexation	Indexation	Options for change proposed
Tax (trigger and clawback)	Re-opener	Options for change proposed
Pensions (pension scheme established deficits)	Re-opener82	Revised for RIIO-GD2
Physical security	Baseline allowance and/or re-opener	Revised for RIIO-GD2
Cost of equity indexation	Indexation	New for RIIO-GD2
Tax	Re-opener	New for RIIO-GD2
Cashflow floor	Re-opener	New for RIIO-GD2
Real Price Effects	Indexation	New for RIIO-GD2
Cyber resilience	Baseline allowance and/or re-opener	New for RIIO-GD2
Whole systems (options under development)	Re-opener	New for RIIO-GD2
GD2 specific		
Pension deficit charge adjustment	Pass-through	No change proposed
Third party damage and water ingress	Pass-through	No change proposed
Miscellaneous pass-through	Pass-through	No change proposed
Cost related to Gas Theft	Pass-through	Revised for RIIO-GD2
Smart Meters rollout costs	Either immaterial, baseline allowance of volume driver	Revised for RIIO-GD2
Repex – Tier 2A, ductile iron and non-standard materials	Volume driver	Revised for RIIO-GD2
Repex – HSE policy changes	Re-opener	New for RIIO-GD2
Heat policy	Re-opener	New for RIIO-GD2

[82] Triennial review

Proposed RIIO-GD2 Uncertainty Mechanisms

Uncertainty mechanisms to support substantial changes in external policy

7.7 The following proposed uncertainty mechanisms are to support material changes in government policy which may lead to large changes in the level of network companies' allowed revenue during the price control period.

Smart Meters rollout costs

7.8 The government's Smart Meters Implementation Programme requires energy suppliers to install smart meters for their domestic and small business customers. Whilst smart meter installation occurs beyond the gas distribution network[83], it occasionally reveals faults on the network that require GDN intervention. Although less common, the reporting of leaking smart meters places additional strain on gas emergency services. Generally, the costs incurred by GDNs as a result of smart meter rollout represent an increased concentration in inevitable network costs. Potential sources of costs for GDNs from smart meter rollout include:

- Additional calls to the National Gas Emergency Service
- Increased call out volumes of first call operatives (FCOs)
- A requirement to alter the location of an emergency control valve (ECV)
- A requirement to rectify a faulty ECV or service.

7.9 In setting RIIO-GD1, GDNs' costs associated with smart meter rollout were uncertain, so we included a re-opener mechanism for GDNs to claim additional efficient costs incurred as a result of the rollout. To date we haven't received any re-opener applications for additional allowances for smart meter roll out costs; however, we do expect an application before the end of RIIO-GD1.

7.10 In RIIO-GD2 Business Plans, we propose that GDNs should demonstrate proactive engagement with industry in an effort to reduce service intervention rates resulting from smart meter installations. We also propose that GDNs should demonstrate how any potential additional costs associated with smart meter rollout interact with other cost areas, such as loss of meter work and other repex services.

Proposed approach

7.11 Our decision on the appropriate funding mechanism for any RIIO-GD2 smart meter rollout costs will need to take into account of i) our decision on any RIIO-GD1 re-opener application received, specifically in terms of data provided and our view of uncertainty in this area following our assessment; and ii) the materiality of costs submitted in RIIO-GD2 Business Plans. At this stage, the main options for RIIO-GD2 appear to be one or a combination of the following:

- Having no uncertainty mechanism: because smart meter rollout costs incurred will be immaterial over RIIO-GD2.
- Having no uncertainty mechanism: and looking to set a baseline allowance for smart meter rollout costs.

[83] The end of the gas distribution network is the outlet of the emergency control valve (ECV).

- Having a volume driver: to provide an efficient level of costs per call out, based on the actual number of call outs received. This is broadly in line with the approach taken under RIIO-ED1.

7.12 At this stage, we welcome views on the need, or not, for smart meter rollout funding during RIIO-GD2, and on the appropriate funding mechanism(s).

Heat policy re-opener

7.13 The impact of long-term heat decarbonisation on the gas networks is uncertain and the pathway GB will take is dependent on government decisions. We think the price control should be responsive to a substantive development in central government low carbon heat policy.

Proposed approach

7.14 We propose to introduce a heat policy re-opener in RIIO-GD2. We set out our approach in Chapter 4 along with our broader approach to the decarbonisation of heat.

Repex - HSE policy changes re-opener

7.15 The HSE mandates the need for a large proportion of the repex programme, including its scope and timeline. In the event that the HSE made changes to its policy during RIIO-GD2, it could result in significant changes to output targets and have substantive cost implications.

Proposed approach

7.16 We are considering introducing a re-opener mechanism in RIIO-GD2. For further information, see Chapter 5.

Uncertainty mechanisms to align allowances with delivery

Suite of Repex uncertainty mechanisms

7.17 Repex drives a substantial amount of GDNs costs[84] and is expected to be the largest area of industry underspend over RIIO-GD1. At RIIO-GD2 we want to ensure GDNs allowances are better aligned with the workloads delivered, and are considering several types of uncertainty mechanisms to support this. Further information on each of them can be found in Chapter 5.

Uncertainty mechanisms for areas fully outside of network companies' control

7.18 Where network companies have costs that are fully outside of their control we use pass-through mechanisms. For these specific items, any change in the network companies' costs are recovered fully from customers.

Costs relating to gas theft pass-through

7.19 In RIIO-GD1 there is a mechanism in place to allow the GDNs to report, and pass-through, shipper and supplier related costs for the provision of information on gas illegally taken. These costs are passed on to the GDNs via Xoserve. This process does not require any approval by us.

7.20 However, the mechanism does not allow for the GDNs to pass-through their costs associated with the investigation of gas theft. Our current policy (reflected in the licence) is that GDNs must not suffer any financial detriment, or make any

[84] For example, for RIIO-GD1, repex cost allowances account for >40% of total spend.

financial benefit, as a result of the investigation of theft of gas.[85] In order to put this policy into effect, we have had to use the miscellaneous pass-through mechanism (see below) in RIIO-GD1. This requires explicit sign-off by us, rather than the more automatic mechanism that most pass-through terms allow.

Proposed approach

7.21 We propose to retain the existing pass-through mechanism and to widen its scope so that it will also allow GDNs to automatically recover their net costs associated with investigating gas theft without our explicit sign off each time. This will streamline the process. Gas theft will remain as a reportable activity through our regulatory reporting and we'll continue to monitor the use of this mechanism.

Miscellaneous pass-through

7.22 The miscellaneous pass-through can be used to recover minor costs incurred by the GDNs that are not reflected elsewhere in the pass-through licence condition. These costs must be authorised by us. So far during RIIO-GD1, this mechanism has been used for the costs associated with investigating the theft of gas and for supplier of last resort.

Proposed Approach

7.23 We think this pass-through mechanism should be retained for RIIO-GD2. It serves as a useful mechanism to account for small uncontrollable costs that are unknown to both the GDNs, and ourselves, at the time of setting the price control. However, we do not believe this is the best mechanism for GDNs to use in relation to the costs of investigating gas theft. We propose to make changes to the existing 'Costs relating to gas theft pass-through' to ensure that there is a more appropriate mechanism for passing through costs associated to investigating gas theft (see mechanism above).

Third party damage and water ingress pass-through

7.24 In some circumstances gas supply interruptions are caused by third party damage to the network, such as heavy machinery damaging a section of the network. In other circumstances interruptions can be caused by water entering the gas network from burst or damaged water mains.

7.25 This pass-through mechanism, included in RIIO-GD1, is specific to the following costs that GDNs may incur:

- Payments to customers who experience an interruption where their gas supply is not restored within 24 hours[86]
- Payments to customers (typically non-domestic customers), when gas is not available for offtake.[87]

7.26 The pass-through mechanism allows GDNs to recover 95% of the costs if the sum of these payments for a given year is above 1.5% of allowed revenue (approx. £3m to £9m depending on the size of the company). So far in RIIO-GD1, this mechanism has not been used.

[85] This principle is established under Standard Condition 7.
[86] GDNs are liable to make payments to customers under both GSOP1 (Supply Restoration). See Chapter 3 for more information on separate changes being proposed for GSOP1 under RIIO-GD2.
[87] GDNs are liable to make payments to customers who are connected to the Local Distribution Zone under paragraph 3.5 of Section J (Exit Requirements) of the Network Code.

Proposed approach

7.27 We propose to retain this pass-through in RIIO-GD2. We think that the current arrangements provide a cap on the overall exposure to situations that are usually beyond GDNs' control. We think the experience of RIIO-GD1, where the mechanism has yet to be used, demonstrates that it only provides protection for extreme circumstances.

Pension deficit charge adjustment

7.28 Following the sale by National Grid of four gas distribution networks in 2005, pension deficit costs relating to the deferred and pensioner liabilities of all its former gas distribution employees remained with National Grid Gas Transmission (NGGT).

7.29 This pass-through mechanism (sometimes referred to as the NTS recharge mechanism) ensures that the pension deficit costs incurred by NGGT relating to its former employees are appropriately recharged to the GDN customers that these employees serve.

Proposed Approach

7.30 We propose to retain the NTS recharge mechanism in RIIO-GD2 for all the GDNs apart from Cadent. In RIIO-GD2, Cadent will have no NTS recharges, since it assumed full responsibility for its past deferred and pensioner liabilities as part of the sectionalisation of the National Grid Gas pension scheme (NGUKPS) in 2017.

7.31 We envisage that NTS recharge allowances will be reviewed and set in line with the outcome of the pension triennial review in 2020.

RIIO-GD1 Uncertainty Mechanisms Proposed for Removal and proposed treatment for RIIO-GD2

7.32 This section sets out the RIIO-GD1 uncertainty mechanisms that we are proposing to remove for RIIO-GD2.

Table 40: Uncertainty mechanisms we propose to remove for RIIO-GD2

Name	Type of mechanism at GD1	Proposed treatment of costs for GD2	RIIO1 licence condition
Specified street works	Re-opener	Baseline allowance	Special Condition 3F
Review of Agency (Xoserve) costs (also in GT2)	Re-opener	Baseline allowance	Special condition 3F
Review of the Non Gas Fuel Poor Network Extension Scheme	Re-opener	NA	Special Condition 3F
Changes to charging boundary	Re-opener	NA	Special Condition 3F
Large load connection costs	Re-opener	NA	Special Condition 3F
Innovation Rollout Mechanism	Re-opener	NA	Special Condition 3D

Specified street works

7.33 In RIIO-GD1 we included a re-opener mechanism for the costs associated with complying with permit schemes or lane rental schemes introduced by Highway Authorities (HAs) via the Traffic Management Act (TMA) 2004 (or in Scotland, the

Transport (Scotland) Act 2005). This included the set-up, administration, and TMA conditions (productivity) costs.

7.34 At the time of setting allowances for RIIO-GD1, there was uncertainty around street work costs where HAs had not introduced permit schemes prior to the start of RIIO-GD1, but were expected to do so during the price control period. We therefore put in place a re-opener mechanism. This gave GDNs two opportunities in RIIO-GD1 to submit an application to us for additional allowances for Specified Street Works Costs if the amount exceeds or is likely to exceed a materiality threshold. Over RIIO-GD1, only Cadent applied for additional funding through this mechanism and we allowed a total of £17.3m.[88]

Our proposed treatment of street work costs in RIIO-GD2

7.35 We propose to include the costs associated with complying with permit schemes in baseline allowances. We think that the uncertainty surrounding permit schemes is reduced, relative to RIIO-GD1, because a larger proportion of HAs already have permit schemes in place, and because of the shorter price control period of five years. This increases the ability to forecast costs upfront.

7.36 Lane rental schemes are focussed on the busiest streets at the busiest times, rather than the whole road network. To date, they have only been implemented in Kent and London (Transport for London road network) as trial schemes. The Department for Transport consulted on the future for lane rental schemes in Autumn 2017, and in February 2018, the government published its decision, which allows other local highway authorities to bid for and set up lane rental schemes.[89] We're uncertain whether lane rental schemes will be implemented by HAs prior to or within the RIIO-GD2 period, and whether this represents a significant volume and/or cost uncertainty that cannot be managed as part of network companies' baseline allowances.

7.37 We don't think it's necessary to propose an uncertainty mechanism for all GDNs in specified street works for RIIO-GD2. However, if a GDN considers that it is appropriate, they may set out in their Business Plan why they think a bespoke uncertainty mechanism would be appropriate, for instance in relation to lane rental schemes. We welcome views on this proposal.

Review of Agency (Xoserve) costs

7.38 Xoserve is a data services company which provides a range of essential services to support the GB gas industry. At the start of RIIO-GD1 and T1, we provided upfront funding to cover Xoserve's costs through the Gas Transporters'[90] baseline allowances. However, we also committed to reviewing Xoserve's funding, governance and ownership (FGO) arrangements to ensure they were fit for purpose. We included an uncertainty mechanism in RIIO-GD1 and T1 to adjust the GTs' allowances if Xoserve's costs were to change materially following the conclusion of our review.

7.39 In October 2013, we decided that a full co-operative governance model should be established to allow all of Xoserve's users to participate in its decision making

[88] Ofgem's Decision on RIIO-1 Price Control Re-openers (May 2018) https://www.ofgem.gov.uk/publications-and-updates/decision-riio-1-price-control-reopeners-may-2018
[89] Government response to consultation on the future of lane rental: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/681077/consultation-response-lane-rental.pdf
[90] The GDNs and National Grid Gas Transmission are collectively known as Gas Transporters.

process, and to directly fund the delivery of services.[91] Xoserve's new FGO arrangements were implemented from 1 April 2017.[92] Under the new arrangements, Xoserve's cost are funded by GTs, shippers and Independent Gas Transporters (IGTs).

7.40 The implementation phase of FGO is complete and we do not expect further changes to the Xoserve funding model during RIIO-2. Therefore, we propose to remove this uncertainty mechanism for RIIO-GD2 and T2.

Proposed treatment of Xoserve costs in RIIO-GD2 and T2

7.41 In our decision on the new Xoserve funding arrangements in September 2016, we decided to provide an allowance for the Gas Transporters' share of Xoserve costs as an allowance for the remainder of RIIO-GD1 and T1. We did not opt for a pass-through arrangement for these costs because delays to the FGO and Project Nexus programmes reduced our confidence in the industry to create an effective co-operative governance model for Xoserve's costs. We committed to reconsidering our approach for RIIO-2.[93]

7.42 FGO was successfully implemented on 1 April 2017 and we are pleased with the positive impacts that the new governance arrangements have had on Xoserve and the wider industry. In light of this, we are now considering the most appropriate model for funding the Gas Transporters' share of Xoserve's costs. We are proposing two options for our treatment of Xoserve costs in RIIO-GD2 and T2:

- **Option 1:** This would involve retaining the current approach, which is to provide up-front allowances for Gas Transporters to cover their share of Xoserve's costs. Under this approach, Gas Transporters would have an incentive to control Xoserve's costs through the totex sharing mechanism. This approach would also allow Ofgem to have a degree of scrutiny over Xoserve's costs to ensure that it offers value for money for consumers. While the Gas Transporters do not have full control of Xoserve's costs under the new governance arrangements,[94] we consider that they have significant influence through their positions on Xoserve's board. However, we recognise that the Gas Transporters' incentive to control costs may have an impact on Xoserve's ability to propose and implement new services that could have the potential to deliver significant benefits for the energy market.
- **Option 2:** Another option would be to treat the Gas Transporters' share of Xoserve's costs as a pass-through item in RIIO-GD2 and T2. This approach could give the Xoserve greater flexibility to propose and implement new services. However, the pass-through arrangements could mean that Gas Transporters have weaker incentives to exert control over Xoserve's costs. We acknowledge that shippers and IGTs may apply some pressure to control costs through their own positions on Xoserve's board. However, such cost pressures are likely to be less than they would be under option 1.

[91] Our December 2013 decision on the FGO arrangements: https://www.ofgem.gov.uk/publications-and-updates/xoserve-decision-relation-new-funding-governance-and-ownership-arrangements-gas-transporters%E2%80%99-central-agent
[92] Our letter confirming the completion of the Xoserve FGO implementation phase: https://www.ofgem.gov.uk/publications-and-updates/completion-xoserve-funding-governance-and-ownership-fgo-implementation-phase
[93] Our September 2016 decision on GT Agency costs for the remainder of RIIO-GD1 and T1: https://www.ofgem.gov.uk/publications-and-updates/decision-our-review-gas-transporter-agency-xoserve-costs-riio-gd1-and-t1
[94] Under the new governance arrangements, the Xoserve board has 4 shipper nominated Directors and four GT nominated Directors, including one IGT nominated Director.

GDQ51. What do you think is the most appropriate approach for funding the GTs' expenditure for Xoserve in RIIO-2 and why?

7.43 We understand that Xoserve may consider taking on some additional services beyond its role as the Central Data Service Provider. If this happens, we are interested in stakeholder views on the appropriate regulatory treatment for the costs, revenues and risks associated with these ancillary services. For example, should these costs and risks be part of the Gas Transporters' allowances which are subject to the Totex Incentive Mechanism, treated as a pass-through, or be outside of the price control.

GDQ52. If Xoserve takes on any services beyond its core Central Data Service Provider role, how should we treat the costs and risks associated with these additional services through the price control?

Review of the Non Gas Fuel Poor Network Extension Scheme

7.44 At RIIO-GD1, we provided baseline funding for the Fuel Poor Network Extension Scheme (FPNES). However, we committed to conducting a review of the scheme during RIIO-GD1 to ensure it remained efficient, cost effective and consistent with wider government energy and fuel poverty strategies. This uncertainty mechanism allowed for any necessary adjustments to the scheme's funding following the review.

7.45 We are not proposing to review the FPNES during the RIIO-GD2 period (see Chapter 3 for further information on the proposed outputs for RIIO-GD2). We therefore propose to remove this uncertainty mechanism for RIIO-GD2.

Changes to charging boundary

7.46 This re-opener was put in place in the event of a substantial change to the connection charging boundary, for example to promote bio-methane connections. A change of this nature could have led to GDNs needing an additional allowance to support the costs this could have created. The need for this mechanism was driven particularly by the uncertain effects of a UNC charging modification (391) that was being discussed at the time of setting RIIO-GD1.

7.47 The mechanism was not used under RIIO-GD1; nor was there any request by GDNs to trigger it. We are not aware of proposals to change the charging boundary during RIIO-GD2, but we would welcome views from industry if something material is likely to happen. Our current view is that we don't need to retain this mechanism.

Large load connection costs

7.48 This re-opener was put in place to allow the recovery of costs related to network re-enforcement as a result of the connection of abnormally large loads such as power stations and distilleries.

7.49 The mechanism was not used under RIIO-GD1; nor was there any request by GDNs to trigger it. We therefore propose to remove it in RIIO-GD2.

Innovation Rollout Mechanism

7.50 This re-opener mechanism applies to RIIO-GD1 and T1. Its purpose is to provide network companies with additional funding to rollout proven innovation, if we approve the innovation. The reasons we are proposing to remove it are set out in Chapter 8 of the Core Document.

Appendices

Appendix 1 - GSOPs

Appendix 1.1: High level description of existing GSOPs

Table 41: The existing GSOPs

GSOP	Name	High level description and payments
GSOP1	Supply Restoration	After an unplanned interruption, customers must have supply restored within 24 hours. Payment: Domestic customers must be paid £30 and non-domestic £50. A further £30/50 must be paid for each subsequent 24 hours, up to a cap of £1000.
GSOP2	Reinstatement of customer's premises	Any premises must be restored to a reasonable standard (eg reinstated premise including lawn to previous condition and restored access) within 5 working days (w.d.) following work to a service pipe or distribution main. Payment: £50 domestic, £100 non-domestic, with further payments work each succeeding 5 w.d. the failure occurs.
GSOP3	Priority domestic customers	Customers on the Priority Service Register (PSR) must be provided alternative cooking and heating facilities within 4 hours of an interruption (or 8 hours where more than 250 customers are affected), not including 8pm – 8am. Payment: £24 if a claim is made within 3 months.
GSOP4	Provision of quotations (standard)	A standard quotation for a new connection of an alteration to an existing connection up to an including 275 kWh per hour must be provided within 6 working days of being received. Payment: £10 and a further £10 for each w.d., up to a cap of £250 or the quotation sum, whichever is lower.
GSOP5	Provision of quotations (non-standard, up to 275kWh/h)	Non-standard quotations for connections up to including 275 kWh per hour must be provided within 11 working days. Payment: £10 and a further £10 for each w.d., up to a cap of £250 or the quotation sum, whichever is lower.
GSOP6	Provision of quotations (non-standard, greater than 275kWh/h)	Non-standard quotations for connections greater than 275 kWh per hour are required within 21 working days of receipt. Payment: £20 and a further £20 for each w.d., up to a cap of £500 or the quotation sum, whichever is lower.
GSOP7	Accuracy of quotations	The accuracy of a quotation can be challenged and if it is inaccurate (in accordance with the GT's published accuracy scheme), it is deemed to fail to comply with GSOP4-6. Payment: Any overcharge must be refunded.
GSOP8	Responses to land enquiries	Responses to a land enquiry must be provided within 5 working days. Payment: £40 and a further £40 for each subsequent w.d. of failure, to a maximum of £250 for connections less than 275 kWh per hour and £500 otherwise.
GSOP9	Provision of commencement and substantial completion dates (up to 275kWh/h)	Once a customer has accepted a quotation for a connection of up to 275 kWh per hour, they must be provided with dates for the commencement and substantial completion of the work within 20 working days. Payment: £20 and further £20 payments for each subsequent w.d. of failure, to a cap of £250 or the contract sum, whichever is lower.
GSOP10	Provision of commencement and substantial completion dates (greater than 275kWh/h)	Once a customer has accepted a quotation for a connection greater than 275 kWh per hour, they must be provided with dates for the commencement and substantial completion of the work within 20 working days. Payment: £40 and further £40 payments for each subsequent w.d. of failure, to a cap of £500 or the contract sum, whichever is lower.
GSOP11	Completion of work on the agreed date	Connections must be substantially complete (installed, commissioned and left safe) by the date agreed. Payment: Failure to do leads to the following payments, and further equal payments for each w.d. up to the relevant cap:

<table>
<tr><td></td><td></td><td>
<table>
<tr><th>Contract Sum</th><th>Payment due</th><th>Cap</th></tr>
<tr><td>>= £1k</td><td>£20</td><td>The lesser of £200 or contract sum</td></tr>
<tr><td>£1k - £4k</td><td>The lesser of £100 or 2.5% of contract sum</td><td>25% of contract sum</td></tr>
<tr><td>£4k - £20k</td><td>£100</td><td>25% of contract sum</td></tr>
<tr><td>£20k - £50k</td><td>£100</td><td>£5k</td></tr>
<tr><td>£50 - £100k</td><td>£150</td><td>£9k</td></tr>
</table>
</td></tr>
<tr><td>GSOP 12</td><td>Payment</td><td>If a customer is due a payment under any of the GSOPs, (a note advising payment is due and) the payment must be made within 20 working days. GSOP1 means a GT may be liable for payments to a customer whose premises are not connected to its pipeline system. In this case, the liable GT must make payments to the customer or the GT whose pipelines are connected to the premise within 10 working days. The latter GT receiving payment must pass it on within 5 working days.
Payment: Failure to comply with any of these standards results in a payment of £20 to the customer.</td></tr>
<tr><td>GSOP13</td><td>Notice of planned interruption</td><td>The GT must provide affected customers no less than 5 working days' notice of planned interruptions.
Payment: £20, if the customer submits a valid claim within 3 months of the interruption</td></tr>
<tr><td>GSOP 14</td><td>Responding to complaints</td><td>GTs shall provide a substantive response to complaints within 10 working days, or an initial response explaining why a more substantive response is not possible within 10 w.d. Where the latter is the case, a substantive response must be provided within 20 w.d. of receipt of the complaint.
Payment: £20, with a further £20 for each 5 w.d. period the failure continues (a failure to provide an initial response and then a substantial response in time would count as two separate failures). Payment is capped at £100.</td></tr>
</table>

Appendix 1.2: Ofgem analysis of GDN performance under different GSOP standards

The tables below present further Ofgem analysis of GDN performance under different GSOP standards:

Table 42: Summary of analysis of different GSOP standards[95]

GSOP Description	Existing target	Outcome of analysis
GSOP1: Unplanned interruptions	**24 hours** 89.7%	**18 hours** 79.0%
GSOP2: Reinstatement	**5 working days** 97.6%	**3 working days** 84.1%
GSOP4: Provision of standard connection quotations ≤275kWh per hour	**6 working days** 99.9%	**3 working days** 97.1%
GSOP5: Provision of non-standard connection quotations ≤275kWh per hour	**11 working days** 98.3%	
GSOP6: Provision of non-standard connection quotations > 275kWh per hour	**21 working days** 99.7%	
GSOP8: Response to land enquiries	**5 working days** 97.3%	
GSOP9: Offering a date for commencement and substantial completion of connection works (≤275kWh per hour)	**20 working days** 99.5%	**17 working days** 92.8%
GSOP10: Offering a date for commencement and substantial completion of connection works (>275kWh per hour)	**20 working days** 100.0%	**19 working days** 80.6%
GSOP13: Notice of Planned Interruption	**5 working days** 92.0%	**7 working days** 81.6%
GSOP14: Complaints	**10/20 working days** 98.1%	**7/17 working days** 97.4%

[95] 'Existing target' column shows current target and % achieved within it. 'Outcome of analysis' shows a potential indicative target, and % that would have been achieved under such a target, and is based on 2017-18 performance data.

Appendix 1.3: Further GSOP analysis

In Chapter 3 we set out our proposed GSOP revisions for RIIO-GD2, which included the standard and customer payment consultation ranges for existing GSOPs. These ranges were derived through analysis of various information sources.

To arrive at GSOP standard ranges we considered: (i) customers'/stakeholders' appetite for the GSOP standard to be strengthened based on feedback sent to us by the GDNs; (ii) current GDN performance against existing GSOPs; (iii) GDN performance against illustrative fictional standards; and (iv) regulatory precedent in electricity distribution and wholesale water/wastewater.

The alternative standards analysed to arrive at the GSOP standard consultation ranges are summarised in Table 43 below.

The maximum and minimum points within the ranges are based on the maximum and minimum levels found when comparing these analyses.

Table 43: Analysis of existing GSOP standards

GSOP description	Standard			
	Current	Regulatory precedent	Ofgem analysis[96]	Consultation range
Interruptions				
GSOP1: Gas supply restoration following an unplanned interruption	24 hours	12 hours	18 hours	18–24 hours
GSOP2: Reinstatement of customer's premises	5 working days	N/A	3 working days	3–5 working days
GSOP3: Alternative heating & cooking facilities for priority domestic customers	4 hours	N/A	N/A	No change
GSOP13: Notification in advance of planned supply interruptions	5 working days	5 working days	7 working days	5–7 working days
Customer communication				
GSOP12: Timely payment of GSOP customer payments	20 working days	10 working days	N/A	10–20 working days
GSOP14: Timely response to complaints	10 working days; 20 working days if site visit required	5 working days	<17 working days	5–10 working days; 10–20 working days if site visit required
Connections				
Table continues on next page				

[96] This column provides the results of analysis of data provided by GDNs on performance against illustrative fictional standards. We arrived at the estimates by looking at median performance across all GDNs and selecting the point where median performance/success rate was around 80%.

GSOP description	Standard			
	Current	Regulatory precedent	Ofgem analysis	Consultation range
Connections				
GSOP4: Provision of standard quotations (up to 275kWh)	6 working days	5 working days	<3 working days	1-3 working days
GSOP5: Provision of non-standard quotations (up to 275kWh)	11 working days	11 working day	11 working days	No change
GSOP6: Provision of non-standard quotations (greater than 275kWh)	21 working days	25 working days	21 working days	No change
GSOP7: Accuracy of quotations	Accurate quotation issued.	N/A	N/A	No change
GSOP8: Responses to land enquiries	5 working days	N/A	5 working days	No change
GSOP9: Provision of commencement & substantial completion dates (up to 275kWh)	20 working days	20 working days	≤17 working days	14-17 working days
GSOP10: Provision of commencement & substantial completion dates (greater than 275kWh)	20 working days	20 working days	19 working days	No change
GSOP11(i): Substantial completion by agreed date (Contract Value ≤£1k)	To meet substantial completion by agreed date	N/A	N/A	No change
GSOP11(ii): Substantial completion by agreed date (Contract Value ≤£4k)	To meet substantial completion by agreed date	N/A	N/A	No change
GSOP11(iii): Substantial completion by agreed date (Contract Value ≤£20k)	To meet substantial completion by agreed date	N/A	N/A	No change
GSOP11(iv): Substantial completion by agreed date (Contract Value ≤£50k)	To meet substantial completion by agreed date	N/A	N/A	No change
GSOP11(v): Substantial completion by agreed date (Contract Value ≤£100k)	To meet substantial completion by agreed date	N/A	N/A	No change

To arrive at our customer payment level consultation ranges we considered: (i) increases in line with CPIH (as a minimum); (ii) customer appetite for an increase in the payment level based on feedback sent to us by the GDNs; (iii) whether GDNs are currently paying higher customer payments than is necessary under the statutory instrument ('GDN

Behaviour'); and (iv) regulatory precedent in electricity distribution and wholesale water/wastewater.

The regulatory precedent for connections GSOPs is based on the most comparable electricity connection GSOPs. These are not always directly comparable, for the following reasons: (i) electricity distribution is split by metered and unmetered connections and gas is by standard and non-standard; (ii) The size distinctions are different – LV single, LV, HV, EHV in electricity distribution compared to the 275kWh distinction in gas. We would consider sub-275kWh category most comparable to LV Single.

GDN 'voluntary behaviour' is taken from our engagement with GDNs and it was found that some GDN's are doubling the payment value on a voluntary basis. GSOP payment levels could be increased to match this voluntary standard.

GDNs also pay voluntarily to parties who are not strictly covered by the SI and where exceptions apply.

The maximum and minimum points within the consultation ranges are based on the maximum and minimum levels found when comparing these analyses.

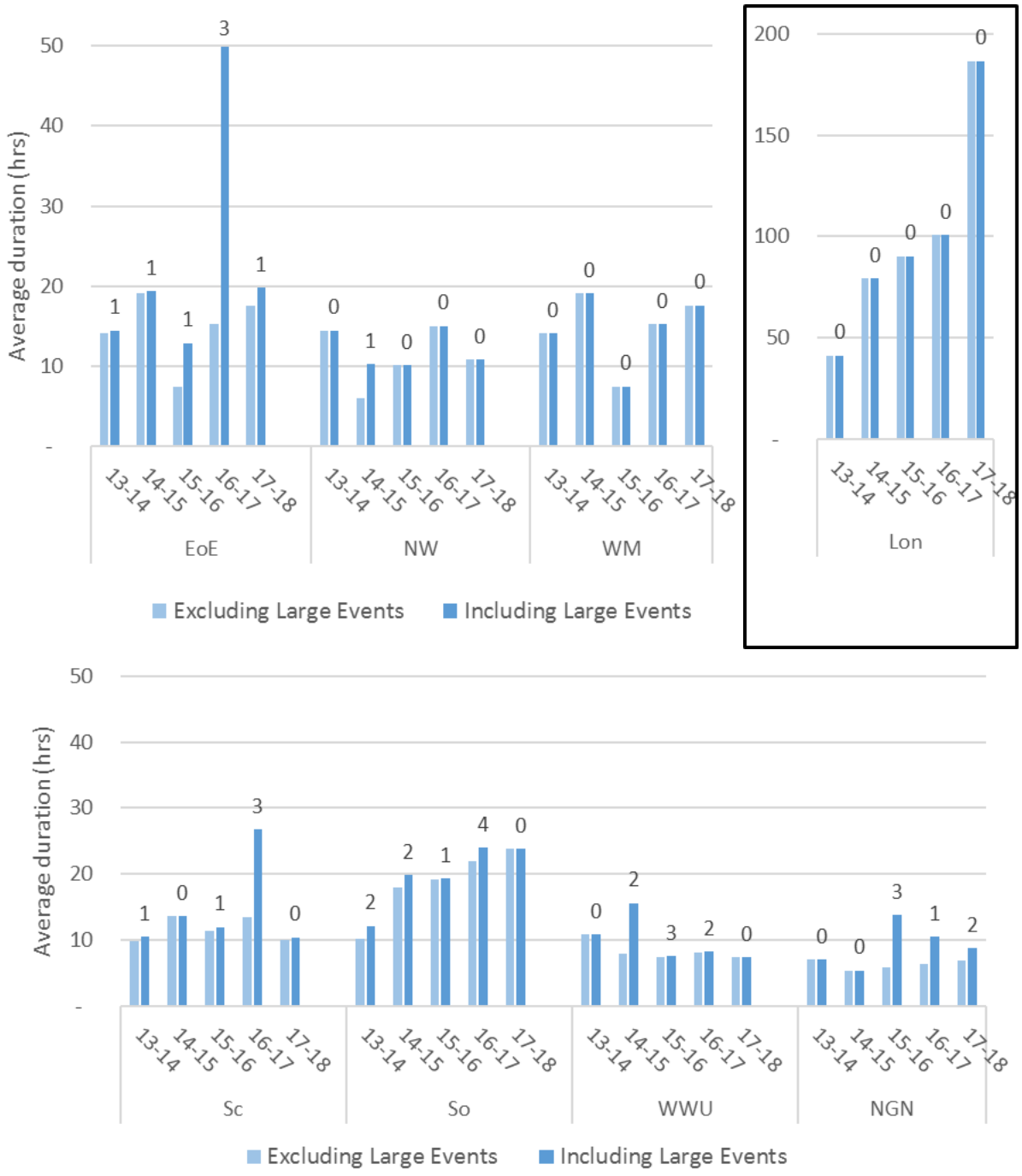
Table 44: Existing GSOPs – Analysis of existing customer payment levels

GSOP description	Customer payment level				
	Current	Increased with CPIH	Regulatory precedent	GDN voluntary behaviour	Consultation range
Interruptions					
GSOP1: Gas supply restoration following an unplanned interruption	£30 dom £50 non-dom	£41 dom £69 non-dom	£75 dom £150 non-dom	£60 dom £100 non-dom	£41-£75 dom £69-£150 non-dom
GSOP2: Reinstatement of customer's premises	£50 dom £100 non-dom	£69 dom £138 non-dom	N/A	£100 dom £200 non-dom	£69-£100 dom £138-£200 non-dom
GSOP3: Alternative heating & cooking facilities for priority domestic customers	£24	£33	N/A	£48	£33-£48
GSOP13: Notification in advance of planned supply interruptions.	£20 dom £50 non-dom	£24 dom £59 non-dom	£30 dom £60 non-dom	£40 dom £100 non-dom	£24-£40 dom £59-£100 non-dom
Customer communication					
GSOP12: Timely payment of GSOP customer payments	£20	£28	£30	£40	£28-£40
GSOP14: Timely response to complaints	£20	£24	£30	£40	£24-£40
Connections					
Table continues on next page...					

GSOP description	Customer payment level			
	Current	Increased with CPIH	Regulatory precedent	Consultation range
Connections				
GSOP4: Provision of standard quotations (≤275kWh)	£10	£12	£15	£12-£15 per working day.
GSOP5: Provision of non-standard quotations (≤275kWh)	£10	£12	£15	£12-£15 per working day.
GSOP6: Provision of non-standard quotations (>275kWh)	£20	£24	£65	£24-£65 per working day.
GSOP7: Accuracy of quotations	GS4, GS5 or GS6 payments until an accurate quote is issued.	N/A	N/A	The cap and payments levels will reflect changes in GSOP4, GSOP5 or GSOP6.
GSOP8: Responses to land enquiries	£40	£48	N/A	£48 per working day
GSOP9: Provision of commencement & substantial completion dates (≤275kWh)	£20	£24	£15	£24 per working day
GSOP10: Provision of commencement & substantial completion dates (>275kWh)	£40	£48	£65	£48-£65 per working day.
GSOP11(i): Substantial completion by agreed date (contract value ≤£1k)	£20	£24	£35	Payment: £24-£35
GSOP11(ii): Substantial completion by agreed date (contract value ≤£4k)	Lesser of £100 or 2.5% of contract	Lesser of £119 or 2.5% of contract	£135	Payment: Lesser of £119-£135 or 2.5% of contract sum
GSOP11(iii): Substantial completion by agreed date (contract value ≤£20k)	£100	£119	£200	Payment: £119-£200
GSOP11(iv): Substantial completion by agreed date (contract value ≤£50k)	£100	£119	£270	Payment: £119-£270
GSOP11(v): Substantial completion by agreed date (contract value ≤£100k)	£150	£178	£270	Payment: £178-£270

Appendix 2 - Interruptions

Figure 9: Impact of large events on average unplanned interruption duration (Number above each bar denotes the number of individual large events)



Appendix 3 – Consultation Questions

Chapter 3 questions – Meet the needs of consumers and network users

General output questions

GDQ1. What are your views on the overall outputs package considered for this output category?

GDQ2. For each potential output considered (where relevant):

a) Is it of benefit to consumers, and why?

b) How, and at what level should we set targets? (eg should these be relative/absolute)

c) What are your views on the design of the incentive? (eg reward/penalty/size of allowance)

d) Where we set out options, what are your views on them and please explain whether there are further options we should consider?

GDQ3. What other outputs should we be considering, if any?

GDQ4. What are your views on the RIIO-GD1 outputs that we propose to remove?

In addition to the above questions, where relevant, please the see the supplementary output specific questions below.

Supplementary output specific questions

Consumer vulnerability

GDQ5. What activities beyond those outlined in paragraph 3.12 should we consider when defining the role of the network companies in supporting consumers in vulnerable situations?

GDQ6. Can you provide any evidence that shows how the boundary we have set out for the networks' role in consumer vulnerability could impact the benefits received by consumers in vulnerable situations?

Consumer vulnerability use-it-or-lose-it allowance

GDQ7. What is your preference on the two approaches we have outlined to implement the allowance, and why?

GDQ8. What examples can you provide of initiatives that could be funded through the allowance, and please explain why these activities would not go ahead without specific price control funding?

GDQ9. What is your preference on the three potential options we have outlined for a consumer vulnerability package, and why?

Fuel Poor Network Extension Scheme

GDQ10. What should we include in the FPNES eligibility criteria in RIIO-GD2 to facilitate a well targeted, but effective scheme?

GDQ11. How should we incentivise the GDNs to improve the targeting of the FPNES?

GDQ12. How can we ensure that the FPNES is better coordinated with other funding sources to provide a whole house solution for the household?

GDQ13. What are your views on us requiring or incentivising the GDNs to ensure that households receiving FPNES connections also achieve a target level of energy efficiency?

GDQ14. Do you think the value of the FPNES voucher would need to be amended if the targeting of the scheme is increased? Please provide any evidence to support your view.

Guaranteed Standards of Performance

GDQ15. What is your preferred option for revising customer payment caps?

GDQ16. Where, within the consultation ranges, do you think the standard and payment levels should be set?

GDQ17. Should any existing GSOP exemptions be removed or changed and should any additional exemptions be considered?

GDQ18. Do you support the proposal to make all GSOP payments automatic for RIIO-GD2 and why?

GDQ19. Are new GSOPs (or amendments to existing GSOPs) required and what might these look like?

GDQ20. Should there be a licence condition to prevent standards for the restoration of unplanned interruptions deteriorating (GSOP1)? If so, how should we set the target, and should we take into account geographical differences. Please consider alongside our wider proposed interruptions package.

GDQ21. Is the existing 90% target pass rate for connections GSOPs still appropriate, if not how should it be revised?

GDQ22. Should licence conditions with target pass rates be introduced for any other GSOPs?

Average restoration time incentive for total unplanned interruptions

GDQ23. What do you think of the proposed new output based on average restoration time for total unplanned interruptions?

GDQ24. Should any interruption events be excluded from the average restoration time incentive for total unplanned interruptions, and why?

GDQ25. What are your views on separating interruptions that occur in MOBs into a specific output?

Chapter 4 questions – Deliver an environmentally sustainable network

General output questions

GDQ26. What are your views on the overall outputs package considered for this output category?

GDQ27. For each potential output considered (where relevant):

a) Is it of benefit to consumers, and why?

b) How, and at what level should we set targets? (eg should these be relative/absolute)

c) What are your views on the design of the incentive? (eg reward/penalty/size of allowance)

d) Where we set out options, what are your views on them and please explain whether there are further options we should consider?

GDQ28. What other outputs should we be considering, if any?

GDQ29. What are your views on the RIIO-GD1 outputs that we propose to remove?

GDQ30. What are your views on the priorities we've identified for the gas distribution sector in delivering an environmentally sustainable network? Should measures proposed for electricity and gas transmission, such as BCF reporting and strategies for including in Business Plans, also apply to gas distribution?

In addition to the above questions, where relevant, please the see the supplementary output specific questions below.

Supplementary output specific questions

Decarbonisation of heat

GDQ31. Do you agree with our proposed approaches to funding GDN activities over RIIO-GD2 related to heat decarbonisation?

Distributed Gas Connections Guide and distributed gas information strategies

GDQ32. Are the GDNs' Distributed Gas Connections Guides and distributed gas information strategies helpful and effective? If not, how could they be improved?

Chapter 5 questions – Maintain a safe and resilient network

General output questions

GDQ33. What are your views on the overall outputs package considered for this output category?

GDQ34. For each potential output considered (where relevant):

a) Is it of benefit to consumers, and why?

b) How, and at what level should we set targets? (eg should these be relative/absolute)

c) What are your views on the design of the incentive? (eg reward/penalty/size of allowance)

d) Where we set out options, what are your views on them and please explain whether there are further options we should consider?

GDQ35. What other outputs should we be considering, if any?

GDQ36. What are your views on the RIIO-GD1 outputs that we propose to remove?

In addition to the above questions, where relevant, please the see the supplementary output specific questions below.

Supplementary output specific questions

Repex

GDQ37. What are your thoughts on our proposals for Tier 1 outputs?

GDQ38. Do you think we should set an output for replacing non-PE services?

GDQ39. Do you think we should set outputs for asset maintenance repex activities?

GDQ40. What are your thoughts on not including Mains Replacement Level of Risk Removed, GIBs and fractures as output measures for RIIO-GD2?

GDQ41. Do you agree with our proposed approach to repex uncertainty mechanisms?

NTS exit capacity

GDQ42. What are your views on our proposal to use final offtake capacity prices rather than T-3 offtake capacity price estimates in the calculation of incentive rewards and penalties in RIIO-GD2?

GDN record keeping

GDQ43. Do you consider that an output(s) is necessary:

a) for MOBs record keeping (in the form of a bespoke Price Control Deliverable)?

b) for other specific areas of GDN record keeping (if so which areas)?

c) to cover GDN record keeping requirements as a whole?

Chapter 6 questions – Cost assessment

GDQ44. Do you agree with our intention to evolve the RIIO-GD1 approach for RIIO-GD2?

GDQ45. Do you have any comments on our initial views for cost assessment, including appropriate cost categories, cost drivers, analysis toolkit and how we combine the analysis?

GDQ46. Do you have any views on our proposed options for loss of metering work?

GDQ47. Do you agree with our proposal for implementing symmetrical adjustments for regional or company specific factors?

Chapter 7 questions – Uncertainty mechanisms

General uncertainty mechanism questions

GDQ48. What are your views on the proposed uncertainty mechanisms and their design?

GDQ49. Are there any additional uncertainty mechanisms that we should consider across the sector and if so, how should these be designed?

GDQ50. What are your views on the RIIO-GD1 uncertainty mechanisms we propose to remove?

In addition to the above questions, where relevant, please the see the supplementary uncertainty mechanism specific questions below.

Supplementary uncertainty mechanism specific questions

Review of Agency (Xoserve) costs

GDQ51. What do you think is the most appropriate approach for funding the GTs' expenditure for Xoserve in RIIO-2 and why?

GDQ52. If Xoserve takes on any services beyond its core Central Data Service Provider role, how should we treat the costs and risks associated with these additional services through the price control?