

RIIO-2 Final Determinations – Cadent Annex (REVISED)

Publication date	03 February 2021	Contact:	RIIO Team
		Team:	Network Price Controls
		Tel:	020 7901 7000
		Email:	RIIO2@ofgem.gov.uk

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

In 2019, we set out the framework for the price controls in our Sector Specific Methodology Decision. In December 2019, Transmission and Gas Distribution network companies and the Electricity System Operator (ESO) submitted their Business Plans to Ofgem setting out proposed expenditure for RIIO-2. We assessed these plans and published our consultation on Draft Determinations in July 2020.

This document and others published alongside it, set out our Final Determinations for companies under the RIIO-2 price control, which will commence on 1 April 2021.

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psi@nationalarchives.gsi.gov.uk

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1. Introduction and overall package

Purpose of this document

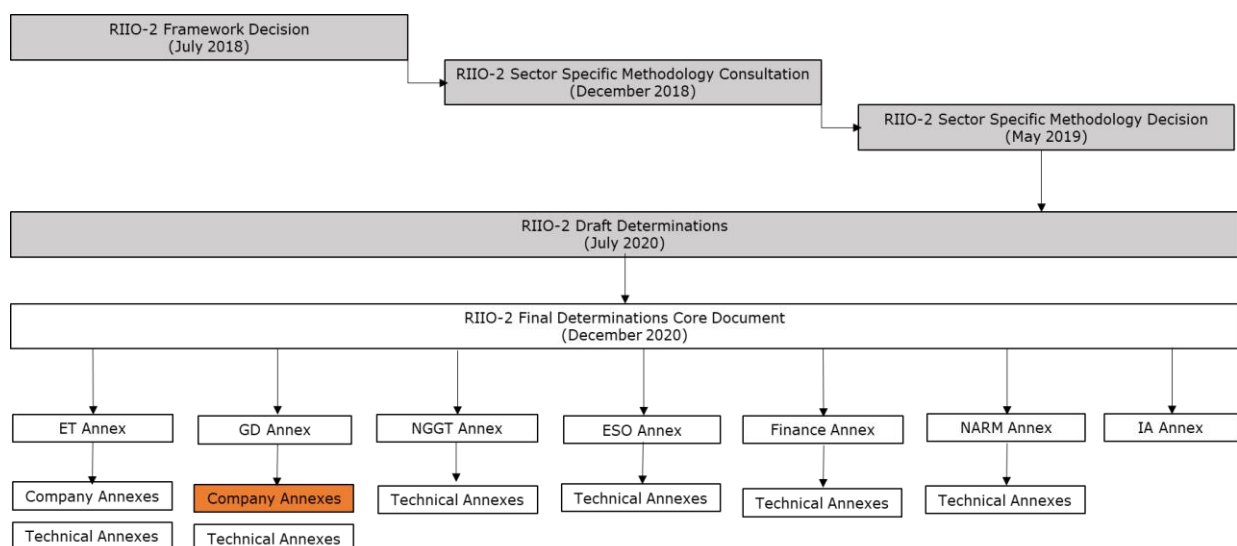
1.1 This document sets out our Final Determinations for the Gas Distribution (GD) price control (RIIO-GD2) for the areas that are specific to Cadent focusing on its:

- baseline cost allowances
- output package, including Licence Obligations (LOs), Output Delivery Incentives (ODIs)¹ and Price Control Deliverables (PCDs)
- Consumer Value Propositions (CVPs)
- Uncertainty Mechanisms (UMs)
- the level of Network Innovation Allowance (NIA).

1.2 All figures are in 2018/19 prices except where otherwise stated.

1.3 This document should be read alongside the RIIO-2 Final Determinations Core Document (Core Document) and the RIIO-2 Final Determinations – Gas Distribution Sector Annex (GD Annex). Figure 1 sets out where you can find information about other areas of our RIIO-2 Final Determinations.

Figure 1: RIIO-2 Final Determinations documents map



¹ ODIs can be reputational (ODI-R) or financial (ODI-F).

An overview of Cadent's RIIO-2 price control

1.4 This section focuses on bringing together the key aspects of Cadent's RIIO-2 Final Determinations.

1.5 We present a summary of Cadent's baseline totex² in Table 1. This reflects our view of efficient costs including ongoing efficiency over RIIO-GD2. For further details of any values, please refer to Chapter 3.³

Table 1: Cadent's submitted versus allowed baseline totex⁴ (£m, 2018/19 prices)⁵

Network company	Submitted totex Dec 19	Resubmitted totex Sept 20	DD position	FD decision	FD vs. Sept 20 baseline request (£m, %)	
EoE	1,621	1,606	1,286	1,523	-83	-5.1%
Lon	1,569	1,447	1,040	1,243	-204	-14.1%
NW	1,171	1,157	972	1,083	-74	-6.4%
WM	957	927	780	858	-69	-7.4%
Cadent	5,318	5,137	4,078	4,708	-429	-8.4%

1.6 Table 2 sets out the package of outputs that will apply to Cadent during RIIO-2. Further details are in Chapter 2⁶. For further details of our decisions on the bespoke proposals in Cadent's Business Plan see Appendix 1.

Table 2: RIIO-2 outputs package for Cadent

Output name	Output type	Companies applied to	Final Determination section
Common outputs			
Meeting the needs of consumers and network users			
Consumer vulnerability minimum standards	LO	All	GD Annex
Consumer vulnerability reputational incentive	ODI-R	All	GD Annex
Vulnerability and carbon monoxide allowance	UIOLI output ⁷	All	

² Baseline totex refers to total controllable costs (this excludes BPI, RPEs, pass-through costs and includes ongoing efficiency).

³ Where the source document is not stated, we are referring to this document (Final Determinations – Cadent Annex, abbreviated to Cadent Annex).

⁴ Baseline totex refers to total controllable costs (this excludes BPI, RPEs, pass-through costs and includes ongoing efficiency).

⁵ Subtotals may not add up to sum of line items due to rounding.

⁶ Where the source document is not stated, we are referring to this document (Cadent Annex).

⁷ The Vulnerability and Carbon Monoxide Allowance is a UIOLI but has output status.

Output name	Output type	Companies applied to	Final Determination section
Fuel Poor Network Extension Scheme	ODI-R and capped volume driver	All	
Customer satisfaction survey	ODI-F	All	
Complaints metric	ODI-F	All	
Guaranteed Standards of Performance (GSOPs)	LO ⁸	All	
Emergency response time	LO	All	
Unplanned interruptions	ODI-F	All (except Cadent)	
Digitalisation Strategy and Action Plan	LO	All	Core Document
Data Best Practice	LO	All	
Maintain a safe and resilient network			
Repex - tier 1 mains replacement	PCD	All	GD Annex
Repex - tier 1 services	PCD	All	
Gas holder demolitions	PCD	All	
Network Asset Risk Metric	PCD and ODI-F	All	NARM Annex
Capital projects	PCD	All	GD Annex
Cyber resilience Operational Technology (OT)	PCD	All	Core Document Confidential annexes
Cyber resilience IT	PCD	All	
Deliver an environmentally sustainable network			
Shrinkage and environmental emissions	ODI-F and ODI-R	All	GD Annex
Commercial Fleet EV PCD	PCD		
Environmental action plan and annual environmental report	LO and ODI-R		Core Document, GD Annex
Business Carbon Footprint (BCF) reporting	ODI-R		Core Document
Bespoke outputs			
Meeting the needs of consumers and network users			
Collaborative streetworks	ODI-F	Cadent (EoE, Lon) and SGN (So)	GD Annex
Multiple occupancy building (MOB) interruptions and Non-MOB interruptions	ODI-F x 2	Cadent North London	GD Annex (see Unplanned interruptions)
High-rise building plans	ODI-R	Cadent	Chapter 2
Personalising welfare facilities	PCD	Cadent	Chapter 2
Deliver an environmentally sustainable network			
London Medium Pressure	PCD	Cadent	Chapter 2

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

Output name	Output type	Companies applied to	Final Determination section
Deliver an environmentally sustainable network			
HyNet Front End Engineering Design (FEED)	PCD	Cadent	Chapter 2

1.7 We set out the UMs that will apply to Cadent during the RIIO-2 price control period in Table 3 (further detail is in Chapter 4, and Chapter 4 of the GD Annex).

Table 3: RIIO-2 Uncertainty Mechanism package for Cadent

Uncertainty Mechanism	UM type	Companies applied to	Final Determination section
Cross sector			
Bad Debt	Pass-through	All	Finance Annex
Business Rates	Pass-through	All	Not covered (no change from decision made at SSMD)
Ofgem Licence Fee	Pass-through	All	
Pensions (pension scheme established deficits)	Re-opener	All	
Coordinated Adjustment Mechanism	Re-opener	All	Core Document
Cyber resilience OT	UIOLI allowance and re-opener	All	
Cyber resilience IT	Re-opener	All	
Non-operational IT and Telecoms Capex	Re-opener	All	
Physical Security (PSUP)	Re-opener	All	
Tax Review	Re-opener	All	Finance Annex
Net Zero	Re-opener	GT, GD, ET	Core Document
Net Zero Pre-construction and Small Projects	Re-opener	GD, GT	
Net Zero and re-opener development	UIOLI	GT, GD, ET	
Cost of debt indexation	Indexation	All	
Real Price Effects	Indexation	All	
Cost of equity indexation	Indexation	All	
Inflation Indexation of RAV and Allowed Return	Indexation	All	

Uncertainty Mechanism	UM type	Companies applied to	Final Determination section
GD specific			
Pension deficit charge adjustment	Pass-through	All GDNs	GD Annex
Third-party damage and water ingress	Pass-through	All GDNs	
Miscellaneous pass-through	Pass-through	All GDNs	
Gas Transporters share of Xoserve costs	Pass-through	All GDNs	
Theft of gas (supplier responsible)	Pass-through	All GDNs	
Shrinkage	Pass-through	All GDNs	
NTS exit capacity	Pass-through	All GDNs	
Repex – Tier 2A iron mains	Volume driver	All GDNs	
Repex – HSE policy changes	Re-opener	All GDNs	
Repex - Tier 1 iron stubs	Re-opener	All GDNs	
Repex - Pipeline Diversions (non - Rechargeable) and Loss of Development Claims	Re-opener	All GDNs	
Multi occupancy buildings (MOBs) safety	Re-opener	All GDNs	
Heat policy	Re-opener	All GDNs	
Domestic connections	Volume driver	All GDNs	
New large load connection(s)	Re-opener	All GDNs	
Smart meter rollout costs	Re-opener	All GDNs	
Specified streetworks	Re-opener	All GDNs	
Fuel Poor Network Extension Scheme (FPNES)	Re-opener	All GDNs	

1.8 On innovation funding, we have decided to set £32.5m for Cadent’s RIIO-2 NIA (further details can be found in Chapter 5).

1.9 Table 4 summarises the outcome of Cadent’s RIIO-2 BPI performance for each of the four stages and sets out where to find additional information.

Table 4: RIIO-2 BPI performance for Cadent

BPI Stage	Outcome	Further detail
1	Pass	Chapter 6 and Core Document (Chapter 10)
2	£0.7m	
3	-£0.1m	
4	£0m	
Overall	Reward of £0.6m	

1.10 We have decided to set Cadent’s RIIO-2 Totex Incentive Mechanism (TIM) sharing factor for Cadent at 50%. Further details about TIM can be found in Chapter 10 of the Core Document.

1.11 Table 5 summarises the financing arrangements that we have decided to apply to Cadent. Please refer to the Finance Annex for more detail on these areas.

Table 5: RIIO-2 financing arrangements for Cadent⁹

Finance parameter	Cadent rate	Source
Notional gearing	60%	Finance Annex
Cost of Equity	4.55%	
Expected outperformance	0.25%	
Allowed return on equity	4.30%	
Allowed return on debt	1.82%	
Allowed return on capital	2.81%	

⁹ We present here a forecast average of RIIO-2 allowed returns. Final allowances for debt and equity from 2022/2023 onwards will reflect changes in market observations. Please see Finance Annex for further detail.

2. Setting outputs

Introduction

2.1 This Chapter sets out our decisions for output areas that specifically apply to Cadent. We set out more detail on the common outputs in the GD Annex, including our broader decisions and rationale. This Chapter is structured under the headings of the RIIO-2 outcomes:

- meet the needs of consumers and network users
- maintain a safe and resilient network
- deliver an environmentally sustainable network.

Meeting the needs of consumers and network users

GD Sector outputs

2.2 We set out our decisions for the Cadent-specific parameters in the following tables.

Vulnerability package

Vulnerability and Carbon Monoxide Allowance (VCMA)

Table 6: Final Determinations Decision - VCMA by network (£m, 2018/19 prices)¹⁰

Network¹¹	2021/22	2022/23	2023/24	2024/25	2025/26	Total
EoE	1.64	1.64	1.64	1.64	1.64	8.22
Lon	0.92	0.92	0.92	0.92	0.92	4.60
NW	1.10	1.10	1.10	1.10	1.10	5.48
WM	0.80	0.80	0.80	0.80	0.80	4.00
Collaborative projects - Cadent share ¹²	1.49	1.49	1.49	1.49	1.49	7.44
Total¹³	5.95	5.95	5.95	5.95	5.95	29.74

¹⁰ Allowances per year do not have to be spent within each year and can be rolled over.

¹¹ Cadent's East of England network is abbreviated to EoE, its London network to Lon, its North West network to NW, and its West Midlands network to WM throughout.

¹² 25% of the UIOLI must be spent on collaborative projects between GDNs. To provide this funding, we will apportion the collaborative pot so each GDN will receive a share on top of its UIOLI based on their forecast percentage of GB domestic gas customers served in the first year of RIIO-GD2. We will set requirements for how this can be spent in the VCMA Governance Document.

¹³ Subtotals may not add up to sum of line items due to rounding.

*Fuel Poor Network Extension Scheme***Table 7: Final Determinations Decision - FPNES ODI-R targets and volume driver cap and unit costs for Cadent (No. of connections, £ per service connection, 2018/19 prices)**

Network	ODI-R Target	Volume driver cap	Volume driver unit costs¹⁴
	<i>Number of connections – RIIO-GD2 total</i>	<i>Number of connections – RIIO-GD2 maximum</i>	<i>£ per service connection</i>
EoE	2,050	7,525	2,230
Lon	500	2,500	2,296
NW	2,250	11,250	2,576
WM	1,450	10,450	2,502
Total	6,250	31,725	N/A

Unplanned Interruptions**Table 8: Final Determinations Decision - ODI-F Minimum performance and Excessive Deterioration levels for Cadent - MOBs (hours)**

Network	Minimum performance level	Excessive Deterioration level
	<i>Annual average duration</i>	<i>Annual average duration</i>
EoE	518	718
Lon	601	801
NW	601	801
WM	601	801

Table 9: Final Determinations Decision - ODI-F Minimum performance and Excessive Deterioration levels for Cadent - non-MOBs (hours)

Network	Minimum performance level	Excessive Deterioration level
	<i>Annual average duration</i>	<i>Annual average duration</i>
EoE	12	17
Lon	14	19
NW	14	19
WM	13	18

Cadent specific outputs

2.3 This section sets out details of Cadent specific outputs we have included in our Final Determinations.

¹⁴ Includes Ofgem assessment of ongoing efficiency.

High-rise building plans

Purpose: A reputational ODI to accelerate the production of management plans for each high-rise residential building that Cadent supplies.¹⁵

Benefits: Earlier proactive interventions, faster supply restoration, and more effective safeguarding of vulnerable customers.

Final Determinations decision

Table 10: Final Determinations decision - high-rise building plans ODI

Output parameter	Final Determination	Draft Determinations ¹⁶
ODI Type	Reputational	Same as FD
Measurement	Number of residential high-rise building plans created for each network in each year of RIIO-GD2.	Same as FD
Performance target	See Table 11	Change: We invited Cadent to propose stretching targets
Reporting method	Annual reporting in RRP	Same as FD
Applied to	Cadent only	Same as FD
Licence condition	No	N/A

Table 11: Final Determinations Decision - Performance targets for Cadent's High Rise Building Plans ODI-R (number of plans produced)

Network	2021/22	2022/23	2023/24	2024/25	2025/26
EoE	13	29	30	30	30
Lon	257	578	577	577	577
NW	13	30	30	30	30
WM	28	62	62	62	62

Final Determination rationale and Draft Determination responses

2.4 We have decided to accept this bespoke ODI-R and to accept Cadent's proposed performance target. We received three consultation responses which supported the introduction of this ODI-R. Cadent proposed to deliver 10% of the building management plans in the first year of RIIO-GD2 and a constant profile over the remaining years. It explained that its first-year target is lower than the other years due to initial efforts to mobilise and ramp up activity. It noted that the five-year target is stretching as developing plans requires engagement across multiple

¹⁵ A high-rise building has at least six floors.

¹⁶ Draft Determinations Cadent Annex paragraphs 2.11-2.13.

stakeholders including building owners and planning authorities. Cadent’s CEG supported the targets and considered them stretching for similar reasons. We agree with the evidence provided and consider the performance targets to be stretching for the reasons identified by Cadent.

Personalising welfare facilities PCD

Purpose A PCD providing additional tailored welfare support to consumers in vulnerable situations in the event of a supply interruption.

Benefits: During a supply interruption, consumers in vulnerable situations will be provided with additional services beyond the requirements of GSOP3, including food vouchers, rechargeable showers and electric kettles.

Final Determinations decision

Table 12: Final Determinations decision - personalising welfare facilities PCD¹⁷

Output parameter	Final Determination	Draft Determinations ¹⁸
Type	Evaluative	Change: previously rejected Cadent's proposed output
Output	In the event of gas supply interruptions during RIIO-GD2, provision of welfare products/services for up to: <ul style="list-style-type: none"> 82,125 PSR customers (beyond GSOP3), and 82,125 non-PSR customers in vulnerable situations 	
Delivery date	31 March 2026	
Totex baseline allowances	£12.34m	
Re-opener	No	
Reporting method	PCD report and annual reporting in the RRP on the number and cost of welfare provisions provided to eligible customers in the event of a gas supply interruption.	
Adjustment mechanism	Ex post review to determine delivery status and recover a proportion of funding in the event of non-delivery.	
Companies applied to	Cadent only	
Licence obligation	Special Condition 3.26 Personalising welfare facilities Price Control Deliverable (PWF _t)	N/A

¹⁷ Includes Ofgem assessment of ongoing efficiency.

¹⁸ Draft Determinations Cadent Annex Table 25, p29.

Final Determination rationale and Draft Determination responses

- 2.5 We have decided to approve this PCD based on the additional information Cadent has provided.¹⁹ At Draft Determinations we proposed to reject this proposal as it was not clear that all of the actions, or costs proposed, go beyond BAU or the service levels other GDNs are offering without a PCD.
- 2.6 Cadent has now evidenced that this PCD delivers value to consumers in vulnerable situations and goes beyond BAU. It will provide additional welfare services beyond our minimum standards (the GSOPs²⁰) or other RIIO regulations to both PSR customers and non-PSR consumers in vulnerable situations.
- 2.7 We think this PCD provides clear benefits to consumers in vulnerable situations:
- Providing them with a tailored package of welfare services will provide additional benefits to them during a supply interruption.
 - Providing PCD funding will enable these services to become embedded into Cadent's operations.
 - The use of a new app will help recognise transient vulnerability (eg due to -19), to identify where additional welfare provisions should be provided to customers who aren't on the PSR.²¹
- 2.8 There is also good evidence of stakeholder support for the PCD, including Cadent's CEG who stated that it addresses an important gap in protections.
- 2.9 The output will provide additional welfare provisions during supply interruptions for up to 82,125 PSR customers (beyond GSOP3), and 82,125 non-PSR customers in vulnerable situations. We will allow £12.34m²² for this PCD. Cadent's Business Plan requested £16.3m but in response to the challenge we set out in our Draft Determinations, Cadent clarified that the output will only be based on provisions above BAU and revised the proposed cost to £12.34m (removing the costs that fall under GSOP3 and BAU).²³ We will assess whether the outputs have been fully delivered at RIIO-GD2 close out, using the information provided through the PCD Delivery Report and, if necessary, will recover the proportion of funding relating to non-delivery through the PCD mechanism. We will set out more detail on how we

¹⁹ Draft Determinations - Cadent response. Core questions, p72.

²⁰ In particular, GSOP3 which relates to service provided to PSR domestic customers in the event of an interruption. For our decision on updating the GSOPs please see Chapter 2 of the GD Annex.

²¹ The app has been developed with expert stakeholders, to help engineers on site to identify consumers in vulnerable situations who are not on, or eligible for, the PSR.

²² Including Ofgem view of ongoing efficiency.

²³ Draft Determinations - Cadent response. Core questions, p72.

will assess the delivery of PCDs in our PCD Reporting Requirements and Methodology Document.

- 2.10 We have also provided a CVP for this activity to recognise the additional value it provides to consumers in vulnerable situations. See Chapter 6 for more detail on the CVP proposal.

Outputs removed in our Final Determinations

- 2.11 This section includes outputs that we proposed to accept in our Draft Determinations consultation position but which we have now decided to remove after reviewing stakeholder responses and relevant evidence.

Community Fund

- 2.12 We have decided not to implement this proposal as an ODI-R but still expect Cadent to undertake this activity during RIIO-GD2. We consider that the creation of a community fund is corporate social responsibility (CSR) and standard practice for many utilities. We think an ODI-R is not appropriate because the activity is not within Cadent's business footprint and our decision responds to stakeholder feedback.
- 2.13 At Draft Determinations we proposed to attach an ODI-R to the delivery of the community fund aspect of Cadent's proposed Trust Charter ODI-R.²⁴ This is a Business Plan commitment to invest at least 1% of annual profits into a community fund to support a variety of priority activities within the community, including supporting consumers in vulnerable situations, the local economy and specific local initiatives. Cadent said our rationale for creating an ODI-R was inconsistent with our proposal to reject the associated CVP on the basis that it is CSR, which we consider to be BAU. We agree that our rationale was inconsistent and have decided that an ODI-R is not appropriate for this commitment.
- 2.14 We still expect Cadent to deliver this Business Plan commitment, so will monitor delivery through the RRP, as proposed at Draft Determinations. A consumer group and the Cadent's CEG supported our proposal to create an ODI-R to ensure delivery, but the CEG thought reporting should measure the benefit delivered not just money spent. We note this support but think annual reporting through the RRP is sufficient oversight to monitor delivery. We would also encourage Cadent to

²⁴ Draft Determinations Cadent Annex paragraphs 2.14-2.18.

report to its stakeholders on how the fund is spent and its benefits as an internal Key Performance Indicator (KPI).

Maintaining a safe and resilient network

GD Sector outputs

2.15 We set out our decisions for the Cadent-specific parameters in the following tables.

Repex

Final Determinations Decision

Tier 1 mains PCD

Table 13: Final Determinations Decision - Tier 1 mains Baseline Target Workloads for Cadent East of England (kilometres mains decommissioned): Final Determinations Decision - Tier 1 mains Baseline Target Workloads for Cadent East of England (kilometres mains decommissioned)

EoE	2021/22	2022/23	2023/24	2024/25	2025/26	RIIO-GD2 Baseline Target Workload
<i>Workload Activities</i>						
All materials						
a. <=3"	6.5	6.5	6.5	6.5	6.5	32.3
b. 4"-5"	295.3	295.3	295.3	295.3	295.3	1,476.5
c. 6"-7"	170.3	170.3	170.3	170.3	170.3	851.4
d. 8"	82.8	82.8	82.8	82.8	82.8	413.8
Total	554.8	554.8	554.8	554.8	554.8	2,773.9
Note: Subtotals may not add up to sum of line items due to rounding						

Table 14: Final Determinations Decision - Tier 1 mains Baseline Target Workloads for Cadent North London (kilometres mains decommissioned)

Lon	2021/22	2022/23	2023/24	2024/25	2025/26	RIIO-GD2 Baseline Target Workload
<i>Workload Activities</i>						
All materials						
a. <=3"	0.2	0.2	0.2	0.2	0.2	1.2
b. 4"-5"	151.2	151.2	151.2	151.2	151.2	755.9
c. 6"-7"	99.2	99.2	99.2	99.2	99.2	496.0
d. 8"	55.6	55.6	55.6	55.6	55.6	278.2
Total	306.3	306.3	306.3	306.3	306.3	1,531.4
Note: Subtotals may not add up to sum of line items due to rounding						

Table 15: Final Determinations Decision - Tier 1 mains Baseline Target Workloads for Cadent North West (kilometres mains decommissioned)

NW	2021/22	2022/23	2023/24	2024/25	2025/26	RIIO-GD2 Baseline Target Workload
<i>Workload Activities</i>						
All materials						
a. <=3"	19.9	19.9	19.9	19.9	19.9	99.6
b. 4"-5"	184.3	184.3	184.3	184.3	184.3	921.6
c. 6"-7"	124.5	124.5	124.5	124.5	124.5	622.5
d. 8"	54.9	54.9	54.9	54.9	54.9	274.7
Total	383.7	383.7	383.7	383.7	383.7	1,918.3
Note: Subtotals may not add up to sum of line items due to rounding						

Table 16: Final Determinations Decision - Tier 1 mains Baseline Target Workloads for Cadent West Midlands (kilometres mains decommissioned)

WM	2021/22	2022/23	2023/24	2024/25	2025/26	RIIO-GD2 Baseline Target Workload
<i>Workload Activities</i>						
All materials						
a. <=3"	4.8	4.8	4.8	4.8	4.8	24.2
b. 4"-5"	133.6	133.6	133.6	133.6	133.6	667.8
c. 6"-7"	91.1	91.1	91.1	91.1	91.1	455.3
d. 8"	64.2	64.2	64.2	64.2	64.2	321.2
Total	293.7	293.7	293.7	293.7	293.7	1,468.5
Note: Subtotals may not add up to sum of line items due to rounding						

Table 17: Final Determinations Decision - Tier 1 mains Baseline Allowances (£m, 2018/19 prices)

	2021/22	2022/23	2023/24	2024/25	2025/26	RIIO-GD2 Baseline Allowance
<i>Baseline Cost Allowance</i>						
Tier 1 mains baseline allowance						
EoE	68.6	68.4	66.9	66.2	65.3	335.4
Lon	43.1	40.7	41.3	40.3	42.1	207.6
NW	57.2	55.3	54.0	53.2	53.1	272.7
WM	46.4	45.2	44.3	43.8	43.4	223.1
Cadent	215.3	209.7	206.5	203.5	203.9	1,038.8

Note: Subtotals may not add up to sum of line items due to rounding.

Table 18: Final Determinations Decision - Tier 1 mains ex ante unit costs for Cadent East of England (RIIO-GD2 total, £/km mains decommissioned, 2018/19 prices)

EoE	RIIO-GD2 ex ante unit costs
Tier 1 iron mains decommissioned	
a. <=3"	83,074
b. 4"-5"	91,960
c. 6"-7"	133,911
d. 8"	200,529

* Unit costs for Tier 1 mains PCD. Unit costs exclude RPEs.

Table 19: Final Determinations Decision - Tier 1 mains ex ante unit costs for Cadent North London (RIIO-GD2 total, £/km mains decommissioned, 2018/19 prices)

Lon	RIIO-GD2 ex ante unit costs
Tier 1 iron mains decommissioned	
a. <=3"	89,916
b. 4"-5"	99,534
c. 6"-7"	144,939,
d. 8"	217,045

* Unit costs for Tier 1 mains PCD. Unit costs exclude RPEs.

Table 20: Final Determinations Decision - Tier 1 mains ex ante unit costs for North West (RIIO-GD2 total, £/km mains decommissioned, 2018/19 prices)

NW	RIIO-GD2 ex ante unit costs
Tier 1 iron mains decommissioned	
a. <=3"	97,874
b. 4"-5"	108,343
c. 6"-7"	157,768
d. 8"	236,255
* Unit costs for Tier 1 mains PCD. Unit costs exclude RPEs.	

Table 21: Final Determinations Decision - Tier 1 mains ex ante unit costs for West Midlands (RIIO-GD2 total, £/km mains decommissioned, 2018/19 prices)

WM	RIIO-GD2 ex ante unit costs
Tier 1 iron mains decommissioned	
a. <=3"	98,152
b. 4"-5"	108,652
c. 6"-7"	158,216
d. 8"	236,927
* Unit costs for Tier 1 mains PCD. Unit costs exclude RPEs.	

*Tier 1 services PCD***Table 22: Final Determinations Decision - Tier 1 service interventions Baseline Target Workloads for Cadent East of England (No. of services)**

EoE	2021/22	2022/23	2023/24	2024/25	2025/26	RIIO-GD2 Baseline Target Workloads
<i>Workload Activities</i>						
Tier 1 service interventions						
Relay	23,059	23,059	23,059	23,059	23,059	115,293
Test and transfer	25,327	25,327	25,327	25,327	25,327	126,636
Totals	48,386	48,386	48,386	48,386	48,386	241,930
Note: Subtotals may not add up to sum of line items due to rounding						

Table 23: Final Determinations Decision - Tier 1 service interventions Baseline Target Workloads for Cadent North London (No. of services)

Lon	2021/22	2022/23	2023/24	2024/25	2025/26	RIIO-GD2 Baseline Target Workloads
<i>Workload Activities</i>						
Tier 1 service interventions						
Relay	27,628	27,628	27,628	27,628	27,628	138,138
Test and transfer	9,432	9,432	9,432	9,432	9,432	47,158
Totals	37,059	37,059	37,059	37,059	37,059	185,295

Note: Subtotals may not add up to sum of line items due to rounding

Table 24: Final Determinations Decision - Tier 1 service interventions Baseline Target Workloads for Cadent North West (No. of services)

NW	2021/22	2022/23	2023/24	2024/25	2025/26	RIIO-GD2 Baseline Target Workloads
<i>Workload Activities</i>						
Tier 1 service interventions						
Relay	25,755	25,755	25,755	25,755	25,755	128,774
Test and transfer	13,247	13,247	13,247	13,247	13,247	66,237
Totals	39,002	39,002	39,002	39,002	39,002	195,011

Note: Subtotals may not add up to sum of line items due to rounding

Table 25: Final Determinations Decision - Tier 1 service interventions Baseline Target Workloads for Cadent West Midlands (No. of services)

WM	2021/22	2022/23	2023/24	2024/25	2025/26	RIIO-GD2 Baseline Target Workload
<i>Workload Activities</i>						
Tier 1 service interventions						
Relay	20,765	20,765	20,765	20,765	20,765	103,826
Test and transfer	10,764	10,764	10,764	10,764	10,764	53,820
Totals	31,529	31,529	31,529	31,529	31,529	157,646

Note: Subtotals may not add up to sum of line items due to rounding

Table 26: Final Determinations Decision - Tier 1 services Baseline Allowances for Cadent (£m, 2018/19 prices)

	2021/22	2022/23	2023/24	2024/25	2025/26	RIIO-GD2 Baseline Allowance
<i>Baseline Cost Allowance</i>						
Tier 1 services Baseline Allowances						
EoE	31.0	31.0	30.4	30.1	29.7	152.2
Lon	25.6	24.2	24.5	23.9	24.9	123.1
NW	18.6	18.0	17.5	17.2	17.2	88.4
WM	15.2	14.8	14.5	14.3	14.2	73.1
Cadent	90.4	88.1	87.0	85.5	86.0	436.9

Note: Subtotals may not add up to sum of line items due to rounding

Table 27: Final Determinations Decision - Tier 1 service interventions ex ante unit costs for Cadent East of England (£/service, 2018/19 prices)

EoE	RIIO-GD2 ex ante unit costs (£ per service)
Tier 1 service interventions	
Relay	780
Test and transfer	492

* Unit costs for Tier 1 services PCD. Unit costs exclude RPEs.

Table 28: Final Determinations Decision - Tier 1 service interventions ex ante unit costs for Cadent North London (£/service, 2018/19 prices)

Lon	RIIO-GD2 ex ante unit costs (£ per service)
Tier 1 service interventions	
Relay	733
Test and transfer	462

* Unit costs for Tier 1 services PCD. Unit costs exclude RPEs.

Table 29: Final Determinations Decision - Tier 1 service interventions ex ante unit costs for Cadent North West (£/service, 2018/19 prices)

NW	RIIO-GD2 ex ante unit costs (£ per service)
Tier 1 service interventions	
Relay	519
Test and transfer	327

* Unit costs for Tier 1 services PCD. Unit costs exclude RPEs.

Table 30: Final Determinations Decision - Tier 1 service interventions ex ante unit costs for Cadent West Midlands (£/service, 2018/19 prices)

WM	RIIO-GD2 ex ante unit costs (£ per service)
Tier 1 service interventions	
Relay	531
Test and transfer	335
* Unit costs for Tier 1 services PCD. Unit costs exclude RPEs.	

NARM PCD and ODI-F

2.16 This table summarises Cadent’s NARM targets. Please refer to the NARM Annex for our decisions and rationale.

Table 31: Summary of Final Determinations Decision - NARM Baseline Network Risk Outputs

Network	Baseline Network Risk Output (R£m) ²⁵	Baseline Allowance (£m) ²⁶	Unit cost of Risk Benefit (£/R£)
EoE	5.7	105.4	18.4
Lon	10.1	144.4	14.3
NW	10.1	72.4	7.2
WM	4.4	51.2	11.7
Note: Baseline Allowance included within totex. All values in table subject to change due to final reconciliation process ahead of RIIO-GD2 implementation. Any changes to Baseline Allowance will only affect the share of totex attributable to NARM, but will not result in any changes to totex.			

2.17 The data presented in Table 31 for Baseline Network Risk Output, Baseline Allowances and Unit Cost of Risk Benefit remain subject to update between the publication of Final Determinations and the implementation of RIIO-GD2. This is to ensure that the final targets we set for GDNs accurately reflect the decisions we have made at Final Determinations, including ensuring a consistent approach is taken across GDNs, where appropriate, as to which assets are included within the NARM. For example, the changes we've made to the Capital Projects PCD at Final Determinations may result in more assets being included in the NARM. Any changes we make to Baseline Allowances for NARM will only be updates to the share of totex attributable to asset interventions included within NARM and will not result in any changes to Final Determinations totex allowances.

²⁵ The unit used to denote Monetised Risk values. R£ is used to differentiate from financial monetary values. Refer to Cadent's licence for the baseline network risk outputs (R£m) and unit costs of risk benefit (£/R£).

²⁶ Baseline Allowance includes RPEs.

2.18 We will work with the GDNs to ensure these values are updated to accurately reflect our Final Determinations positions, including requesting the GDNs to re-run their NARM models to determine final Baseline Network Risk Output targets. Please see the NARM Annex for further details on the process we intend to follow for finalising NARM outputs for the GDNs.

Capital projects

Final Determinations Decision

Table 32: Final Determinations decision - Cadent projects included in Capital projects PCD

Network	Cost category	Project name	RIIO-2 cost (£m)
EoE	LTS, Storage & Entry	NTS Capacity Upgrades	5.41
EoE	LTS, Storage & Entry	PRS Capacity Upgrades	4.27
EoE	LTS, Storage & Entry	NTS Metering	7.90
EoE	Repex	Lowestoft	2.24
Lon	LTS, Storage & Entry	NTS Other Metering	2.06
NW	LTS, Storage & Entry	PRS Capacity Upgrades	14.86
NW	LTS, Storage & Entry	NTS Other Metering	2.80
WM	LTS, Storage & Entry	PRS Capacity Upgrades	5.25
WM	LTS, Storage & Entry	NTS Other Metering	4.35
Total			49.14
Note: Subtotals may not add up to sum of line items due to rounding. Costs include ongoing efficiency.			

2.19 Table 32 summarises the projects included in the Capital projects PCD for Cadent. See Appendix 2 for a list of projects that we included in our Draft Determinations and have decided to remove from the PCD at Final Determinations due to increasing the materiality threshold for technically assessed projects. We have moved the costs to baseline totex for the projects we removed from the PCD and expect GDNs to deliver these within the baseline allowance.

Cadent specific outputs

2.20 This section sets out details of Cadent specific outputs we have included in our Final Determinations.

London Medium Pressure PCD

Purpose A PCD to hold Cadent to account for delivering specific sections of the London Medium Pressure (LMP) project during RIIO-GD2.²⁷

Benefits: To protect customers if any discrete capital investment is not delivered.

Final Determinations decision

Table 33: Final Determinations Decision - London Medium Pressure PCD

Output parameter	Final Determination	Draft Determinations ²⁸
Type	Evaluative	Change - at Draft Determinations we proposed to treat this project as a re-opener.
Output	Delivery of the full RIIO-GD2 scope of Cadent's EJP for the LMP project. ²⁹	
Delivery date	31 March 2026	
Totex baseline allowances	£46.69m	
Re-opener	No	
Reporting method	Independently audited engineering report confirming the completion of each section of the project as detailed in the Business Plan. Reporting through the RRP	
Adjustment mechanism	Ex post review to determine delivery status	
Companies applied to	Cadent North London only	Same as FD
Licence obligation	Special Condition 3.27 London Medium Pressure Price Control Deliverable (LMP _t)	N/A

Final Determination rationale and Draft Determination responses

2.21 We have decided to change our Draft Determinations position and will treat this project as a PCD rather than a bespoke re-opener, providing £46.69m of baseline funding for the project. The RIIO-2 CG supported our proposal for a bespoke re-opener on the grounds of uncertain timing, scope, and cost, whereas other respondents challenged our proposals.

2.22 We think a PCD is now appropriate because our engineering assessment has found significant improvement in the EJP, based on new evidence from Cadent in its Draft Determinations response. This includes a revised scope and additional

²⁷ The project involves replacing large diameter, medium pressure iron mains in central London, it began in RIIO-GD1 and is expected to continue until 2031.

²⁸ Draft Determinations, Cadent Annex, paragraphs 4.7-4.11.

²⁹ As provided in Cadent's Draft Determinations response.

information on technical and commercial aspects of the project. Cadent also reassessed the split of costs between RIIO-GD2 and RIIO-GD3.³⁰ It identified £46.69m of RIIO-GD2 costs³¹ and said that it would focus on replacing the highest risk mains in RIIO-GD2. Our rationale for the costs allowance attached to the PCD is set out in Chapter 3. This responds to direct stakeholder feedback from both Cadent and its CEG who thought there is a case for some upfront funding in RIIO-GD2. In addition, the GLA made a general comment that our Draft Determinations included substantial reductions to SGN’s and Cadent’s proposed repex programmes for London, and urged us to ensure that we have adequately accounted for the resilience and safety benefits in our provision of funding.

2.23 We have decided to structure this PCD in a similar way to the Capital Projects PCD, as it relates to a specific project with defined deliverables. It will be an evaluative PCD, with an ex post review, to establish whether Cadent has met the required output by the end of RIIO-GD2.

Delivering an environmentally sustainable network

GD Sector outputs

2.24 We set out our decisions for the Cadent-specific parameters in the following tables.

Commercial Fleet EV PCD

Table 34: Final Determinations Decision – EV Target Volume for Cadent (RIIO-GD2 total, No. of vehicles and charging points)

Network	Output Category	Specification	Total Units over RIIO-GD2
EoE	Large Van	Gross vehicle weight: max. 3,500kg	351
	Supporting Infrastructure		141
Lon	Large Van	Gross vehicle weight: max. 3,500kg	235
	Supporting Infrastructure		95
NW	Large Van	Gross vehicle weight: max. 3,500kg	243
	Supporting Infrastructure		98

³⁰ Cadent stated that the more complex, higher unit-cost phases of LMP (particularly subway and tunnel works) with greater delivery uncertainty would be incorporated in RIIO-GD3 to allow more time to develop innovative solutions and drive efficiency.

³¹ Figure includes Ofgem view of ongoing efficiency. Compared with £79.8m in its Business Plan.

Network	Output Category	Specification	Total Units over RIIO-GD2
WM	Large Van	Gross vehicle weight: max. 3,500kg	170
	Supporting Infrastructure		68

Cadent specific outputs

2.25 This section sets out details of Cadent specific outputs we have included in our Final Determinations.

HyNet Front End Engineering Design (FEED) PCD

Purpose: To provide funding for a Front End Engineering Design (FEED) study for an 85km hydrogen pipeline which supports the development of GB's first Hydrogen Industrial Cluster.

Benefits: The facilitation of a first-of-a-kind hydrogen related FEED study that will generate useful knowledge around the use of hydrogen and the decarbonisation of industry. It will also provide detailed planning information that will inform any future decision on whether to go forward with the building of the HyNet project.

Final Determinations Decisions

Output parameter	Final Determination	Draft Determinations
Type	Evaluative	Change: The project was proposed in Cadent's Draft Determination response with further supporting evidence submitted after.
Output	Delivery of a Front End Engineering Design Study for the HyNet 85km hydrogen pipe.	
Delivery date	Expected by 31 March 2024 We will review delivery by 31 March 2026	
Totex baseline allowances	£0 in Cadent baseline but £12.15m ³² funding in NGGT's allowance distributed to Cadent. (See Funding for HyNet section below.)	
Re-opener	No	
Reporting method	RRP	
Adjustment mechanism	Ex post review to determine delivery status	
Companies applied to	Cadent	N/A
Licence obligation	Special Condition 9.12 HyNet Front End Engineering Design Price Control Deliverable (Hy _t)	N/A

³² No ongoing efficiency has been applied to Hynet costs.

Final Determination rationale and Draft Determination responses

HyNet output - PCD

- 2.26 We have decided to set a PCD funding phase 2 of the HyNet project: a FEED study for an 85km hydrogen pipe.
- 2.27 We have decided to fund this project as HyNet is strategically important. The FEED study will contribute to the evidence base required to make a policy decision around the use of hydrogen, while also laying the foundation for the future decarbonisation of an Industrial Cluster in the north west of England. Providing funding for this project now, also has benefits to consumers as it enables Cadent to leverage additional Government funding to support this work (through the Industrial Decarbonisation Challenge (IDC) Fund).
- 2.28 As the project is a first-of-a-kind, we are using a similar approach to the RIIO-1 NIC in terms of socialising the costs across GB consumers and ensuring that learning is shared with stakeholders (see next section).
- 2.29 We think it is appropriate to also set Cadent a PCD for this FEED study. This will help protect customers' money as the project involves an element of risk. The PCD includes a set of project deliverables (including knowledge sharing arrangements and reporting requirements) and can clawback funding if project deliverables are not completed.
- 2.30 We have decided that, as a condition of the funding for this PCD, Cadent must contribute 10% of the PCD's value towards the FEED study. Cadent is part of a wider consortium working on this FEED study. All other partners are providing some funding – so it's not unreasonable to ensure Cadent does the same. We acknowledge that Cadent's shareholders may not be able to earn an immediate return on this contribution, but the risk surrounding this project is shared with consumers given the sizeable PCD funding. If this project is successful, it could support a long-term future for the gas network.

The funding of HyNet

- 2.31 Cadent requested a total of £17.9m of price control money, with match-funding of £7m from the IDC fund – totalling £24.9m for the FEED study.
- 2.32 Cadent submitted an Engineering Justification Paper (EJP), which we used to assess the proposed costs and set an efficient PCD. In our review of the EJP, we found that the costs were significantly higher than we expected, even after

allowing for a reasonable uplift because the FEED study is first-of-a-kind. In particular, Cadent's proposed cost for the FEED itself (£10.9m) as well as the Project Management costs (£5m) are very high, relative to similarly sized transmission projects and industry project norms. Cadent provided very limited information or evidence to justify this.

2.33 We have decided to provide £12.15m through the PCD. We have reduced Cadent's £17.9m request:

- by £4.35m for efficiencies³³
- by £1.40m to account for the 10% contribution we expect Cadent to make.

2.34 As this is an innovative, first-of-kind strategic project, we think it is appropriate for the costs to be socialised across all GB gas consumers, and not just Cadent's customers.³⁴ As such, project learnings must be shared across stakeholders to help develop the evidence for hydrogen and inform future projects.

Projects like HyNet

2.35 We note that there is a pipeline of similar hydrogen projects that may come forward during RIIO-2. We have created the Net Zero Pre-construction and Small Projects Re-opener for more material FEED studies. This enables us to fund FEED studies, like HyNet, during RIIO-GD2 as they reach an appropriate level of maturity (see Chapter 8 of the Core Document).

2.36 Our approach to funding this HyNet FEED work reflects the specific conditions associated with making this decision (including the time-sensitivity attached to IDC funding). Our approach to funding similar projects through the Net Zero Pre-construction and Small Projects Re-opener may vary depending on conditions at the time. We'll assess projects on a case-by-case basis, taking into consideration factors including potential match funding, delivery and policy risks and materiality.

³³ The proposed costs for the FEED element as well as the Project Management costs account for £15.9m of the total project costs which we applied the efficiency adjustment to.

³⁴ To achieve this, we will fund Cadent for this work via a £12.15m pass through allowance in National Grid Gas Transmission's licence.

3. Setting baseline allowances

Introduction

- 3.1 This chapter sets out our decision on allowances for the different cost areas within Cadent’s Business Plan submission.
- 3.2 We intend this chapter to be read alongside other parts of our Final Determinations that set out our industry-wide approach.

Baseline allowances

- 3.3 Baseline totex referenced in this chapter comprises forecast controllable costs.³⁵ This includes direct and indirect opex, capex and repex and is inclusive of our proposed ongoing efficiency. Non-controllable costs, while included in overall allowed revenue recoverable by GDNs, are not included in baseline totex and are treated separately. Moreover, the figures presented in this chapter do not include real price effects (RPEs) to allow comparison with GDNs' submissions.³⁶
- 3.4 Table 35 compares Cadent's submitted baseline totex for each of its networks with our view.

Table 35: Cadent baseline allowance (RIIO-GD2 total, £m, 2018/19 prices)

Cost area	Submitted totex Dec 19 (£m)	Resubmitted totex Sept 20 (£m)	Ofgem DD allowed totex (£m)	Ofgem FD allowed totex (£m)	DD vs submitted Dec 19 (%)	FD vs submitted Sept 20 (%)
EoE						
Direct opex	507	507	398	461	-21%	-9%
Indirect opex	164	164	132	144	-20%	-12%
Capex	297	288	239	304	-20%	6%
Repex	654	647	517	614	-21%	-5%
Totex	1,621	1,606	1,286	1,523	-21%	-5%
Lon						

³⁵ Baseline totex, totex and forecast controllable costs will be used interchangeably.

³⁶ Any costs not included in baseline totex, but included in allowed revenue, are captured in the licence model.

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Direct opex	438	438	339	370	-23%	-16%
Indirect opex	142	142	111	116	-22%	-18%
Capex	182	167	126	152	-31%	-9%
Repex	806	699	464	605	-42%	-13%
Totex	1,569	1,447	1,040	1,243	-34%	-14%
NW						
Direct opex	352	352	290	315	-18%	-11%
Indirect opex	128	128	110	114	-14%	-11%
Capex	194	188	158	189	-19%	1%
Repex	496	489	414	465	-17%	-5%
Totex	1,171	1,157	972	1,083	-17%	-6%
WM						
Direct opex	269	269	223	239	-17%	-11%
Indirect opex	112	112	98	99	-13%	-12%
Capex	139	137	116	141	-17%	3%
Repex	436	408	343	379	-21%	-7%
Totex	957	927	780	858	-18%	-7%
Cadent						
Direct opex	1,566	1,566	1,250	1,385	-20%	-12%
Indirect opex	546	546	451	473	-17%	-13%
Capex	812	780	639	786	-21%	1%
Repex	2,392	2,243	1,738	2,063	-27%	-8%
Totex	5,318	5,137	4,078	4,707	-23%	-8%

3.5 We have allowed £4.7bn of Cadent's £5.1bn baseline request. Of this baseline allowance, we have tied £2.0bn to PCDs to ensure Cadent is held accountable for delivery of its specified outputs. We have also set a number of uncertainty mechanisms to assess potential expenditure during RIIO-GD2.

Summary of our assessment

3.6 Prior to modelling Cadent's forecast totex, we separate out costs associated with activities considered more suited to technical assessment. For the remaining

modelled totex, we also distinguished between costs suitable for regression analysis and non-regression analysis. Table 36 details our breakdown of submitted totex for each of Cadent's networks.

Table 36: Cadent totex assessment approach (RIIO-GD2 total, £m, 2018/19 prices)

Network	Submitted totex Dec 19	Resubmitted totex Sep 20	Modelled Costs		Technically assessed costs
			Regression	Non Regression	
EoE	1,621	1,606	1,395	139	71
Lon	1,569	1,447	1,107	247	93
NW	1,171	1,157	1,018	82	57
WM	957	927	825	62	40
Cadent Total	5,318	5,137	4,345	530	261
% of submitted costs	100%	100%	85%	10%	5%

3.7 Adjustments to submitted costs under each of our assessment approaches are summarised in Table 37. Modelled costs are subject to pre-modelling and benchmarking efficiency adjustments. Technically assessed costs are subject to technical assessment adjustments only. All costs are subject to ongoing efficiency adjustments.

Table 37: Step by step breakdown of adjustments (RIIO-GD2 total, £m, 2018/19 prices)

Network	Modelled costs: Embedded OE adjustment	Modelled costs: Pre modelling adjustments	Modelled costs: Benchmark efficiency adjustments	Technically assessed adjustments	Ongoing efficiency adjustments	Total adjustments
EoE	32	22	-21	-41	-74	-82
Lon	29	4	-155	-22	-60	-204
NW	23	-3	-9	-33	-52	-74
WM	19	3	-24	-25	-42	-69
Cadent	103	26	-209	-121	-228	-429

3.8 Table 38 summarises the pre-modelling adjustments across each of Cadent's networks.

Table 38: Pre-modelling adjustments, Cadent (RIIO-GD2 total, £m, 2018/19 prices)

Network	Volume-related adjustments	UM related adjustments	Total pre-model adjustments
EoE	22	-	22
Lon	6	-2	4
NW	-	-3	-3
WM	3	-	3
Cadent	31	-5	26

- 3.9 For Cadent, we applied £31m (net) of volume-related adjustments. We also removed £5m of costs for which we set out uncertainty mechanisms.
- 3.10 In our benchmarking, East of England ranked fourth, West Midlands sixth, North West third and London eighth. This resulted in adjustments to modelled costs through benchmark efficiency of £21m, £24m, £9m and £155m, respectively.
- 3.11 For technically assessed costs, we have made the adjustments listed in Table 39. The bespoke proposals we have included are presented in Chapter 2. Further details on other items are provided later in this chapter.

Table 39: Technically assessed costs adjustments, Cadent (RIIO-GD2 total, £m, 2018/19 prices)

Network	Bespoke outputs	Capex and repex projects*	Resilience**	Total adjustments
EoE	-26	4	-20	-41
Lon	-14	3	-11	-22
NW	-23	4	-13	-33
WM	-17	2	-10	-25
Cadent Total	-80	13	-54	-121

* Includes allowance for electric vehicles
** Includes PSUP and cyber

Regression Analysis

Introduction

- 3.12 In this section, we describe our adjustments to the drivers that define the totex Composite Scale Variable (CSV) used in our regression model. Changes to drivers complement the pre-model adjustments made to submitted totex costs, noted

above. We made these adjustments following engineering and cost assessment reviews of Cadent’s Business Plan.

3.13 We provide details for each of our cost categories, opex, repex and capex, listing out any changes to drivers used in the regression model.

Opex

Description

3.14 The components of the totex CSV that relate to opex are Modern Equivalent Asset Value (MEAV), emergency CSV and total external condition reports.

Final Determinations decision

Table 40: Cadent’s opex cost drivers

Driver	Driver Value		FD Decision	DD Position
	Submitted*	Modelled		
MEAV (£m, 2018/19)				
EoE	81,128	81,128	We have included revised risers numbers and embedded gas entry points	Risers and embedded gas entry points excluded
Lon	43,381	43,381		
NW	52,896	52,896		
WM	40,514	40,514		
Cadent	217,918	217,918		
Maintenance MEAV (£m, 2018/19)				
EoE	20,133	20,133	We have included embedded gas entry points	Embedded gas entry points excluded
Lon	7,377	7,377		
NW	10,699	10,699		
WM	8,865	8,865		
Cadent	47,073	47,073		
Emergency CSV (No., 80% customers number, 20% total external condition reports)				
EoE	7,058,533	7,062,285	Adjustments to total external condition reports	No adjustments to total external condition reports
Lon	4,241,278	4,260,538		
NW	5,087,501	5,085,884		
WM	3,527,185	3,528,861		
Cadent	19,914,497	19,937,568		
Total External Condition Reports (No.)				
EoE	100,664	100,930	Upward adjustments to account for disallowed repex workloads	No adjustments for disallowed repex workloads
Lon	80,813	82,657		
NW	100,320	100,164		
WM	56,618	56,751		
Cadent	338,415	340,502		

* Submitted values refer to post Draft Determinations resubmission

Table 41: Adjustments to submitted cost repairs and condition reports (RIIO-GD2 total)*

Network	Cost repairs (£m)	Mains condition reports (No.)	Service condition reports (No.)
EoE	1.1	39	227
Lon	4.4	102	1,742
NW	0.7	18	-174**
WM	0.8	28	105
Cadent	6.9	187	1,900

* Positive number indicates upward adjustment
** This is due to an increase in services for certain repex categories although the equivalent mains decrease

Final Determinations rationale and Draft Determinations responses

3.15 Cadent resubmitted workloads and CBAs for its whole distribution mains repex programme as part of its response to Draft Determinations. We made opex adjustments to account for the difference between these resubmitted repex workloads and Cadent's December 2019 BPDT submission, as these opex costs were not otherwise captured in Cadent's resubmitted BPDTs. Cadent stated it would require a total of £11.7m for all its networks to cover additional opex due to the reduced workloads that have been resubmitted. We have decided to allow a total of £6.9m following a review of the resubmitted BPDTs and CBAs and our own assessment of the value of opex adjustments. Our methodology for calculating opex workload adjustments is explained in the GD Annex. The adjustments made to total external condition reports also resulted in adjustments to the emergency CSV driver.

Repex*Final Determinations decision***Table 42: Tier 1 mains and steel <=2" mains workloads (RIIO-GD2 total, kilometres mains commissioned)**

Network	Driver Value*			FD position	DD position
	Submitted Dec 19	Submitted Sep 20	Modelled		
Tier 1 (km)					
EoE	2,808.7	2,808.7	2,776.7	We have disallowed all workloads associated with dynamic growth in Tier 1 (see the GD Annex)	As per FD
Lon	1,569.2	1,569.2	1,554.0		
NW	1,928.6	1,928.6	1,904.3		
WM	1,480.0	1,480.0	1,459.1		
Cadent	7,786.5	7,786.5	7,694.1		

Network	Driver Value*			FD position	DD position
	Submitted Dec 19	Submitted Sep 20	Modelled		
Steel <= 2" (km)					
EoE	40.7	40.7	40.7	We have allowed all resubmitted workloads for steel <= 2"	As per FD
Lon	24.5	24.5	24.5		
NW	52.0	52.0	52.0		
WM	35.9	35.9	35.9		
Cadent	153.1	153.1	153.1		
* All values include capitalised replacement					

Table 43: Tier 2A mains workloads (RIIO-GD2 total, kilometres mains commissioned)

Network	Driver Value*			FD position	DD position
	Submitted Dec 19	Submitted Sep 20	Modelled		
Tier 2A (km)³⁷					
EoE	10.5	5.0	5.0	We have included all resubmitted workloads for Tier 2A as part of our baseline modelling	As per FD
Lon	22.0	13.8	13.8		
NW	2.5	2.9	2.9		
WM	2.2	2.0	2.0		
Cadent	37.1	23.7	23.7		
* All values include capitalised replacement					

Table 44: Tier 2B and Tier 3 mains workloads (RIIO-GD2 total, kilometres mains commissioned)

Network	Driver Value*			FD position	DD position
	Submitted Dec 19	Submitted Sep 20	Modelled		
Tier 2B (km)					
EoE	38.3	68.5	68.5	We have allowed all resubmitted workloads for Tier 2B	Allowed in full for EoE, Lon and WM Disallowed in full for NW
Lon	2.0	4.8	4.8		
NW	5.7	1.8	1.8		
WM	6.8	13.7	13.7		
Cadent	52.8	88.9	88.9		
Tier 3 (km)**					
EoE	35.9	29.9	29.9	We have allowed all resubmitted workloads for Tier 3	Partially allowed for EoE, Lon and WM For NW, we only allowed workloads related to reinforcement for insertion
Lon	35.2	22.1	12.5		
NW	16.6	7.3	7.3		
WM	14.1	10.7	10.7		
Cadent	101.9	69.9	60.4		

³⁷ See GD Annex for further discussion of the Tier 2A volume driver.

Network	Driver Value*			FD position	DD position
	Submitted Dec 19	Submitted Sep 20	Modelled		
* All values include capitalised replacement					
** Cadent's Tier 3 submitted workloads include reclassification of reinforcement for insertion from capex to repex.					

Table 45: Steel >2" mains workloads (RIIO-GD2 total, kilometres mains commissioned)

Network	Driver Value*			FD position	DD position
	Submitted Dec 19	Submitted Sep 20	Modelled		
Steel >2" (km)					
EoE	116.7	34.0	34.0	We have allowed all resubmitted workloads for steel >2"	Fully disallowed
Lon	171.9	82.9	82.9		
NW	45.3	44.3	44.3		
WM	76.0	32.8	32.8		
Cadent	409.8	194.0	194.0		
* All values include capitalised replacement					

Table 46: Iron >30m from a building and Other Policy & Condition mains³⁸ workloads (RIIO-GD2 total, kilometres mains commissioned)

Network	Driver Value*			FD position	DD position
	Submitted Dec 19	Submitted Sep 20	Modelled		
Iron mains >30m from a building (km)					
EoE	10.7	4.7	4.7	We have allowed all resubmitted workloads for iron mains >30m from a building	As per FD
Lon	3.5	2.5	2.5		
NW	9.3	5.0	5.0		
WM	11.8	8.6	8.6		
Cadent	35.3	20.8	20.8		
Other Policy & Condition (km)					
EoE	0.9	0.0	0.0	We have allowed all resubmitted workloads for Other Policy & Condition	As per FD
Lon	0.0	0.0	0.0		
NW	5.9	0.2	0.2		
WM	0.0	0.0	0.0		
Cadent	6.8	0.2	0.2		
* All values include capitalised replacement					

³⁸ Other Policy & Condition mains: The replacement of distribution mains and services not captured under the HSE policy workload. This includes non-standard materials and mains selected to be replaced on a condition basis in accordance with policy.

Table 47: Services associated with mains replacement workloads¹ (RIIO-GD2 total, no. of service interventions)

Network	Driver Value*			FD position	DD position
	Submitted Dec 19	Submitted Sep 20	Modelled		
Tier 1 (No.)				Where we have disallowed mains replacement workloads (see tables above and discussed below), we have made corresponding downward adjustments to service interventions. All adjustments were made on a pro rata basis. Cadent have proposed a revised service density for Tier 1 which has been accepted	Methodology as per FD with addition of specific adjustments to services workloads for Tier 1 mains and steel mains <=2" in London
EoE	244,721	244,721	241,930		
Lon	210,457	187,110	185,295		
NW	197,502	197,502	195,011		
WM	159,900	159,900	157,646		
Cadent	812,580	789,233	779,882		
Steel <=2" (No.)					
EoE	1,484	1,484	1,484		
Lon	1,990	1,990	1,990		
NW	4,550	4,550	4,550		
WM	3,226	3,226	3,226		
Cadent	11,251	11,251	11,251		
Tier 2A (No.)					
EoE	109	52	52		
Lon	281	176	176		
NW	34	39	39		
WM	32	29	29		
Cadent	456	297	297		
Tier 2B (No.)					
EoE	182	255	255		
Lon	0	8	8		
NW	11	0	0		
WM	56	25	25		
Cadent	249	287	287		
Tier 3 (No.)					
EoE	20	0	0		
Lon	2	0	0		
NW	2	0	0		
WM	0	0	0		
Cadent	23	0	0		
Iron main >30m (No.)					
EoE	888	402	402		
Lon	248	520	520		
NW	564	598	598		
WM	1,058	859	859		
Cadent	2,758	2,379	2,379		
Steel mains >2" (No.)					

Network	Driver Value*			FD position	DD position
	Submitted Dec 19	Submitted Sep 20	Modelled		
EoE	4,257	2,783	2,783		
Lon	13,973	12,110	12,110		
NW	3,960	9,077	9,077		
WM	6,826	5,651	5,651		
Cadent	29,017	29,622	29,622		
Other Policy & Condition** (No.)					
EoE	113	0	0		
Lon	0	0	0		
NW	574	20	20		
WM	0	0	0		
Cadent	687	20	20		

* All values include capitalised replacement
 **Includes relays, and test and transfer for both domestic and non-domestic properties

Table 48: Services not associated with mains replacement workloads* (RIIO-GD2 total, no. of service interventions)

Network	Driver Value**			FD position	DD position
	Submitted Dec 19	Submitted Sep 20	Modelled		
Non-Domestic: Relay (No.)					
EoE	1,508	1,508	1,419	We made a downwards adjustment to other non-metallic relayed services workloads for all of Cadent's networks	As per FD
Lon	1,155	1,155	1,118		
NW	1,178	1,178	1,121		
WM	548	548	509		
Cadent	4,388	4,388	4,166		
Domestic: Relay after escape (No.)					
EoE	16,263	16,263	16,263	We have allowed in full the proposed workloads for domestic relays after escape	As per FD
Lon	18,839	18,839	18,839		
NW	21,331	21,331	21,331		
WM	10,728	10,728	10,728		
Cadent	67,162	67,162	67,162		
Domestic: Relay other** (No.)					
EoE	21,948	21,948	19,387	We made a downwards adjustment to other non-metallic relayed services workloads for all of Cadent's networks.	As per FD
Lon	16,717	16,717	15,663		
NW	24,277	24,277	22,020		
WM	13,997	13,997	12,091		
Cadent	76,939	76,939	69,162		

* Includes Domestic Relay: Bulk Services, Relay: Service Alts, Meter Relocations, Relay: Smart Metering, Relay: Smart Metering (Workload at Cost of Shipper), Relay: Other (Metallic), Relay: Other (Non-Metallic)
 ** All values include capitalised replacement

Final Determinations rationale and Draft Determinations responses

- 3.16 We have decided to mostly allow Cadent’s resubmitted repex workloads (see sections below for detailed description). We found that its revised submission provided adequate justification and clarity as well as meeting the 2037 CBA cut-off. We have assessed Cadent’s Draft Determinations response and resubmitted BPDTs and CBAs through a detailed engineering and cost assessment process. All Final Determinations decisions are detailed in the tables above and the commentary below per repex asset category. In response to our Draft Determinations proposal to apply a CBA payback cut-off of 2037, Cadent revised its repex programme and resubmitted updated forecasts for all repex asset categories across all networks in the form of BPDTs as well as revised CBAs. The revised forecasts are designed to meet the 2037 CBA payback criteria we set at Draft Determinations and also included a rebalancing of fixed overheads. Any decisions or adjustments mentioned in this section refer to the resubmission.
- 3.17 Cadent stated that it did not agree with our proposal on PAST³⁹ pipes at Draft Determinations, although it later withdrew its proposed bespoke output for PAST owing to a revised approach to managing asset management repex risk. Cadent CEG raised concerns about the complete proposed disallowance of repex categories on a network basis. It highlighted that some schemes within these categories are likely to pay back before 2037 and would therefore encourage Ofgem to consider partial allowance of disallowed repex categories at Final Determinations. GLA raised concerns about proposed disallowances of repex workloads in London and urged Ofgem to ensure that resilience and safety benefits have adequately been accounted for. We believe that our revised decisions on workloads and adjustments to opex costs at Final Determinations ensure Cadent is funded to meet its statutory obligations and to maintain a resilient network. Furthermore, the NARM mechanism potentially allows for access to additional funding should over-delivery be well justified within period (ie safety-driven reasons). Please see GD Annex Chapter 3 for further details on our overall GDNs workloads decisions justification and the sections below for Cadent specific justifications.

³⁹ Pipelines Above Risk Threshold – this is the name Cadent gave to its bespoke proposal to apply a standardised risk threshold approach to determining workloads for asset management repex in RIIO-GD2.

Tier 1 mains and steel mains <=2"

- 3.18 We have decided to implement our Draft Determination position to allow Tier 1 workloads excluding dynamic growth (see GD Annex Chapter 3 for further details), and to allow steel mains <=2" in full.

Tier 2A mains

- 3.19 We have decided to allow in full Cadent's revised Tier 2A workloads as part of our baseline modelling. Following review, we found that Cadent's revised submission provided adequate justification and clarity, including taking account of a recent update to the MRPS⁴⁰ model, which determines Tier 2A workload volumes. See GD Annex for further explanation of the Tier 2A volume driver mechanism and Chapter 4 for allowed costs and unit costs.

Tier 2B and Tier 3 mains

- 3.20 We have decided to allow in full the workloads for Tier 2B and Tier 3 for all of Cadent's networks at Final Determinations, as we think Cadent's revised submission provides clear justification and meets the 2037 CBA cut-off criteria.

Steel mains >2"

- 3.21 We have decided to allow all resubmitted workloads for steel mains >2" for all of Cadent's networks. Cadent noted an increasing failure rate in this category, following joint research with the other GDNs in relation to observed steel pipe failures. It highlighted findings suggesting that the risks posed by steel pipes are three times larger than those of equivalent iron pipes and therefore concluded the revised workloads need to be allowed to address risk and safety issues in RIIO-GD2 and beyond. Cadent CEG said that following a challenge and evidence from a third-party consultancy it was broadly comfortable that steel pipes presented a risk comparable to that of remaining iron pipes and therefore considered it reasonable for Cadent to include this work in its Business Plan. We have decided to allow in full the workloads for steel mains >2" at Final Determinations, as we think Cadent's revised submission provides clear justification and meets the 2037 CBA cut-off criteria.

⁴⁰ Mains Risk Prioritisation System - the GDNs have recently completed an update to the coefficients within the risk model which is used to determine the risk scores used to classify Tier 2 mains. This update resulted in lower forecast workloads for Tier 2A for both SGN networks, but this was only agreed after SGN had resubmitted its BPDT, resulting in downward adjustments to submitted workloads.

Iron mains >30m from a building and Other Policy and Condition mains⁴¹

3.22 We have decided to allow all resubmitted workloads for iron mains >30m from a building and Other Policy and Condition mains for all of Cadent's networks at Final Determinations. These workloads were also allowed in full at Draft Determinations however since then Cadent has resubmitted reduced workloads as part of its Draft Determinations response. We have decided to allow in full the workloads for iron mains >30m from a building and Other Policy and Condition mains at Final Determinations, as we think Cadent's revised submission provides clear justification and meets the 2037 CBA cut-off criteria.

Services associated with mains replacement

3.23 We have decided to implement our approach of making corresponding pro rata adjustments to services associated with mains where we have not allowed funding for submitted workloads (ie Tier 1 dynamic growth), as proposed at Draft Determinations. These adjustments are based on submitted services:mains ratios for each network and submitted proportions between intervention types⁴² and domestic/non-domestic.

3.24 We have decided to accept Cadent's proposed revised Tier 1 service density for London, as sufficient detail and justification has been provided. Cadent disagreed with Ofgem's Draft Determination reduction to services in London, stating that it was too low. Cadent has carried out analysis using a range of advanced modelling techniques to specifically examine the remaining IMRRP work. It proposed a revised Tier 1 service density of 121 services per km for its London network. It also argued that the Tier 1 PCD protects customers from under delivery if this forecast is inaccurate. Following a further engineering review (see QEM/ARV Engineering Review) of the proposed London Tier 1 service density, we decided to accept Cadent's revised forecast for costs and workloads.

Services not associated with mains replacement

3.25 We have decided to implement our Draft Determination position to make a reduction of 8,000 service relays across all of Cadent's networks, resulting in an 18% reduction on non-metallic relay services for each network. Non-metallic relays are a subcategory of services within services not associated with mains replacement. At Draft Determinations we disallowed some of Cadent's workloads

⁴¹ Other Policy & Condition mains: The replacement of distribution mains and services not captured under the HSE policy workload. This includes non-standard materials and mains selected to be replaced on a condition basis in accordance with policy.

⁴² Relays; test and transfer

for non-metallic relays, as we considered these to be disproportionately high compared with other networks and we did not think this was justified, based on an engineering review. Cadent disagreed with our proposed workload reductions, arguing they were arbitrary. It stated the work is customer driven and provided an explanation of its concerns. A further engineering review of the additional information Cadent provided in its Draft Determinations response concluded that the evidence provided had not been sufficient to convince us to change our decision from our Draft Determinations position.

Capex

Description

3.26 Reinforcement and Connections workloads are the two capex components of the totex CSV used in our regression modelling for RIIO-GD2.

Final Determinations decision

Table 49: Reinforcement workloads (RIIO-GD2 total, kilometres mains commissioned)

Network	Driver Value		Final Determinations Decision	Draft Determinations Position
	Submitted	Modelled		
General (km)			Workload allowed in full	As per Final Determinations
EoE	8.4	8.4		
Lon	0.4	0.4		
NW	3.2	3.2		
WM	3.5	3.5		
Cadent	15.5	15.5		
Specific (km)				
EoE	96.7	96.7		
Lon	10.3	10.3		
NW	24.1	24.1		
WM	31.1	31.1		
Cadent	162.2	162.2		

* Includes mains only. We have assessed growth governors separately, similar to RIIO-GD1.

Table 50: Connections - mains workloads (RIIO-GD2 total, kilometres mains commissioned)

Network	Driver Value		Final Determinations decision	Draft Determinations position
	Submitted	Modelled		
Domestic: all types (km)				
EoE	24.7	24.7	Workload allowed in full	As per Final Determinations
Lon	8.8	8.8		
NW	5.9	5.9		
WM	7.2	7.2		
Cadent	46.6	46.6		
Non-domestic: all types (km)				
EoE	0.7	0.7	Workload allowed in full	As per Final Determinations
Lon	0.7	0.7		
NW	0.3	0.3		
WM	1.6	1.6		
Cadent	3.3	3.3		
FPNES (km)				
EoE	0.0	0.0	Workload allowed in full	As per Final Determinations
Lon	0.0	0.0		
NW	0.0	0.0		
WM	0.0	0.0		
Cadent	0.0	0.0		

Table 51: Connections - services workloads (RIIO-GD2 total, no. of service connections)

Network	Driver Value		Final Determination decision	Draft Determination position
	Submitted	Modelled		
Domestic: all types (no.)				
EoE	40,553	40,553	Workload allowed in full	As per Final Determinations
Lon	16,413	16,413		
NW	15,552	15,552		
WM	13,017	13,017		
Cadent	85,535	85,535		
Non-domestic: all types (no.)				
EoE	1,239	1,239	Workload allowed in full	As per Final Determinations
Lon	1,264	1,264		
NW	758	758		
WM	562	562		
Cadent	3,823	3,823		

Network	Driver Value		Final Determination decision	Draft Determination position
	Submitted	Modelled		
FPNES (no.)				
EoE	2,050	2,050	Workload allowed in full	As per Final Determinations
Lon	500	500		
NW	2,250	2,250		
WM	1,450	1,450		
Cadent	6,250	6,250		

Final Determination rationale and Draft Determination responses

3.27 As shown in Table 49, Table 50 and Table 51, we have decided to implement our Draft Determinations position and accept Cadent’s reinforcement and connections workloads in full. We have adjusted Cadent’s connections and reinforcement workloads to reflect the P50 assumption, consistent with other GDNs. As discussed in the GD Annex and Chapter 4 of this document, we have decided to include common domestic and FPNES connections volume drivers to handle any variations in outturn workload volumes.

Non-regression Analysis

3.28 This section provides an overview of the non-regression analysis we undertook for our Cadent assessment, including adjustments that we made to costs and workloads. The non-regression analysis covered the following categories: Multi Occupancy Buildings (MOBs), diversions, growth governors, streetworks, smart metering and land remediation.

3.29 For some non-regression models, the costs assessed fall into more than one of the opex/capex/repex cost categories (ie MOBs, streetworks). We present each non-regression model in turn, rather than seeking to categorise costs into opex/capex/repex. The modelled costs in the tables below are costs before benchmarking and ongoing efficiency adjustments have been applied.

Multi Occupancy Buildings (MOBs)*Final Determinations decision***Table 52: MOBs interventions proposed gross costs and workloads (RIIO-GD2 total, £m 2018/19 prices, no. of risers)**

Network	Final Determinations decision				Draft Determinations position	
	Costs (gross)		Workloads			
	Submitted	Modelled	Submitted	Modelled		
	£m	£m	£m	£m		
MOBs repex						
EoE	14.3	14.3	1,144	1,144	We allowed submitted MOBs repex costs and workloads in full for all Cadent networks. We made an adjustment to MOBs maintenance costs for all Cadent networks. We adjusted Cadent's submitted MOBs maintenance costs based on the historical ratio between MOBs maintenance costs and MOBs repex workloads.	
Lon	67.2	67.2	4,893	4,893		
NW	18.5	18.5	1,544	1,544		
WM	17.8	17.8	1,428	1,428		
Cadent	117.9	117.9	9,009	9,009		
MOBs maintenance						
EoE	16.4	6.6	n/a	n/a		
Lon	60.3	24.1	n/a	n/a		
NW	13.9	5.6	n/a	n/a		
WM	8.0	3.2	n/a	n/a		
Cadent	98.6	39.4	n/a	n/a		
MOBs connections						
EoE	0.0	0.0	0.0	0.0		
Lon	0.0	0.0	0.0	0.0		
NW	0.0	0.0	0.0	0.0		
WM	0.0	0.0	0.0	0.0		
Cadent	0.0	0.0	0.0	0.0		

Final Determinations rationale and Draft Determinations responses

3.30 We allowed submitted MOBs repex costs and workloads in full for all of Cadent's networks as per our Draft Determinations position.

3.31 We have decided to make a downward adjustment of £59.2m to Cadent's MOBs maintenance costs at Final Determinations. This is an increase from the £33.0m adjustment we proposed at Draft Determinations. Cadent did not agree with our proposed Draft Determination position to adjust down MOBs maintenance costs, stating that the adjustment does not take into account safety related work that needs to be delivered in RIIO-GD2. We recognise the need to fund this type of work, however upon further assessment we have serious concerns about the significant increases in proposed baseline costs in RIIO-GD2 and the company's ability to resource the increased workloads, particularly in London. For Final

Determinations, we have decided to put in place a common re-opener for MOB's safety, which includes MOB's safety related maintenance. See Chapter 4 and the GD Annex for further details.

Diversions

Final Determinations decision

Table 53: Diversions mains and associated services proposed costs and workloads (RIIO-GD2 total, £m, 2018/19 prices, kilometres mains commissioned and no. of services)

Network	Final Determinations decision				Draft Determinations position	
	Costs		Workloads			
	Submitted	Modelled	Submitted	Modelled		
Diversions						
	£m	£m	Km	Km		
EoE	18.8	18.8	19.8	19.8	As per Final Determinations	
Lon	30.5	30.5	13.9	13.9		
NW	19.6	19.6	28.9	28.9		
WM	13.8	13.8	15.7	15.7		
Cadent	82.7	82.7	78.3	78.3		
Diversions – services						
	£m	£m	No.	No.		
EoE	0.2	0.2	305	305		
Lon	0.1	0.1	145	145		
NW	0.4	0.4	705	705		
WM	0.1	0.1	230	230		
Cadent	0.8	0.8	1,385	1,385		

Final Determinations rationale and Draft Determinations responses

3.32 We have decided to allow in full Cadent's submitted diversions costs and workloads for all its networks at Final Determinations, in line with our Draft Determinations proposal.

Growth governors

Description

3.33 Cadent did not propose any costs for growth governors in RIIO-GD2 and therefore no costs have been allowed for this category.

Streetworks

Final Determinations decision

Table 54: Streetworks costs (RIIO-GD2 total, £m, 2018/19 prices)

Network	Final Determinations decision		Draft Determinations position
	Costs		
	Submitted	Modelled	
	£m	£m	
EoE	64.9	52.7	We disallowed costs for fines and penalties, and reduced Cadent's costs in line with its average costs in years 2016/17 to 2019/20. This resulted in a downward adjustment to Cadent's modelled costs of £47m.
Lon	79.5	68.0	
NW	23.8	19.8	
WM	17.9	12.0	
Cadent	186.1	152.5	

Workload/volume data not used for cost assessment.

Final Determination rationale and Draft Determinations responses

- 3.34 As discussed in the GD Annex, we have decided to base our streetworks assessment on an extended time-period through to 2026, compared to 2020 at Draft Determinations. This change ensures costs associated with statutory schemes introduced in 2021 are accounted for in our assessment, and addresses Cadent's feedback that our Draft Determinations approach failed to account fully for RIIO-GD1 forecasts and could result in a gap in funding between base streetworks allowances and the scope of the common RIIO-GD2 re-opener. We recognise the potential funding gap in our Draft Determinations proposal.
- 3.35 We have decided to include the lane rental avoidance costs submitted for the North London network in the assessment for Final Determinations, because we are satisfied that avoidance costs provide a net cost benefit. This change addresses Cadent's feedback that disallowing lane rental avoidance costs is inefficient. Cadent submitted further information to show that by including costs for lane rental avoidance practices in its RIIO-GD2 Business Plan, lane rental forecasts are significantly lower than they would have otherwise been.
- 3.36 We have used Cadent's latest data submission in the Final Determinations streetworks assessment, which addresses the three data issues that Cadent raised in response to our Draft Determinations streetworks assessment. Cadent highlighted an error in some of its submitted admin costs where parking bay suspensions had been double counted. Cadent's latest data has corrected for this. Cadent also identified that our Draft Determinations streetworks model used an

old version of Cadent's cost data for penalties in error. We have fixed this in the assessment for Final Determinations. Finally, Cadent stated that its streetworks costs had not been adjusted to reflect the allowed connections workload. Cadent submitted updated streetworks data to reflect the P50 connections assumption, which we have used in our Final Determinations assessment.

3.37 Cadent disagreed with our approach to assessing streetworks using run rates, and disallowing costs for fines and penalties. We have not changed our assessment in response to this feedback and have outlined our rationale for this in the GD Annex.

Smart metering

Final Determinations decision

Table 55: Smart metering costs and workloads (RIIO-GD2 total, £m, 2018/19 prices, No. of interventions)

Network	Final Determinations decision				Draft Determinations position
	Costs*		Workloads		
	Submitted	Modelled	Submitted	Modelled	
	£m	£m	No.	No.	
EoE	9.6	10.4	45,772	49,752	Costs reduced by £6.1m, reflecting the reduction to the forecast number of smart metering interventions in the RIIO-GD2 period.
Lon	8.6	9.6	31,556	34,300	
NW	4.7	5.2	33,664	36,591	
WM	3.5	3.8	25,171	27,360	
Cadent	26.4	29.0	136,163	148,003	
*Includes embedded OE adjustment.					

Final Determination rationale and Draft Determination responses

3.38 We have decided to implement the Draft Determinations position and assume an intervention rate of 2.5% for smart metering activities. Cadent stated that our conclusion that it assumed a 3% intervention rate was incorrect, and that this resulted in their submitted cost being reduced by 17% to reflect our reduction of the intervention rate to 2.5%. Cadent stated that their Business Plan was based on an average 2.3% intervention rate (with small variations in that rate between their networks). We have corrected the assumed intervention rate for Cadent to 2.3%, resulting in a slight increase in costs and workload to reflect our 2.5% intervention rate assumption.

Land remediation

Final Determinations decision

Table 56 Land remediation costs and workloads (RIIO-GD2 total, £m, 2018/19 prices, No. of sites)

Network	Final Determinations decision				Draft Determinations position
	Costs*		Workload		
	Submitted	Modelled	Submitted	Modelled	
	£m	£m	No.	No.	
EoE	1.1	1.1	60	60	As per Final Determinations
Lon	1.1	1.1	54	54	
NW	1.1	1.1	72	72	
WM	1.1	1.1	43	43	
Cadent	4.4	4.4	229	229	

*Includes embedded OE adjustment.

Final Determinations rationale and Draft Determinations responses

3.39 We have decided to implement the Draft Determinations position and make no adjustments to Cadent's forecast land remediation expenditure.

Technically assessed costs

3.40 This section contains an overview of the technical analysis undertaken for Cadent, including our adjustments to submitted costs. For each category, we present a summary of submitted and allowed costs (excluding ongoing efficiency). Our GD Annex sets out how we assessed costs, including expert review of potential capex and repex investments.

Bespoke outputs

Description

3.41 Table 57 summarises our decisions on Cadent's bespoke outputs. Further detail and a full list of our decisions for all bespoke outputs is provided in Chapter 2. Of the submitted bespoke outputs, we have accepted £74.8m of expenditure.

Final Determinations decision

Table 57: Assessment of Cadent's submitted bespoke outputs (RIIO-GD2 total, £m, 2018/19 prices)

Network	Submitted	Allowed (excludes OE)	Adjustments	Adjustment (%)
EoE	31.6	5.9	-25.6	-81%
Lon	75.2	61.1	-14.1	-19%
NW	27.2	4.1	-23.1	-85%
WM	21.0	3.7	-17.4	-83%
Cadent	155.0	74.8	-80.2	-52%

Repex

Final Determinations decision

Table 58: Technical assessment of Lowestoft and London Medium Pressure (RIIO-GD2 total, £m, 2018/19 prices)

Network	Investment name	Costs*			FD position	DD position
		Submitted**	Allowed	Confidence		
		£m	£m			
EoE	Lowestoft	2.29	2.29	High	Accepted resubmitted costs in full	Submitted as a UM. Rejected in full
Lon	London Medium Pressure (repex component)	36.23	36.90	Lower	Accepted resubmitted costs in full. Bespoke PCD.	Rejected costs in full. Proposed bespoke re-opener.

*Excludes ongoing efficiency
 ** Submitted costs relates to Cadent's response to our Draft Determinations consultation. This project was originally proposed with higher costs and a wider scope in Cadent's December 2019 Business Plan.

Final Determinations rationale and Draft Determinations responses

3.42 We have decided to provide funding in full for Cadent's Lowestoft project, following review of updated information the company provided in support of the project. Cadent proposed a re-opener for this project in its Business Plan, stating expected costs of £6m - £40m depending on the solution chosen. We rejected this at Draft Determinations as we didn't think the needs case had been justified. Cadent subsequently provided an updated feasibility study for this project, identifying a preferred solution and costs of £2.29m in RIIO-GD2. We have decided to accept these costs in full, as we think the needs case for the revised

project scope has been justified, following engineering and cost assessment review. We will include this project within the Capital Projects PCD (see the GD Annex for further details).

3.43 We have decided to allow Cadent's revised repex costs for the London Medium Pressure project in full at Final Determinations. We proposed to disallow costs for this project in full and instead put in place a bespoke re-opener at Draft Determinations. In its Draft Determination response Cadent provided a revised cost estimate for the project and additional technical and commercial evidence. Following detailed engineering and cost assessment review of this information, we are satisfied that the needs case has been justified for the revised scope and costs of the London Medium Pressure project. We have decided to implement a bespoke PCD to ensure delivery of the project. See Chapter 2 for further details and our rationale.

Capex

Description

3.44 We technically assessed several of Cadent's large and discrete capex projects through a combination of needs case and deep dive assessments. Our decisions outlined below have taken account of all additional information submitted by Cadent following Draft Determinations.

LTS, storage & entry

Final Determinations decision

Table 59: Technical assessment of LTS, storage and entry projects (RIIO-GD2 total, £m, 2018/19 prices)

Network	Investment name	Final Determinations decision			Draft Determinations position	
		Submitted*	Allowed**	Confidence	Proposed	Confidence
		£m	£m		£m	
EoE	NTS Capacity Upgrades	5.43	5.41	Lower	4.70	High
EoE	NTS Metering	9.17	7.90	High	7.92	High
EoE	PRS Capacity Upgrades	4.28	4.27	Lower	2.11	High
Lon	NTS Other Metering	2.45	2.06	High	2.11	High
Lon	PRS Capacity Upgrades***	0.00	0.00	n/a	2.13	High

Network	Investment name	Final Determinations decision			Draft Determinations position	
		Submitted*	Allowed**	Confidence	Proposed	Confidence
		£m	£m		£m	
NW	NTS Other Metering	3.24	2.80	High	2.80	High
NW	PRS Capacity Upgrades	14.88	14.86	Lower	12.69	High
WM	NTS Other Metering	5.07	4.35	High	4.37	High
WM	PRS Capacity Upgrades	5.28	5.25	Lower	3.18	High
Lon	London Medium Pressure (capex component)	11.60	11.60	Lower	N/A (proposed for re-opener)	N/A
Total		61.39	58.50		42.01	

* Submitted costs include the revised proposals submitted by Cadent in response to our Draft Determinations consultation.
 ** Project overheads were assessed via our totex regression rather than through technical assessment, however they are included in the above figures to enable comparison with submitted costs.
 *** The London component of Cadent’s Capacity Upgrades scheme was removed in Cadent’s DD resubmission.
 Note: Subtotals may not add up to sum of line items due to rounding

Final Determinations rationale and Draft Determinations responses

Table 60: Rationale for cost reductions in the technical assessment of LTS, storage & entry projects

Network	Investment name	DD Reponses	Rationale
EoE, NW & WM	NTS and PRS Capacity Upgrades	Cadent submitted a revised proposal with lower contingency and direct costs in response to our DD comments, and an increase in costs for one site following further design work.	We are satisfied with Cadent’s revised project costs and have therefore allowed their direct costs in full. However, Cadent’s resubmitted cost breakdown lacked granular detail, as compared with their original submission, and so we have applied a lower confidence classification.
All	Offtakes & PRS Metering Systems	Cadent disagreed with the cost reductions we proposed at DD.	No additional evidence was provided to justify the requested investment, so we have adopted our DD cost reduction to account for efficiencies that have not been accounted for in the Cadent proposal.

3.45 Where Cadent responded to our Draft Determinations proposals with additional evidence, we repeated our engineering needs case review and bottom-up deep

dive assessments for individual projects. Table 59 presents the results of our final bottom-up deep dive assessments, supported by the rationale for any cost reductions in Table 60. Cadent have reduced some of their project costs in response to Draft Determinations. For the LTS, storage and entry projects listed in Table 59, Cadent have reduced their proposals by £16.75m compared to their original submission in December 2019. Following our repeat bottom-up assessments of these LTS, storage and entry projects, we have allowed an additional £4.89m of efficient costs compared to Draft Determinations. We have assessed Holford Salt Cavity and the capex component of Reduced Depth of Cover in the totex regression rather than by technical assessment, as done at Draft Determinations, because they are under the £5m materiality threshold applied at Final Determinations. We have excluded all indirect project costs from our bottom-up deep dive assessments, instead including £8.86m of submitted indirect project costs in the totex regression for Cadent. We have outlined our decisions to change the materiality threshold and to exclude indirect project costs from technical assessment in Chapter 3 of the GD Annex.

- 3.46 We have decided to allow Cadent's revised capex costs for the London Medium Pressure project in full at Final Determinations. We proposed to disallow costs for this project in full and instead put in place a bespoke re-opener at Draft Determinations. See Chapter 2 for further details and our rationale.

Other capex

Final Determination decision

Table 61: Technical assessment of other capex projects

Network	Investment name	FD decision	DD position
All	MP/IP Valves	Projects assessed in the totex regression.	Change: At DD we separated these projects out for technical assessment. Due to limited information, we proposed no cost reductions, and assigned costs as lower confidence.
Lon	Brunel Bridge		
NW	Mersey Tunnel		

Final Determinations rationale and Draft Determinations responses

- 3.47 We have assessed Brunel Bridge and Mersey Tunnel in the totex regression rather than by technical assessment as done at Draft Determinations, because they are under the £5m materiality threshold applied at Final Determinations. We have also

decided to assess the MP/IP Valves investment in the totex regression rather than by technical assessment as done at Draft Determinations, because we consider that valve intervention is a common activity across networks, and is not unique to Cadent. As discussed in the GD Annex, we have made these changes in response to stakeholder feedback that technical assessment should be reserved for large and unique investments, which we agree with.

PSUP (Physical Security Upgrade Programme)

Final Determinations decision

Table 62: Technical assessment of PSUP opex (RIIO-GD2 total, £m, 2018/19 prices)

Network	Costs*		Final Determinations decision	Draft Determinations position
	Submitted	FD Decision		
	£m	£m		
EoE	0.4	0.4	Costs accepted in full	Same as FD
Lon	0.3	0.3		
NW	0.5	0.5		
WM	<0.1	<0.1		
Cadent	1.3	1.3		

* Excludes ongoing efficiency
 Note: Subtotals may not add up to sum of line items due to rounding

Table 63: Technical assessment of PSUP capex (RIIO-GD2 total, £m, 2018/19 prices)

Network	Costs*		Final Determinations decision	Draft Determinations position
	Submitted	FD Decision		
	£m	£m		
EoE	0.0	0.0	Costs accepted in full	Same as FD
Lon	4.1	4.1		
NW	0.0	0.0		
WM	0.0	0.0		
Cadent	4.1	4.1		

* Excludes ongoing efficiency

Final Determinations rationale and Draft Determinations responses

3.48 We have decided to implement our Draft Determinations position to allow Cadent’s PSUP submitted opex and capex costs in full.

Company specific factors

- 3.49 In light of the responses to our Draft Determinations and the additional evidence submitted, we have revisited our assessment of Cadent’s company specific factors.
- 3.50 Where we have accepted the need for an adjustment, we have assessed whether the magnitude of the adjustments proposed by companies are reasonable, proportionate and consistent with the other pre-modelling adjustments we have applied. As detailed in the SGN Annex, we also sought to extend, where relevant, Cadent’s estimates of impacts on its London network to SGN Southern’s network, while taking into account the fact that work in London represents a smaller share of SGN Southern’s operations compared to Cadent’s London network.

Cathodic protection

Description

- 3.51 In its original Business Plan submission, Cadent claimed that higher costs were incurred across its four GDNs in RIIO-GD1 (2016-19) due to work required to comply with a Health and Safety Executive (HSE) order to improve cathodic protection of steel pipelines. In 2015 the HSE reviewed Cadent’s compliance with standards (ECP/2) for MP and LP pipelines and found shortcomings. Consequently, HSE issued an Improvement Notice in November 2015 requiring Cadent to carry out remedial work. Cadent argued that an adjustment should be made for benchmarking purposes because the issue is unique to Cadent and is workload related.
- 3.52 In our Draft Determinations, we set out that the expenditure should be reflected in our totex modelling, and GDNs should only be funded for an efficient level of expenditure to maintain their pipelines. We noted that all GDNs have this obligation under the Pipeline Safety Regulations, 1996 (Regulation 13)¹⁰, and other GDNs were not issued with improvement notices. We have therefore rejected this company-specific factor as it is not beyond the control of an efficient company.

Final Determinations Decision

Table 64 Technical assessment of cathodic protection

Company specific factor	Final Determination Decision	Draft Determination Position
Cathodic protection	No adjustment	Same as FD

Final Determinations rationale and Draft Determinations responses

- 3.53 We have decided to implement our Draft Determinations position and reject Cadent’s claim for cathodic protection.
- 3.54 Cadent agreed with our Draft Determinations assessment that the claim related to the backward looking expenditure on Cathodic Protection needed to comply with an HSE Improvement Notice should not be accepted because it was not fully beyond the control of the company.
- 3.55 However, Cadent replaced this with a claim in respect of ongoing expenditure on Cathodic Protection because of Cadent’s level of ongoing Cathodic Protection spend being more than twice that of the other GDNs. Cadent considers that these differences cannot be explained largely due to efficiency but rather must be due to engineering differences between the GDNs.
- 3.56 We requested additional information from all GDNs on the different proportion of steel LTS pipelines and mains that are protected by Cathodic Protection and the level of test post compliance. Cadent suggested that, in order to resolve this issue, Ofgem should either issue additional SQs to collect comparator data on the scale of steel network with installed Cathodic Protection and compliance trend or create a regional factor based on the observed differences relative to MEAV.
- 3.57 Based on the data received, we observed no substantive differences across GDNs on the HP/IP steel network. However, we observed some differences on the MP/LP steel network, which could potentially explain some of the observed cost differences. Nonetheless, the available information was incomplete. As such, we consider that the observed differences in planned spend on Cathodic Protection and the comparator data collected from GDNs do not constitute sufficient evidence to justify a company specific adjustment.

Thames Tunnel IP and London Medium Pressure

Description

- 3.58 Cadent stated it incurred a very high level of cost for reinforcement in its London network, primarily at the Intermediate Pressure (IP) and Medium Pressure (MP) tiers. Specifically, it noted high costs attributable to the Thames Tunnel (IP) and London Medium Pressure projects.
- 3.59 In addition to the previously mentioned reinforcement work, Cadent claimed that medium pressure replex in London is significant and the costs and workloads associated with the project should be removed from our modelling and should be subject to technical assessment. This claim is limited to expenditure in RIIO-GD2.
- 3.60 In our Draft Determinations, we considered that it would not be appropriate to include these projects in our modelling due to the significant difference in unit costs and their bespoke nature. We have therefore removed the RIIO-GD1 costs from our totex modelling and assessed the forecast costs separately.

Final Determinations Decision

Table 65: Technical assessment of Thames Tunnel IP and London Medium Pressure

Company specific factor	Final Determinations Decision	Draft Determinations position
Thames Tunnel and IP	Remove historical costs from modelling and assess forecast costs separately	Same as FD
London medium pressure	Assess forecast costs separately	Same as FD

Final Determinations rationale and Draft Determinations responses

- 3.61 We have decided to implement the pre-modelling adjustments for the Thames Tunnel project in RIIO-GD1 and the London Medium Pressure project applied at Draft Determinations.
- 3.62 We did not receive any specific comments related to these adjustments following our Draft Determinations.

Reduced depth of cover

Description

- 3.63 Under safety regulations buried pipelines are required to have a minimum depth of cover to withstand external forces and chemical processes to which they may be subjected. Cadent claimed that some LTS pipelines, particularly in its East of England network, have insufficient depth of soil coverage to comply with these regulations. Cadent submitted that it incurred increased maintenance costs from 2016/17 and will incur further costs in RIIO-GD2, to manage soil importation and pipeline diversions in order to maintain the required depth of cover for its pipelines.
- 3.64 In our Draft Determinations, we rejected this claim on the basis that this factor is likely to affect all GDNs to some extent. In addition, we considered this factor is partly within company control. All GDNs are required to comply with the Pipeline Safety Regulations, and Cadent acknowledged that the reduced depth of cover issue was only discovered when line-walking was resumed in 2013/14.

Final Determinations Decision

Table 66: Technical assessment of reduced depth of cover

Company specific factor	Final Determinations Decision	Draft Determinations Position
Reduced depth of cover	Adjustment applied to East of England GDN's Maintenance and LTS Pipelines, Storage and Entry costs	No adjustment

Final Determinations rationale and Draft Determinations responses

- 3.65 Based on additional evidence submitted by Cadent, we have decided to make an adjustment to East of England GDN's Maintenance and LTS Pipelines, Storage and Entry costs related to reduced depth of cover.
- 3.66 In its response to our Draft Determinations, Cadent revised its reduced depth of cover claim to cover only the additional costs faced by East of England GDN instead of all Cadent GDNs. Cadent argued that the efficient level of cost for managing the depth of cover over pipelines would be expected to be higher for East of England GDN compared to all other GDNs.

- 3.67 Cadent also submitted additional evidence in the form of two expert reports that show that:
- There is greater risk of water and wind erosion in Cadent’s area, particularly in East Anglia, compared to elsewhere in England & Wales.
 - In East of England, there is more agricultural land than elsewhere and this is more likely to be tilled which makes the land more susceptible to soil erosion. This has become more of an issue in recent years due to changes in farming practices.
- 3.68 In light of the amended claim and the additional evidence submitted by Cadent, we accept that exogenous factors such as natural erosion and the level of farming activity that are not captured within the econometric models may drive differences in costs between GDNs, affecting East of England GDN in particular.
- 3.69 Cadent estimated the impact of this factor at around £3.6m per annum in RIIO-GD2. While Cadent has not provided details of how the claim value was arrived at, our calculations suggest that the claim is equivalent to the average annual difference between East of England GDN’s depth of cover related costs and the average cost of the other Cadent GDNs over GD2.
- 3.70 In simple terms, this would mean that, in the absence of the depth of cover challenges faced by East of England GDN, its overall cost related to maintaining depth of cover would be the average of the other GDNs, based on Cadent’s submission.
- 3.71 We consider that Cadent’s estimate does not account for other factors that may explain at least part of the cost differential. For example, we consider that network length is likely to be an important driver for these costs alongside the environmental and geographical factors (eg wind, soil erosion) raised by Cadent. As East of England GDN has a longer network than the other GDNs, we could reasonably expect that costs related to maintaining depth of cover would be slightly higher for East of England compared to other GDNs, even in the absence of company specific geographical and environmental factors.
- 3.72 We therefore consider that the estimate submitted by Cadent is likely to be an overestimation of East of England GDN’s additional costs resulting from the company specific factors listed in Cadent’s submission.

- 3.73 To calculate the pre-modelling adjustment, we have amended Cadent’s estimate to take account of network length for each Cadent GDN. We do this by assuming that, in the absence of the company specific factors set out by Cadent, East of England GDN’s depth of cover related costs per length of network would be the same as the average unit costs of the other Cadent GDNs.
- 3.74 Applying this approach, we estimate a total adjustment of £2.88m per annum over RIIO-GD2 for East of England GDN.

Repex and Repairs reinstatement

Description

- 3.75 Cadent claimed that the cost of reinstatement is significantly higher in its London network than elsewhere and regional adjustments are required for both Repex and Repair reinstatement costs.
- 3.76 In our Draft Determinations, we rejected the Repex reinstatement claim as not being material once the labour component of repex reinstatement costs and the urbanity productivity adjustments are removed.
- 3.77 We also considered that the Repair reinstatement company specific claim was not material and we have therefore rejected it. We have applied however an urbanity reinstatement adjustment to reinforcement costs for a number of Opex activities including Repairs.

Final Determinations Decision

Table 67: Technical assessment of repex and repairs reinstatement

Company specific factor	Final Determinations Decision	Draft Determinations Position
Repex reinstatement	Apply adjustment	No adjustment
Repairs reinstatement	Urbanity reinstatement adjustment	Same as FD

Final Determinations rationale and Draft Determinations responses

- 3.78 We have decided to make a reinstatement adjustment for repex, and have implemented the Draft Determinations position for repairs. This adjustment will also proportionally apply to SGN Southern network.

- 3.79 In its response to our Draft Determinations, Cadent noted that, while this claim has been presented as a company specific factor, no materiality threshold applies to regional factors. Therefore, Cadent considers that, if their claim for Repex reinstatement falls below the materiality threshold for company specific factors, the claim should be considered as part of a regional adjustment for urbanity.
- 3.80 We agree that the rationale for applying an adjustment to Repex reinstatement costs is similar to the urbanity adjustment applied to Opex reinstatement activities and is therefore better considered in the context of regional factor adjustment.
- 3.81 It is not possible however to apply the urbanity reinstatement adjustment to Repex in the same way as for the other cost categories because Repex reinstatement costs are not identified separately in the Business Plans.
- 3.82 To determine the size of the adjustment we have largely followed the approach used by Cadent:
- Take the proportion of Mains and Services replacement net costs represented by reinstatement costs, based on Cadent’s submission.
 - Apply the urbanity reinstatement indices to determine the £m adjustment related to working in the London area. Our approach here differs from Cadent’s which calculated a different adjustment factor based on unit cost tender data. We consider that Cadent has not provided enough explanation and evidence for this adjustment factor. For this reason, and for consistency with the urbanity reinstatement adjustment applied to other cost activities, we decided to calculate this adjustment using the urbanity reinstatement indices.
 - Reduce the reinstatement adjustment by the labour proportion of reinstatement to avoid double counting the labour adjustment as per Cadent’s submission.
 - Extend the adjustments to the entire historical and forecast period by assuming that reinstatement costs are a constant proportion of repex and repeating the approach for each year.
- 3.83 We have also applied a similar adjustment to Southern GDN’s Repex costs.
- 3.84 As we apply the urbanity reinstatement adjustment to Repair reinstatement costs, we do not consider that there is a need for an additional adjustment in this area.

Emergency job times

Description

- 3.85 Cadent claimed that Emergency jobs take longer in more urban areas and there are longer travel times, which results in higher costs for its London network.
- 3.86 We acknowledged that emergency job times may be longer in highly dense areas, however we noted that networks in dense areas will also benefit from shorter travel times and higher productivity as they will not need to have staff waiting to be deployed in order to meet the response time standard. We considered that if the benefits of operating in a dense area were considered, any potential cost difference is likely to be immaterial, and therefore we have rejected this claim.

Final Determinations Decision

Table 68: Technical assessment of emergency job times

Company specific factor	Final Determinations Decision	Draft Determinations Position
Emergency job times	Apply urbanity productivity adjustment to Emergency costs	No adjustment

Final Determinations rationale and Draft Determinations responses

- 3.87 We have decided to apply an adjustment to emergency costs for urbanity productivity.
- 3.88 In its response to our Draft Determinations, Cadent disputed the reasons for rejecting this claim:
- Cadent did not agree that networks in dense areas will also benefit from shorter travel times. The analysis it presented in its Business Plan submission indicated that it found no meaningful relationship between population density and travel times within their area. Distances to travel in urban areas may be shorter, but speeds are slower, so travel times are similar for different operational patches.
 - Cadent also suggested that an adjustment should be made to reflect the additional costs associated with serving densely populated areas given that an adjustment to Emergency costs is made for sparsely populated areas.

- 3.89 We have accepted Cadent’s argument for making an adjustment for Emergency activities. However, we have rejected Cadent’s estimate of the impact given that:
- Before doing this calculation, we consider that labour costs should have been deflated using London’s labour index to avoid double counting with the labour adjustment.
 - The longer job times may partly be caused by inefficiency.
 - Cadent’s analysis only compares the additional cost incurred by London GDN relative to the other Cadent networks rather than all other GDNs.
- 3.90 Cadent’s claim for a company specific adjustment is due to emergency work taking longer in more urban areas (eg due to multiple properties needing to be accessed) resulting in higher costs for London GDN. We consider that this is therefore related to lower productivity for emergency work conducted in more urban areas.
- 3.91 In our Draft Determinations, we applied an urbanity productivity adjustment, which accounts for lower labour productivity in the urban area, but this adjustment was not applied to Emergency costs. In our Final Determinations, we have applied the urbanity productivity index to Emergency costs as for the other cost categories. This adjustment is applied to all GDNs that receive the urbanity productivity adjustment due to having operations within the London area.

Plant hire – repex

Description

- 3.92 Cadent claimed that plant hire costs per metre of mains replacement are higher in London than elsewhere, due to the lower level of productivity associated with mains replacement. Cadent proposed a 20% adjustment to plant hire costs for its London network, based on its analysis of plant hire unit cost data relative to its East of England network.
- 3.93 In our Draft Determinations, we did not consider that there was sufficient evidence that this claim meets our criteria for a cost adjustment. We considered that the effect of density on plant hire costs is ambiguous, and these costs may also be higher in sparse areas due to longer driving distances. In addition, we considered that some of the cost impact may also be already captured in our regional labour cost adjustments, given Cadent’s claim that higher labour costs

add to plant hire expenditure. For these combined reasons we have rejected this claim.

Final Determinations Decision

Table 69: Technical assessment of repex plant hire

Company specific factor	Final Determinations Decision	Draft Determinations Position
Plant hire	Apply adjustment	No adjustment

Final Determinations rationale and Draft Determinations responses

3.94 We have decided to make an adjustment for plant hire costs. This adjustment will also proportionally apply to SGN Southern network.

3.95 In its response to our Draft Determinations, Cadent stated that the reasons given for not allowing the regional factor claim have either already been taken account of, or are factually incorrect. Specifically:

- Cadent claims that the fact costs may also be higher in sparse areas due to longer driving distances has already been factored into their analysis which compared tender prices for plant hire in London with East of England, which is the sparsest Cadent GDN. Tender prices for repex plant hire were around 20% higher in London than EoE.
- Cadent states that all costs are reported as plant hire not disaggregated, therefore the labour adjustment does not impact plant hire costs.

3.96 Cadent also argues that plant need to be hired for longer due to the 15% lower productivity but also incur additional storage costs (due to higher property costs), and additional labour charges for delivery, set up and dismantlement of plant.

3.97 We accept Cadent’s point that the additional costs related to plant hire are not entirely captured through the labour adjustment. We do not believe however that an adjustment based on quoted tender prices in two Cadent GDN areas represents the best estimate of the impact.

3.98 To determine the adjustment applied in our Final Determination, we accept Cadent’s estimate of plant hire costs but apply the urbanity productivity indices to adjust for the cost of operating inside the London area. We believe this is a reasonable approach given that the urbanity productivity indices are based on an

accepted 15% productivity gap due to working in the London area. We consider that any additional estimates of higher plant hire costs in London are too uncertain to justify a higher adjustment.

3.99 We note that a similar issue is likely to affect Southern GDN’s London operations therefore we also applied an adjustment to Southern’s GDN costs.

24-hour shift patterns

Description

3.100 Cadent claimed that its London network has a higher proportion of publicly reported gas escapes that occur during the night, which results in longer travel distances for its engineers. This creates the need for 24-hour shift patterns instead of call-out and standby arrangements.

3.101 The claim is for a £0.5m per annum adjustment in RIIO-GD2 affecting Emergency costs and representing around 0.14% of net totex for London GDN.

3.102 We have rejected this claim in our Draft Determinations as we considered it was not material in nature.

Final Determinations Decision

Table 70: Technical assessment of 24-hour shift patterns

Company specific factor	Final Determinations Decision	Draft Determinations Position
24-hour shift patterns	No adjustment	Same as FD

Final Determinations rationale and Draft Determinations responses

3.103 In its response to our Draft Determinations, Cadent argued that the claim should be considered as it is above their preferred materiality threshold.

3.104 Cadent also noted that, in our Draft Determinations, we indicated that the claim was already covered by an existing regional factor adjustment. Cadent do not believe the claim is already covered by the pay adjustment because unsocial hours working requirements are not representative of the economy as a whole.

3.105 While Cadent has provided analysis in its Business Plan submission on the additional cost to London GDN associated with running 24-hour shifts, it is not

clear from the analysis presented how regional wage differences were accounted for and excluded from the estimated impact. In addition, regional differences in overtime costs are captured in the regional labour adjustment indices. While we accept that wage data for London including overtime may not capture the full impact of 24-hour shifts requirements for London GDN, it is not clear how this is accounted for in Cadent’s estimated impact. Furthermore, the analysis is based on Cadent salary costs and number of FTEs which are, to some extent, under the control of the company.

3.106 Given the considerations set out above and also taking into account the low level of materiality of the claim, we decided not to apply an adjustment for this factor.

Other company specific factors

Description

3.107 In addition to the factors described above, Cadent has made claims in respect of several other factors mainly affecting their operations in the London area:

- Parking bay suspensions and Temporary Traffic Restriction Order
- Traffic management hire
- London depot rental costs
- London congestion charge
- London Local Authority Tunnels
- Locksmiths

3.108 We rejected these claims at Draft Determinations primarily due to their low materiality.

Final Determinations Decision

Table 71: Technical assessment of other company specific factors

Company specific factor	Final Determinations Decision	Draft Determinations Position
Other	No adjustment	Same as FD

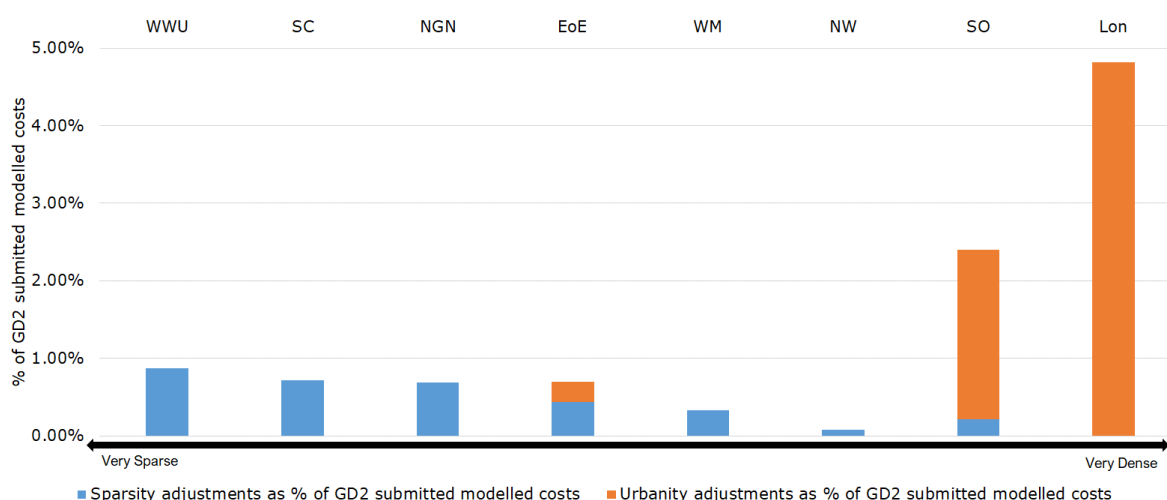
Final Determinations rationale and Draft Determinations responses

3.109 We have decided to implement our Draft Determinations position and make no adjustments to the additional company-specific factors submitted by Cadent.

- 3.110 In its response to our Draft Determinations, Cadent considered the 0.5% of a GDN's gross unnormalised totex materiality threshold to be too high and proposed an alternative materiality threshold of 0.1% of base price control revenue (equivalent to around 0.18% of totex).
- 3.111 Cadent also argued that it is reasonable for individual claims to be considered together, if they are derived from the same or similar circumstances. It considers this is the case with the vast majority of London GDN claims that relate to the additional costs of working in the most highly dense urban environment in the UK.
- 3.112 In respect of parking bay suspensions, Cadent amended their original claim in their Business Plan submission, as the cost of parking bay suspensions in relation to connections and mains replacement has been included within Streetworks costs. Because Streetworks costs are subject to separate assessment as part of non-regressed costs, Cadent acknowledges that there is no need for a regional factor claim for investment costs for parking bays.
- 3.113 We recognise the fact that these claims relate to operating in the London area, however we do not agree that they can all be considered together as one single factor as they relate to different aspects of operations and affect different cost activities. For example, the challenges of operating in London include higher wages and lower productivity which are being recognised and adjusted for separately and we do not see merit in considering these jointly as one single factor. While we accept that some of these claims have merit in principle, we do not believe that they are material enough to warrant an adjustment.
- 3.114 We have considered in our assessment the full range of regional and company specific adjustments 'in-the-round' alongside all other modelling choices that we have made. We believe that the pre-modelling adjustments applied are appropriate. For example, Cadent said that Ofgem's pre-modelling urbanity and sparsity adjustments do not sufficiently take into account the impact of London-specific effects on Cadent's costs. Cadent therefore suggested that Ofgem could either place weight on regressions which explicitly control for density (proxied by customers divided by network length) within the model or re-evaluate Cadent's bottom-up special factor evidence in light of the cost drivers Ofgem has selected in its chosen model specification(s).
- 3.115 As described in the GD Annex, there is no change to our top-down regression model for Final Determinations. We consider that our approach adequately

captures GDNs' differences in operating environments via pre-modelling adjustments. Indeed, we note that the urbanity pre-modelling adjustments applied to Cadent London are much more significant than the sparsity adjustments applied to the most sparse network (WWU), as shown in the figure below, and more significant than those applied at RIIO-GD1. We therefore consider our approach reflects Cadent's suggestion that the cost impact of operating in highly dense areas is greater than the cost impact of operating in very sparse areas.

Figure 3.1: Urbanity and sparsity pre-modelling adjustments as a percentage of modelled totex



3.116 The regional wage pre-modelling adjustment may also capture the cost impact of operating in a highly dense urban environment given that population density is strongly positively correlated with regional wage differentials (eg GDNs operating in densely populated areas also face higher regional wages). This was one of the reasons why Ofwat did not apply a regional wage adjustment at PR19 (Ofwat included density and density squared in its Wholesale Water base cost models).⁴³

3.117 The level of pre-modelling adjustments for Cadent London is even greater when the regional wage adjustment is taken into account. Therefore, the inclusion of density variables alongside the regional wage pre-modelling adjustment could lead to double counting. Cadent did not consider this within their analysis.

⁴³ See Ofwat, 'PR19 final determination – securing cost efficiency technical appendix' and Ofwat, 'Cost adjustment claim feeder model Thames Water'.

Non totex cost items

Non-controllable opex

Final Determinations decision

3.118 Cadent's non-controllable opex allowances are shown in the tables below. We set out our decisions in relation to each pass-through mechanism in Chapter 4 of our GD Annex.

Table 72: RIIO-GD2 non-controllable costs, EoE (RIIO-GD2 total, £m, 2018/19 prices)

EoE	Total RIIO-GD2 (£m, 2018/19 prices)
Shrinkage	27.0
Ofgem Licence	14.9
Network Rates	337.3
Established Pension Deficit Recovery Plan Payment	18.9
Pension Deficit Charge Adjustment (NTS Pension Recharge)*	0.0
Third Party Damage and Water Ingress	0.0
Gas Theft	0.0
Bad Debt	0.0
NTS Exit Costs	271.4
Xoserve	21.1
Misc	0.0
Supplier of Last Resort Claims	0.0
Total non-controllable costs	690.5

* As per National Grid's 'Notice of Indicative Gas Transmission Transportation Charges' published on the 30th of October 2020, Pension Deficit Charge Adjustment costs have been set to zero.

Table 73: RIIO-GD2 non-controllable costs, Lon (RIIO-GD2 total, £m, 2018/19 prices)

Lon	Total RIIO-GD2 (£m, 2018/19 prices)
Shrinkage	13.5
Ofgem Licence	8.4
Network Rates	240.9
Established Pension Deficit Recovery Plan Payment	11.1
Pension Deficit Charge Adjustment (NTS Pension Recharge)*	0.0
Third Party Damage and Water Ingress	0.0
Gas Theft	0.0
Bad Debt	0.0

Lon	Total RIIO-GD2 (£m, 2018/19 prices)
NTS Exit Costs	143.9
Xoserve	11.8
Misc	0.0
Supplier of Last Resort Claims	0.0
Total non-controllable costs	429.6
* As per National Grid's 'Notice of Indicative Gas Transmission Transportation Charges' published on the 30th of October 2020, Pension Deficit Charge Adjustment costs have been set to zero.	

Table 74: RIIO-GD2 non-controllable costs, NW (RIIO-GD2 total, £m, 2018/19 prices)

NW	Total RIIO-GD2 (£m, 2018/19 prices)
Shrinkage	19.2
Ofgem Licence	10.0
Network Rates	238.4
Established Pension Deficit Recovery Plan Payment	9.7
Pension Deficit Charge Adjustment (NTS Pension Recharge)*	0.0
Third Party Damage and Water Ingress	0.0
Gas Theft	0.0
Bad Debt	0.0
NTS Exit Costs	170.2
Xoserve	13.9
Misc	0.0
Supplier of Last Resort Claims	0.0
Total non-controllable costs	461.4
* As per National Grid's 'Notice of Indicative Gas Transmission Transportation Charges' published on the 30th of October 2020, Pension Deficit Charge Adjustment costs have been set to zero.	

Table 75: RIIO-GD2 non-controllable costs, WM (RIIO-GD2 total, £m, 2018/19 prices)

WM	Total RIIO-GD2 (£m, 2018/19 prices)
Shrinkage	17.3
Ofgem Licence	7.3
Network Rates	179.1
Established Pension Deficit Recovery Plan Payment	12.5
Pension Deficit Charge Adjustment (NTS Pension Recharge)*	0.0
Third Party Damage and Water Ingress	0.0
Gas Theft	0.0
Bad Debt	0.0

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WM	Total RIIO-GD2 (£m, 2018/19 prices)
NTS Exit Costs	124.8
Xoserve	10.2
Misc	0.0
Supplier of Last Resort Claims	0.0
Total non-controllable costs	351.2
<small>* As per National Grid's 'Notice of Indicative Gas Transmission Transportation Charges' published on the 30th of October 2020, Pension Deficit Charge Adjustment costs have been set to zero.</small>	

4. Adjusting baseline allowances for uncertainty

Introduction

4.1 This Chapter sets out our decisions for the Cadent-specific parameters as well as our decisions and rationale where we have accepted bespoke UMs. We set out more detail on the common UMs in the GD Annex, including our decisions and rationale.

GD Sector uncertainty mechanisms

4.2 We set out our decisions for the Cadent specific parameters in the following tables.

Repex - Tier 2A iron mains volume driver

Table 76: Final Determinations decision - Tier 2A iron mains Baseline Target Workloads (kilometres mains decommissioned)

EoE	2021/22	2022/23	2023/24	2024/25	2025/26	RIIO-GD2 Baseline Target Workloads
<i>Workload Activities</i>						
Tier 2A mains decommissioned						
9" in diameter	0.0	0.0	0.0	0.0	0.0	0.0
10"-12" in diameter	0.2	0.5	0.7	0.8	0.8	3.1
>12"-17" in diameter	0.2	0.3	0.5	0.5	0.5	1.9
Totals	0.4	0.7	1.2	1.3	1.3	5.0
Note: Subtotals may not add up to sum of line items due to rounding						

Table 77: Final Determinations decision - Tier 2A iron mains Baseline Target Workloads (kilometres mains decommissioned)

Lon	2021/22	2022/23	2023/24	2024/25	2025/26	RIIO-GD2 Baseline Target Workloads
<i>Workload Activities</i>						
Tier 2A mains decommissioned						
9" in diameter	0.0	0.0	0.0	0.0	0.0	0.0
10"-12" in diameter	0.7	1.3	2.0	2.2	2.3	8.4
>12"-17" in diameter	0.4	0.8	1.3	1.4	1.4	5.3
Totals	1.1	2.1	3.3	3.6	3.7	13.7
Note: Subtotals may not add up to sum of line items due to rounding						

Table 78: Final Determinations decision - Tier 2A iron mains Baseline Target Workloads (kilometres mains decommissioned)

NW	2021/22	2022/23	2023/24	2024/25	2025/26	RIIO-GD2 Baseline Target Workloads
<i>Workload Activities</i>						
Tier 2A mains decommissioned						
9" in diameter	0.0	0.0	0.0	0.0	0.0	0.0
10"-12" in diameter	0.1	0.2	0.3	0.3	0.3	1.2
>12"-17" in diameter	0.1	0.3	0.4	0.4	0.5	1.7
Totals	0.2	0.4	0.7	0.7	0.8	2.9
Note: Subtotals may not add up to sum of line items due to rounding						

Table 79: Final Determinations decision - Tier 2A iron mains Baseline Target Workloads (kilometres mains decommissioned)

WM	2021/22	2022/23	2023/24	2024/25	2025/26	RIIO-GD2 Baseline Target Workloads
<i>Workload Activities</i>						
Tier 2A mains decommissioned						
9" in diameter	0.0	0.0	0.0	0.0	0.0	0.0
10"-12" in diameter	0.2	0.3	0.5	0.5	0.6	2.0
>12"-17" in diameter	0.0	0.0	0.0	0.0	0.0	0.0
Totals	0.2	0.3	0.5	0.5	0.6	2.0
Note: Subtotals may not add up to sum of line items due to rounding						

Table 80: Final Determinations decision - Tier 2A iron mains and services Baseline Cost Allowances (£m, 2018/19 prices)

Cadent	2021/22	2022/23	2023/24	2024/25	2025/26	RIIO-GD2 Baseline Cost Allowance
Tier 2A mains and services Baseline Cost Allowance						
EoE	0.2	0.3	0.4	0.3	0.3	1.6
Lon	0.6	0.8	1.0	0.9	1.0	4.3
NW	0.2	0.2	0.3	0.2	0.2	1.1
WM	0.1	0.1	0.1	0.1	0.1	0.6
Cadent	1.1	1.4	1.7	1.7	1.7	7.7

Note: Subtotals may not add up to sum of line items due to rounding

Table 81: Final Determinations decision - Tier 2A iron mains and services ex ante unit costs for East of England (RIIO-GD2, £/km mains decommissioned, 2018/19 prices)

EoE	RIIO-GD2 ex ante unit costs
Tier 1 iron mains decommissioned	
e. 9"	119,340
f. 10" - 12"	247,997
g. >12" - 17"	424,324

Note: Unit costs for Tier 2A volume driver. Unit costs inclusive of associated service workloads. Unit costs exclude RPEs.

Table 82: Final Determinations decision - Tier 2A iron mains and services ex ante unit costs for London (RIIO-GD2, £/km mains decommissioned, 2018/19 prices)

Lon	RIIO-GD2 ex ante unit costs
Tier 1 iron mains decommissioned	
e. 9"	119,615
f. 10" - 12"	248,567
g. >12" - 17"	425,299

Note: Unit costs for Tier 2A volume driver. Unit costs inclusive of associated service workloads. Unit costs exclude RPEs.

Table 83: Final Determinations decision - Tier 2A iron mains and services ex ante unit costs for North West (RIIO-GD2, £/km mains decommissioned, 2018/19 prices)

NW	RIIO-GD2 ex ante unit costs
Tier 1 iron mains decommissioned	
e. 9"	131,580
f. 10" - 12"	273,432
g. >12" - 17"	467,844

Note: Unit costs for Tier 2A volume driver. Unit costs inclusive of associated service workloads. Unit costs exclude RPEs.

Table 84: Final Determinations decision - Tier 2A iron mains and services ex ante unit costs for West Midlands (RIIO-GD2, £/km mains decommissioned, 2018/19 prices)

WM	RIIO-GD2 ex ante unit costs
Tier 1 iron mains decommissioned	
e. 9"	148,795
f. 10" - 12"	309,205
g. >12" - 17"	529,051
Note: Unit costs for Tier 2A volume driver. Unit costs inclusive of associated service workloads. Unit costs exclude RPEs.	

Domestic connections volume driver

Table 85: Final Determinations decision – domestic connections mains baseline target workloads (kilometres mains commissioned)

Network	2021/22	2022/23	2023/24	2024/25	2025/26	RIIO-GD2 baseline target workloads
Domestic connections mains¹						
EoE	4.8	4.8	4.8	4.8	4.8	24.0
Lon	1.7	1.7	1.7	1.7	1.7	8.6
NW	1.1	1.1	1.1	1.1	1.1	5.6
WM	1.4	1.4	1.4	1.4	1.4	7.0
Cadent	9.0	9.0	9.1	9.1	9.1	45.3
1 Combines mains diameters above and below 180mm for both new and domestic housing.						

Table 86: Final Determinations decision – domestic connections services baseline target workloads (No. of service connections commissioned)

Network	2021/22	2022/23	2023/24	2024/25	2025/26	RIIO-GD2 baseline target workloads
Domestic connections services¹						
EoE	7,867	7,873	7,879	7,885	7,891	39,394
Lon	3,222	3,225	3,227	3,230	3,233	16,137
NW	2,934	2,936	2,938	2,940	2,942	14,689
WM	2,545	2,546	2,547	2,548	2,549	12,736
Cadent	16,568	16,579	16,591	16,603	16,615	82,956
1 Combines services for both new and domestic housing.						

Table 87: Final Determinations decision – domestic connections mains ex ante unit costs (RIIO-GD2, £/km mains commissioned, 2018/19 prices)

Network	RIIO-GD2 £/km
Domestic connections mains¹	
EoE	221,306
Lon	616,731
NW	291,632
WM	194,945

1 Combines mains diameters above and below 180mm for both new and domestic housing. Figures include ongoing efficiency and exclude RPEs.

Table 88: Final Determinations decision – domestic connections services ex ante unit costs (RIIO-GD2, £/service connection, 2018/19 prices)

Network	RIIO-GD2 £/service
Domestic connections services¹	
EoE	1,011
Lon	1,426
NW	1,342
WM	1,603

1 Combines services for both new and domestic housing. Figures include ongoing efficiency and exclude RPEs.

Uncertainty mechanisms removed in our Final Determinations

4.3 This section includes UMs that we proposed to accept in our Draft Determinations consultation position but which we have now decided to remove after reviewing stakeholder responses and relevant evidence.

London Medium Pressure re-opener

4.4 At Draft Determinations we proposed to allow a re-opener.⁴⁴ We have decided to treat this project as a PCD in our Final Determinations, reflecting further evidence that Cadent provided. See Chapter 2 of this document for our rationale.

⁴⁴ Draft Determinations Cadent Annex paragraphs 4.7-4.11

5. Innovation

Introduction

5.1 This Chapter sets out our Final Determination on Cadent’s Network Innovation Allowance (NIA) for the RIIO-GD2 price control period. Chapter 8 of the Core Document also details our Final Determination on the RIIO-2 NIA framework and the Strategic Innovation Fund.

Network Innovation Allowance

Purpose: To fund innovation relating to support for consumers in vulnerable situations and/or to the energy system transition.

Benefits: The NIA will enable companies to take forward innovation projects that have the potential to address consumer vulnerability and/or deliver longer-term financial and environmental benefits for consumers, which they would not otherwise undertake within the price control.

Final Determination

Table 89: Network Innovation Allowance summary

Network Innovation Allowance	Cadent proposed NIA (£m)	Ofgem Draft Determinations position (£m)	Ofgem Final Determinations decision (£m)
Level of NIA funding	£40m	£32.5m, conditional on an improved industry-led reporting framework.	£32.5m. We retain the option to direct additional NIA funding for hydrogen innovation during RIIO-2

Final Determination rationale and Draft Determinations responses

- 5.2 We have decided that all network companies and the ESO will be able to access NIA funding during RIIO-2, as they have satisfactorily evidenced that an improved industry-led reporting framework will be in place for the start of RIIO-2 (see Chapter 8 of the Core Document).
- 5.3 We have decided to award Cadent £32.5m of NIA funding after considering the three responses which directly addressed Cadent's NIA. This adopts our Draft Determination proposal.

- 5.4 We think that a reduction in the NIA request remains appropriate because the £7.5m reduction is innovation related to the repair and replacement of its mains, which should be undertaken as BAU activity. A consumer representative body agreed with our proposal.
- 5.5 In its Draft Determinations response, Cadent requested additional NIA funding for a front-end engineering study for a hydrogen pipeline within the Industrial Cluster project 'HyNet'. This is not included as part of the NIA. Our decision to provide funding is set out in Chapter 2 of this document under 'Cadent specific outputs'.
- 5.6 Cadent's CEG noted that some large hydrogen innovation activities may not appropriately be included in BAU but suggested that Cadent's response needed to explain its innovation proposals further. We recognise that a need for additional hydrogen innovation projects could arise during RIIO-2. We will therefore consider allowing NGGT and GDNs additional NIA funding for hydrogen innovation, should allocated NIA funding prove insufficient (see Chapter 8 of the Core Document).

6. Business Plan Incentive (BPI)

6.1 This chapter sets out our Final Determination for Cadent in the Business Plan Incentive (BPI). Further details of our decisions for BPI at a cross-sectoral level can be found in Chapter 10 of the Core Document.

Table 90: Summary of decisions for Cadent’s BPI

BPI stage	Final Determination
Stage 1 - Minimum requirements	Pass
Stage 2 – CVP reward	£0.7m
Stage 3	-£0.1m
Stage 4	£0m
Total	Reward of £0.6m

6.2 Our cost confidence assessment results in a Totex Incentive Mechanism (TIM) sharing factor for Cadent of 50%. For further details on TIM, see Chapter 10 of the Core Document.

Stage 1 – Minimum requirements

6.3 We have decided that Cadent has passed Stage 1 of the BPI.

6.4 We have decided, as we set out at Draft Determinations, that Cadent did not meet the minimum requirements to propose a split of its Unplanned Interruptions incentive between the MOB and non-MOB ODIs. However, this was an isolated omission with minimal impact on our Business Plan assessment. Cadent and their CEG both agreed with our position on this in their Draft Determination responses. Consequently, we have decided that the omission is not sufficiently material to warrant failure against BPI Stage 1.

6.5 Further detail on our assessment of Stage 1 for Cadent can be found in the rationale set out in Chapter 10 of the Core Document.

Stage 2 – Consumer Value Propositions

6.6 We have decided to allow one CVP that Cadent proposed, with a total consumer value of £1.35m. This translates into a £0.68m reward.

6.7 For details of our decisions on CVPs that we have not allowed see Appendix 1.

Personalising Welfare Facilities

Purpose: Offer additional personalised welfare provisions for consumers in vulnerable situations during supply interruptions, beyond what is provided as BAU.

Benefits: During a supply interruption, consumers in vulnerable situations will be provided with additional services, beyond the requirements of GSOP3, including food vouchers, rechargeable showers and electric kettles at no additional cost to the consumer.

Final Determinations decision

Table 91: Summary of Personalising Welfare Facilities CVP

CVP parameter	Final Determination	Draft Determinations
Output	Personalising Welfare Facilities PCD	Change - previously rejected Cadent's CVP proposal
Performance measurement	In the event of gas supply interruptions during RIIO-GD2, provision of welfare products/services for up to: <ul style="list-style-type: none"> • 82,125 PSR customers (beyond GSOP3), and • 82,125 non-PSR customers in vulnerable situations. 	
Delivery date	31 March 2026	
CVP value	£1,352,600	
CVP reward	£676,300	
Reporting method	PCD report and annual reporting in the RRP on the number and cost of welfare provisions provided to eligible customers in the event of a gas supply interruption.	
Adjustment mechanism	Ex post clawback mechanism to recover a proportion of the CVP reward in the event of non-delivery.	
Licence obligation	Special Condition 4.7 Consumer value proposition	

Final Determination rationale and Draft Determination responses

6.8 We have changed our Draft Determinations position and have decided to accept, and provide a stage 2 reward for, this CVP proposal, further to consideration of Draft Determination responses.

6.9 At Draft Determinations, we proposed to reject this CVP proposal because we proposed to reject the associated PCD as it was unclear that all of the proposed

actions and costs went beyond BAU. We have now decided to accept the associated PCD, for the reasons set out in Chapter 2.

- 6.10 As set out in Chapter 2, this proposal provides additional value beyond BAU to consumers in vulnerable situations by providing additional welfare services beyond our minimum standards (the GSOPs⁴⁵) or other RIIO regulations - to both PSR customers and non-PSR consumers in vulnerable situations.
- 6.11 Cadent's Business Plan proposal provided good evidence of stakeholder support, including from its CEG, and this was further supported by new evidence provided in its Draft Determinations response. This included evidence that when Cadent re-tested the acceptability of its Business Plan with customer and stakeholders following Draft Determinations, the inclusion of this proposal had the largest impact on the overall acceptability rating it received.
- 6.12 The CVP is now valued at £1.35m, which equates to a reward of £0.68m. In its Business Plan, Cadent said this proposal would provide £120.8m net benefit to consumers. In response to our Draft Determinations, Cadent provided a revised CPV value of £1.35m to only include welfare provisions that are above BAU. Cadent calculated the amended value using the benefit to consumers who receive the measures, as opposed to the entire Cadent customer base. This is an appropriate assessment of the value that we accept.
- 6.13 As set out in Chapter 10 of the Core Document, we will claw back the CVP reward in the event of non-delivery of some, or all, of the associated output. We will assess the delivery of the CVP proposal as part of RIIO-GD2 close out, taking the CVP Report into consideration. In the event of partial non-delivery, we will claw back the CVP reward in line with the proportion of the PCD that we deem to be undelivered.

Stage 3

- 6.14 We have decided that Cadent will incur a £0.1m penalty following our BPI Stage 3 assessment.

⁴⁵In particular, GSOP3 which relates to service provided to PSR domestic customers in the event of an interruption. For our decision on updating the GSOPs please see Chapter 2 of the GD Annex.

6.15 Table 92 sets out our decisions on lower cost confidence categories and the associated Stage 3 penalties.

Table 92: Final Determination on Stage 3

Cost category	Lower confidence cost disallowance (£m)	BPI stage 3 penalty (£m)
East of England		
Technically assessed capex projects	0.6	<0.1
London		
Technically assessed capex projects	0.3	0.0
London Medium Pressure	0.0	
North West		
Technically assessed capex projects	0.1	<0.1
West Midlands		
Technically assessed capex projects	0.3	<0.1

Final Determination rationale and Draft Determination responses

Table 93: Final Determination rationale on Stage 3

Cost category	Final Determination rationale and Draft Determination responses
Technically assessed capex projects	We have decided to classify the PRS and NTS Capacity Upgrades project as lower confidence due to a lack of cost detail provided by Cadent. At Draft Determinations, we proposed cost cuts and classified costs as high confidence because Cadent provided us with granular detail for all cost inputs. Cadent disagreed with our cost cuts and responded with a revised project estimate. As set out in Chapter 3, we have repeated our deep dive assessment of this new information, and whilst we are satisfied that Cadent's overall project cost is more in line with similar projects than their original submission, it lacked sufficiently granular detail for us to scrutinise bottom-up cost inputs in some areas, eg project management.
London Medium Pressure	We have decided to classify this project as lower confidence due to a lack of detail on costs. This project is bespoke in nature and involves uncertainty due to the location of the works, meaning costs estimates cannot be independently verified. We have assessed and allowed Cadent's revised costs in full, which is why no Stage 3 penalty has been applied.

Stage 4

6.16 We have decided that Cadent will earn no reward following our BPI stage 4 assessment.

6.17 Table 94 sets out our decisions on high cost confidence categories, allowances and the associated Stage 4 rewards.

Table 94: Final Determination on Stage 4

Cost category	Company view (£m)	Ofgem view (£m)	BPI stage 4 reward (£m)
East of England			
Modelled costs	1,566	1,566	0.0
Repex Lowestoft	2.3	2.3	
Electric vehicles	5.7	5.7	
Technically assessed capex projects	9.2	8.0	
London			
Modelled costs	1,381	1,230	0.0
Electric vehicles	3.8	3.8	
Technically assessed capex projects	2.5	1.7	
North West			
Modelled costs	1,122	1,110	0.0
Electric vehicles	3.9	3.9	
Technically assessed capex projects	3.2	2.8	
West Midlands			
Modelled costs	905	884	0.0
Electric vehicles	2.8	2.8	
Technically assessed capex projects	5.1	4.4	

Final Determination rationale and Draft Determination responses

Table 95: Final Determination rationale for Stage 4

Cost category	Final Determination rationale and Draft Determination responses
Modelled costs	We have applied the Sector Specific Methodology Decision (SSMD) methodology and classified modelled costs (regression and non-regression) as high confidence.
Technically assessed capex projects	We have decided to classify the NTS Other Metering project as high confidence. This is consistent with our Draft Determinations position, which we did not receive any consultation responses on.
Electric vehicles	These costs were not part of the Business Plan submissions. Information received from all GDNs following Draft Determinations allowed us to develop high confidence unit costs that were used to set out the allowance for electric vehicles. This activity has not earned a reward because we have accepted company submitted costs and workloads.

Cost category	Final Determination rationale and Draft Determination responses
Repex Lowestoft	We have decided to classify this project as high confidence. We considered Cadent's costs to be well justified, given the scope of the project.

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Rationale for Ofgem’s decisions on Cadent’s proposed bespoke outputs, CVPs and UMs

Summary of decisions - bespoke outputs

A1.1 This section sets out our decisions on the bespoke ODIs and PCDs that WWU proposed in its Business Plan. This includes our consideration of the responses we received and rationale.

Table 96: Cadent's bespoke ODI proposals

Output name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
ODIs we have decided to accept			
High-rise building plans: Enhanced engagement with local authorities and building owners to create "building by building" plans for high-rise customers.	Accept: We proposed to accept this proposal subject to Cadent providing stretching targets to put in place plans for all residential high-rise buildings it serves by the end of RIIO-GD2.	See Chapter 2 for a summary of consultation responses.	Accept: We have decided to implement an ODI-R. The performance targets will be as proposed by Cadent. Our decision is set out in Chapter 2.
ODIs we have decided to reject			
Community fund: Cadent will invest at least 1% of annual profits into a stakeholder informed community fund.	Reject: We proposed to introduce a bespoke ODI-R. Cadent’s proposal was originally part of its proposed Trust Charter ODI-R, which we proposed to reject. However, we welcomed Cadent's commitment to invest at least 1% of profits into a community fund to provide support for its local communities, including consumers in vulnerable situations. We thought there was benefit in delivering the community fund, so proposed to introduce a separate ODI-R for this commitment.	See Chapter 2 for a summary of consultation responses.	Reject: We have decided to reject this as a bespoke ODI but will require GDNs to report on it in the RRP and encourage Cadent to report how it is spent to its stakeholders as an internal Key Performance Indicator (KPI). Our rationale for this decision is set out in Chapter 2.

Output name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>Trust charter: A set of commitments to build trust with Cadent's customers and stakeholders. Independent report published annually to its customers showing progress.</p>	<p>Reject: We encouraged Cadent to report directly to its stakeholders on its Trust Charter commitments to inform them of its actions. Cadent has not evidenced that the targets are sufficiently stretching or that it needs reporting to be delivered. However, we thought there was a clear benefit associated with delivery of the community fund, which was included in the Trust Charter. We proposed to introduce a separate community fund ODI-R.⁴⁶</p>	<p>Cadent did not provide any further justification for its proposal but said it will take forward its Trust Charter commitments despite it being rejected as an ODI-R. Cadent's CEG agreed that the targets are not sufficiently stretching or developed to warrant an ODI-R.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change. We set out our decision on the separate 'Community fund' ODI-R above and in Chapter 2.</p>
<p>Providing time-bound appointments: Offer four-hour and two-hour time-bound appointment slots for gas supply restoration and connection to customer appliances and meet this 90% of the time.</p>	<p>Reject: We proposed to merge this proposal into a new common ODI-R across all GDNs. Due to sufficient commonality with other GDNs' 'purge and relight' bespoke outputs, we proposed to establish a common ODI-R for appointments.⁴⁷</p>	<p>For a summary of consultation responses, see Chapter 2 of the GD Annex.⁴⁸</p>	<p>Reject: We have decided not to implement an ODI-R. We will implement internal reporting to monitor this activity instead. Our rationale and decision are set out in Chapter 2 of the GD Annex.</p>
<p>Responding to your enquiries: Enhance the capability to provide a rapid response to enquiries. Measure enquiries using a similar metric to complaints.</p>	<p>Reject: There was insufficient evidence of improved level of service beyond business as usual (BAU). Monitoring responses to enquiries is a BAU activity. Cadent may want to retain the proposed monitoring as a separate KPI for its stakeholders if this will improve response rates.</p>	<p>Cadent stated that this proposed ODI-R would have no negative bill impact on customers but will proceed with this measure as an internal KPI.</p>	<p>Reject: We have decided to implement our Draft Determinations position that monitoring responses to enquiries is a BAU activity that can be achieved without an ODI-R. We have received no substantive evidence to justify a change.</p>

⁴⁶ Draft Determinations Cadent Annex paragraphs 2.14-2.18

⁴⁷ Draft Determinations GD Annex paragraphs 2.66-2.74

⁴⁸ Restoration of customers appliances - Purge and Relight (P&R) activity

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Output name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>Measuring and enhancing accessibility and inclusivity: Establish a robust and transparent measure of accessibility and inclusivity. Publish performance once metric established. Cadent will become BSI 18477 (Inclusive service provision) certified.</p>	<p>Reject: We welcomed the proposal to obtain certification but thought Cadent was likely to achieve this without an ODI. In terms of the separate performance metric, as this was not yet developed, it was not clear that this would be sufficiently stretching to warrant an ODI.</p>	<p>Cadent's CEG acknowledged that Cadent did not need an ODI to obtain certification but argued it would highlight where companies have adopted it. Cadent stated that this proposed ODI-R would have no negative bill impact on customers but will proceed with this measure as an internal KPI.</p>	<p>Reject: We have decided to implement our Draft Determinations position that this can be achieved without an ODI-R. We have received no substantive evidence to justify a change.</p>
<p>Establishing and raising the bar for all of our customer and stakeholder experiences: Combining different measures of customer experience to establish tangible measures for improvement under key customer service areas, such as connections and plant services. Set a baseline in order to drive improvement. Type of measures to be established (not yet defined).</p>	<p>Reject: There was insufficient information and evidence that the bespoke output is sufficiently stretching to warrant an ODI. There were no clear targets or definitions for the components. Cadent may want to develop the proposal during RIIO-GD2 and monitor as a separate KPI for its stakeholders.</p>	<p>Cadent stated that this proposed ODI-R would have no negative bill impact on customers but will proceed with this measure as an internal KPI.</p>	<p>Reject: We have decided to implement our Draft Determinations position that this measure was not sufficiently developed to implement an ODI at this stage. We have received no substantive evidence to justify a change.</p>

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Output name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>Improving our household connection service: Deliver household connections quotes within 15 minutes (90% target) and arrange site visit within three days following quote acceptance (85% target).</p>	<p>Reject: We welcomed Cadent’s efforts to improve customer service for connections customers. We thought a new output was unnecessary as it largely duplicates the customer satisfaction connections survey which will drive (and reward) improvements. Cadent may want to retain the monitoring we proposed as a separate KPI for its stakeholders.</p>	<p>Cadent stated that this proposed ODI-R would have no negative bill impact on customers but will proceed with this measure as an internal KPI.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change.</p>
<p>Stakeholder measures: Establish a robust stakeholder satisfaction measure in order to understand how satisfied stakeholders are with Cadent's services and to drive improvements.</p>	<p>Reject: There was insufficient detail on specific targets or value to consumers. There was a lack of consumer support evidence for the specific deliverables and the proposal overlaps with the existing customer satisfaction survey output.</p>	<p>Cadent's CEG disagreed that the measure overlaps with the existing customer satisfaction survey but agreed there is insufficient detail on targets. Cadent stated that this proposed ODI-R would have no negative bill impact on customers but will proceed with this measure as an internal KPI.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change.</p>

Output name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>MOBs balanced scorecard: Establish a scorecard of customer measures related to improving the experience for customers living in MOBs, including a MOB specific CSAT measure.</p>	<p>Reject: Like the CEG, we were supportive of the concept of a scorecard as it builds on the quarterly reports Cadent currently produces. However, there was not enough information, or justification, to implement an output or understand whether the targets are stretching. Production of a scorecard is not a sufficient output in itself. Cadent may want to trial and develop the monitoring we proposed as a separate KPI for its stakeholders. This would provide evidence for possible inclusion in future price controls.</p>	<p>Cadent stated that this proposed output was based on customers’ feedback and that there is no negative bill impact. It plans to proceed with internal KPIs for rejected bespoke outputs where possible. A CEG supported our position on this output, given the lack of robustness of these proposals to date and Ofgem’s encouragement for Cadent to develop KPIs.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change.</p>
<p>Average restoration time for total unplanned interruptions (Unplanned interruptions (targeted likely levels)): Reduce non-MOBs average duration by 10% to under nine hours on average across all four networks. Reduce average duration of MOBs planned interruptions by 34% on average.</p>	<p>Reject: We proposed to set interruptions ODIs for Cadent as set out in our Draft Determinations GD Annex.⁴⁹</p>	<p>Cadent did not provide further justification but said that it will consider developing an internal KPI. Cadent's CEG asked us to work with the GDNs to develop an improved unplanned interruptions measure for RIIO-GD3, similar to Cadent's proposal.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change. However, in response to stakeholder feedback we have changed the common ODI-F and will set separate MOB and non-MOB performance levels for all four Cadent networks.</p>

⁴⁹ Draft Determinations GD Annex paragraphs 2.92-2.102.

Output name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>Private reinstatement timeliness: Complete private reinstatement within an average of three working days following completion of engineering works.</p>	<p>Reject: We welcomed efforts to target reinstatement timelines faster than required through our decision to amend GSOP2 as set out in our SSMD.⁵⁰ However, there was a lack of evidence of customer support to tighten this GSOP standard further. If Cadent wants to retain this activity, it should do so voluntarily and ensure shareholders fund any costs.</p>	<p>A consumer representative group agreed that GDNs wishing to go further than common revisions to GSOPs should do so voluntarily using company shareholder funds and not as bespoke measures. Cadent stated that this proposed ODI-R would have no negative bill impact on customers but will proceed with this measure as an internal KPI.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change. We are proceeding with common revisions to GSOPs (see GD Annex Chapter 2) as we believe this facilitates clarity for consumers expecting payments from GDNs.</p>
<p>Better roadworks information: Provide customers affected by works with tailored information on roadworks through digital and non-digital methods. Application of bronze/silver/gold methodology to determine what level of information is required.</p>	<p>Reject: We commended Cadent for proposing an improved streetworks service for consumers and stakeholders. However, we found insufficient evidence of a measurable and sufficiently stretching target for this output.</p>	<p>Given the customer support for this initiative, Cadent’s CEG encouraged us to work with Cadent to improve this ODI. Cadent proposed to pursue this proposal as an internal KPI.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change. If Cadent is able to establish some clear metrics and start monitoring these during RIIO-GD2 this could be considered at RIIO-GD3 - we would be willing to work with Cadent, and other stakeholders, to consider these.</p>

⁵⁰ SSMD GD Annex, Table 3.

Output name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>Coordinating with others: Coordinate streetworks with other utilities, local authorities and other stakeholders to reduce disruption and work with industry experts to measure coordination and the associated value (eg days of congestion saved).</p>	<p>Reject: We commended Cadent for this proposed output and considered there may be merit in this. We proposed to work with Cadent and SGN to develop a consistent incentive for their similar proposals.⁵¹</p>	<p>Respondents (GDNs, CEGs, environmental and consumer groups, suppliers and a DNO) were broadly supportive of the introduction of a new output and preferred a financial ODI over funding through baseline totex.</p>	<p>Reject: We have decided to implement our Draft Determinations position to implement a consistent incentive for both Cadent and SGN. Stakeholders broadly supported a financial ODI and we have worked with Cadent and SGN to develop this. We have decided to set a financial ODI for Cadent and SGN (see GD Annex Chapter 2, collaborative streetworks).</p>
<p>Pioneering new funding model trial: A new centralised funding approach for consumer vulnerability, which would see alignment of all schemes and funding across England ensuring that solutions target those most in need. Trial to take place in Staffordshire within the West Midlands network.</p>	<p>Reject: There was insufficient justification of the needs case and a lack of robust methodology. We expect GDNs to leverage different funding schemes for the delivery of vulnerability services. If the eligibility case and methodology can be improved, the consumer Vulnerability and Carbon Monoxide Allowance (VCMA) provides the opportunity to fund this type of activity and the consumer vulnerability reputational ODI provides Cadent with the opportunity to highlight its performance.</p>	<p>Cadent did not provide any further justification for the proposed ODI-R but will consider developing an internal KPI. An enhanced engagement group strongly supported the proposal but acknowledged that it may not be best suited to an ODI.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change. We have decided to increase the size of the VCMA, which could support this type of project (see Chapter 2 of the GD Annex).</p>

⁵¹ Draft Determinations GD Annex paragraphs 2.103-2.107.

Output name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>Targeting customers in fuel poverty: Continue to innovate and use data in developing methods to better target those that should qualify for support. Robust baseline to be established - target 20% improvement.</p>	<p>Reject: The Network Innovation Allowance (NIA) or VCMA provide the opportunity to fund this type of activity and the consumer vulnerability reputational ODI provides Cadent with the opportunity to highlight its performance.</p>	<p>Cadent did not provide any further justification for the proposed ODI-R but said that it will consider developing an internal KPI. An enhanced engagement group strongly supported the proposal and did not think the annual showcase event would provide sufficient visibility for this activity.</p>	<p>Reject: We have decided to implement our Draft Determinations position. As the reporting metric has not yet been defined there is insufficient information to implement this proposal as an ODI-R. However, we encourage Cadent to develop this as an internal KPI and report on this through the vulnerability reputational ODI.</p>
<p>Stakeholder engagement incentive (Stakeholder engagement): Demonstrating continual improvement in Cadent's stakeholder engagement approach and delivery of the commitments included in its strategy.</p>	<p>Reject: We encouraged Cadent to report directly to its stakeholders on its performance against its stakeholder engagement strategy to inform them of its progress. However, we did not think that Cadent needed an ODI-R to report on this.⁵²</p>	<p>No further justification was provided for this ODI-R. Cadent's CEG said we should reconsider a common ODI for stakeholder engagement.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change.</p>

⁵² More detail on our approach to stakeholder engagement is set out in Chapter 4 of the Draft Determinations Core Document.

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Output name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>Carbon neutral operations: Net zero carbon emissions (excluding shrinkage) by the end of RIIO-GD2. Initiatives including offsetting the majority of emissions through tree planting partnerships with third parties, purchasing renewable energy to meet metered energy needs, delivering a zero emissions first responder service through electric or hydrogen vehicles, introducing electric vehicle charging at sites and purchasing offsets.</p>	<p>Reject: We proposed that Cadent reports on its business carbon footprint (BCF) initiatives under the Annual Environmental Report (AER). Therefore, we did not consider it necessary to set an additional reputational ODI. We also proposed a common ODI-R for BCF reduction targets. We proposed that GDNs submit further information for fleet conversion and charging infrastructure, with a view to setting a common PCD.⁵³</p>	<p>Cadent noted that its costs for EVs were higher due to their commitment to deliver zero emission vehicles where other networks included costs for hybrids or low emission cleaner diesels. A consumer representative group said it supported a common PCD reflecting any economies of scale and expected decreases in vehicle costs.</p>	<p>Reject: We have decided to reject this output for the following reasons. We’ve moved costs for EVs and associated charging infrastructure into a common PCD (See Chapter 2 of the GD Annex). For the renewable energy proposal, to achieve consistency between GDNs, we’ve decided to include renewable energy costs in our regression analysis. For the purchasing offsets proposal, we’ve removed the costs as we do not think it is appropriate for consumers to fund offsets beyond Cadent’s direct network activity and we note there was mixed customer support. For our rationale on cost treatment, see Chapter 2 of the GD Annex.⁵⁴</p>

⁵³ Draft Determinations GD Annex paragraphs 2.121-2.161.

⁵⁴ Final Determinations GD Annex: Chapter 2, Environmental Action Plan and Annual Environmental Report.

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Output name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>Supporting our people to reduce their emissions: including investing in EV charging at office and depot locations, encouraging individuals to participate in a corporate emissions offset scheme and investing in technology, apps, educational material, community initiatives and awareness programmes.</p>	<p>Reject: The output is outside of Cadent’s control and employee self-reporting is not a robust measurement. The output also included proposals to subsidise employee EV and charging infrastructure in private staff residences, which we thought was not appropriate for consumer bill funding.</p>	<p>Cadent thought rejection of this output would prevent it from demonstrating leadership in tackling climate change at a micro level to its employees. Cadent asked for us to reconsider our position and the associated CVP to this measure.</p>	<p>Reject: We have decided to implement our Draft Determinations position. We maintain the view that EV charging infrastructure in private staff residences should not be funded by consumers. All companies can deliver charging infrastructure at their offices and depots through the common EV PCD.</p>
<p>Tackling theft of gas: Financial incentive sharing 60% of funds recovered with customers, with ambition of £8m funds recovered over the RIIO-GD2 period.</p>	<p>Reject: We agreed with the intent of the proposal but believed that it could be achieved through a simpler mechanism. We proposed to incentivise these activities across all GDNs through the TIM.⁵⁵</p>	<p>Although no stakeholders commented on this bespoke output, there was considerable response to our proposed common mechanism. See Chapters 2 and 4 of the GD Annex for a summary of these stakeholders’ responses.</p>	<p>Reject: We have decided to reject this bespoke proposal and instead apply a common approach which provides similar incentives. Our rationale and decision are set out in Chapters 2, Theft of gas (GDN responsible), and 4 (Theft of gas (supplier responsible) of the GD Annex.</p>

⁵⁵ Draft Determinations GD Annex paragraphs 4.5-4.18.

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Output name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>Zero avoidable waste to landfill: Target of less than 5% avoidable waste to landfill by 2021. Report on the 5% of unavoidable waste in the Annual Environmental Report. During RIIO-GD2, less than 10% of GDN's backfill will be first use aggregate in the North West and East of England, and 5% in the West Midlands and North London.</p>	<p>Reject: We proposed that Cadent reports on its resource use and waste initiatives under the AER, therefore we did not consider it necessary to set an additional reputational ODI.</p>	<p>No specific feedback on this proposal was provided but there was broad agreement from two GDNs, two GDN CEGs and two consumer groups with the EAP commitments we accepted for reporting under the AER.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change. For consistency with other GDNs' costs, we have also decided to include associated costs in the regression analysis. We will ensure that reporting on this is part of the AER, so that customers have visibility, as we recognise it is an important issue.</p>
<p>Connections standardisations: Establish an Entry Gas Customer and Stakeholder Forum to facilitate knowledge sharing and framework changes. Establish an Entry Gas Connection Standards Methodology and voluntary governance arrangements.</p>	<p>Reject: We recognised and encouraged Cadent’s review of entry connection charging and access arrangements. However, there were no specific outputs beyond establishing the Forum which we did not think needed an ODI. We believed Cadent should implement this and report progress in its AER.</p>	<p>Cadent stated that its proposal was based on feedback from customers. Cadent's CEG stated that the existing arrangements made connection unnecessarily costly and time consuming.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change. We will ensure that reporting on this is part of the AER, so that customers have visibility, as we recognise it is an important issue.</p>

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Output name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>Enhanced engagement on whole system thinking: Continuing to raise the bar on engagement and outcomes on whole system thinking, assessed by an independent panel.</p>	<p>Reject: Cadent proposed a financial ODI that would be assessed in the same way as the RIIO-GD1 Stakeholder Engagement Incentive (SEI). In our SSMD⁵⁶ we stated that we consider high quality stakeholder engagement should now be part of BAU activity, and we have therefore not included this bespoke output.</p>	<p>Cadent clarified that its proposal was for a common ODI-F. Cadent challenged our rationale stating that the proposal was not for a continuation of the SEI but for a narrow incentive focused on facilitating a whole system approach to the energy transition. As such this cannot be considered a BAU activity. Cadent's CEG supported the proposal as without it there was no incentive on regulated companies to engage on these issues.</p>	<p>Reject: We have decided to implement our Draft Determinations position. We recognise that this bespoke output is more focused than a continuation of the SEI. However, our SSMD decision was that high-quality stakeholder engagement irrespective of its focus should now be regarded as BAU and no longer justifies a financial incentive. Also, in our SSMD we specifically rejected the inclusion of a whole system Coordination and Information Sharing Incentive (see SSMD Core Document Chapter 8).⁵⁷</p>

⁵⁶ SSMD Core Document, paragraph 3.4.

⁵⁷ SSMD Core Document, paragraph 8.44-8.47.

Output name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>Joint planning office, standardising information sought by networks, network capacity information: Establish a pilot joint energy network planning function with at least one Distribution Network Operator. Continue to champion a new process across the energy networks that will standardise and coordinate approaches via the GDN's leadership of the Open Networks Whole System Workstream. Publish data on network capacity and continue engaging with stakeholders through RIIO-GD2 to identify and implement further improvements.</p>	<p>Reject: We recognised and encouraged Cadent’s proactive work to develop whole system thinking. To facilitate delivery, we proposed to include the £0.5m linked to this ODI in its baseline allowance. We expected Cadent to share the findings of this work with stakeholders. We did not think, however, that an ODI was appropriate. The potential benefits are too difficult to measure under an ODI without imposing disproportionate regulatory burden.</p>	<p>Cadent welcomed our proposal to provide funding to establish a joint planning service. However, it noted that Final Determinations should provide a mechanism to fund the wider costs related to the work of rolling out the concept to more local authorities.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change. With respect to funding wider costs related to this work, we have established a UIOLI allowance that GDNs can use to fund smaller scale projects (see Chapter 8 of our Core Document).</p>

Table 97: Cadent bespoke PCD proposals

PCD name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
PCDs we have decided to accept			
<p>Personalising welfare facilities: Additional, tailored welfare provisions provided to consumers in Vulnerable Situations (not just those registered on the PSR) in the event of a supply interruption. Provisions include food vouchers, rechargeable showers, electric kettles etc.</p>	<p>Reject: We commended Cadent for proposing additional services during an interruption. However, it was not clear that all actions or costs proposed go beyond BAU or the service levels other GDNs are offering without a PCD. We therefore found insufficient evidence to allow this PCD as proposed. However, if Cadent could provide a more detailed breakdown of which costs go beyond BAU we proposed to reconsider.</p>	<p>See Chapter 2 for a summary of consultation responses.</p>	<p>Accept: We have decided to allow this PCD at the new cost of £12.34m. See Chapter 2 for more detail.</p>
<p>Regional specific schemes - eg London Medium Pressure Programme: Deliver specific regional strategies to target key infrastructure needs, eg 2.6km per year for London Medium Pressure.</p>	<p>Reject: We found insufficient evidence that Cadent had developed its project plan sufficiently to justify funding in the baseline allowance. In particular, uncertainty remained over the timing and costs. However, we proposed a bespoke re-opener to enable Cadent to seek funding once it had greater certainty over the costs and timing of each section of its London Medium Pressure project.⁵⁸</p>	<p>For a summary of responses and of Cadent's additional evidence see Chapter 2.</p>	<p>Accept: We have decided to accept Cadent's additional evidence and will introduce a bespoke PCD for the London Medium Pressure project. We have decided not to implement the bespoke re-opener we proposed at Draft Determinations. See Chapter 2 for further details.</p>

⁵⁸ Draft Determinations Cadent Annex paragraphs 4.7-4.11.

PCD name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
PCDs we have decided to reject			
<p>Consumer vulnerability use-it-or-lose-it allowance (Needs identification): Two million direct conversations with customers over the RIIO-GD2 period to raise Priority Services Register (PSR) awareness. Over 80 strategic, programme and project partnerships to be formed. All front-line staff trained at least annually to ensure Cadent's employees are equipped with the right skills to act on customer vulnerability.</p>	<p>Reject: The VCMA provides funding for this type of activity and the consumer vulnerability reputational ODI gives Cadent the opportunity to highlight its performance. We took a decision on the size of the allowance in our SSMD,⁵⁹ and thought it was appropriate to maintain an even distribution of funding across the GDNs to prevent a disparity of services available to consumers in vulnerable situations across GB.</p>	<p>Cadent and its CEG asked us to reconsider whether an even distribution across the GDNs is the best option as it doesn't acknowledge regional disparities in wealth and inequality, historical service levels or regional stakeholder engagement. Other consumer representative groups were also disappointed that we rejected many of Cadent's bespoke vulnerability proposals.</p>	<p>Reject: We have decided to implement our Draft Determinations position to reject this ODI-R as the VCMA provides funding for this type of activity. In response to stakeholder feedback, we have decided to increase the value of the VCMA to allow the GDNs to be more ambitious, as set out in Chapter 2 of the GD Annex. Regional disparities in vulnerability may exist, but Cadent hasn't provided quantified evidence to support the significant difference in funding requested for Cadent's networks compared to the rest of GB. We therefore think it is more appropriate to increase the size of the VCMA for all GDNs, in proportion to the number of domestic customers they serve, to avoid potential disparities in GDN funding.</p>

⁵⁹ SSMD GD Annex, paragraph 3.31.

PCD name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>Enhanced carbon monoxide awareness: Additional 2.9m alarms to be issued based on evidence from customer engagement, CO hot spot data and previous experience in RIIO-GD1.</p> <p>Form partnerships with all Fire and Rescue, NHS Trusts and Ambulance services in Cadent's footprint.</p> <p>Service, repair or replace 15,000 unsafe appliances (following CO incidents).</p>	<p>Reject: The VCMA provides funding for this type of activity and the consumer vulnerability reputational ODI gives Cadent the opportunity to highlight its performance. We took a decision on the size of the allowance in our SSMD,⁶⁰ and thought it was appropriate to maintain an even distribution of funding across the GDNs to prevent a disparity of services available to consumers in vulnerable situations across GB.</p>	<p>Cadent and its CEG asked us to reconsider our position as they said the proposal was supported by customer and stakeholder engagement, and that our Draft Determinations position not to fund the proposal directly would necessitate a significant reduction in the proposed activity. Several consumer representative groups were also disappointed that we proposed to reject many of Cadent's bespoke vulnerability proposals.</p>	<p>Reject: We have decided to implement our Draft Determinations position to reject this ODI-R as the VCMA provides funding for this type of activity. In response to stakeholder feedback, we have decided to increase the value of the VCMA, in proportion to the number of domestic customers they serve, to allow the GDNs to be more ambitious, as set out in Chapter 2 of the GD Annex.</p>
<p>Additional fuel poverty interventions: Offering 5,000 in-house interventions such as new boiler installation or improving household insulation to lift customers out of fuel poverty.</p>	<p>Reject: Our SSMD stated that we would not fund the installation of boilers and heating systems and/or energy efficiency measures through the price control.⁶¹</p>	<p>Cadent said that it was concerned that by rejecting this proposal Ofgem is ignoring customer and stakeholder views. Some consumer representative groups also asked us to reconsider the scope of the price control to provide funding for the installation of energy efficiency measures.</p>	<p>Reject: We have decided to implement our Draft Determinations position. As set out in Chapter 2 of the GD Annex, we don't think the installation of energy efficiency measures (including the installation of new boilers) is in the scope of the price control as government funding is available. Under the Heat Policy re-opener, there are also explicit provisions for energy efficiency that could be triggered if government decides GDNs should have a role in this area (see Chapter 4 of the GD Annex).</p>

⁶⁰ SSMD GD Annex, paragraph 3.31.

⁶¹ SSMD GD Annex, Paragraph 2.12.

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PCD name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>Income and energy efficiency advice: Trained surveyors will visit households and undertake tailored surveys identifying ways a customer could improve their energy efficiency and maximise income. Offer 25,250 customers income and energy advice.</p>	<p>Reject: The VCMA provides funding for this type of activity and the consumer vulnerability reputational ODI gives Cadent the opportunity to highlight its performance. We took a decision on the size of the allowance in our SSMD,⁶² and thought it was appropriate to maintain an even distribution of funding across the GDNs to prevent a disparity of services available to consumers in vulnerable situations across GB.</p>	<p>Cadent and its CEG asked us to reconsider our position as they said the proposal was supported by customer and stakeholder engagement, and that our Draft Determinations position not to fund the proposal directly would necessitate a significant reduction in the proposed activity. Several consumer representative groups were also disappointed that we proposed to reject many of Cadent's bespoke vulnerability proposals.</p>	<p>Reject: We have decided to implement our Draft Determinations position to reject this ODI-R as the VCMA provides funding for this type of activity. In response to stakeholder feedback, we have decided to increase the value of the VCMA, in proportion to the number of domestic customers they serve, to allow the GDNs to be more ambitious, as set out in Chapter 2 of the GD Annex.</p>
<p>Service beyond the meter: Offering consumers in vulnerable situations an appliance repair or replacement (based on customer need) if found to be unsafe on a gas emergency visit, delivering 5,000 interventions over RIIO-GD2.</p>	<p>Reject: In our SSMD, we stated that we would not fund the repair and replacement of boilers and heating systems through the price control as there is already national, devolved and local government funding for boiler repairs and replacements.⁶³ We thought the GDNs should continue to leverage these funds through their partnership networks.</p>	<p>Cadent and its CEG asked us to reconsider this proposal as -19 will increase vulnerability and the need for this type of intervention. Several consumer groups also asked us to reconsider allowing funding for boiler repairs and replacements and evidenced that there remains a funding gap. They evidenced a strong benefits case for work to ensure that consumers in vulnerable situations are not left without heating if they cannot afford repairs.</p>	<p>Reject: We have decided to implement our Draft Determinations position to reject this ODI-R as the VCMA provides funding for this type of activity. In response to stakeholder feedback, we have decided to revise the scope of the VCMA to enable funding to be used for some condemned boiler repairs or replacements. We have also decided to increase the value of the VCMA, in proportion to the number of domestic customers they serve, to allow the GDNs to be more ambitious, as set out in Chapter 2 of the GD Annex.</p>

⁶² SSMD GD Annex, paragraph 3.31.

⁶³ SSMD, GD Annex, paragraph 2.12.

PCD name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>Off-grid communities: Establish a managed process for communities connecting to the network and run pilots to connect communities and measure benefits.</p>	<p>Reject: We found insufficient evidence of the needs case and justification as an innovative proposal. Extensions to the gas network should be paid for via cost reflective charging. Cross-subsiding connections via energy bills is regressive, and the future of heat is uncertain.</p>	<p>Cadent accepted our proposal not to take this forward as an output, although it challenged our position on the needs case and stated that it would seek NIA funding for this initiative. Cadent's CEG supported our position.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change. The responses we received supported this bespoke proposal not being taken forward as an output. We would question Cadent's Draft Determinations response that this project is eligible for NIA funding given our Draft Determinations position that extensions to the gas network should be paid for via cost reflective charging.</p>
<p>Delivering metallic mains replacement - high risk steel replacement and other: Replace 67km per year of the highest risk ≤ 2" steel pipes and high-risk Tier 2 and 3 iron mains above the defined risk threshold.</p>	<p>Reject: We did not consider that Cadent provided sufficient evidence to support a PCD, given steel mains ≤ 2" are already included in the NARM, which monitors delivery of asset management replex workloads in RIIO-GD2. Furthermore, we did not include the proposed workload programmes due to concerns over poor value for money for customers and the current uncertainty around the future of the gas network.⁶⁴</p>	<p>Cadent stated that its concern was about funding for specific workloads associated with replacing steel mains (some of which it assesses will pay back within a 16-year period) rather than having a bespoke output in place.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change. We address Cadent's points about costs within our cost assessment (see Chapter 3).</p>

⁶⁴ See Draft Determinations Cadent Annex Chapter 3.

Summary of decisions – BPI Stage 2 - CVPs

- A1.2 This section sets out our decisions on the CVPs that Cadent proposed in its Business Plan.
- A1.3 Consultation responses from consumer representative groups and enhanced engagement groups about our overall CVP positions at Draft Determinations were mixed. Some stakeholders supported our rationale for rejecting proposals on one or more of the following grounds: not above BAU, CSR activity, lacking stakeholder support or evidence, and not having stretching targets. However, other stakeholders challenged our approach to assessing CVPs. We have addressed the responses on our approach to CVP assessment in Chapter 10 of the Core Document.
- A1.4 Stakeholders particularly focused on the lack of vulnerability CVPs rewarded. They questioned whether our Draft Determinations assessment allowed vulnerability CVPs to be rewarded, given that many were rejected on the grounds that an associated PCD or ODI could be funded through the Vulnerability and Carbon Monoxide Allowance (VCMA). Cadent's CEG also questioned whether CVPs should be rejected on the grounds that the methodology or evidence base of the associated ODI or PCD was not robust enough. We retain our position that many of the GDNs' vulnerability CVP proposals are activities that we expected to be funded through the VCMA, so were not providing sufficient additional value to consumers to receive a CVP reward. Our approach to CVP assessment allows CVP rewards for vulnerability CVP items that are justified through our assessment framework. For example, we have provided a CVP reward for Cadent's Personalising welfare facilities CVP item. Our Business Plan Guidance (BPG) stated that we would assess each CVP on the merit of its proposal. We have done this and have rejected CVPs if the associated methodology or evidence base was not sufficiently robust. Further detail is set out below.
- A1.5 The table below sets out our decisions and rationale for each of Cadent's CVP items, along with our consideration of the specific new evidence or narrative we received in response to our Draft Determinations and references to further information.

Table 98: Cadent's CVP proposals

CVP name and description	Draft Determinations summary	Consultation response summary	Ofgem's Final Determination
CVPs we have decided to accept			
Personalising welfare facilities: Offer personalised welfare provisions for all customers in vulnerable situations, delivering £120.8m net benefit.	Reject: We are supportive of the provision of additional services to consumers in vulnerable situations during supply interruptions. However, we didn't propose to accept the associated PCD (Personalising welfare activities) ⁶⁵ so this CVP item should not receive a CVP reward.	We have decided to accept this CVP – see Chapter 6 for a summary of consultation responses.	Accept: We have decided to accept this CVP. Our rationale is set out in Chapter 6.
CVPs we have decided to reject			
CO awareness and safety plan: Educate 200,000 of those most at risk to the dangers of CO, delivering -£0.9m net benefit, increasing to £0.4m in RIIO-GD3.	Reject: We did not propose to accept the associated PCD proposal (Enhanced carbon monoxide awareness) ⁶⁶ so this CVP item should not receive a CVP reward.	Cadent proposed that they would deliver the initiatives as part of its VCMA. They stated that the initiatives were significantly more valuable than those of other GDNs, which was demonstrated through their social return on investment (SROI) calculations.	Reject: The proposal involves the type of activity we expect to be funded through the VCMA, as set out in our SSMD. It doesn't provide sufficient additional value to receive a CVP reward. We expect the GDNs to use the VCMA effectively and demonstrate value for money and a net positive SROI as good practice. All GDNs have based their vulnerability strategies on stakeholder engagement, so we don't think Cadent's proposals go significantly beyond other GDNs' proposals or beyond BAU.

⁶⁵ See Draft Determinations Cadent Annex Table 25.

⁶⁶ See Draft Determinations Cadent Annex Table 25.

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CVP name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>CO awareness and safety plan - issue 3 million alarms: Issue three million CO alarms over RIIO-GD2, delivering -£5.1m net benefit, increasing to £5.4m in RIIO-GD3.</p>	<p>Reject: We did not propose to accept the associated PCD proposal (Enhanced carbon monoxide awareness)⁶⁷ so this CVP item should not receive a CVP reward.</p>	<p>No specific feedback was provided on our proposal.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change.</p>
<p>CO interventions - service, repair and replace: Service, repair or replace 15,000 unsafe appliances for those most vulnerable, delivering £28.5m net benefit.</p>	<p>Reject: We did not propose to accept the associated PCD proposal (Enhanced carbon monoxide awareness)⁶⁸ so this CVP item should not receive a CVP reward.</p>	<p>Cadent proposed that it would deliver the initiatives as part of its VCMA. It stated that the initiatives were significantly more valuable than those of other GDNs, which was demonstrated through its SROI calculations.</p>	<p>Reject: We have decided to implement our Draft Determinations position. The proposal involves the type of activity we expect to be funded through the VCMA, as set out in our SSMD. It doesn’t provide sufficient additional value to receive a CVP reward. We expect the GDNs to use the VCMA effectively and demonstrate value for money and a net positive SROI as good practice. All GDNs have based their vulnerability strategies on stakeholder engagement, so we don't think Cadent's proposals go significantly beyond other GDNs' proposals or beyond BAU.</p>

⁶⁷ See Draft Determinations Cadent Annex Table 25.

⁶⁸ See Draft Determinations Cadent Annex Table 25.

CVP name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>Fuel poverty plan - provide 25,250 customers with advice: Offer income and energy advice to 25k customers, delivering £48.1m net benefit.</p>	<p>Reject: We did not propose to accept the associated PCD proposal (Income and energy efficiency advice)⁶⁹ so this CVP item should not receive a CVP reward.</p>	<p>Cadent proposed that it would deliver the initiatives as part of its VCMA. It stated that the initiatives were significantly more valuable than those of other GDNs, which was demonstrated through its SROI calculations.</p>	<p>Reject: We have decided to implement our Draft Determinations position. The proposal involves the type of activity we expect to be funded through the VCMA, as set out in our SSMD. It doesn’t provide sufficient additional value to receive a CVP reward. We expect the GDNs to use the VCMA effectively and demonstrate value for money and a net positive SROI as good practice. All GDNs have based their vulnerability strategies on stakeholder engagement, so we don't think Cadent's proposals go significantly beyond other GDNs' proposals or beyond BAU.</p>
<p>Fuel poverty plan - 5,000 tailored interventions: Provide at least 5,000 non-connection interventions for those in fuel poverty, delivering £13.2m net benefit</p>	<p>Reject: We did not propose to accept the associated PCD proposal (Additional fuel poverty interventions)⁷⁰ so this CVP item should not receive a CVP reward.</p>	<p>Cadent proposed that it would deliver the initiatives as part of the Cadent Foundation as it believes the proposal has significant SROI benefits and is very important for customers and stakeholders.</p>	<p>Reject: We have decided to implement our Draft Determinations position, as we have decided not to accept the associated PCD. No new evidence has been provided to suggest the proposal should receive a CVP reward. We acknowledge that Cadent may partly deliver the initiative through the Cadent Foundation but in our SSMD we decided that this activity is outside of the scope of the price control so it should not receive a CVP reward.</p>

⁶⁹ See Draft Determinations Cadent Annex Table 25.

⁷⁰ See Draft Determinations Cadent Annex Table 25.

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CVP name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>New cross-industry funding arrangement in place: Trial a new approach to fuel poverty funding in England. Cadent did not quantify the benefit of this proposal in monetary terms.</p>	<p>Reject: We did not propose to accept the associated ODI proposal, (Pioneering new funding model trial)⁷¹ so this CVP item should not receive a CVP reward.</p>	<p>Cadent's CEG supported this CVP proposal and suggested that it should be assessed in the round with other proposals, as it demonstrated leadership on a much-needed proposal on consumer vulnerability.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change. In the BPG we stated that each proposal will be assessed on its own merit, therefore CVPs will not be assessed in the round.</p>
<p>Going beyond the meter - never leaving a customer vulnerable without gas: Repair or replace 15,000 unsafe appliances for those most vulnerable, delivering £15m net benefit.</p>	<p>Reject: We did not propose to accept the associated PCD proposal (Service beyond the meter)⁷² so this CVP item should not receive a CVP reward.</p>	<p>Cadent proposed that it would deliver the initiatives as part of the Cadent Foundation as it believes the proposal has significant SROI benefits and is very important for customers and stakeholders. Cadent's CEG also said that should be reconsidered by Ofgem.</p>	<p>Reject: We have decided to implement our Draft Determinations position. In response to stakeholder feedback, we have decided to revise the scope of the VCMA to enable funding to be used for some condemned boiler repairs or replacements. We note all GDNs said they wanted to fund some boiler repairs or replacements in their Business Plans. As this type of activity can be funded through the VCMA, and the other GDNs also proposed similar activities, there is insufficient evidence that Cadent will go sufficiently beyond the other GDNs to receive a CVP reward.</p>

⁷¹ See Draft Determinations Cadent Annex Table 24.

⁷² See Draft Determinations Cadent Annex Table 25.

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CVP name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>PSR- 2 million conversations to raise awareness of the PSR: Two million conversations to raise awareness of the PSR, delivering £0.6m net benefit.</p>	<p>Reject: We did not propose to fund the associated bespoke PCD proposal (Consumer vulnerability UIOLI allowance (needs identification))⁷³ so this CVP item should not receive a CVP reward. However, we encouraged GDNs to continue to promote the PSR. GDNs can fund activity beyond the licence requirements through the consumer Vulnerability and Carbon Monoxide Allowance (VCMA).</p>	<p>No specific feedback was provided on our proposal.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change.</p>

⁷³ See Draft Determinations Cadent Annex Table 25.

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CVP name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>Carbon neutrality - reduce carbon footprint from 64,000 to 0 tonnes by the end of RIIO-GD2, delivering -£36.3m net benefit.</p>	<p>Reject: This proposal did not provide clear evidence of stretch beyond either the expected functions of a GDN or other companies’ proposals, given the objective for the UK to achieve net zero by 2050.⁷⁴ The proposal is also reliant on offsetting emissions, which are not to be included in science-based targets for reducing scope 1 and scope 2 BCF in line with the BPG.⁷⁵ The EAP ODI-R for BCF (including funding provided in Cadent’s baseline) will also support reductions over RIIO-GD2⁷⁶.</p>	<p>No specific feedback was provided on our proposal.</p>	<p>Reject: We have decided to implement our Draft Determinations position to reject this CVP as it does not provide clear evidence of stretch beyond other GDNs and is significantly reliant on offsetting, for which we have removed the costs (see 'Carbon neutral operations' in Table 96). Cadent will report on its annual BCF reductions through the common EAP BCF ODI-R.</p>
<p>Our people's emissions: Reduce Cadent employees' emissions by 5,000 tonnes of CO2e per year, delivering £4.1m net benefit.</p>	<p>Reject: We did not propose to accept the associated ODI proposals (Supporting our people to reduce their emissions and Carbon neutral operations) so this CVP item should not receive a CVP reward.</p>	<p>Cadent thought rejection of the associated output would prevent it from demonstrating leadership in tackling climate change at a micro level to its employees. Cadent asked for us to reconsider our position and the associated CVP to this measure.</p>	<p>Reject: We have decided to implement our Draft Determinations position to reject the associated ODI (Supporting our people to reduce their emissions and Carbon neutral operations) for the reasons stated in Table 96, so it should not receive a CVP reward.</p>

⁷⁴Net zero in the UK: <https://commonslibrary.parliament.uk/research-briefings/cbp-8590/>

⁷⁵ RIIO-2 Business Plan Guidance, Appendix 2: <https://www.ofgem.gov.uk/publications-and-updates/riio-2-business-plans-guidance-document>

⁷⁶ See Draft Determination GD Annex, paragraph 2.128.

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CVP name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
Off-grid communities: A trial to connect three communities, with a total of 349 properties, to natural gas over RIIO-GD2, delivering £4.4m net benefit.	Reject: We did not propose to accept the associated PCD proposal (Off-grid communities) ⁷⁷ so this CVP item should not receive a CVP reward.	No specific feedback was provided on our proposal.	Reject: We have decided to implement our Draft Determinations position to reject the associated PCD (Off-grid communities) for the reasons stated in Table 97 so it should not receive a CVP reward.
Theft of gas investigations: Incentive to be more proactive in investigating theft of gas. Estimated £290,000 worth of gas (over and above historical performance) will be returned to customers each year, delivering £1.3m net benefit.	Reject: Cadent’s proposal relied on a methodology considered by Ofgem in 2014 ⁷⁸ so we did not consider this CVP item innovative. We were however supportive of these activities, so proposed to share the costs and money recovered from the proactive investigation of gas theft through the TIM. ⁷⁹	No specific feedback was provided on our proposal.	Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change. See Chapters 2 and 4 of the GD Annex for more detail of the common approach we are applying to all GDNs for gas theft.
Community fund: At least 1% of our profits invested each year into the fund, delivering £27.2m net benefit.	Reject: We thought this CVP proposal constituted CSR activities that are not within Cadent’s business footprint. We think CSR should be BAU for GDNs, so this CVP item should not receive a CVP reward.	Cadent believes that this is an example of CSR that goes beyond business as usual and that this has been recognised by Ofgem as it has been awarded a bespoke ODI.	Reject: We have decided to implement our Draft Determinations position and have also decided to reject the associated bespoke ODI (as set out in Table 96). We acknowledge Cadent’s comments but maintain that charitable giving is a CSR activity outside of Cadent’s footprint. We also think that the provision of community funds is BAU for many utilities (and other large companies). We note Cadent's CEG had mixed response to this CVP in its independent report.

⁷⁷ See Draft Determinations Cadent Annex Table 25.

⁷⁸ Decision on incentive arrangements for Gas Distribution Networks on gas theft during conveyance and for unregistered sites: <https://www.ofgem.gov.uk/publications-and-updates/decision-incentive-arrangements-gas-distribution-networks-gas-theft-during-conveyance-and-unregistered-sites>

⁷⁹ Draft Determinations GD Annex paragraphs 4.10-4.15.

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CVP name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>Time bound appointments: Offer four-hour and two-hour timeslots for gas supply reconnection at customer appliances with a minimum 90% adherence rate, delivering £109.1m net benefit.</p>	<p>Reject: We did not consider this idea to be innovative and therefore, this CVP item should not receive a CVP reward. Ofgem considered GSOP appointment standards in its Sector Specific Methodology Consultation (SSMC)⁸⁰ but companies’ customer research indicated a GSOP was not worthwhile at that time. Given three network companies submitted similar ideas, we proposed to apply a common ODI-R for time-bound appointments.⁸¹</p>	<p>Cadent said offering two-hour slots provides more value than other GDNs. NGN agreed that given Ofgem proposed the provision of appointments in the SSMC, the idea was not sufficiently innovative to receive a CVP. Cadent's CEG said they would welcome transparency on relative company practice in this area through industry reporting. All GDNs submitted further evidence on their current practices.</p>	<p>Reject: We have decided to implement our Draft Determinations position to reject the associated ODI (Time bound appointments) for the reasons stated in Table 96 so it should not receive a CVP reward. We will implement reporting through our RRP to monitor this activity instead. Our rationale and detailed decision are set out in Chapter 2 of the GD Annex.</p>

⁸⁰ See paragraphs 3.133-3.137 of the RIIO-GD2 GD Sector Annex to the RIIO-2 Sector Specific Methodology Consultation (SSMC GD Annex), <https://www.ofgem.gov.uk/publications-and-updates/riio-2-sector-specific-methodology-consultation>.

⁸¹ Draft Determinations GD Annex paragraphs 2.66-2.74.

CVP name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>Entry capacity enablement:⁸² Reinforcement triggered by customer agreement, delivering £51.9m net benefit.</p>	<p>Reject: We recognised the proactive work Cadent is doing to progress these developments. However, the outcome is not fully within its control and requires input from the rest of the industry. Therefore, we thought the CVP benefits couldn’t be attributed solely to Cadent’s work. We were unable to separate out costs directly associated with Cadent’s proactive work but invited further evidence of these costs. If any evidence was attached to a clear deliverable, we proposed to consider whether to allow these costs.</p>	<p>The proposal is associated with a UM (Entry charging and access review), which Cadent believes has provided value to customers by placing more risk on the business. Cadent believes that the BPG has not been applied as it has identified additional risks to consumers, and the UM has been made into a common mechanism.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change. We are unable to provide any costs directly associated with this activity as Cadent did not provide any new evidence. We also do not think that Cadent should receive any CVP reward related to the associated UM. We stated in our SSMD that we would work with GDNs to develop the Heat Policy reopener⁸³ and have held workshops about entry gas connection,⁸⁴ which highlights that we were already aware of this area of uncertainty. Therefore, this proposal, and (entry charging and access review), which also concerns reform of the various contractual and charging arrangements for injecting gas onto the distribution network, is not considered to go above and beyond BAU.</p>

⁸² This is associated with the Entry capacity enablement - flexible-reinforcement bespoke UM proposal, which we have decided to merge with our common Heat Policy reopener (see Table 99).

⁸³ RIIO-2 Sector Specific Methodology Decision – Gas Distribution paragraph 3.65.

⁸⁴ <https://www.ofgem.gov.uk/publications-and-updates/riio-gd2-working-groups>

CVP name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>Entry charging and access review:⁸⁵ Reviewing charging policy to encourage greater connections of clean gas, with an indicative benefit of £50.3m.</p>	<p>Reject: We recognised the proactive work Cadent is doing to progress these developments. However, the outcome is not fully within its control and requires input from the rest of the industry. Therefore, we thought the CVP benefits couldn’t be attributed solely to Cadent’s work. We were unable to separate out costs directly associated with Cadent’s proactive work but invited further evidence of these costs. If we received evidence, attached to a clear deliverable, we proposed to consider whether to allow these costs.</p>	<p>The proposal is associated with an UM (Entry charging and access review), which Cadent believes has provided value to customers by placing more risk on the business. Cadent believes that the BPG has not been applied as it has identified additional risks to consumers, and its proposal has been made into a common mechanism.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change. We are unable to provide any costs directly associated with this activity as Cadent has not provided any new evidence. We also do not think that Cadent should receive any CVP reward related to the associated UM. We stated in our SSMD that we would work with GDNs to develop the Heat Policy re-opener⁸⁶ and have held workshops around entry gas connection,⁸⁷ which highlights that we were already aware of this area of uncertainty.</p>
<p>Delivering efficiency through the plan from our innovation strategy, competition strategy and transformation: Series of deliverables explained within the Innovation, Competition and Costs and Efficiencies chapters, delivering £155m net benefit.</p>	<p>Reject: Efficiency is already rewarded through other mechanisms in the price control, including the BPI Stage 4 and the TIM.</p>	<p>No specific feedback was provided on our proposal.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change.</p>

⁸⁵ This is associated with the Entry Charging and access review bespoke UM proposal, which we have decided to merge with our common Heat Policy re-opener (see Table 99).

⁸⁶ RIIO-2 Sector Specific Methodology Decision – Gas Distribution paragraph 3.65.

⁸⁷ For example, the Decarbonisation Working Group 17 September 2019.

CVP name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>Ongoing stakeholder engagement: Ten core commitments defined within the Stakeholder Engagement Strategy. Cadent did not quantify the benefit of this proposal in monetary terms.</p>	<p>Reject: We did not propose to accept the associated ODI proposal (Stakeholder engagement incentive (Stakeholder engagement))⁸⁸ so this CVP item should not receive a CVP reward.</p>	<p>Cadent believes that assessing non-quantifiable CVPs individually fails to deliver the intent of the BPI and therefore CVPs should be measured ‘in the round’. Cadent believes this specific proposal adds value by going beyond today’s standards.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change. We haven’t considered CVPs in the round. In the BPG we stated that each proposal will be assessed on its own merit and if an appropriate reward could not be determined then it may not receive a reward.⁸⁹</p>
<p>Network related whole system thinking: Series of deliverables defined within the Whole System Thinking chapter. Cadent did not quantify the benefit of this proposal in monetary terms.</p>	<p>Reject: The majority of the deliverables relate to Cadent’s leadership role in the Energy Networks Association’s Open Networks Workstream 4. We don’t think this highlights performance sufficiently above BAU, or the performance of other GDNs, to receive a reward.</p>	<p>No specific feedback was provided on our proposal.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change.</p>

⁸⁸ See Draft Determinations Cadent Annex Table 24.

⁸⁹ RIIO-2 Business Plan Guidance paragraph 5.16.

CVP name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>Establishing and raising the bar: Combining different measures of customer experience to establish new, separate measures for key customer service areas. Cadent did not quantify the benefit of this proposal in monetary terms.</p>	<p>Reject: We did not propose to accept the associated ODI proposal (Establishing and raising the bar for all of our customer and stakeholder experiences)⁹⁰ so this CVP item should not receive a CVP reward.</p>	<p>Cadent believes that assessing non-quantifiable CVPs individually fails to deliver the intent of the BP incentive and therefore CVPs should be measured ‘in the round’. Cadent believes that the proposed additional measure of customer satisfaction could lead to improvements for customer segments and services and could support the development of a new ODI in RIIO-GD3. Cadent said it will continue to develop the measure internally.</p>	<p>Reject: We have decided to implement our Draft Determinations position that this measure was not sufficiently developed to implement an ODI at this stage, therefore it should not receive a CVP reward. As set out in our BPG,⁹¹ each CVP was assessed individually on its own merit. There were no clear targets or components for the proposed ODI therefore the value to consumers is not clear.</p>
<p>Enhanced connections service to customers: 15-minute quote generation, and three-day site visit. Cadent did not quantify the benefit of this proposal in monetary terms.</p>	<p>Reject: We did not propose to accept the associated ODI proposal (Improving our household connection service)⁹² so this CVP item should not receive a CVP reward.</p>	<p>No specific feedback was provided on our proposal. Cadent said that it will continue to develop as an internal KPI where possible.</p>	<p>Reject: We have decided to implement our Draft Determinations position to reject the associated ODI (Improving our household connection service) so this does not warrant a CVP reward.</p>

⁹⁰ See Draft Determinations Cadent Annex Table 24.

⁹¹ See Business Plan Guidance, paragraph 5.16.

⁹² See Draft Determinations Cadent Annex Table 24.

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CVP name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>Minimising disruption: Minimising roadworks through coordination with others and better communication. Cadent did not quantify the benefit of this proposal in monetary terms.</p>	<p>Reject: We did not propose to accept the associated ODI proposals (Coordinating with others and Better roadworks proposals) although we proposed to work with Cadent to develop an incentive for collaborative streetworks. As we did not take forward its proposals, we considered this CVP item should not receive a CVP reward. In addition, while there was support for the associated ODIs, there was insufficient evidence of stakeholder support for the CVP.</p>	<p>Cadent stated that where its CVP proposals had associated deliverables that Ofgem have proposed to make bespoke or common, this provides additional value to customers.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change. We note that we decided to introduce a common ODI-F in this area for Cadent and SGN, but the design of this was driven by Ofgem, so this does not warrant a CVP reward.</p>
<p>Creating a thriving environment for our people: Ten commitments defined within its Trust Charter including improved employee management, more women in senior positions, more senior managers from BAME backgrounds and higher levels of capability across the organisation. Cadent did not quantify the benefit of this proposal in monetary terms.</p>	<p>Reject: We thought this CVP proposal constituted a range of best practice, diversity and inclusion and corporate social responsibility (CSR) activities. We thought these activities should be BAU for GDNs. We also proposed not to accept the associated ODI proposal (Trust Charter).⁹³</p>	<p>Cadent believes that assessing non-quantifiable CVPs individually fails to deliver the intent of the BP incentive and therefore CVPs should be measured ‘in the round’. Cadent believes the proposal goes beyond minimum standards and are valued highly by customers.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change. We haven’t considered CVPs in the round. In the BPG we stated that each proposal will be assessed on its own merit and if an appropriate reward could not be determined then it may not receive a reward.⁹⁴ Although Cadent states the proposal goes beyond minimum standards and is valued by customers, there was no substantive further evidence to suggest the proposals were above BAU for the reasons outlined in our Draft Determinations position.</p>

⁹³ See Draft Determinations Cadent Annex Table 24.

⁹⁴ RIIO-2 Business Plan Guidance paragraph 5.16.

CVP name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>MOBs - suite of enhancements: Reduced interruptions, ongoing engagement, building response plans and enhanced welfare services. Cadent did not quantify the benefit of this proposal in monetary terms.</p>	<p>Reject: There was not sufficient evidence that this CVP item went beyond BAU. It was not clear that the proposed service levels are stretching compared with other GDNs.</p>	<p>Cadent believes that assessing non-quantifiable CVPs individually fails to deliver the intent of the BP incentive and therefore CVPs should be measured ‘in the round’. Cadent believes the services proposed set new industry standards.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change. We haven’t considered CVPs in the round. In the BPG we stated that each proposal will be assessed on its own merit and if an appropriate reward could not be determined then it may not receive a reward.⁹⁵ We are also already rewarding enhanced welfare services through the (Personalised Welfare) CVP.</p>
<p>Connections: Providing new connections at the request of customers, with a funding mechanism for additional volumes above and beyond the lowest volumes observed during RIIO-GD1, delivering an indicative benefit of £20.2m. Supporting infrastructure growth.</p>	<p>Reject: We found insufficient evidence that the proposal, associated with the UM (Connections)⁹⁶, would improve on Cadent's past service delivery. There was also insufficient evidence that the proposal would deliver additional consumer value as connections are a BAU network company function.</p>	<p>Cadent believes that its proposal has provided value to customers by placing more risk on the business. Cadent believes that the BPG has not been applied as it has identified additional risks to consumers, and the UM has been made into a common mechanism.</p>	<p>Reject: We have decided to implement our Draft Determinations position. We acknowledge that turning a proposal into a common mechanism could provide additional value for customers which could be rewarded with a CVP. However, we held a workshop⁹⁷ which discussed a volume driver in this area, highlighting that we were already aware of the risk to future volume uncertainty. Additionally, the common volume driver we are implementing (Domestic connections) is also based on proposals from other GDNs and protects both consumers and GDNs. We don't think a CVP reward is appropriate as the proposals from other GDNs highlight this activity as BAU and the GDNs will benefit from the reduction in risk.</p>

⁹⁵ RIIO-2 Business Plan Guidance paragraph 5.16.

⁹⁶ See Draft Determinations Cadent Annex Table 61.

⁹⁷ Decarbonisation Working Group 17 September 2019, slides 13-14.

CVP name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>Diversions: Undertaking diversions to support development and maintain network safety that are not paid for by the person requesting the diversion, with an indicative benefit of £12.4m.</p>	<p>Reject: We did not propose to accept the associated UM proposal (Diversions)⁹⁸ so this CVP item should not receive a CVP reward.</p>	<p>Cadent believes that its proposal has provided value to customers by placing more risk on the business. Cadent believes that the BPG has not been applied as it has identified additional risks to consumers, and the UM has been made into a common mechanism.</p>	<p>Reject: We have decided to implement our Draft Determinations position. We acknowledge that turning a proposal into a common mechanism could provide additional value for customers which could be rewarded with a CVP. However, the common re-opener we are implementing (Pipeline Diversions and Loss of Development Claims) is also based on proposals from other GDNs and protects both consumers and GDNs. We do not think a CVP reward is appropriate as the proposals from other GDNs highlight this activity as BAU and the GDNs will benefit from the reduction in risk. We do not view it as a misapplication of the BPG as it was not stated that proposing one of the types of CVPs outlined would guarantee a reward - they were illustrations.</p>
<p>Reinforcements: Undertaking general and specific reinforcements, and capacity upgrades to maintain the resilience of the network and deliver capacity, with an indicative benefit of £37.2m.</p>	<p>Reject: We didn’t think these activities go beyond BAU for a GDN, so this CVP item should not receive a CVP reward.</p>	<p>No specific feedback was provided on our proposal.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change.</p>

⁹⁸ See Draft Determinations Cadent Annex Table 61.

CVP name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>Obligations with respect to MOBs UM: The Hackitt review of building regulations could drive new or further work across our MOB assets in response to policy changes, with an indicative benefit of £9.1m.</p>	<p>Reject: We did not consider the associated UM proposal (Obligations with respect to Multi Occupancy Buildings (MOBs)) goes beyond what we expect as part of BAU for this CVP item to receive a CVP reward.</p>	<p>Cadent believes that its proposal has provided value to customers by placing more risk on the business. Cadent believes that the BPG has not been applied as it has identified additional risks to consumers, and the UM has been made into a common mechanism.</p>	<p>Reject: We have decided to implement our Draft Determinations position. We acknowledge that turning a proposal into a common mechanism could provide additional value for customers, which could be rewarded with a CVP, however we do not believe that applies in this case. The UM is motivated by an independent review, the result of which will impose legal requirements upon GDNs. As GDNs will be required to undertake these measures by law, the re-opener has highlighted risk for them, not consumers.</p>
<p>Traffic collision protection: Intervention across its governor assets to install traffic collision protection, with an indicative benefit of £9.1m.</p>	<p>Reject: We did not propose to accept the associated UM proposal (Traffic collision protection)⁹⁹ so this CVP item should not receive a CVP reward.</p>	<p>No specific feedback was provided on our proposal.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change.</p>
<p>Pipes above safety threshold: Replacing high risk pipes above a safety threshold that are not part of the existing repex programme, delivering an indicative benefit of £81.7m.</p>	<p>Reject: We did not think there was sufficient evidence of additional consumer value for activities that are typically undertaken by a network company as BAU. We thought that network companies should manage this risk as part of their asset management practices and so this CVP item does not warrant a CVP reward.</p>	<p>No specific feedback was provided on our proposal.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change.</p>

⁹⁹ See Draft Determinations Cadent Annex Table 61.

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CVP name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
High pressure valves: Intervening across the HP valve population, with an indicative benefit of £12.9m.	Reject: We did not propose to accept the associated UM proposal (High pressure valves) ¹⁰⁰ so this CVP item does not warrant a CVP reward.	No specific feedback was provided on our proposal.	Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change.
Lowestoft project UM: Interventions to address historical network health issues at Lowestoft Harbour, with an indicative benefit of £14.2m.	Reject: We did not propose to accept the associated UM proposal (Lowestoft project) ¹⁰¹ so this CVP item should not receive a CVP reward.	No specific feedback was provided on our proposal.	Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change.

Summary of decisions - bespoke uncertainty mechanisms

A1.6 This section sets out our decisions on the UMs that Cadent proposed in its Business Plan, including our consideration of the Draft Determination responses, which we have summarised below, along with our decisions and rationale.

¹⁰⁰ See Draft Determinations Cadent Annex Table 61.

¹⁰¹ See Draft Determinations Cadent Annex Table 61.

Table 99: Cadent's bespoke UM proposals

UM name and description	Draft Determinations summary	Consultation response summary	Ofgem's Final Determination
Obligations with respect to Multi Occupancy Buildings (MOBs): Mechanism to fund any changes in requirements to Cadent's work required for high-rise MOBs in response to external reviews or legislation.	Accept: We proposed to set this proposal as a common UM. We found sufficient justification and consider that the uncertainty is applicable to all GDNs. ¹⁰²	All GDNs supported our proposal to create a common UM. See Chapter 4 of our GD Annex (Heat Policy re-opener) for a summary of responses to our proposals for the common re-opener.	Reject: We have decided to implement our Draft Determinations position to merge this proposal into a common UM as we have received no substantive evidence to justify a change. See GD Annex Chapter 4 for details of the Heat Policy re-opener.
HyNet North West Hydrogen scale demonstration project - Strategic Innovation Project: Continue to develop and be prepared to deliver and manage the HyNet North West hydrogen transportation network on direction from Government and Ofgem.	Reject: We did not propose to include standalone UMs for strategic large-scale hydrogen projects. We proposed to respond to large-scale hydrogen projects using the net zero and innovation investment mechanisms. ¹⁰³	The RIIO-2 CG agreed with our proposed approach that large projects like HyNet would be considered under re-opener mechanisms or through innovation funding. Cadent responded with a request for baseline funding for the next step of HyNet: a FEED study. This is different in scope from Cadent's original UM proposal.	Reject: We have decided to implement our Draft Determinations position as we have responded separately to the evidence Cadent provided. Separately, we have decided to fund the next phase of HyNet, see Cadent Annex Chapter 2. See Chapter 7 and 8 of the Core Document for our suite of Net Zero mechanisms, which can respond to future large projects.
Hydrogen blending rollout - Strategic innovation project: Design an effective, efficient and safe rollout of a hydrogen blending operating and billing regime and support Government plans for large-scale trials of hydrogen conversion.	Reject: We did not propose to include standalone UMs for strategic large-scale hydrogen projects. We proposed to respond to large-scale hydrogen projects using the net zero and innovation investment mechanisms.	No respondents provided specific feedback for this UM. The RIIO-2 CG agreed with our proposed approach of using re-openers (eg Heat Policy re-opener) when a case hasn't been made.	Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change. See Chapter 7 and 8 of the Core Document for our suite of Net Zero mechanisms, which can respond to future large projects.

¹⁰² Draft Determinations GD Annex paragraphs 4.42-4.48.

¹⁰³ See Draft Determinations Core Document Chapter 8 and Draft Determinations GD Annex paragraphs 2.155-2.160 and 4.53-4.61.

UM name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>Entry capacity enablement - flexible-reinforcement: Lead an industry review of distributed entry gas commercial arrangements and create and utilise a flexible funding regime for entry gas reinforcements, supported by an uncertainty mechanism.</p>	<p>Reject: We proposed to merge this proposal with the common Heat policy re-opener. We agreed that the outcome of this review is uncertain and may result in increased costs for gas networks and made specific provision for this in our Heat Policy re-opener.¹⁰⁴</p>	<p>A consumer representative group and the RIIO-2 CG supported the merging of entry capacity enablement into a common UM instead of bespoke mechanisms. See Chapter 4 of our GD Annex (Heat Policy re-opener) for a summary of responses to our proposals for the common re-opener.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change. Respondents were supportive of our proposal to merge with a common UM. See Chapter 4 of our GD Annex for details of the Heat Policy re-opener.</p>
<p>Entry charging and access review: Mechanism to fund works to enable new connections of entry gas to Cadent's network. Cadent has proposed a review of the entry charging and access regime, with a view to socialise costs for green gas connections to enable this.</p>	<p>Reject: We proposed to merge this proposal with an existing common UM. We agreed that the outcome of this review is uncertain and may result in increased costs for gas networks. We therefore made specific provision for this in our Heat Policy re-opener.¹⁰⁵</p>	<p>A consumer representative group and the RIIO-2 CG supported the merging of the entry charging and access review into a common UM instead of bespoke mechanisms. See Chapter 4 of our GD Annex (Heat Policy re-opener) for a summary of responses to our proposals for the common re-opener.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change. Respondents were supportive of our proposal to merge with a common UM. See Chapter 4 of our GD Annex for details of the Heat Policy re-opener.</p>

¹⁰⁴ Draft Determinations GD Annex paragraphs 4.49-4.61.

¹⁰⁵ Draft Determinations GD Annex paragraphs 4.49-4.61.

UM name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>Timely reinforcement: Enable third parties to underwrite appropriately sized and early reinforcements, without creating an asset stranding risk for existing gas consumers. Dependent on new commercial arrangements on user commitment being approved.</p>	<p>Reject: Insufficient needs case. We thought there could be merit to expedite reinforcement work while managing asset stranding risk. However, we found insufficient justification to establish a bespoke UM or an ODI. Instead we proposed to introduce a common New Large Loads re-opener for all GDNs.</p>	<p>Cadent did not put forward further evidence for this specific proposal. It thought that our position on Reinforcement should be joined up with our approach to the common New Large Load re-opener that we proposed to introduce at Draft Determinations, and referred us to its response to that mechanism. A consumer representative group and the RIIO-2 CG agreed with our proposal to introduce a common UM instead of bespoke mechanisms. See Chapter 4 of our GD Annex (New Large Load Connection(s) re-opener) for a summary of responses to our proposals for the common re-opener.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change. We think our common New Large Load Connection(s) re-opener focusing on specific reinforcement driven by large connections addresses emerging reinforcement uncertainty. We think GDNs are best placed, as they have done in the past, to manage other types of reinforcement uncertainty through baseline totex. See Chapter 4 of our GD Annex for details of the New Large Load Connection(s) re-opener.</p>
<p>Reinforcements: Mechanism to fund general and specific reinforcement, and capacity upgrades work to maintain the flow of gas across Cadent's networks. This mechanism is proposed above a minimum funding request included in Cadent’s baseline allowance.</p>	<p>Reject: We thought there was an insufficient needs case for a new UM. We provided a baseline allowance through our modelled capex for all GDNs. We considered a volume driver would weaken the incentive for GDNs to adopt non-build capacity solutions.</p>	<p>See Timely reinforcement above for a summary of responses. See Chapter 4 of our GD Annex (New Large Load connection(s) re-opener) for a summary of responses to our proposals for the common re-opener.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change. See Chapter 4 of our GD Annex for details of the New Large Load connection(s) re-opener.</p>

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UM name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>Specified streetworks (lane rentals): Expected changes in legislation on lane rentals and permits, but it is uncertain where and how these changes might apply.</p>	<p>Reject: We proposed to merge this proposal into a new common UM to address the uncertainty for future costs associated with new permit and lane rental schemes not yet in operation.¹⁰⁶</p>	<p>A consumer representative group and the RIIO-2 CG agreed with our proposal to introduce a common UM instead of bespoke mechanisms. See Chapter 4 of our GD Annex (specified streetworks re-opener) for a summary of responses to our proposals for the common re-opener.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change. See Chapter 4 of our GD Annex for details of the specified streetworks re-opener.</p>
<p>Smart meter roll-out costs: pass-through mechanism for system integration to interact with the Data Communication Company (DCC).</p>	<p>Reject: We did not find clear evidence that GDNs would be mandated to be DCC Users during RIIO-GD2 and considered that Cadent needs to weigh costs and benefits for any membership decisions. We considered there was insufficient justification of the needs case for a re-opener.</p>	<p>A consumer representative group and the RIIO-2 CG agreed with our proposal to introduce a common UM instead of bespoke mechanisms. See Chapter 4 of our GD Annex (smart meter rollout re-opener) for a summary of responses to our proposals for the common re-opener.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have no additional substantive evidence to justify a change. The responses received supported our position. See Chapter 4 of the GD Annex for details of the smart meter rollout re-opener.</p>

¹⁰⁶ Draft Determinations GD Annex paragraphs 3.124-3.127 and 4.78-4.83.

UM name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>Pipes above safety threshold (PAST): Volume driver to fund the replacement of additional pipes beyond those covered by the Tier 2A iron mains mechanism, which meet a specific risk criterion.</p>	<p>Reject: We did not think that Cadent presented robust evidence to support application of a mechanistic process for determining when interventions are required for management of repex assets. We also thought the NARM mechanism provides companies with sufficient flexibility to manage risk on their networks within RIIO-GD2 and therefore an additional mechanism is not needed.</p>	<p>In Cadent's Draft Determinations response it revised its repex forecasts and suggested a new approach to managing asset management repex mains. Under this revised approach, Cadent agreed this mechanism was no longer required.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change.</p>
<p>Connections: Mechanism to fund costs associated with new connections for new housing, existing housing and non-domestic connections. This mechanism is proposed above a minimum funding request included in our baseline allowance.</p>	<p>Reject: We proposed to merge this UM into a new common UM. We considered that there was sufficient evidence the network company cannot manage the uncertainty within its baseline allowance. However, we considered the need for risk mitigation applies to all GDNs and we proposed a common volume driver.¹⁰⁷</p>	<p>A consumer representative group and the RIIO-2 CG agreed with our proposal to introduce a common UM instead of bespoke mechanisms. See Chapter 4 of our GD Annex (domestic connections volume driver) for a summary of responses to our proposals for the common re-opener.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change. See Chapter 4 of the GD Annex for the domestic connections volume driver.</p>

¹⁰⁷ Draft Determinations GD Annex paragraphs 4.62-4.65.

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UM name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>Diversions: Mechanism to fund non-chargeable diversions that will be required in RIIO-GD2 which are currently unknown. This includes costs incurred through land easements and diversion work such as 'lift and shifts'.</p>	<p>Reject: We proposed to merge this UM into a new common UM. We considered that there was sufficient evidence that the network company cannot manage the uncertainty within its baseline allowance. However, we considered the need for risk mitigation applies to all GDNs and we proposed a common re-opener <7 bar diversions.¹⁰⁸</p>	<p>Cadent accepted our proposals. A consumer representative group and the RIIO-2 CG agreed with our proposal to introduce a common UM instead of bespoke mechanisms. See Chapter 4 of our GD Annex (Repex – Pipeline Diversions and Loss of Development Claims) for a summary of responses to our proposals for the common re-opener.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change. Responses were generally supportive of our proposal to merge with a common UM. See Chapter 4 of the GD Annex for the Repex – Pipeline Diversions and Loss of Development Claims re-opener.</p>
<p>Lowestoft project: A re-opener to fund specific work at Lowestoft harbour tunnel, to introduce a permanent solution in response to the previous collapse of an intermediate pressure pipeline at the harbour quay.</p>	<p>Reject: Following an engineering review of the supporting information, we did not consider that Cadent had fully justified the needs case for the project. In particular, we had concerns over some of the assumptions, including rising gas demand.</p>	<p>Cadent revised its BP position, proposing a PCD for the £2.27m project. It also submitted a more detailed feasibility study. Cadent's CEG agreed that Cadent's proposed PCD would be more appropriate than a re-opener assuming we agreed the needs case for the project.</p>	<p>Reject: We have decided to reject Cadent's UM proposal and to merge Cadent's PCD proposal into the Capital Projects PCD. The additional evidence Cadent submitted justified the needs case, addressing the concerns we raised at Draft Determinations. See Chapter 2 of the GD Annex and Chapter 2 of this Annex for further details on the Capital Projects PCD.</p>

¹⁰⁸ Draft Determinations GD Annex paragraphs 4.37-4.41.

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UM name and description	Draft Determinations summary	Consultation response summary	Ofgem’s Final Determination
<p>Traffic collision protection: A volume driver to fund additional requirements that may be introduced to protect our governor assets from vehicle collisions</p>	<p>Reject: We found insufficient justification of the materiality and likelihood of the uncertainty. We considered that Cadent could manage these requirements within its totex baseline.</p>	<p>Cadent stated that it will manage the risk within its baseline allowance as it has no further evidence on materiality and likelihood. The RIIO-2 CG agreed with our approach of rejecting UMs where the need case has not been made.</p>	<p>Reject: We have decided to implement our Draft Determinations position as we have received no substantive evidence to justify a change.</p>
<p>High pressure valves: A volume driver to fund work to maintain the condition and operability of valves on our high pressure network.</p>	<p>Reject: We found insufficient justification of the materiality of the uncertainty and of stakeholder support. We considered that we provided a sufficient baseline allowance through our modelled opex for non-routine inspection and maintenance.</p>	<p>Cadent accepted our challenge to its volume driver proposal and instead requested baseline funding. It submitted an EJP in support of its request.</p>	<p>Reject: We have decided to implement our Draft Determinations position to reject the volume driver. We have reviewed Cadent’s EJP and accept the project needs case and volume of work. The activity is not unique to Cadent, so we have included the £13.75m cost in the totex regression to ensure consistent treatment across GDNs.</p>

Appendix 2 - Projects moved from the Capital projects PCD into baseline totex

A2.1 We have removed the projects listed in Table 100 from the Capital Projects PCD and expect GDNs to deliver these within the baseline allowance.

Table 100: Cadent projects removed from capital projects PCD between Draft Determinations and Final Determinations

Network	Cost category	Project name	RIIO-GD2 Submitted costs Sep 20 (£m)
EoE	LTS Pipelines, Storage & Entry	LTS Reduced Depth of Cover	2.45
EoE	Other Capex	MP/IP Valves	16.69
Lon	LTS Pipelines, Storage & Entry	LTS Reduced Depth of Cover	1.23
Lon	Other Capex	Brunel Bridge	0.99
Lon	Other Capex	MP/IP Valves	8.23
NW	LTS Pipelines, Storage & Entry	LTS Reduced Depth of Cover	0.77
NW	LTS Pipelines, Storage & Entry	Holford Salt Cavity	1.93
NW	Other Capex	MP/IP Valves	13.12
NW	Other Capex	Mersey Tunnel	0.75
WM	LTS Pipelines, Storage & Entry	LTS Reduced Depth of Cover	0.74
WM	Other Capex	MP/IP Valves	5.74