BPI incentives at the RIIO-GD3 DD

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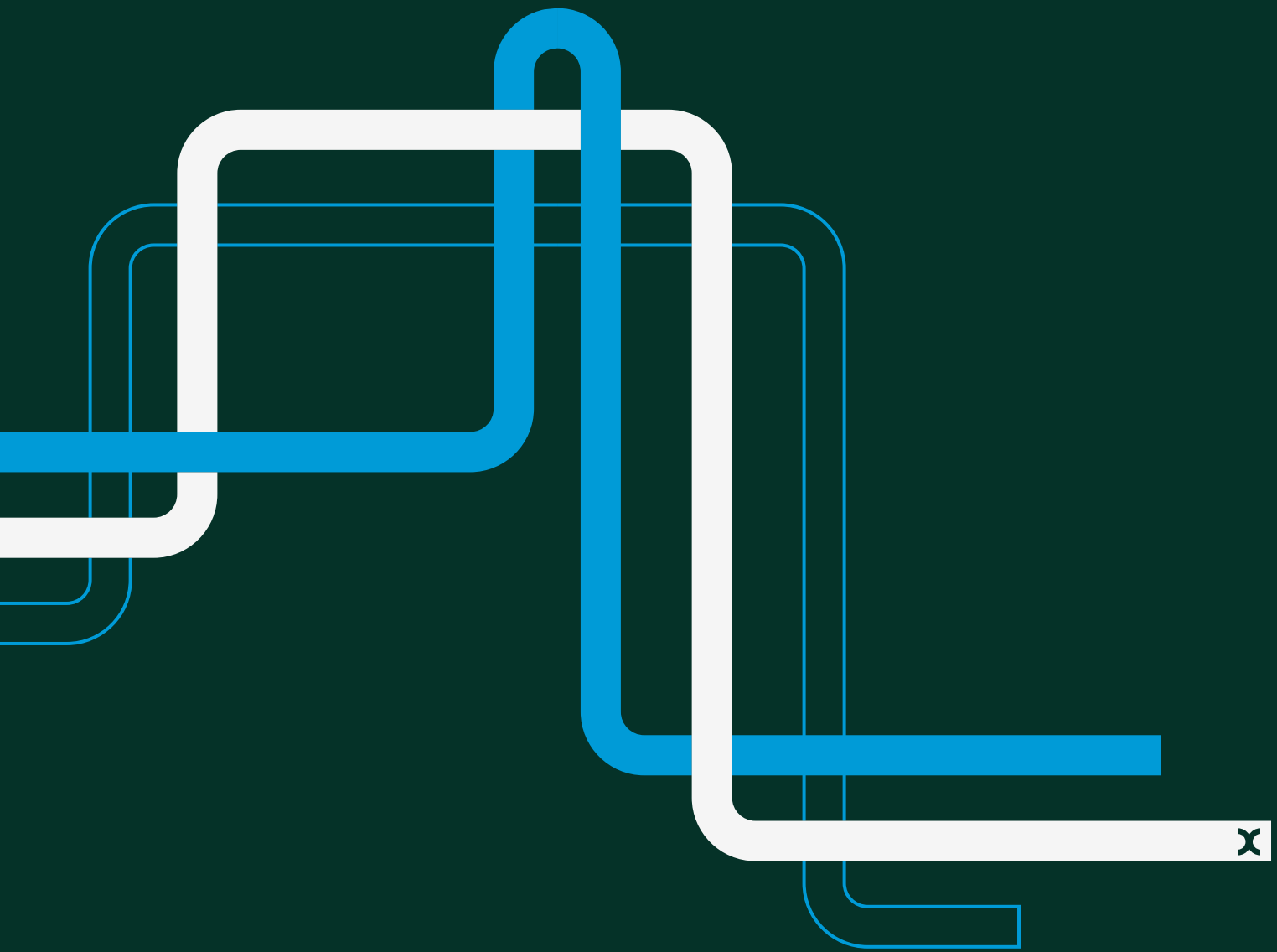


Contents

Executive Summary 1

1 Introduction 5

2 Setting the scene: BPI assessment in RIIO-GD3 7
2.1 What is the BPI? 7
2.2 BPI outcomes in Ofgem's RIIO-GD3 DD 8

3 Balance of incentives within the BPI 11
3.1 Balance of RIIO incentives over time: ex ante ambition and ex post delivery 12
3.2 Weight of incentives on service quality 16
3.3 Benefits of efficient performers in setting the price control 20
3.4 Concluding remarks 22

4 GDN performance—cost, service and delivery 23
4.1 Cost efficiency—Ofgem's assessment compared with RIIO-GD2 assessment and outturn. 23
4.2 Quality of service provided 26
4.3 Concluding remarks 32

5 Conclusion 33
5.1 Concerns with the BPI incentive 33
5.2 Recommendations 34

A1 Additional exhibits 37
A1.1 Quality of service 37
A1.2 Cost efficiency against quality of service, geometric mean 44

Figures and Tables

Figure 2.1 Outcome of RIIO-GD3 DD BPI (bps), by component 8
Figure 2.2 Difference between the DD efficiency assessment (open dot) and updated Ofgem assessment (solid dot) 9
Figure 3.1 BPI reward (positive)/penalty (negative) for the Stage B – Comparative component post-error correction (bps) 15

Figure 3.2	BPI outcome on comparative efficiency (left) total cost efficiency (middle) and service quality commitments (right) at DD	17
Figure 3.3	Ofgem DD position on RIIO-GD3 RoRE ranges across all GDNs	19
Figure 3.4	GDN BP and Ofgem's DD proposals for the non-MOB Unplanned Interruptions ODI-F target	21
Figure 4.1	RIIO-GD3 DD efficiency position, post error correction	24
Figure 4.2	RIIO-GD2 DD against RIIO-GD3 DD efficiency position	25
Figure 4.3	RIIO-GD2 TOTEX over/underspend against RIIO-GD3 DD efficiency position	26
Figure 4.4	Percentage of uncontrolled escapes attended within one hour	27
Figure 4.5	Service quality of the most cost-efficient GDNs (2021/22–24/25)	29
Figure 4.6	Service quality of the less cost efficient GDNs (2021/22–24/25)	30
Figure 4.7	RIIO-GD3 modelled cost efficiency against service quality track record for RIIO-GD2 to date	31
Figure A1.1	Uncontrolled escapes attended within one hour (%)	38
Figure A1.2	Controlled escapes attended within two hours (%)	39
Figure A1.3	Average duration of unplanned supply interruptions (minutes)	40
Figure A1.4	Percentage of repairs carried out within 7 days	41
Figure A1.5	Percentage of repairs carried out within 28 days	41
Figure A1.6	Average customer satisfaction score	42
Figure A1.7	Jobs substantially completed by the date agreed with the customer (%)	43
Figure A1.8	Reduction in shrinkage (%),	43
Figure A1.9	RIIO-GD3 modelled cost efficiency against service quality track record for RIIO-GD2 to date (geometric mean)	45

Executive Summary

Oxera has been commissioned by Northern Gas Networks (NGN) to assess Ofgem's RIIO-GD3 approach to the Business Plan Incentive (BPI), with a focus on:

- How the BPI has evolved over time.
- Ofgem's objectives for the BPI, and what it is seeking to incentivise through this mechanism.
- The outturn performance of the gas distribution networks (GDNs) during RIIO-GD2 to assess the reliability of information used in determining BPI rewards.

Ofgem sets out its rationale for the BPI in its RIIO-3 core draft determination (DD) document, as follows.

> The Business Plan Incentive (BPI) was developed to overcome information asymmetries between us [Ofgem] and the companies and to motivate companies to develop high-quality, ambitious business plans that embed efficiency and represent value for money for consumers.[1]

For RIIO-GD3, the BPI is an uplift or penalty to companies' allowed cost of equity based on Ofgem's assessment of the quality and level of ambition in company business plans.

To assess whether the BPI effectively incentivises high-quality business plans, we consider three criteria that determine when a business plan genuinely represents value for money. Such business plans provide Ofgem with reliable information for setting a more effective price control.

- **Ambition of cost efficiency**. How ambitious are the cost efficiency assumptions underpinning companies' business plan proposals?
- **Reliability of cost forecasts**. Do the incentives/rewards for delivery adequately incentivise companies to make realistic projections of business plan expenditure and what are the consequences for being overly optimistic?

[1] Ofgem (2025), 'RIIO-3 Draft Determinations Overview Document', 1 July, p. 31, accessed on 13 August 2025, https://www.ofgem.gov.uk/sites/default/files/2025-06/Draft-Determinations-Overview-Document.pdf.

- **Balance of cost and service quality**. Is cost efficiency achieved without compromising high levels of service quality?

Our overall finding with respect to these three criteria is that the current BPI framework primarily incentivises GDNs to submit ambitious cost forecasts (with regards to criterion 1), while giving comparatively little weight to companies' track records in delivering both cost efficiency (with regards to criterion 2) and high service quality (with regards to criterion 3).

At RIIO-GD3 the BPI rewards networks that take an optimistic view of the cost reductions, even if these cannot be achieved. This is in part as a result of the move from the Information Quality Incentive (IQI) to the BPI, as there is no longer as clear a link between the TOTEX Incentive Mechanism (TIM) rate and the ambition of GDNs' business plans (section 3.1). At DD, the RIIO-GD3 regime appears to confer high powered incentives to propose low cost plans, while incentives to deliver quality of service are significantly weaker, both in business plans and during the price control period (section 3.2). Despite the high value of comparators that provide combined evidence of low cost and high quality of service,[2] Ofgem largely assesses these two areas in isolation from one another (section 3.3).

We have undertaken quantitative analysis of GDNs performance in RIIO-GD2—comparing ambition of their cost efficiency proposals against deliverability and the balance with service quality. Of the networks modelled at or beyond the cost efficiency frontier, we find that NGN has a uniquely strong track record of delivering cost efficient business plans (section 4.1). We also find that NGN combines its forecast and historical cost efficient position with sector-leading service quality performance across a range of metrics (section 4.2). To the extent that the BPI is intended to provide incentives to companies to provide information and business planning that Ofgem can use in calibrating its price control, companies such as NGN that deliver and propose sector-leading performance should receive the incentives to do so.

Under the original DD outcome, NGN received the highest reward (in terms of RoRE) within Stage B and overall, commensurate with the ambition and reliability of its cost efficiency forecasts and its track record of balancing cost efficiency with high quality of service. However, we understand that following correction of issues identified

[2] Business plans that combine strong historical performance with credible, ambitious targets for efficiency and service performance provide Ofgem with valuable information for setting a robust price control. This then helps to unlock value for money for all GB consumers.

with its DD assessment of cost efficiency, the outcome of Ofgem's Stage B BPI component will change. As a result, NGN's BPI will reduce by £21.1m while the BPI accruing to the Cadent networks will increase by £22.8m.[3] In the context of the performance comparison set out in section 4.2 (see Figure 4.7), the outcome of this change is that the majority (97%) of Stage B BPI reward payments will be received by GDNs that—while exhibiting ambitious cost efficiency for RIIO-GD3—have either over-spent against their RIIO-GD2 allowance to date (EoE) and/or have not ranked within the top network performers in RIIO-GD2 as regards service quality (EoE and WM).

This is consistent with our assessment of the incentives within the current BPI, that it incentivises ambitious cost efficiency, but not reliability or balance with service quality. As the reward/penalty structure drives networks' performance in future, if Ofgem does not remediate these shortcomings in the RIIO-GD3 incentive regime, it risks incentivising a low-cost, low quality of service regime in the future.

There are several avenues available to Ofgem to remediate the issues we have highlighted with the BPI. The three avenues we consider in this report are not mutually exclusive; indeed, as no single avenue resolves all of the concerns raised above, Ofgem may implement aspects of all three.

Avenue one: Ofgem could set the TIM at a higher level for companies that are close to/beyond the benchmark, and conversely lower for companies that are significantly lagging behind the benchmark. This approach, which would be broadly analogous to the IQI used at RIIO-GD1, was proposed by Oxera in a paper submitted by NGN in response to the SSMD.[4] Were Ofgem to consider introducing a differentiated TIM range across GDNs at RIIO-GD3, this could be introduced as a condition for earning Stage B rewards, or as an option available for more efficient networks to opt into.

Avenue two: Ofgem could consider adjusting the balance of incentives available to companies for leading cost efficiency (at Stage B) and leading service quality (at Stage C). Increasing the reward associated with a business plan that commits to stretching outcome delivery incentive (ODI) targets would incentivise networks to balance cost efficiency against ensuring that service quality is not compromised. Ofgem could ensure that GDNs have an incentive to follow-through with

[3] Ofgem (2025), 'RIIO-GD3 Draft Determinations Issue Corrected Model (ICM)', August.
[4] Oxera (2024), 'Incentive alignment under the proposed BPI framework', 27 September.

their BP commitments by setting differentiated ODI rates based on GDNs' level of ambition—with more stretching BPs earning a higher ODI incentive rate, as well as, or instead of a larger Stage C BPI reward. This adjustment, analogous to differentiated TIM under avenue one, could be introduced into the RIIO-GD3 process as a condition for Stage C rewards, or as an option for higher performing networks to opt into.

Avenue three: Ofgem could seek to calibrate the overall BPI package such that it accounts for the additional benefit that Ofgem receives (towards protecting the consumer interest) from business plans which combine ambition on costs with a track record of delivering both cost efficiency and high service quality.

There are several ways in which Ofgem could deliver this, including:

- integrating quality of service into the cost assessment approach and/or adjusting the assessment of cost efficiency to reflect failure to meet statutory standards or ODI penalties;
- making the highest rewards in Stage B and C contingent on high performance in the other area, and/or on GDNs' track record/credibility of delivering quality of service;
- introducing an additional stage to the BPI incentive, that rewards networks that combine low costs with high quality, and have backed up ambition with evidence of a track record of delivery and/or credible delivery plans.

An additional stage to the BPI could be readily introduced for the FD stage—e.g. the option for high performers to opt into a higher TIM rate, and/or higher ODI rates.[5] Without any such adjustments to the design of the BPI, Ofgem will not be able to effectively deliver against its aims for this incentive mechanism, in supporting cost-efficient and high quality network performance in RIIO-GD3 and beyond.

[5] We note that at RIIO-GD2, for example, Ofgem amended its assessment of the Customer Value Proposition component of the BPI between the DD and FD stage. See: Ofgem (2020), 'RIIO-2 Final Determinations – Core Document', 8 December, p. 135, accessed on 21 August 2025 at: https://www.ofgem.gov.uk/sites/default/files/docs/2020/12/final_determinations_-_core_document.pdf.

1 Introduction

Oxera has been commissioned by NGN to assess Ofgem's RIIO-GD3 approach to setting the BPI against the following.

- The evolution of business plan incentives over successive RIIO price controls.
- Ofgem's stated criteria for RIIO-3—i.e. to reward companies that submit business plans that represent genuine value for money, helping Ofgem set a better price control.
- The outturn performance of the gas distribution networks (GDNs) over RIIO-GD2.

We consider that the assessment and analysis that we undertake in this report would inform the following draft determination consultation questions.

- OVQ11—do you agree with the equal weightings applied per criteria/rating for the 'Clarity scorecard' and the 'Business Plan Commitments scorecard' for the Stage C assessment?[6]
- OVQ12—Do you agree with the weightings applied per outcome for each sector for use in the Stage C - Business Plan commitments assessment?[7]
- NGNQ3—do you agree with our [Ofgem's] assessment results for NGN against Stage B of the BPI?[8]
- NGNQ4—do you agree with our [Ofgem's] assessment results for NGN against Stage C of the BPI?[9]

This report is structured as follows:

- in section 2 we set out the design and intent of the BPI, and its application by Ofgem at the RIIO-GD3 DD stage;
- in section 3 we assess how the BPI has changed over time, and how this has changed networks' incentives to balance ambition against deliverability. We also compare the strength of cost efficiency incentives against service quality incentives at the RIIO-GD3 DD stage. The section closes with a summary of the benefits to the price control process of holistic efficient

[6] Ofgem (2025), 'RIIO-3 Draft Determinations Consultation Questions', 1 July, p. 7, accessed on 19 August 2025, https://www.ofgem.gov.uk/sites/default/files/2025-06/RIIO-3-Draft-Determinations-Consolidated-Questions.pdf.
[7] Ibid., p. 7.
[8] Ibid., p. 23.
[9] Ibid., p. 23.

performance—i.e. GDNs that can consistently deliver high quality of service at a low cost;

- in section 4 we analyse the consistency of GDNs' track record of performance, over time, as well as the relationship between cost efficiency and quality of service. Focusing on those networks that have been assessed as cost efficient at RIIO-GD3, we assess how well the BPI outcome in the RIIO-3 DD aligns with rewarding holistic efficient performance;
- section 5 concludes, summarising the findings from the previous sections and outlining several recommendations to better align the incentives from Ofgem's BPI with cost-efficient and high quality network performance in RIIO-GD3.

2 Setting the scene: BPI assessment in RIIO-GD3

Before evaluating the impact of the BPI on incentives, we start by setting out its aims and how it has been applied at the RIIO-GD3 DD stage. First, we summarise the intention underpinning the BPI, and how the incentive has been designed by Ofgem. Then we describe how the BPI functioned at the RIIO-GD3 DD stage, and how this will change as a result of the correction of modelling errors in Ofgem's original DD modelling.

2.1 What is the BPI?

The BPI is an uplift or penalty to companies' allowed cost of equity based on Ofgem's assessment of the level of stretch in company plans. Ofgem sets out its rationale for the BPI in its RIIO-3 core draft determination (DD) document, as follows.

> The Business Plan Incentive (BPI) was developed to overcome information asymmetries between us [Ofgem] and the companies and to motivate companies to develop high-quality, ambitious business plans that embed efficiency and represent value for money for consumers.
>
> The BPI rewards companies where, in our view, their business plan represents **genuine additional value for money** compared to business-as-usual and provides information that **helps us to set a better** price control. In contrast, **inefficient, lower quality Business Plans are subject to financial penalties**.[10] [emphasis added]

At RIIO-GD3, the BPI is composed of five components.[11]

- **Stage A**, a penalty-only minimum standard based on 'completeness'—all networks passed this stage at the DD, scoring the maximum 'reward' of 0 basis points (bps).
- **Stage B – Comparative**, the most highly powered component of the BPI with the highest available reward, based on an assessment of comparative cost efficiency between networks.
- **Stage B – Bespoke**, the quality and efficiency of costs put forward by companies as bespoke.

[10] Ofgem (2025), 'RIIO-3 Draft Determinations Overview Document', 1 July, p. 31, accessed on 13 August 2025, https://www.ofgem.gov.uk/sites/default/files/2025-06/Draft-Determinations-Overview-Document.pdf.
[11] Ibid., p. 56.

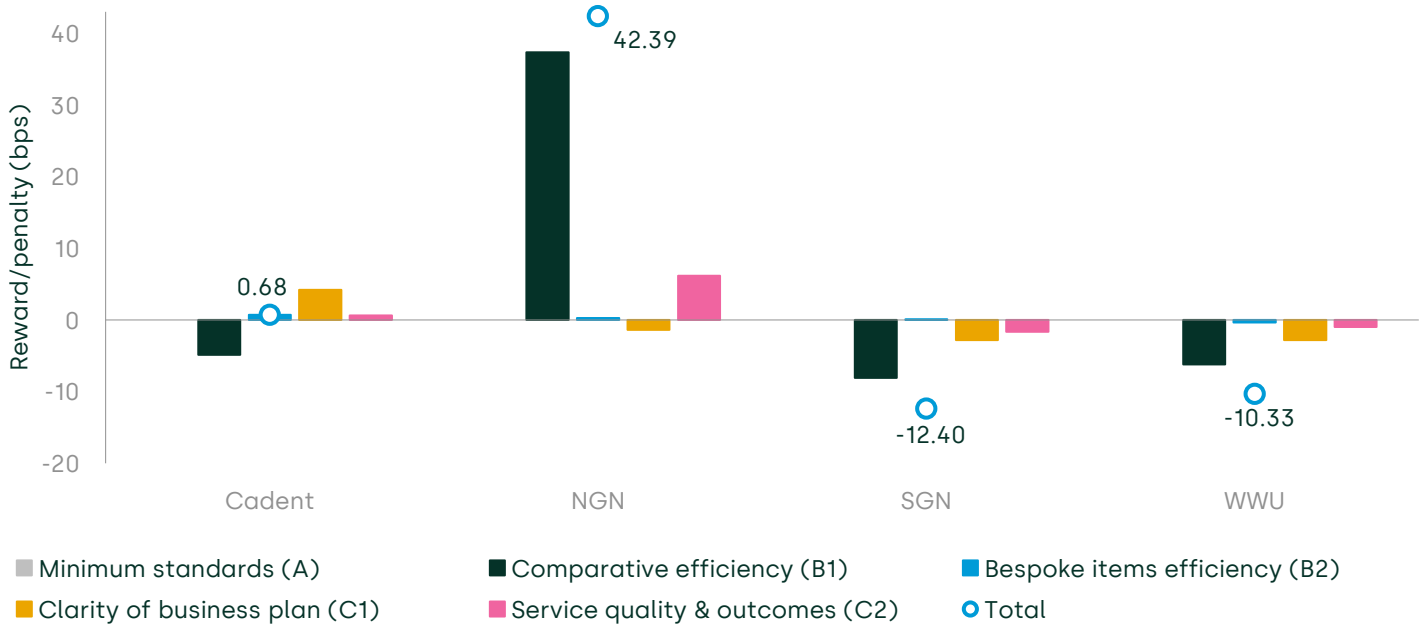
- **Stage C – Clarity**, the clarity of companies' business plans—based on structure, accessibility, relevance, clarity of customer value and coherence.
- **Stage C – Commitments**, the ambition of the service offering being proposed for customers—assessed across net zero transition, secure and resilient supplies and quality of service.

Having outlined the five BPI components, we now examine how these operated in practice at the DD stage.

2.2 BPI outcomes in Ofgem's RIIO-GD3 DD

Figure 2.1 shows the outcome as part of the DD for RIIO-3 across each of these five components (bars) for the GDNs and the net BPI position for each GDN group (dot). This is expressed in basis points (bps) of the return on regulatory equity (RoRE) with respect to the equity portion of the RAV.

Figure 2.1 Outcome of RIIO-GD3 DD BPI (bps), by component

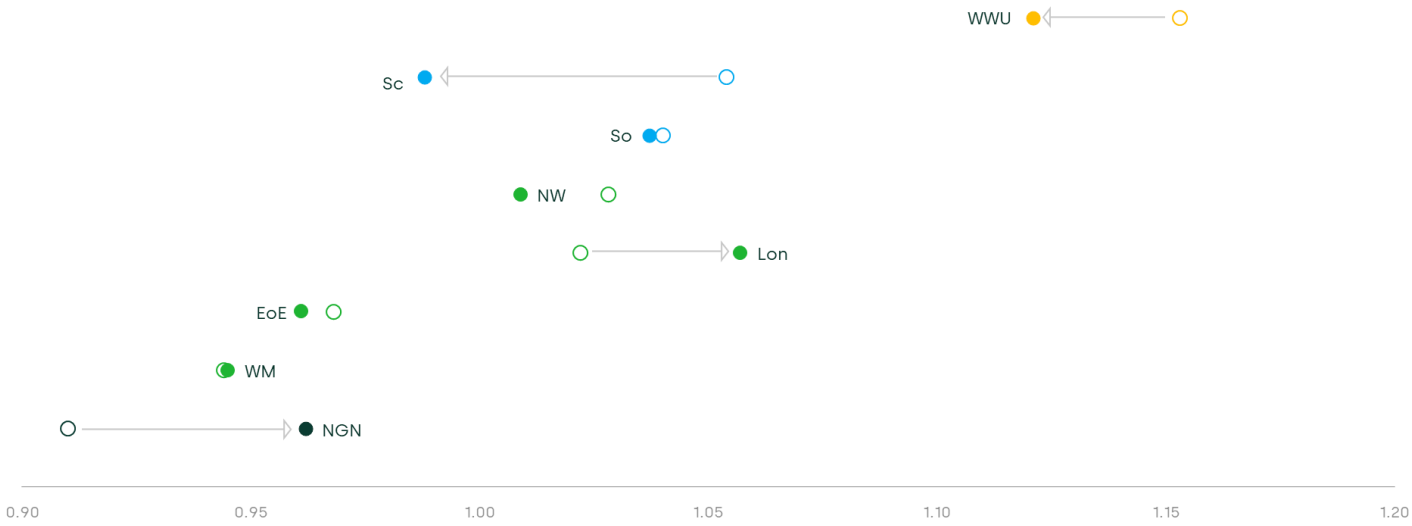


Source: Oxera analysis of table 4 of the Ofgem RIIO-3 DD overview document. Ofgem (2025), 'RIIO-3 Draft Determinations Overview Document', 1 July, p. 55, accessed on 13 August 2025, https://www.ofgem.gov.uk/sites/default/files/2025-06/Draft-Determinations-Overview-Document.pdf. Note that this is the assessment published in Ofgem's DD, prior to its correction of its cost assessment modelling errors.

However, the original DD outcome has since been materially affected by corrections to Ofgem's DD cost assessment modelling. We understand

that, following corrections of some modelling errors, Ofgem's assessment of the efficiency position of the GDNs has changed substantially. This change is set out in Figure 2.2 below.

Figure 2.2 Difference between the DD efficiency assessment (open dot) and updated Ofgem assessment (solid dot)



Source: Oxera analysis.

Following this revision, NGN's assessed relative efficiency position has shifted from being the sole network at the frontier, to there being three GDN networks—NGN, Cadent West Midlands (WM) and Cadent East of England (EoE)—effectively 'bunched together' at the frontier of efficient performance. Further changes between now and the FD, such as how consistently cost exclusions are treated by Ofgem in the efficiency assessment, may lead to further changes in the modelled efficiency assessment, and thereby BPI outcome. In terms of the BPI, the outcome of this change is that the majority (97%) of Stage B BPI reward payments will be received by Cadent networks.[12]

Given the weight[13] that is placed on this comparative efficiency assessment in calculating the most highly weighted component of the

[12] Cadent will receive a Stage B BPI reward of £12.73m following the error correction. The only other network to receive a net Stage B BPI reward is NGN with £0.36m. Ofgem (2025), 'RIIO-GD3 Draft Determinations Issue Corrected Model (ICM)', August.
[13] Between 84% and 93% of the stage B assessment is based on the comparative efficiency assessment.

BPI, Stage B, Oxera has been asked to consider whether the mechanistic impact of applying this change to comparative efficiency assessment represents an appropriate BPI outcome for NGN. While there is not a single objectively 'correct' outcome of an incentive such as the BPI, in this report we assess how NGN's business plan and track record compares to its peers, and the implications for its BPI position. We assess whether this leads to appropriate incentives to deliver 'high-quality, ambitious business plans that embed efficiency and represent value for money for consumers' in line with the underpinning objectives of the BPI incentive. Related to this, it is helpful to consider whether the BPI incentive design would tend to facilitate the delivery of high-quality and low-cost performance in RIIO-GD3.

3 Balance of incentives within the BPI

Having established how the BPI operates mechanically, we now assess whether its design achieves Ofgem's stated objectives by examining three key dimensions of business plan quality. A business plan that demonstrates quality across these three dimensions represents value for money for customers, as well as providing information that helps Ofgem to set a better price control. A well-calibrated BPI should incentivise networks to submit business plans that meet these criteria.

- **Ambition of cost efficiency**. How ambitious are the cost efficiency assumptions underpinning companies' business plan proposals?
- **Reliability of cost forecasts**. Do the incentives/rewards for delivery adequate to incentivise companies to make accurate projections of business plan expenditure and what are the consequences for being overly optimistic?
- **Balance of cost and service quality.** Is cost efficiency achieved without compromising high levels of service quality?

Achieving a low-cost plan by sustaining poorer service quality than peer companies does not represent genuine efficiency or value for money. It may also not be in the interest of consumers that place a value on reliable supply, a timely response to outages and other aspects of service quality.

If companies are strongly incentivised to commit to spending less over the price control period by the BPI incentive, without significant in-period consequences to under-delivery, this reduces the weight that can be placed on company forecasts. Within RPI-X regulation in general, and within the RIIO-3 regime, by design, companies are incentivised to meet or beat cost forecasts in period through the use of the sharing rate—i.e. the application of the TIM. By construct, therefore, the lower the proportion of ex ante TOTEX baseline funding (relative to in-period allowances via uncertainty mechanisms), and the lower the TIM rate, the lower the incentive for in-period cost efficiency. In this context, it is important to recognise that a decoupling of the BPI incentive from the TIM rate means that the BPI outcome does not depend on, or affect, dynamic in-period incentives to deliver and beat the cost efficiency in GDNs' plans.

The combination of cost efficiency and, high-service quality with outturn delivery at, or better than, its predictions forms the most useful benchmark for a price control. A potential criticism of regulatory

determinations can arise if the regulator sets a target in one area in isolation, without considering the overall achievability of its targets in others. To the extent that there are cost-efficient companies with a track record of high service quality performance over time, the regulator can be more confident that targets set on the basis of this performance are reasonable[14] for the rest of the industry.[15]

In the rest of this section, we expand on how these key criteria are balanced at the RIIO-GD3 DD stage, and the value that Ofgem derives from business plans that are ambitious on costs and service and backed up by a credible delivery record.

In section 3.1, we summarise how the balance of RIIO incentives has changed over time with respect to the weight placed on ex ante declared ambition against ex post delivery. We identify that the weight of incentives in the RIIO-GD3 DD has, in effect, shifted towards submitting ambitious forecasts, and away from delivery, relative to RIIO-GD1.

In section 3.2, we assess the balance of incentives on cost minimisation against service quality. We find that there are much greater incentives on cost efficiency than service quality at the BPI stage, and that persists into the incentives to deliver in-period.

In section 3.3, we outline several examples of how a rounded performer that meets all three of the criteria above (low cost, credible delivery, high quality) provides value to Ofgem in setting the draft determinations. Section 3.4 concludes.

3.1 Balance of RIIO incentives over time: ex ante ambition and ex post delivery

The balance of incentives between ambition and delivery has evolved over successive RIIO price controls.

At RIIO-GD1, companies were incentivised to submit accurate cost data within their business plans through the IQI. Under the IQI, companies that submitted business plan costs closer to, or more challenging than, the regulator's estimate of efficient costs received a higher cost-sharing rate, as well as an income reward. Conversely, companies that submitted business plan costs further away from the regulator's

[14] Taking into account any relevant and significant changes in operating conditions over time or between regions.
[15] Adjusted for size and other relevant characteristics.

estimate of efficient costs received a lower cost-sharing rate and a lower income reward/income penalty.

The higher sharing rate that an ambitious company would receive meant that they would keep more of any underspend that they were able to achieve against the regulatory allowance—but would also be exposed to greater downside risk if they were to overspend.

As companies that submitted costs that were less ambitious received a lower sharing rate, they would benefit less from any underspend/outperformance but equally benefit from greater protection against any overspend/ underperformance.

The additional income reward/penalty component of the IQI was expressed as a percentage of TOTEX. It ranged from a reward of 1.5% of TOTEX (for NGN) to a penalty of 0.5% of TOTEX (for Cadent – London).

For RIIO-GD2, Ofgem removed the IQI, instead developing the first iteration of the BPI. This was a reward/penalty capped at +/-2% of TOTEX based on Ofgem's assessment of network's plans. There were four components within the BPI, as follows.

- Stage 1: plans that failed to meet minimum requirements received a fixed penalty of 0.5% of TOTEX.
- Stage 2: a financial reward was available based on the number of companies' customer value propositions (CVPs) accepted by Ofgem—in practice very few were accepted (6 of 117 proposals, with rewards totalling £12.6m across three companies).
- Stage 3: a penalty-only adjustment equivalent to 10% of the value of any low confidence cost items that were removed from the plan.
- Stage 4: a reward for submitting costs lower than Ofgem's benchmark of efficient costs. NGN was the only GDN to receive a stage 4 reward, receiving £5.9m. This can be seen as a continuation of the income reward/penalty component of the IQI—with the scope to receive a differential sharing rate relative to peers disappearing.

Compared with the RIIO-GD1 IQI, the approach taken at RIIO-GD2 tended to increase the incentive to submit ambitious (low) cost forecasts. At RIIO-GD2, companies' cost-sharing rates no longer depended on the ambition of their cost forecasts, but instead on Ofgem's degree of confidence that it [Ofgem] could independently set a

baseline cost allowance.[16] Therefore, companies that expected to overspend allowances no longer had an incentive to reveal this information

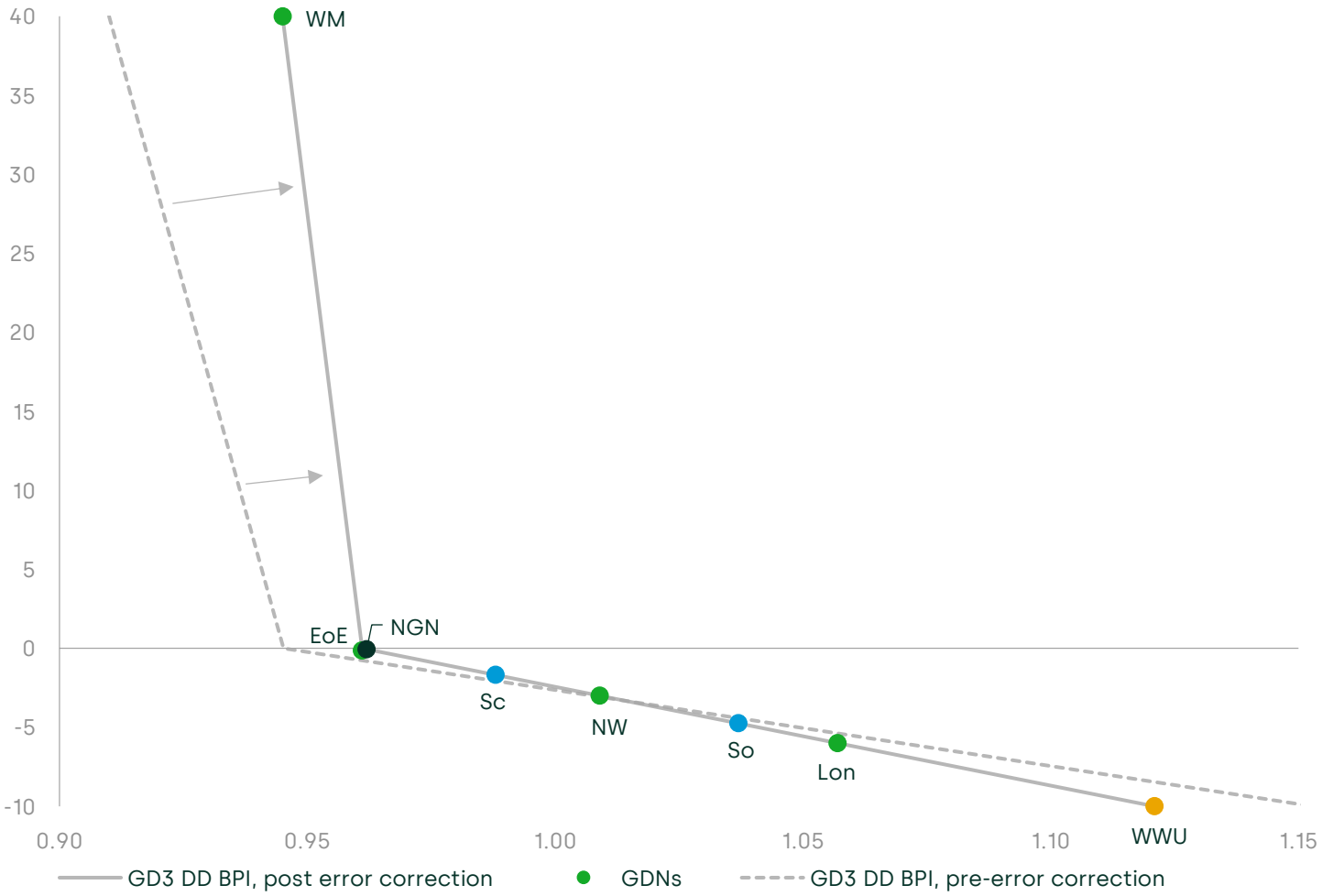
Combined with a significant reduction in the cost-sharing rate—ranging between around 50% at RIIO-GD2 to above 60% at RIIO-GD1—the net effect is that companies tend to face greater incentives to propose ambitious plans, and fewer potential consequence for failing to deliver these.

At the RIIO-GD3 DD stage, this is heightened further with the significantly higher powered Stage B – Comparative component of the BPI—effectively an evolution of Stage 4 of the RIIO-GD2. With the most cost-ambitious GDN receiving a reward of 40bps, and the cost-sharing rate fixed at 50% for all GDNs, the balance of incentives remains shifted towards ex-ante business plan ambition and away from in-period delivery.

In Figure 3.1, we show how the Stage B – Comparative component of the BPI incentive operates following Ofgem's correction of the error in its cost modelling suite. The vertical axis shows the BPI reward (positive) or penalty (negative), expressed in bps of regulatory equity. The horizontal axis shows GDNs' efficiency score. The strength of the BPI incentive for companies close to the frontier can be seen by the significantly heightened slope after the efficiency frontier.

[16] Ofgem (2019), 'RIIO-2 Sector Specific Methodology – Core document', 24 May, pp. 103-104, accessed on 21 August 2025 at: https://www.ofgem.gov.uk/sites/default/files/docs/2019/05/riio-2_sector_specific_methodology_decision_-_core_30.5.19.pdf.

Figure 3.1 BPI reward (positive)/penalty (negative) for the Stage B – Comparative component post-error correction (bps)



Source: Oxera analysis.

Setting aside the TIM rate—which is not differentiated across the networks in the DD[17]—it appears that there are no ex post delivery consequences, as part of the BPI incentive design, to being overly optimistic in the forecast costs provided to Ofgem. This is unlike the incentive design choice in RIIO-GD1, whereby networks assessed to be more efficient would have to absorb a greater share of any overspend (as a result of the IQI regime).

Under the RIIO-GD3 approach, an over-optimistic network does not face ex post consequences to overstating its potential for efficiency via the

[17] Ofgem (2025), 'RIIO-3 Draft Determinations – Gas Distribution', 20 July, p. 162, accessed on 21 August 2025 at: https://www.ofgem.gov.uk/sites/default/files/2025-06/Draft-Determinations-Gas-Distribution.pdf.

BPI mechanism—even if it were to secure the full Stage B – Comparative BPI reward of 40bps. Networks would however need to assess whether there was any offsetting impact on ex ante allowances through influencing the cost benchmark. We assessed the influence of individual business plan submissions on the cost benchmark in our two previous papers on the BPI for NGN as part of the RIIO-GD3 process to date.[18,19]

Within the constraints of the cost modelling framework and reporting guidelines, networks would also face incentives to secure the BPI reward by allocating costs outside of the baseline assessment (i.e. cost exclusions) or via cost allocation choices between networks within groups.

3.2 Weight of incentives on service quality

Within the BPI, the only direct avenue for rewards for service quality is the Stage C – Comparison component. A company that is ranked as 'outstanding' across all service quality measures within one of three sub-categories earns the following BPI rewards (companies earn symmetric penalties if they are ranked as 'poor').

- Infrastructure fit for a low-cost transition to net zero—5.2bps available.
- Secure and resilient supplies—3.9bps available.
- High quality of service from regulated firms—3.9bps available.

However, these rewards are then apportioned further as part of a 'balanced scorecard' approach that takes into account four criteria, each with a 25% weighting:

- deliverability—0.98bps, 1.3bps for secure and resilience supplies;
- consumer value and additionality—0.98bps, 1.3bps for secure and resilience supplies;
- stretching performance—0.98bps, 1.3bps for secure and resilience supplies;
- new company proposals—0.98bps, 1.3bps for secure and resilience supplies.

A company that was marked as outstanding across all three areas, and against each of these criteria, would earn a maximum BPI reward of 13bps. Conversely, a company that was marked as poor in every measure could earn a maximum BPI penalty of 13bps. A company that

[18] Oxera (2024), 'Incentivising truth telling, efficiency and value for consumers', 23 January.
[19] Oxera (2024), 'Incentive alignment under the proposed BPI framework', 27 September

submitted stretching performance targets on every metric receiving an 'ambitious' grade could earn a maximum BPI reward of 3.3bps.

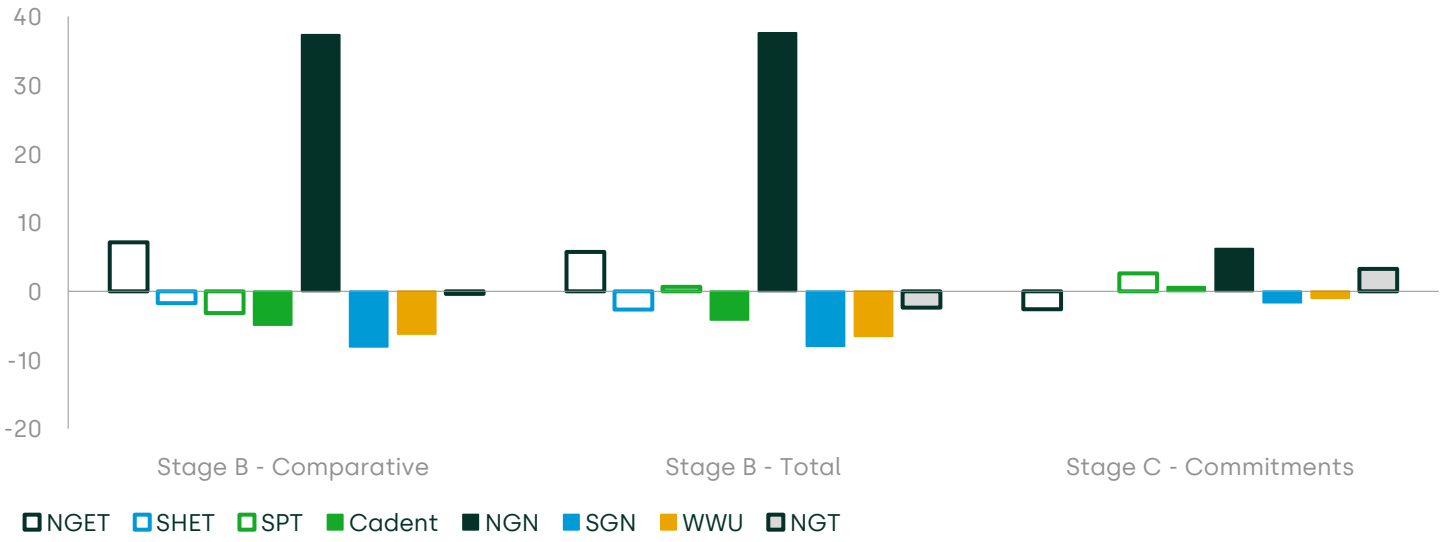
This compares to a much larger reward that is available for cost efficiency, i.e. maximum reward of 40bps if assessed as maximally efficient on costs (Stage B), and 20bps if assessed as inefficient.

The disparity, by design, between the BPI rewards available for leading service quality and cost efficiency is reflected in the implementation of the BPI at the DD. Figure 3.2 presents the BPI outcome for each company across ET, GD and GT across three areas:

- the efficiency of comparative costs component (Stage B – Comparative, on the left;
- the efficiency of total costs (comparative and bespoke, Stage B – Total, in the centre; and
- the BPI for service quality (Stage C – Commitments, on the right).

It can be seen that the range of both rewards and penalties is much greater for Stage B than Stage C.

Figure 3.2 BPI outcome on comparative efficiency (left) total cost efficiency (middle) and service quality commitments (right) at DD

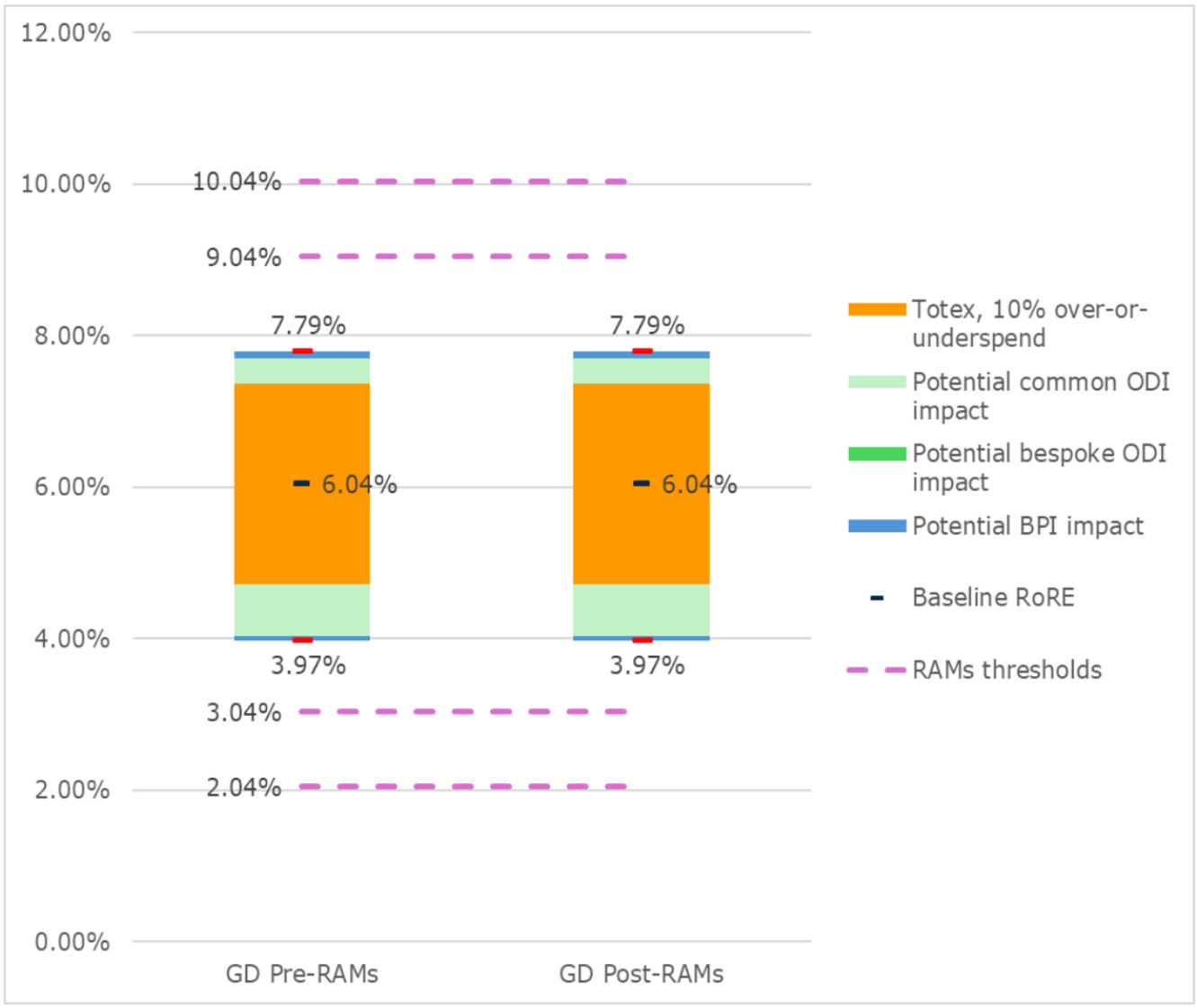


Source: Oxera analysis of table 4 of the Ofgem RIIO-3 DD overview document. Ofgem (2025), 'RIIO-3 Draft Determinations Overview Document', 1 July, p. 55, accessed on 13 August 2025, https://www.ofgem.gov.uk/sites/default/files/2025-06/Draft-Determinations-Overview-Document.pdf.

Once the price control has been set, efficient companies look to balance their performance across cost efficiency and service quality to deliver optimal outcomes for their customers while securing financial returns. At the RIIO-GD3 DD stage, greater rewards under Stage B than Stage C mean that the balance of incentives appears to be skewed towards reducing costs over delivering improvements in service quality.

Figure 3.3 shows the range of financial outcomes (expressed in RoRE). The orange bar around the baseline RoRE shows the impact of a deviation in TOTEX from allowances by +/-10%. Some companies have breached or come close to breaching these levels in RIIO-GD2 to date. For example, Cadent – East of England and London have overspent their allowances by 9% and 11% respectively, while SGN – Scotland and NGN have underspent by 11% and 8% respectively. The green bar shows the absolute maximum penalty and reward available through ODIs—which are individually bounded through caps and collars in place on each ODI. By contrast, TOTEX is only bounded by the total revenue risk protection in place for RAMs.

Figure 3.3 Ofgem DD position on RIIO-GD3 RoRE ranges across all GDNs



Source: Ofgem (2025), 'RIIO-3 Draft Determinations – Finance Annex', 1 July, p. 76.

It can be seen that the risk and reward available for service quality is significantly lower than for TOTEX, and skewed substantially to the downside. The downside skew is in large part due to the prevalence of penalty-only ODIs within the framework. These differences in ex ante risk expectation are broadly equivalent to the same analysis that Ofgem carried out at the RIIO-2 FD.[20]

[20] Ofgem (2021), 'RIIO-2 Final Determinations – Finance Annex (REVISED)', 3 February, p. 70.

Therefore, companies face the following architecture of incentives with respect to cost efficiency and service quality in RIIO-GD3.

- The benefits of proposing a business plan that is minimum cost are greater than proposing a plan that balances this against delivering high customer service quality.
- In-period, companies have greater risk exposure (and opportunity for rewards) by prioritising cost reductions against service quality. In particular, for highly efficient operators that can balance efficient expenditure while delivering a high quality of service, there are limited benefits to seeking to perform beyond the ODI targets already set by Ofgem.

Alongside the greater incentives to propose ambitious costs in business plans highlighted in section 3.1, this presents two risks for Ofgem. First, GDNs do not have a strong incentive to submit a rounded plan that delivers high service quality alongside efficient costs. Second, GDNs face limited incentives, ex ante or ex post, to avoid over-optimism in their submitted plans, with respect to cost and service quality.

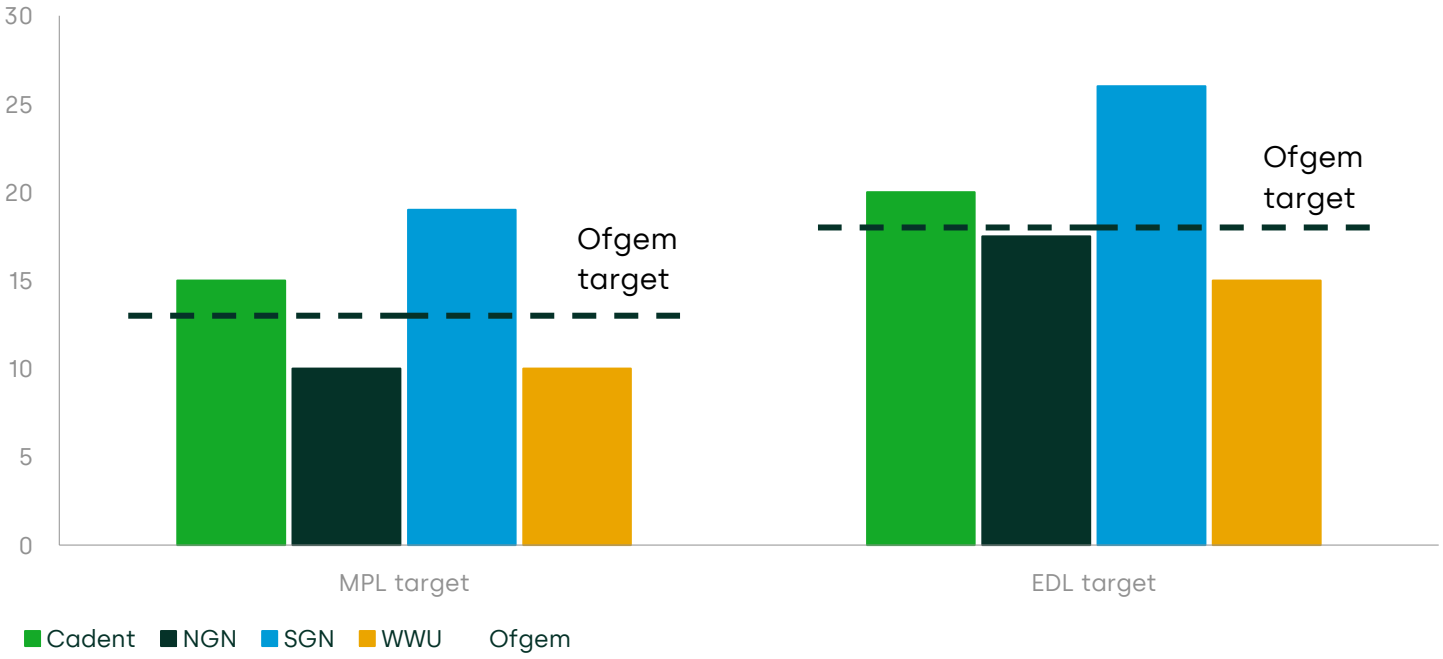
An adjusted BPI incentive that, by design, rewarded companies based on their track record as well as commitments, and was better balanced across cost efficiency and service quality, could counteract these risks. It would also reflect the benefit that such companies deliver to Ofgem in setting its price control, which we summarise in the next sub-section.

3.3 Benefits of efficient performers in setting the price control

The benefits of a low-cost high-performing comparator, such as NGN, can be seen directly in several of the decisions within the RIIO-GD3 DD.

For example, with respect to the non-MOB Unplanned Interruptions ODI-F, NGN and WWU have delivered a high level of performance over the RIIO-GD2 period and proposed commensurately stretching targets. This informed Ofgem's DD decision to set a target for this ODI that was more stretching than the proposals put forward by Cadent and SGN, as shown in Figure 3.4 below. The credibility of Ofgem's target is enhanced by NGN's historical outturn—and BP proposals to surpass Ofgem's target—while performing at or beyond the cost benchmark.

Figure 3.4 GDN BP and Ofgem's DD proposals for the non-MOB Unplanned Interruptions ODI-F target



Note: There are two targets for the unplanned interruptions ODI-F: MPL (minimum performance level) and EDL (excessive deterioration level).
Source: Oxera analysis.

Another area of service quality in which NGN influences new and credible targets for the industry is 7- and 28-day repair standards. As the best historical performer on both metrics, NGN improves the industry average that Ofgem uses to define the performance target. Moreover, NGN proposed the ODI-F in the first instance, initially at RIIO-2, and has submitted a more stretching proposal for the level at which the 7- and 28-day targets should be set—89% and 98% respectively, relative to Ofgem's DD targets of 75% and 90%.

NGN is the only GDN to receive a rating of outstanding or acceptable across every single component of the Stage C – Commitments component.[21] This assessment is based on the stretch, deliverability, consumer value and new proposals contained within companies' ODI proposals. All other networks received at least one assessment of 'poor' within a component of the Stage C – Commitments assessment.

We note that the broader benefits that NGN provides in setting the price review is incremental to the direct value that customers of a low-cost

[21] Ofgem (2025), 'RIIO-3 Draft Determinations - Northern Gas Networks (NGN)', pp. 16–18.

and high-performing company receive—benefitting from lower bills and a more responsive service.

3.4 Concluding remarks

A holistic assessment of GDNs' track-record of cost and service quality delivery appears to be an omitted aspect of the framework for rewarding high-quality and ambitious business plans that embed efficiency and represent value for money for consumers. We have shown how such business plans, building on a strong track-record of delivery to propose a combination of high cost efficiency with high service quality, would provide useful information to Ofgem. The ability to set targets that are credible and ambitious supports Ofgem in unlocking value for money for all GB customers.

Instead, GDNs in RIIO-GD3 face an incentive framework via BPI that rewards networks that take an optimistic view of the cost reductions, even if these cannot be achieved. This has occurred in part as a result of the move from the IQI to the BPI, as there is no longer as clear a link between the TIM rate and the ambition of GDNs' business plans. In terms of the criteria we set out at the start of this section—with respect to cost efficiency, the BPI does not confer strong incentives to demonstrate ambition with reliability.

At DD, the RIIO-GD3 regime appears to confer high powered incentives to propose low cost plans, while incentives to deliver quality of service are significantly weaker, both in business plans and during the price control period. Despite the high value of comparators that provide evidence of low cost and high quality of service, cost efficiency and quality of service are assessed by Ofgem largely in isolation from one another. In terms of the criteria we outline at the start of this section, the BPI places insufficient weight on incentivising a balance between cost efficiency and service quality.

In the next section, we set out how GDNs compare on this holistic basis—i.e. comparing the efficiency of their proposals with their service quality delivery record. This allows us to understand whether a BPI based on the more holistic view of GDNs' performance would lead to a different outcome than Ofgem's current approach.

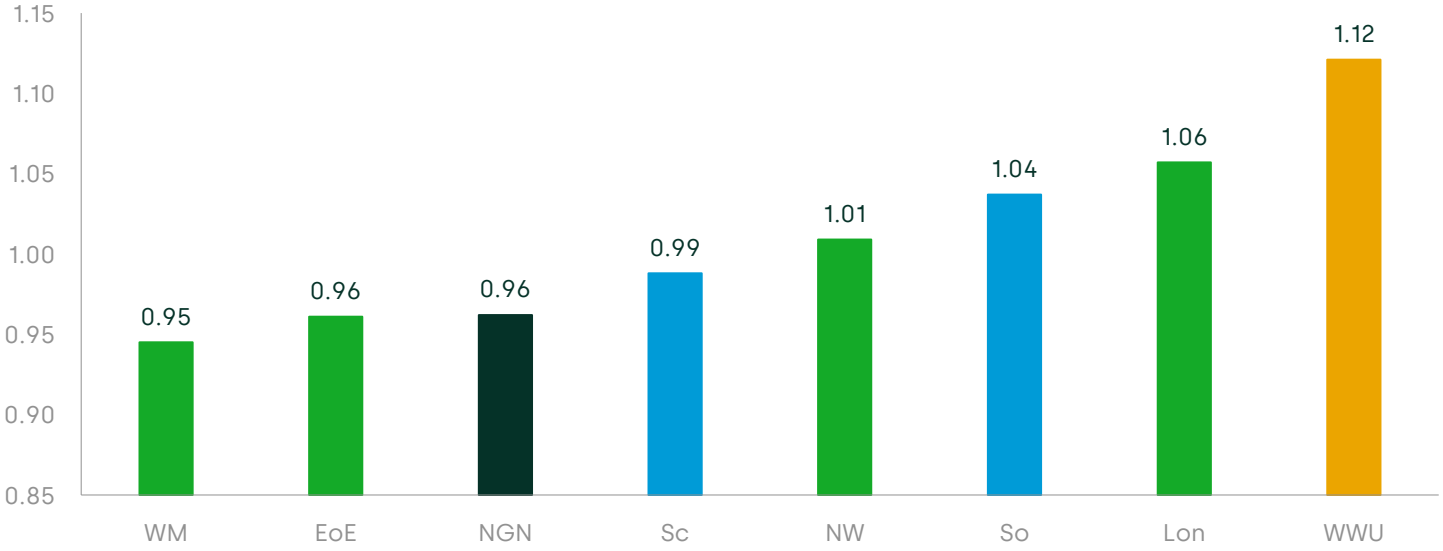
4 GDN performance—cost, service and delivery

In section 4.1, we compare the outcome of the cost efficiency assessment at the RIIO-GD3 DD to the GD2 DD outcome and recent outturn performance. We find that NGN, among the three GDNs closest to the frontier, has shown the more consistent performance in how it has been assessed at previous price controls—placing it as the most cost-efficient company at RIIO-GD2 and delivering significant outperformance against its target over the period. In section 4.2, we assess the track record of performance across the industry—with a particular focus on the three most cost-efficient companies. We find that, when assessed across a broad range of service-quality metrics, NGN consistently delivers sector-leading quality of service and cost performance, while the other companies assessed as cost efficient have a track-record of delivering performance at or below the sector average. Section 4.3 concludes.

4.1 Cost efficiency—Ofgem's assessment compared with RIIO-GD2 assessment and outturn.

In Figure 4.1, we set out the cost-efficiency position of the eight GDNs at the RIIO-GD3 DD, following Ofgem's correction of some errors in the initial determination. This shows, on a forward-looking basis (i.e. over the RIIO-GD3 period), that Cadent – WM is assessed as the most cost-efficient, followed by Cadent – EoE and NGN shortly behind.

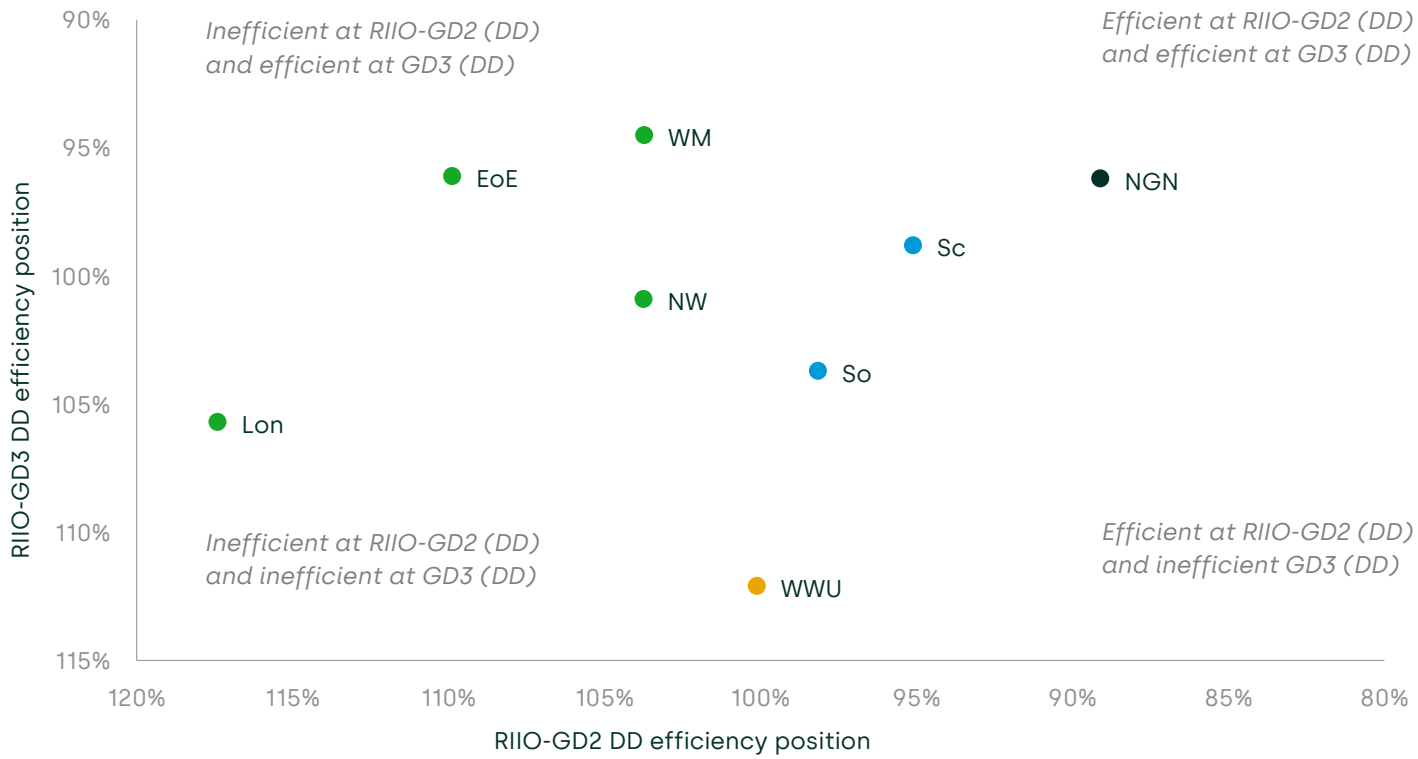
Figure 4.1 RIIO-GD3 DD efficiency position, post error correction



Source: Oxera analysis.

We take two approaches to assessing the companies' track record with respect to cost efficiency. In Figure 4.2, we plot the consistency of Ofgem's assessment of GDN cost efficiency between the RIIO-2 DD and RIIO-3 DD—i.e. at the same point in the price control process. NGN's position has been the most consistent among the cost efficient companies at GD3, ranking as the frontier company at the GD2 DD assessment, and close to the frontier in GD3. By contrast WM and EoE were some distance from the frontier company position at the GD2 DD—with this gap narrowing, although remaining, at the GD2 FD.

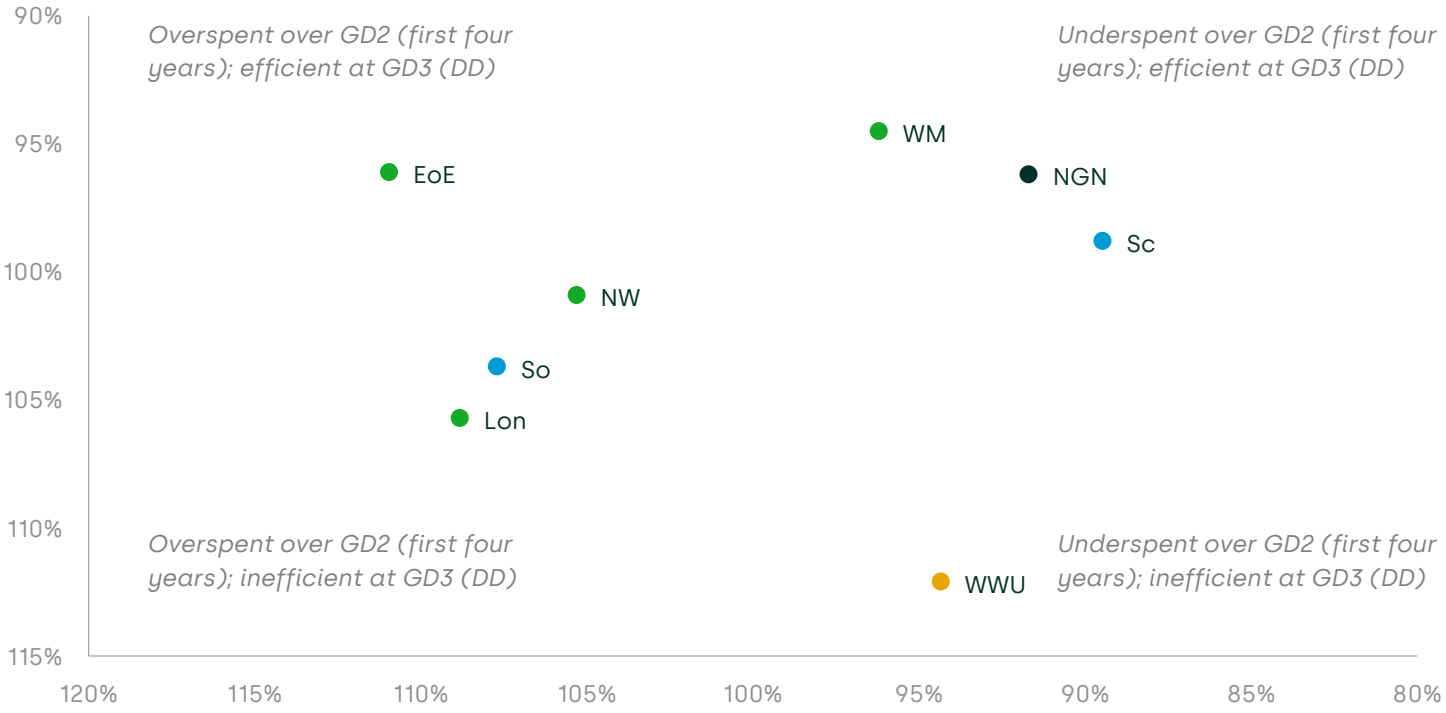
Figure 4.2 RIIO-GD2 DD against RIIO-GD3 DD efficiency position



Source: Oxera analysis.

In Figure 4.3, we evaluate how the outturn performance of GDNs in the GD2 period has compared with their GD3 position. From a delivery perspective, companies that are proposing plans close to or at the efficiency frontier in this price review might be expected to have already significantly outperformed in the most recent price review. This would be particularly the case for companies that were assessed as inefficient at RIIO-GD2. We see a combination of WM, NGN and SGN – Scotland (Sc) occupying the position at the top right, where a higher efficiency ranking is associated with cost outperformance (underspend) over the recent RIIO-GD2 period.

Figure 4.3 RIIO-GD2 TOTEX over/underspend against RIIO-GD3 DD efficiency position



Source: Oxera analysis

From a cost-efficiency perspective, it appears that NGN has the most consistent track record among the frontier GDNs in how its costs have been assessed in the past, and how this has translated into delivery. By contrast, some networks (such as EoE) appear to have submitted a business plan that is substantially more stretching than previous regulatory assessments or recent outturn performance would suggest. In the next section, we turn to companies' delivery record with respect to service quality.

4.2 Quality of service provided

Unlike assessing costs, there is not a single approach that can be taken to aggregate service quality across several metrics into a single number or score. We focus on eight service quality metrics to assess quality:

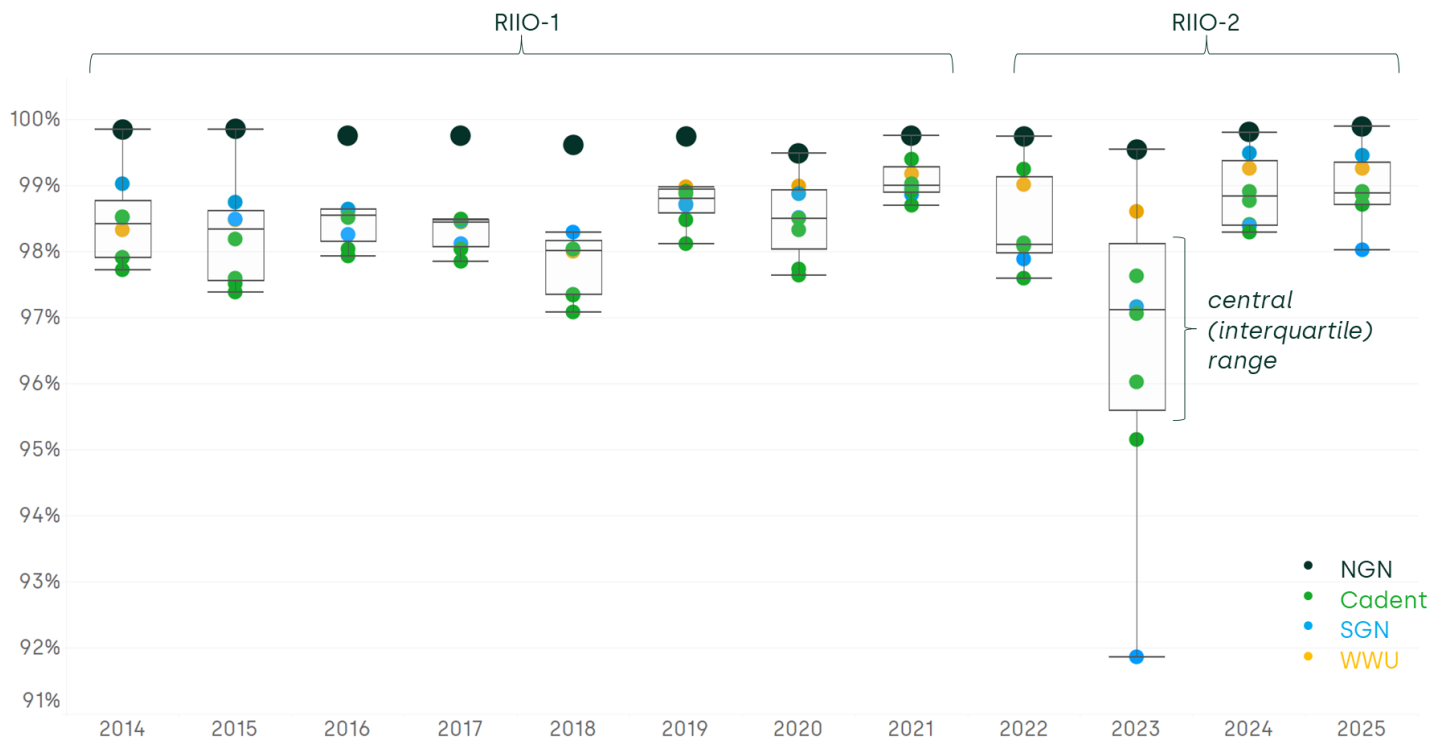
- unplanned outages attended in under an hour (%);
- planned outages attended in under two hours (%);
- average duration of an unplanned supply interruption;
- customer satisfaction;
- percentage of repairs carried out within 7 days;
- percentage of repairs carried out within 28 days;

- percentage of jobs substantially completed by the date agreed with the customer;
- reduction in shrinkage, percentage improvement.

Across all of these metrics, other than customer satisfaction, NGN has delivered the best performance in the industry over the RIIO-GD2 period to date. NGN has also delivered the best performance over RIIO-GD1 for those metrics that have been collected back to RIIO-GD1. We set out the performance data since RIIO-GD1 for each service quality metric in Annex A1.

For example, in Figure 4.4 below, we show industry performance in the percentage of uncontrolled escapes attended within one hour since the start of RIIO-GD1. NGN is shown in a larger dark dot, WWU in orange, the two SGN networks in blue and the four Cadent networks in green. A box and whisker plot shows the interquartile range for each year. It can be seen that NGN has ranked as the leading company in each year since the start of RIIO-GD1—maintaining high performance even in periods in which the performance of the rest of the sector dropped considerably.

Figure 4.4 Percentage of uncontrolled escapes attended within one hour

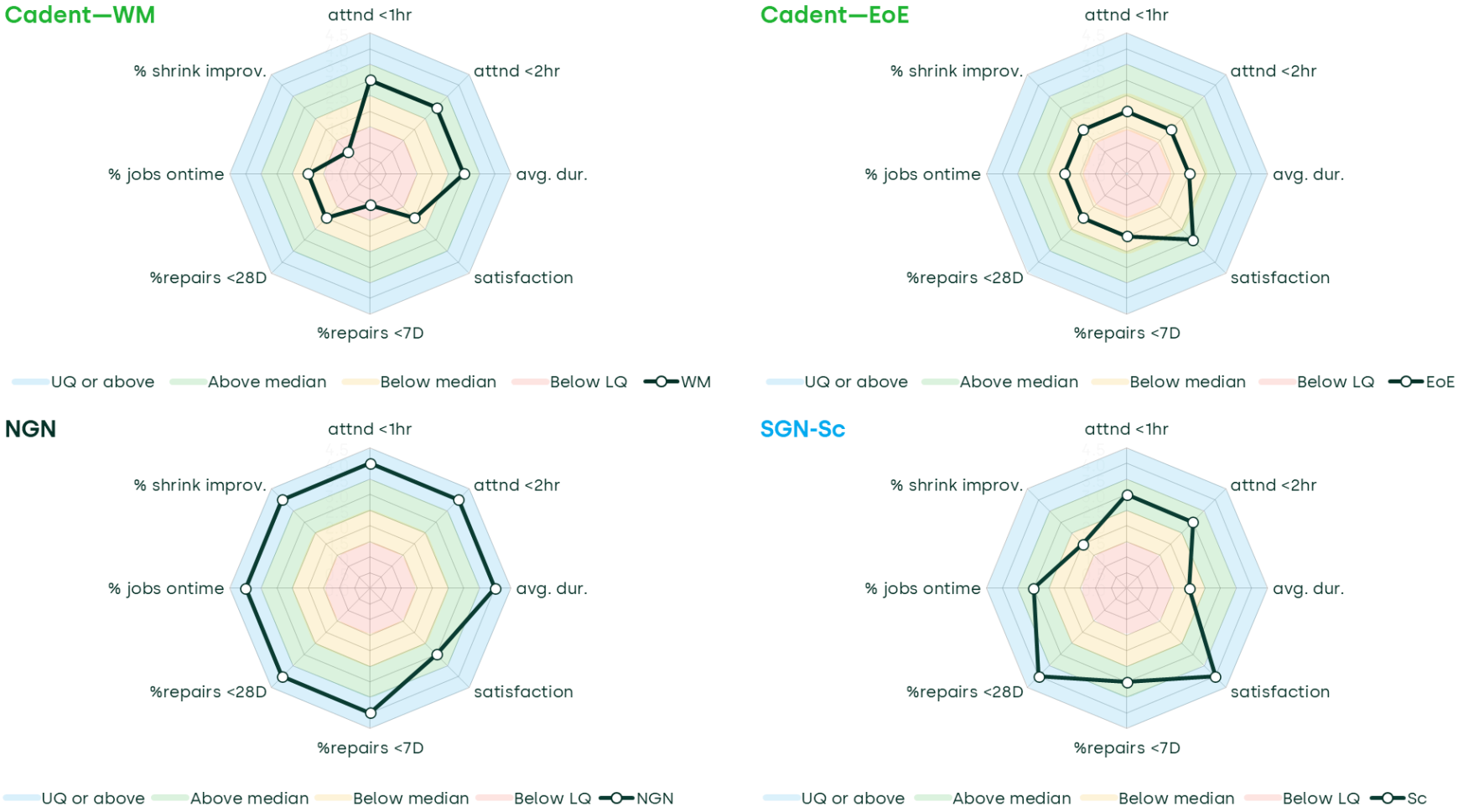


Source: Oxera analysis of the RIIO-GD2 Regulatory Report and RIIO-GD1 Annual Report, accessed on 23 August 2025 at: https://www.ofgem.gov.uk/publications/riio-gd1-annual-report-2020-21.

To aggregate across the eight service quality metrics we have considered, and to show how consistently networks perform across metrics, in Figure 4.5 and Figure 4.6 we present how each GDN has performed in a radar chart. Each chart is based on splitting the industry into quartiles—the top-two performers place in the outside segment (in blue), the next two performers place in the next segment (in green), the next two in the penultimate segment (in orange) and finally the worst two performers in the innermost segment (in red). This ranking is based on the GDNs' performance averaged over the last four years (i.e. the RIIO-GD2 outturn period).

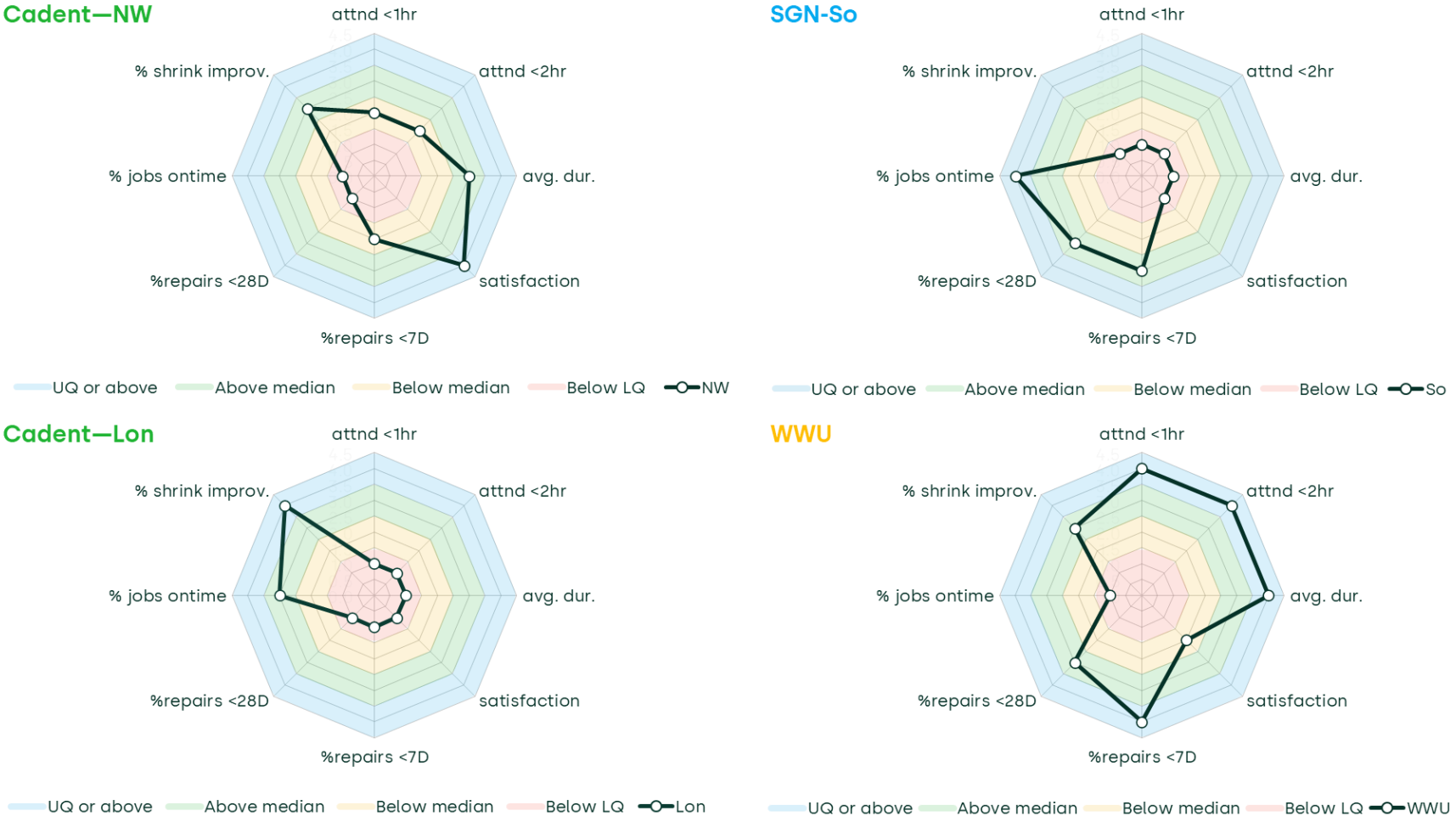
Figure 4.5 shows the performance of the four GDNs assessed as most cost efficient over RIIO-GD3. The two Cadent networks—i.e. WM and EoE, which are assessed alongside NGN as the most cost-efficient in the post-DD efficiency model—always rank below the top-two performers across each metric. While EoE consistently ranks between 6th and 5th on all metrics other than customer satisfaction, WM has a more volatile spread of performance across metrics—from 7th on some to 3rd on others. By contrast, NGN ranks 1st on 7 of the 8 metrics—ranking 3rd on customer satisfaction. Extending the comparison to the five other networks, no other company ranks as consistently in the top-two performers on as many metrics.

Figure 4.5 Service quality of the most cost-efficient GDNs (2021/22–24/25)



Source: Oxera analysis of Regulatory Reporting data. The four most cost-efficient GDNs in Ofgem's updated DD modelling are shown (i.e. WM, EoE, NGN and Sc).

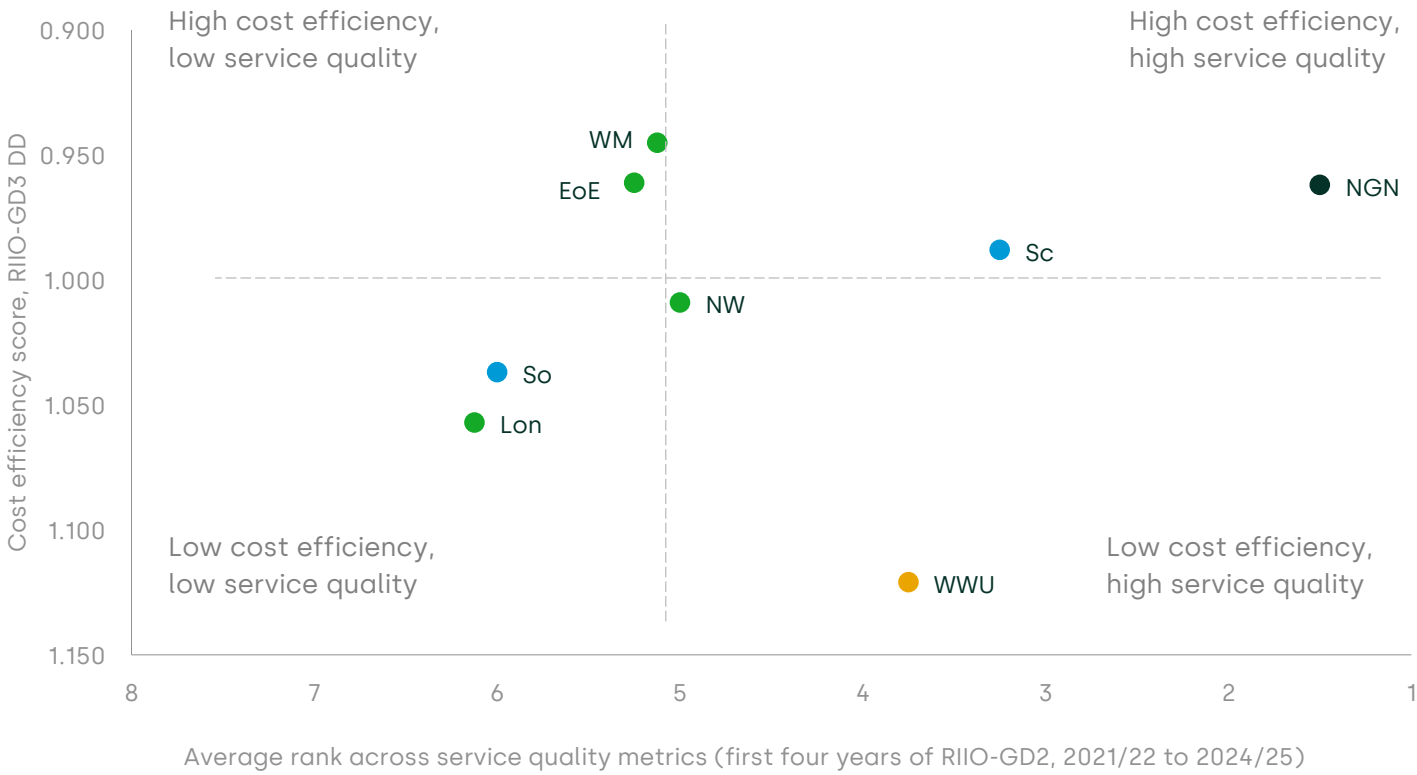
Figure 4.6 Service quality of the less cost efficient GDNs (2021/22–24/25)



Source: Oxera analysis of Regulatory Reporting data. The four less cost-efficient GDNs in Ofgem's updated DD modelling are shown (i.e. NW, So, Lon and WWU).

To directly compare the distribution of service quality over RIIO-2 to date, with the forward-looking assessment of cost efficiency, in Figure 4.7 we present the assessed efficiency position of GDNs on the vertical axis against the average rank for each of the GDNs across each of the eight service quality positions.[22, 23] We overlay four quadrants—across high and low cost and service-quality performance. We observe that NGN and SGN – Scotland rank in the top-right quadrant of companies with high modelled cost efficiency in RIIO-3 as well as being highly ranked on service quality, as delivered to date in RIIO-2. As highlighted above, the two networks assessed as most cost-efficient in RIIO-GD3 (WM and EoE) have ranked substantially lower across the service-quality metrics analysed.

Figure 4.7 RIIO-GD3 modelled cost efficiency against service quality track record for RIIO-GD2 to date



[22] For example, if a GDN were ranked 1st in every metric, it would have an 'average rank' of 1. If a GDN ranked 2nd on half of the measures and 3rd on the other half, its average rank would be 2.5.
[23] One implication of an 'average rank' approach is that it does not account for the distance between ranks. For example, the 1st and 3rd ranked companies could be very close together, with a large gap to the 4th company. We show an alternative presentation, using the geometric mean of service-quality measures in Annex A1.

Source: Oxera analysis.

4.3 Concluding remarks

In section 4.1, we have shown that, unlike other companies assessed as cost efficient in the RIIO-GD3 efficiency model, NGN has a track record of delivering cost-efficient business plans. In section 4.2, we have demonstrated that NGN combines its current and historical cost-efficient position with sector-leading service-quality performance across a range of metrics.

Prior to Ofgem's correction of its modelling errors, the outcome of the BPI was that this multi-faceted performance coincided with a relatively high reward under the BPI. However, following correction of the issues identified with Ofgem's DD assessment of cost efficiency, the outcome of the Stage B BPI component will change. As a result, NGN's BPI will reduce by £21.1m while the BPI accruing to the Cadent networks will increase by £22.8m.[24] The outcome of this change is that the majority (97%) of Stage B BPI reward payments will be received by GDNs that—while exhibiting ambitious cost efficiency for RIIO-GD3—have either over-spent against their RIIO-GD2 allowance to date (EoE) and/or have not ranked within the top network performers in RIIO-GD2 as regards service quality (EoE and WM).

Accordingly, a simple mechanistic update to the BPI outcome will likely lead to divergence between the networks earning the greatest rewards, and those that have demonstrated cost efficiency over a consistent period alongside high quality of service.

We conclude in the next section by overlaying this onto our assessment of BPI incentives—assessing whether the design of the BPI in RIIO-GD3 confers incentives for cost-efficiency and high quality of service, consistent with the underpinning objectives of the BPI incentive. Given that we conclude that the BPI as designed fails to confer these incentives, we also recommend changes that would improve the incentive properties of the BPI in RIIO-GD3, to inform Ofgem's decision at the FD stage.

[24] Ofgem (2025), 'RIIO-GD3 Draft Determinations Issue Corrected Model (ICM)', August.

5 Conclusion

5.1 Concerns with the BPI incentive

The incentives that GDNs faced in submitting their RIIO-GD3 business plans arguably reward networks that take an optimistic view of the cost reductions that can be achieved. Specifically, there does not appear to be clear accountability as to whether the business plan cost reductions are achievable (see section 3.1). In contrast, for example, to the IQI regime in RIIO-1, this has occurred in part as a consequence of the de-linking of TOTEX sharing rates (that prevail over the price control period), with the ex ante ambition that was revealed by networks in business-plan submissions.

In contrast to the high-powered incentives in RIIO-GD3 to propose a lower cost plan, the incentives to deliver high quality of service are significantly weaker—both ex ante at the price review and ex post during delivery in the price control period (see section 3.2). Moreover, cost and quality of service tend to be reviewed in isolation from one another—despite being two sides of the same concept of efficiency/value for money. Indeed, networks that provide evidence (outturn or forecast) that high quality can be achieved at low cost are uniquely valuable to Ofgem as benchmarks across the price control process (see section 3.3).

As summarised by Ofgem,[25] the purpose of the BPI is to motivate companies to propose business plans that represent value for money and reduce information asymmetries. Instead, the BPI as applied at RIIO-GD3 arguably incentivises companies to propose plans that prioritise cost reductions over service quality—or to overstate the scale of cost reductions that can be achieved. Not only does this set of incentives potentially undermine the effectiveness of the price control business-planning process, but it may also dampen incentives to deliver customer value in-period.

We have shown that NGN is an exception among the other two companies at the frontier of cost efficiency, with respect to both its track record of delivering efficient performance, and the sector-leading service quality it maintains (section 4). To the extent that the BPI is intended to provide incentives to companies to provide information and

[25] Ofgem (2025), 'RIIO-3 Draft Determinations Overview Document', 1 July, p. 31, accessed on 13 August 2025, https://www.ofgem.gov.uk/sites/default/files/2025-06/Draft-Determinations-Overview-Document.pdf.

business planning that Ofgem can use in calibrating its price control, companies such as NGN that deliver and propose sector-leading performance should receive the incentives to do so.

Instead, we understand that the outcome of Ofgem's mechanistic changes to the Stage B BPI component is likely to be to reduce NGN's BPI by £21.1m while increasing the BPI accruing to the Cadent networks by £22.8m. In the context of the performance comparison set out in section 4.2 (see Figure 4.7), this rewards planned expenditure cuts regardless of a companies' current service-quality provision. As the reward/penalty structure drives networks' performance in future, if Ofgem does not remediate these shortcomings in the RIIO-GD3 incentive regime it risks incentivising a low-cost, low quality of service regime in the future.

In the next section, we highlight several options available to Ofgem to remediate these shortcomings. Where relevant, we highlight the links to consultation questions additional to the direct consultation questions around the BPI that we summarised in the introduction.

5.2 Recommendations

There are several possible avenues available to Ofgem to remediate the issues we have highlighted with the BPI incentive design and implementation in RIIO-GD3. These are not mutually exclusive; Ofgem could consider applying a combination of these recommendations. It would be effective for Ofgem to clearly signal its intention to implement some of these changes ahead of the RIIO-GD3 period. It would also be possible to implement a form of these recommendations for the FD stage. We note that at RIIO-GD2, for example, Ofgem amended its assessment of the Customer Value Proposition component of the BPI between the DD and FD stage.[26]

Avenue one: Ofgem could set the TIM rate at a higher level for companies that are close to/beyond the benchmark, and conversely lower for companies that are significantly lagging behind the benchmark. This approach, which would be broadly analogous to the IQI used at RIIO-GD1, was proposed by Oxera in a paper submitted by NGN in response to the SSMD.[27]

[26] Ofgem (2020), 'RIIO-2 Final Determinations – Core Document', 8 December, p. 135, accessed on 21 August 2025 at: https://www.ofgem.gov.uk/sites/default/files/docs/2020/12/final_determinations_-_core_document.pdf.
[27] Oxera (2024), 'Incentive alignment under the proposed BPI framework', 27 September.

Companies that submit ambitious business plans would benefit from greater outperformance if they are able to spend below the efficient benchmark. However, it would also temper over-optimism, as companies that anticipated overspending relative to the efficient benchmark would have to absorb a greater share of any overspend. The net impact would be to isolate the incentive to be ambitious to companies that had a credible delivery plan—improving the quality of information revealed through the BPI.

This incentive could operate instead of, or alongside, a fixed lump-sum reward/penalty in future price reviews. At RIIO-GD1, Ofgem took a combined approach where companies received both a differentiated reward or penalty via the operation of the TIM in-period, **as well as** a reward/penalty at the business-planning stage. Were Ofgem to consider introducing a differentiated TIM range across GDNs at RIIO-GD3, this could be introduced as a condition for earning Stage B rewards, or as an option available for more efficient networks to opt in to.

We note that in addition to addressing Ofgem's BPI consultation questions, this proposal is also relevant in the context of GDQ46: do you agree with our proposed TIM sharing factor?[28]

Avenue two: Ofgem could consider adjusting the balance of incentives available to companies for leading cost efficiency (at Stage B) and leading service quality (at Stage C). As part of the RIIO-GD3 DD assessment, it is notable that the GDN assessed as most cost efficient receives a reward equivalent to 40bps.[29] By contrast, a GDN that achieved an 'ambitious' score for stretching performance in each of the three ODI areas would receive a maximum reward of 3.3bps.

Increasing the reward associated with a business plan that commits to stretching ODI targets would incentivise networks to propose plans that deliver high quality at a low cost. However, without a mechanism to hold networks accountable for ambitious performance (on cost and service quality) in-period, making this change in isolation may simply replicate the issues we have identified with the Stage B – Comparative assessment. This could be achieved by varying ODI rates depending on the ambition of networks and the scale of the Stage C BPI reward that they receive—analogous to our proposals for a differentiated TIM rate across networks in avenue one. As for avenue one, this could be

[28] Ofgem (2025), 'RIIO-3 Draft Determinations Consultation Questions', 1 July, p. 20, accessed on 19 August 2025, https://www.ofgem.gov.uk/sites/default/files/2025-06/RIIO-3-Draft-Determinations-Consolidated-Questions.pdf.
[29] Subsequently weighted with the bespoke cost component of the Stage B incentive.

introduced into the RIIO-GD3 process as a condition for Stage C rewards, or as an option for higher-performing networks to opt into.

Avenue three: Ofgem could seek to calibrate the overall BPI package such that it accounts for the additional benefit that Ofgem receives from business plans which combine ambition on costs with a track record of delivering both cost efficiency and high service quality. There are several ways in which Ofgem could deliver this, including:

- integrating quality of service into the cost assessment approach and/or adjusting the assessment of cost efficiency to reflect failure to meet statutory standards or ODI penalties;
- making the highest rewards in Stage B and C contingent on high performance in the other area, and/or on GDNs' track record/credibility of delivering quality of service;
- introducing an additional stage to the BPI incentive that rewards networks that combine low costs with high quality, and have backed up ambition with evidence of a track record of delivery and/or credible delivery plans.

In addition to addressing Ofgem's BPI consultation questions, we note that these proposals are also relevant in the context of GDQ32 and GDQ37.[30]

- GDQ32. Do you agree with our proposed use of a 'top-down' regression model?
- GDQ37. Do you agree with our proposed approach to totex benchmarking?

An additional stage to the BPI could be readily introduced for the FD stage—even if the only available reward was an option for high performers to opt into a higher TIM rate, and higher ODI rates. Without any such adjustments to the design of the BPI, Ofgem will not be able to effectively deliver against its aims for this incentive mechanism of supporting cost-efficient and high quality network performance in RIIO-GD3.

[30] Ofgem (2025), 'RIIO-3 Draft Determinations Consultation Questions', 1 July, p. 20, accessed on 19 August 2025, https://www.ofgem.gov.uk/sites/default/files/2025-06/RIIO-3-Draft-Determinations-Consolidated-Questions.pdf.

A1 Additional exhibits

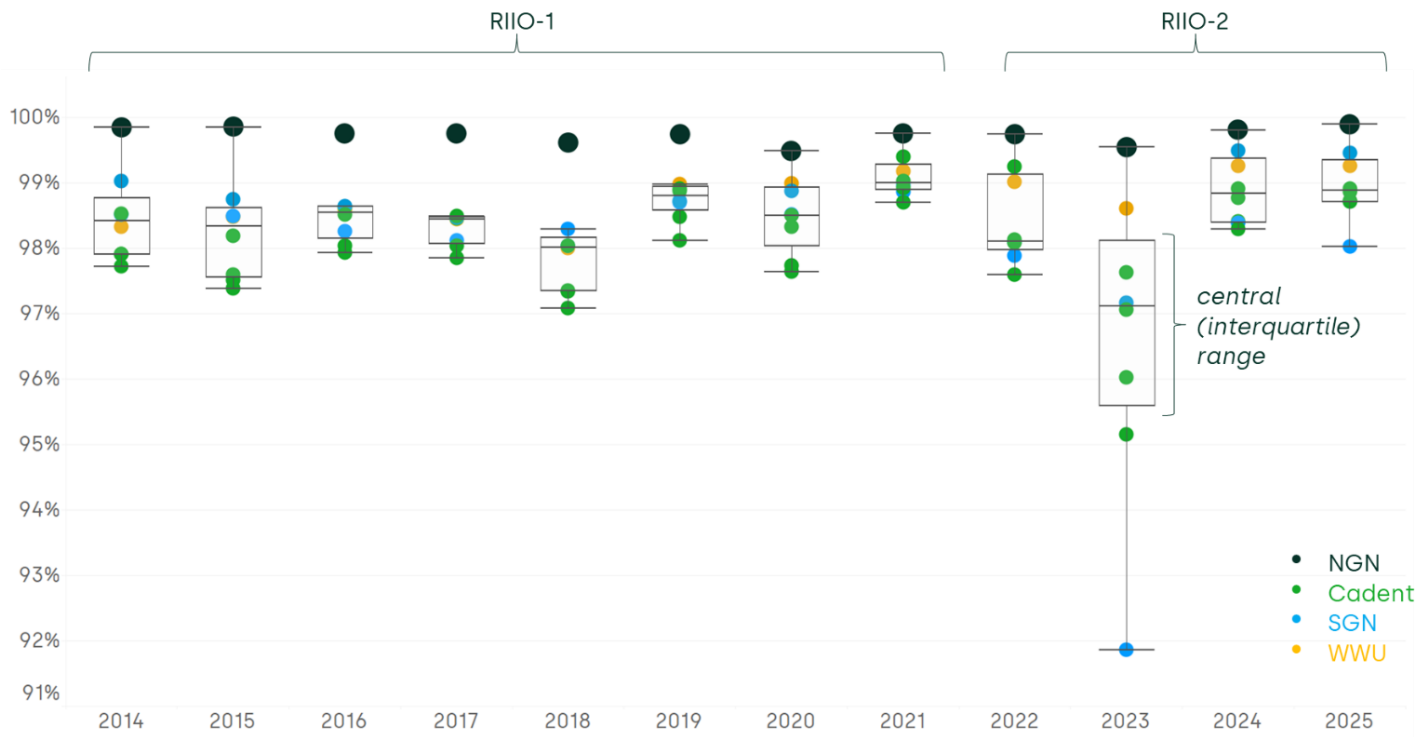
A1.1 Quality of service

In this section we set out how NGN compares to other GDNs across the following service quality metrics over the RIIO-GD2 period, and RIIO-GD1 where data is available. These are consistent with the information on overall performance presented in section 4 (in particular Figure 4.5, Figure 4.6 and Figure 4.7).

- unplanned outages attended in under an hour (%);
- planned outages attended in under two hours (%);
- average duration of an unplanned supply interruption;
- customer satisfaction;
- percentage of repairs carried out within 7 days;
- percentage of repairs carried out within 28 days;
- percentage of jobs substantially completed by the date agreed with the customer;
- reduction in shrinkage, percentage improvement.

In Figure A1.1 below, we show how the percentage of uncontrolled escapes attended within one hour has varied across the eight GDNs since the start of RIIO-GD1. NGN is marked with a larger black dot, the four Cadent GDNs are marked in green, the two SGN GDNs are marked in blue and WWU is marked in orange. The middle 50% of the data (or interquartile range) is represented by the box, while the tails extend to the most extreme data points that fall within 1.5 times the interquartile range from the box edges, with any points beyond this range displayed as individual outliers. It can be seen that NGN ranks as the highest performer in each year of data.

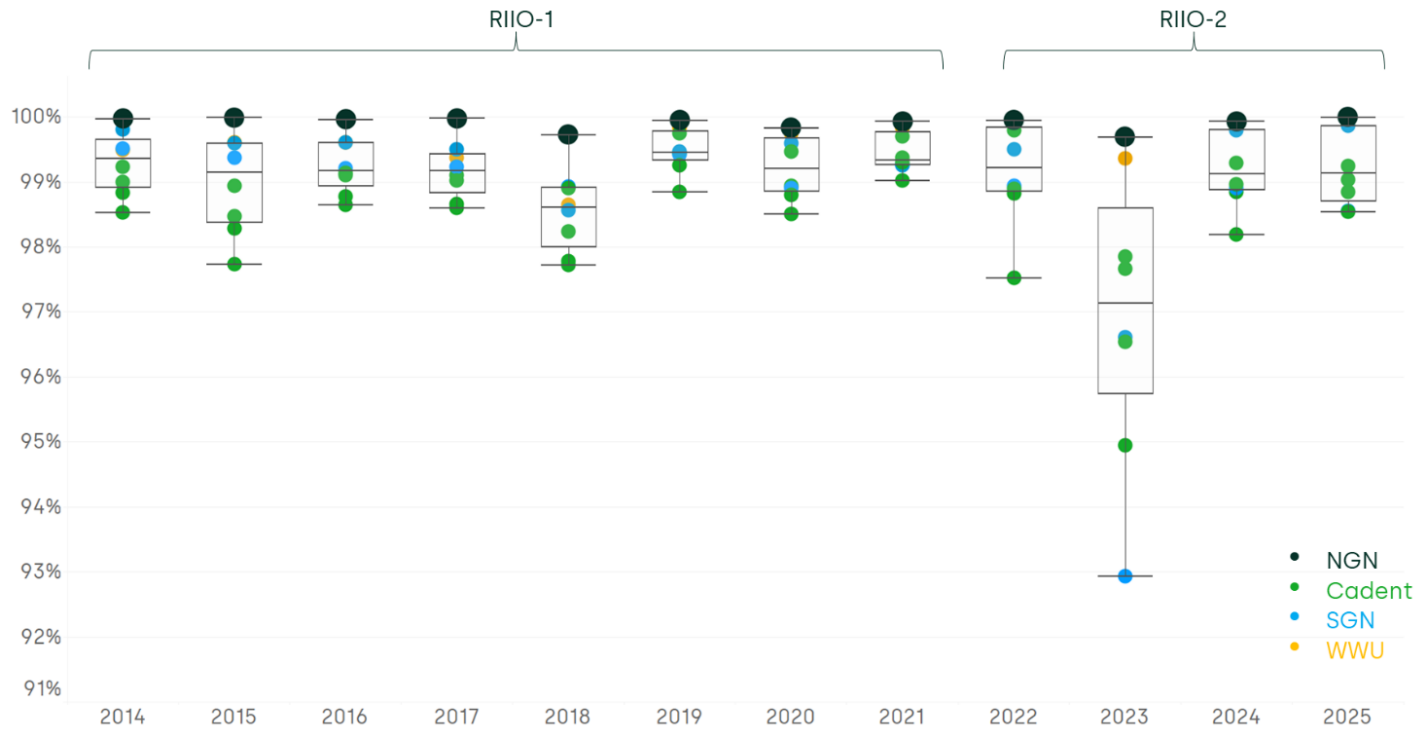
Figure A1.1 Uncontrolled escapes attended within one hour (%)



Source: Oxera analysis of the RIIO-GD2 Regulatory Report and RIIO-GD1 Annual Report, accessed on 23 August 2025 at: https://www.ofgem.gov.uk/publications/riio-gd1-annual-report-2020-21.

In Figure A1.2 below, we show how the percentage of controlled escapes attended within two hours has varied across the eight GDNs. We use the same colour scheme as for Figure A1.1, with NGN marked with a larger black dot. As for uncontrolled escapes, it can be seen that NGN ranks as the highest performer in each year of data.

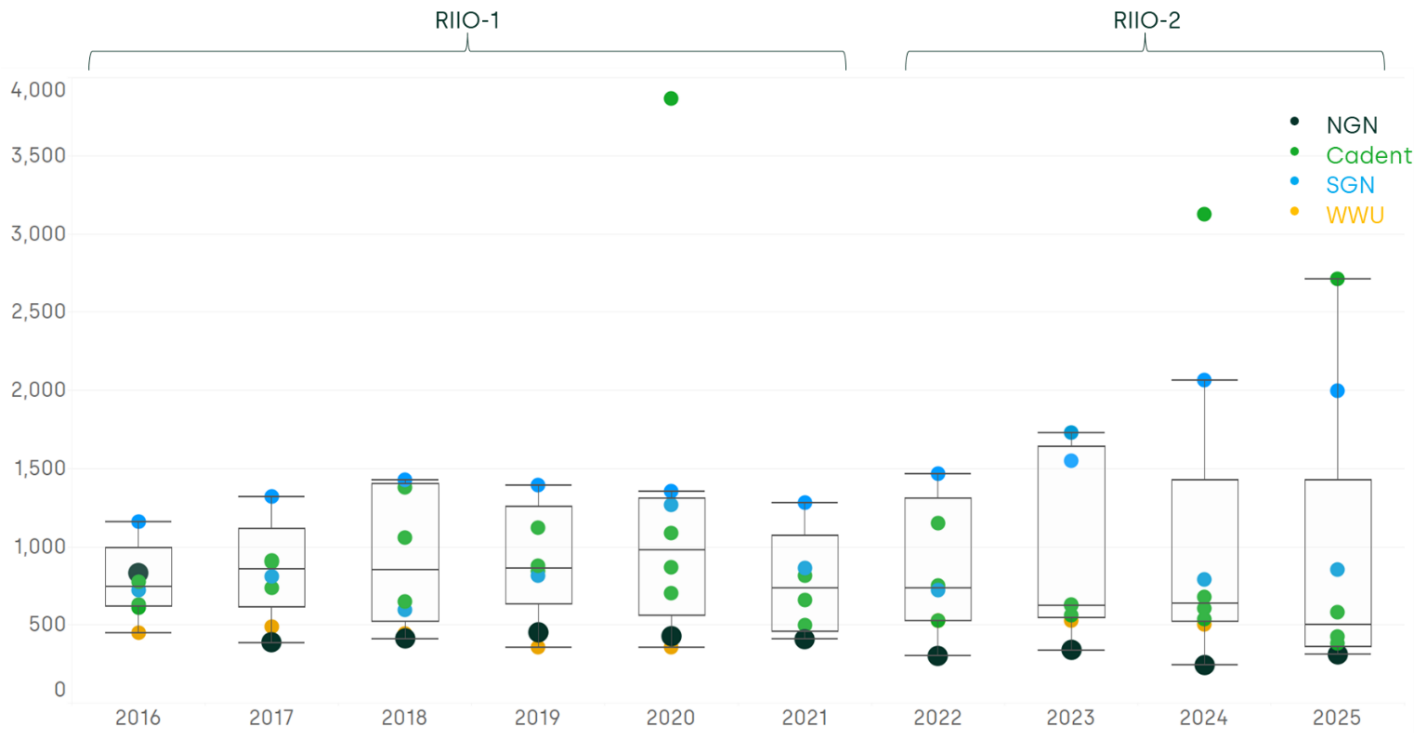
Figure A1.2 Controlled escapes attended within two hours (%)



Source: Oxera analysis of the RIIO-2 Regulatory Report and RIIO-1 Annual Report, accessed on 23 August 2025 at: https://www.ofgem.gov.uk/publications/riio-gd1-annual-report-2020-21.

In Figure A1.3 below, we show how the average duration of unplanned supply interruptions has varied across the eight GDNs. We use the same colour scheme as for the previous figures, with NGN marked with a larger black dot. NGN ranks as the highest or second-highest performer in each year of RIIO-GD1 data and as the best performer in each year of RIIO-GD2.

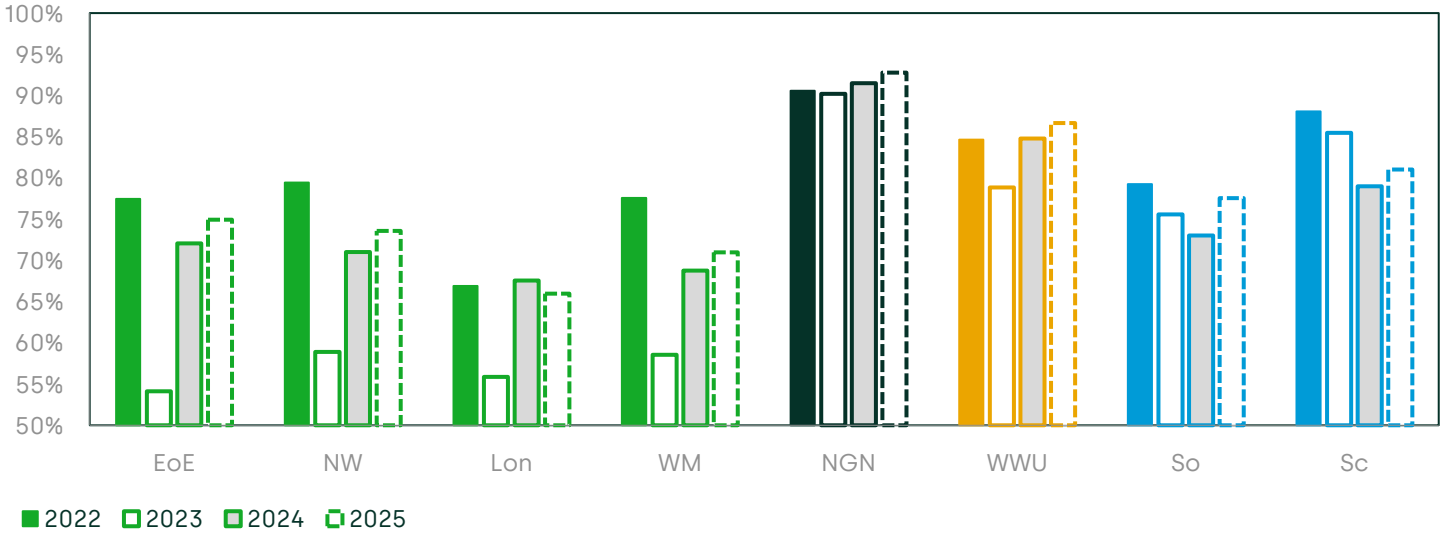
Figure A1.3 Average duration of unplanned supply interruptions (minutes)



Source: Oxera analysis of the RIIO-GD2 Regulatory Report and RIIO-GD1 Annual Report, accessed on 23 August 2025 at: https://www.ofgem.gov.uk/publications/riio-gd1-annual-report-2020-21.

Figure A1.4 shows the percentage of repairs carried out within 7 days over the four years of RIIO-GD2 to date. NGN ranks as the highest performer in each year.

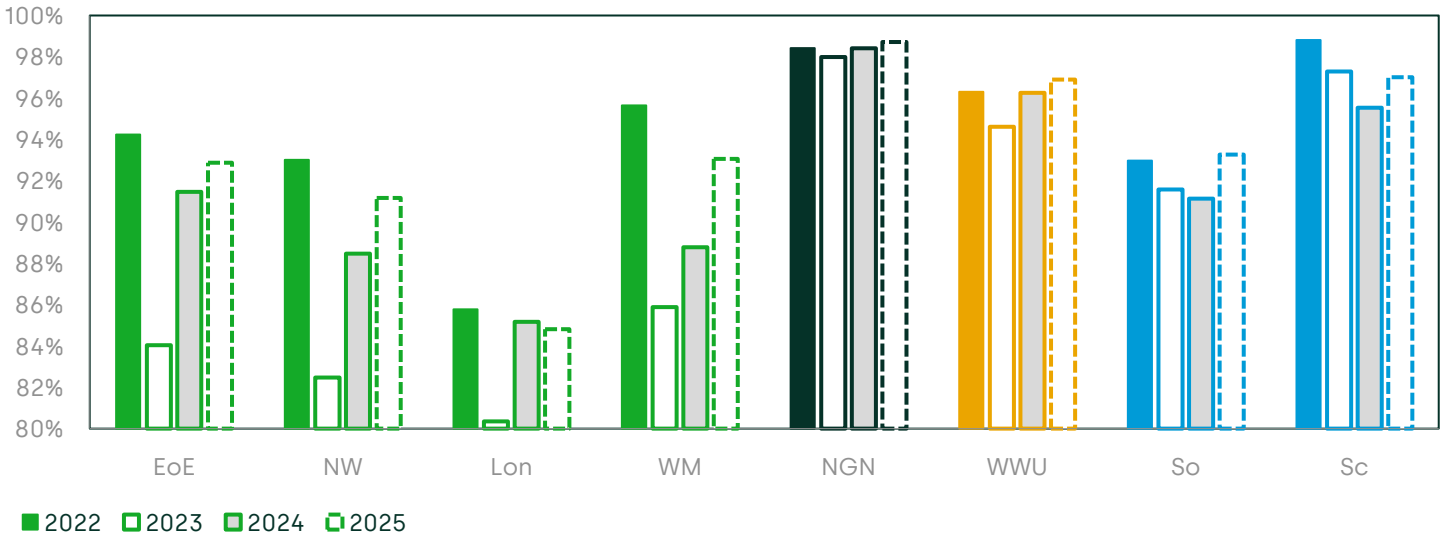
Figure A1.4 Percentage of repairs carried out within 7 days



Source: Oxera analysis of the RIIO-GD2 Regulatory Report.

Figure A1.5 shows the percentage of repairs carried out within 28 days over the four years of RIIO-GD2 to date. NGN ranks as the highest or second highest performer in each year.

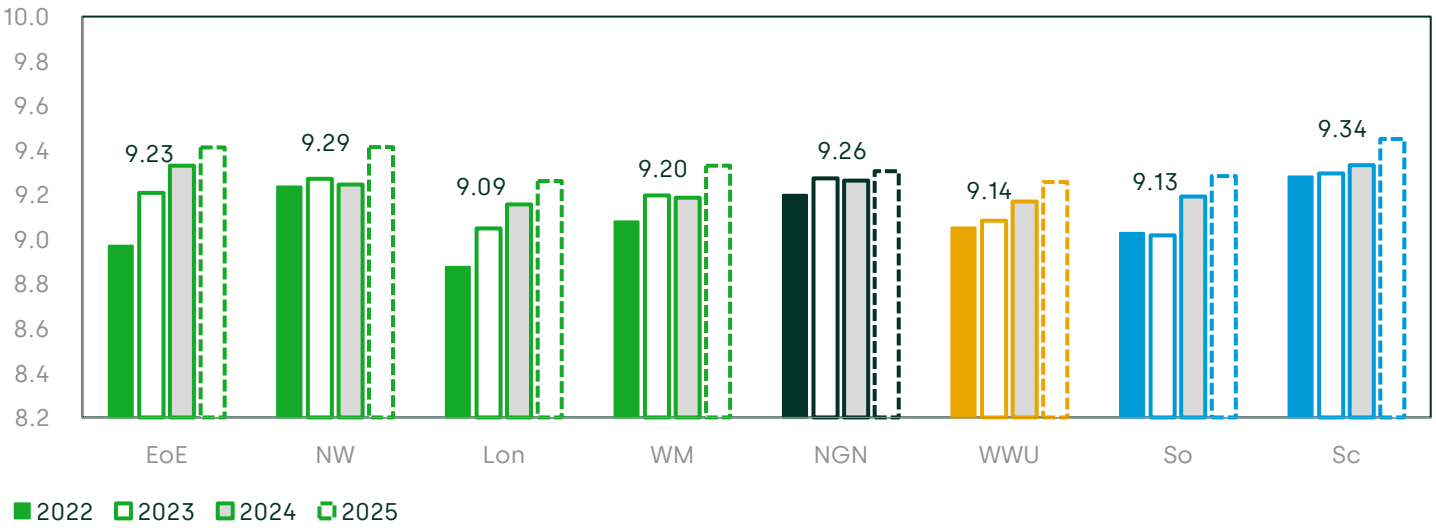
Figure A1.5 Percentage of repairs carried out within 28 days



Source: Oxera analysis of the RIIO-GD2 Regulatory Report.

Figure A1.6 shows the average customer satisfaction over the four years of RIIO-GD2 to date. We take the simple average over the results from the three customer satisfaction surveys—planned work, emergency response and repair, and connections. The bars show the annual values for each year, while we overlay the average over the four years as a data label. Across the four years, NGN ranks as the 3rd-highest performer.

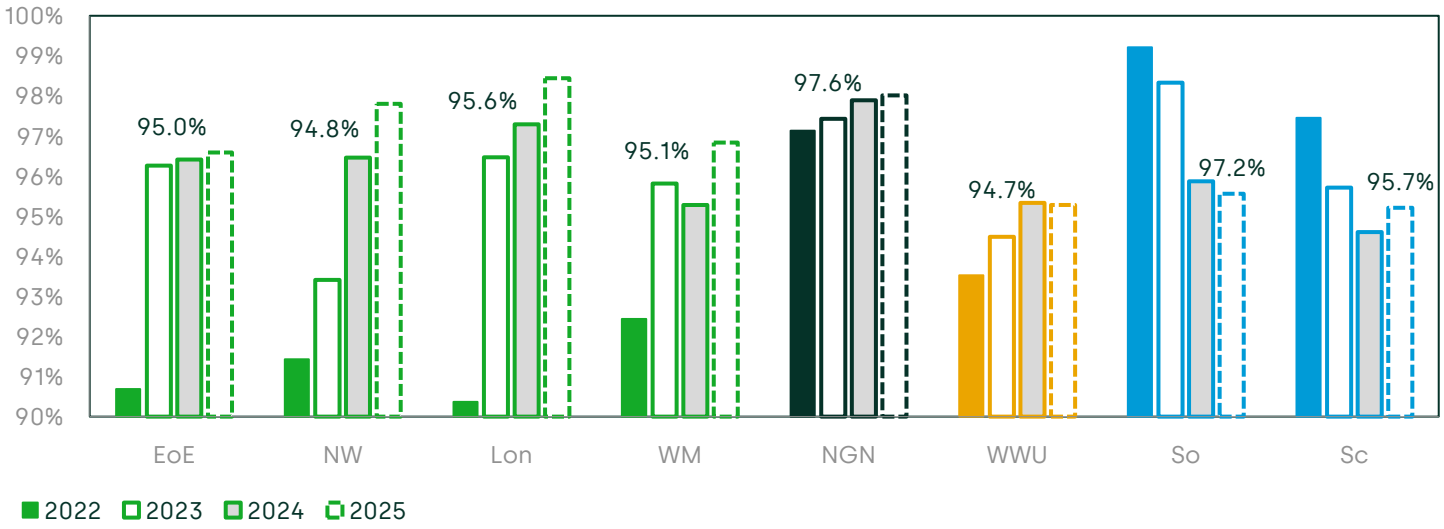
Figure A1.6 Average customer satisfaction score



Source: Oxera analysis of the RIIO-GD2 Regulatory Report.

Figure A1.7 shows the percentage of jobs substantially completed by the date agreed with the customer. As for the previous figure, the bars show the annual values for each year, while we overlay the average over the four years as a data label. Across the four years, NGN ranks as the highest performer.

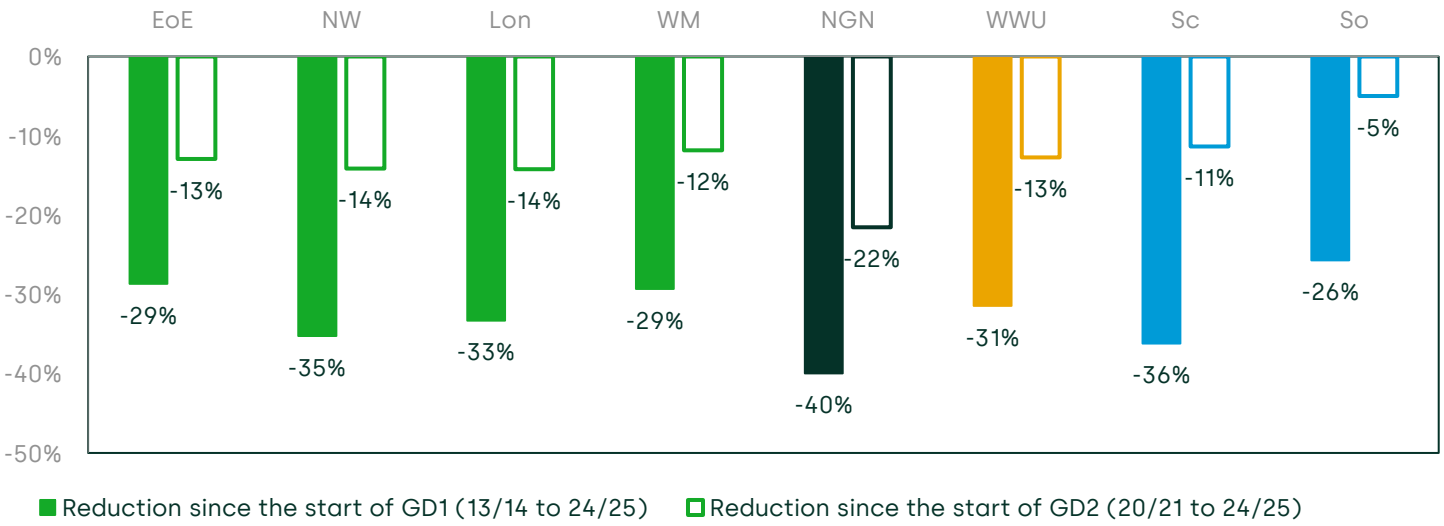
Figure A1.7 Jobs substantially completed by the date agreed with the customer (%)



Source: Oxera analysis of the RIIO-GD2 Regulatory Report.

Figure A1.8 shows the reduction in shrinkage achieved by the end of RIIO-GD2. The first, solid bar shows the percentage reduction in shrinkage for each GDN relative to the first year of RIIO-GD1 (2013/14), while the second hollow bar shows the percentage reduction relative to the last year of RIIO-GD1 (2020/21). It can be seen that, by either measure, NGN has achieved the highest percentage reduction relative to other networks.

Figure A1.8 Reduction in shrinkage (%),



Source: Oxera analysis of Business Plan Data Tables and RIIO-GD2 Regulatory Report.

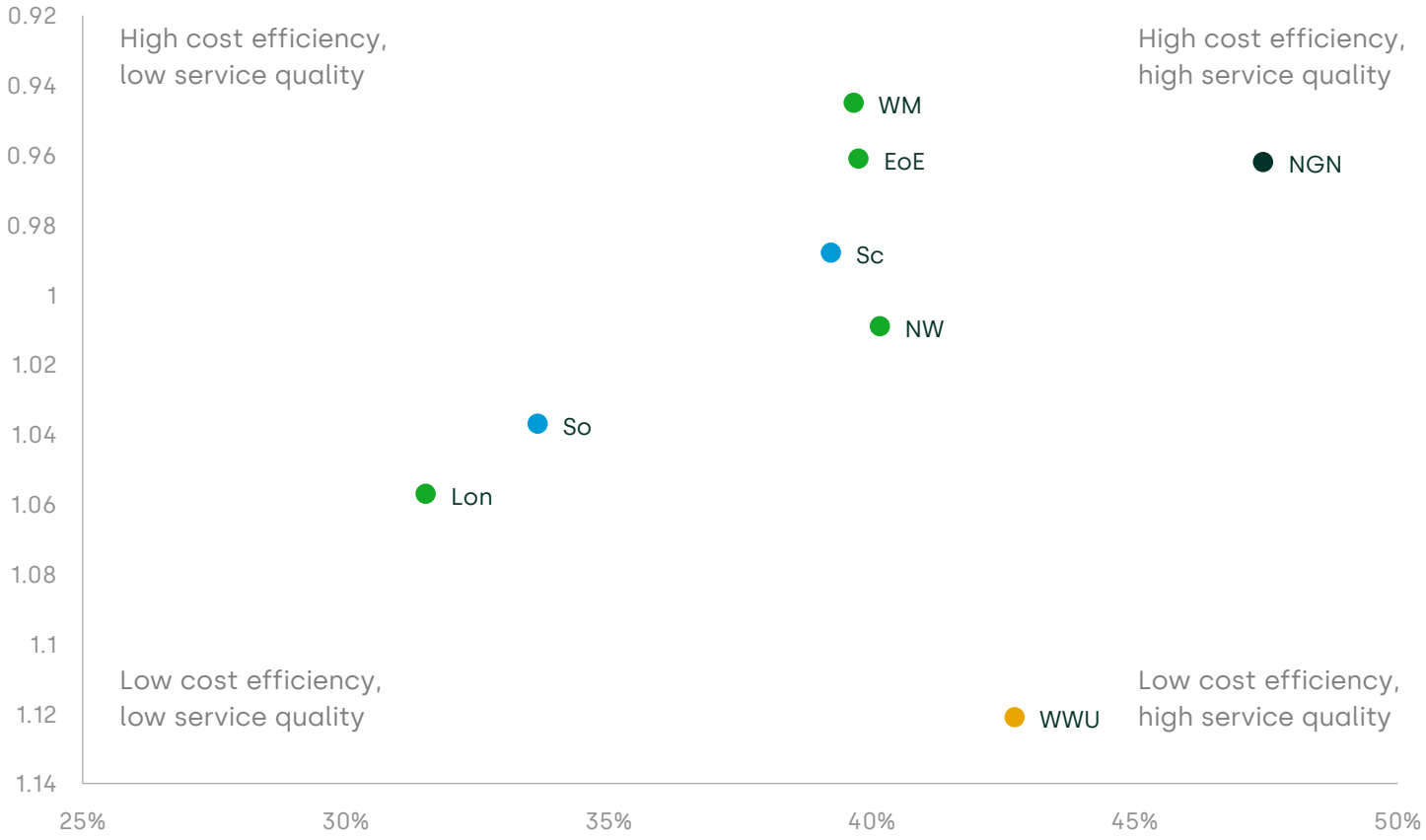
A1.2 Cost efficiency against quality of service, geometric mean

In section 4.2 we set out a comparison of cost efficiency at RIIO-GD3 against GDNs' average rank against eight quality of service metrics. We highlighted one implication of this presentation, i.e. that taking an average of ranks across different metrics does not account for the size of the gap between ranks. For example, the 1st and 2nd rank company could be very close together, while the 3rd ranked company lags some distance behind.

An alternative approach to making comparisons across several metrics is to take the geometric mean of the underlying data. The geometric mean is calculated by taking the values for each quality of service metric, rather than their ranks, to compute a single composite measure that preserves the relative differences in performance levels between GDNs across all eight metrics. To calculate the geometric mean, we multiply all eight metric values together and take the eighth root of the product.

Figure A1.9 presents this alternative comparison. We compare the assessed efficiency of GDNs over RIIO-GD3 on the vertical axis, against this geometric mean on the horizontal axis. Higher values on each axis represent better performance. We observe that, consistent with our findings in section 4, NGN remains in the top-right corner—exhibiting high cost efficiency and high quality of service.

Figure A1.9 RIIO-GD3 modelled cost efficiency against service quality track record for RIIO-GD2 to date (geometric mean)



Source: Oxera analysis.

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