Northern Gas Networks

RIIO-GD3 Draft Determination Consultation Response

NGN Annex

we are the network

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NGN Annex Response

Outputs & Incentives Question

NGNQ1. Do you agree with our proposal to reject NGN's Net Zero Research Village (NeRV) PCD?

No. We do not agree with Ofgem's proposal to reject the Net Zero Research Village (NeRV) PCD.

The UK is legally bound to achieve Net Zero by 2050, and the upcoming GD3 period (2026 to 2031) is a critical window for delivery. According to the Climate Change Committee's Seventh Carbon Budget, emissions from buildings must fall significantly faster over the next two decades to remain within carbon limits. This will require all gas customers, around 22 million households, to transition to alternative low-carbon heating solutions. It is therefore firmly in customers' interests that innovation work in this area is undertaken now, to reduce transition costs, avoid future system shocks, and ensure vulnerable customers are not left behind.

NeRV is a proven, operational innovation platform that builds directly on NGN's previous successful demonstrators, with infrastructure, governance, and stakeholder partnerships already in place. It evolves the work of the Customer Energy Village (CEV) and Futures Close. These demonstrators were co-funded by the Northeast Local Enterprise Partnership (NELEP) and delivered trials in insulation, hybrid heating, smart controls, and consumer engagement in real homes. NeRV builds on this success and focuses its efforts on communities facing fuel poverty, poor energy efficiency, and digital exclusion to ensure the transition is inclusive and affordable.

Ofgem stated that *"it was not possible to establish what benefit the energy consumer was going to derive from this investment,"* and that the proposal *"did not represent value for money"* due to the apparent availability of similar research elsewhere. We consider this incorrect and challenge this view on three grounds:

- **Direct Consumer Benefit:** NeRV delivers measurable improvements for gas customers, particularly those in hard-to-treat homes, through targeted energy efficiency, heating innovation, and behaviour-led retrofit. Its focus directly addresses the gaps identified in the NEA Fuel Poverty Monitor and NESO's Future Energy Scenarios 2025, where national delivery remains limited and evidence is urgently needed.
- **Proven Value for Money:** NeRV maximises prior investment by using NGN's existing demonstrator site at Low Thornley. The Customer Energy Village was co-funded with £1.96 million from the NELEP Growth Fund and Getting Building Fund. NeRV retains and expands this physical and organisational infrastructure, ensuring efficient use of public and network funding while minimising development risk.
- **No Duplication – Complementarity Confirmed:** An independent review by the National Centre for Energy Systems Integration and a 2025 market scan confirm that NeRV offers capabilities not available elsewhere in the UK. Its strengths lie in multi-vector integration, social equity research, and real-home retrofit trials. NeRV complements facilities such as Salford's Energy House, BRE Innovation Parks, SPECIFIC Innovation and Knowledge Centre, Swansea University, Living Lab at Dundee Botanic Gardens, Creative Energy Homes (Nottingham Uni), Translational Energy Research Centre (TERC) at Sheffield University Energy

Institute, and Leeds Sustainability Institute. It provides a distinct platform for collaborative delivery with a practical, customer-focused remit.

The enablement of cross-sectoral collaboration via the NeRV Centre will facilitate the generation of new ideas and innovations to solve the complex challenges the UK faces in achieving the legally binding target of Net Zero by 2050.

As part of the original application to develop the CEV, we commissioned an independent assessment to compare and undertake a gap analysis of the various energy research facilities across the UK. The study by the National Centre for Energy Systems Integration sought to establish both the state of the art and also direction of research efforts in the evolution of energy systems with a focus on low carbon solutions, the role of data in the formation of future energy systems, the challenge of UK urban fabric retrofit and concerns over the impact of the energy systems transition on vulnerable people. The study enabled the CEV site to establish and pursue its first unique assignment as having a distinct emphasis on the interaction of the built environment with a multi-vector energy system.

We have recently undertaken an updated market review of other test facilities and academic institutes to assess the capability and provision of test facilities, compared to what the NeRV Centre will provide. **Error! Reference source not found.** provides a summary of this review.

Northern Gas Networks

Comparison of NeRV Centre with other UK test house facilities

Capability/ aspect	Salford Energy House	BRE Innovation Parks	SPECIFIC Innovation and knowledge centre, Swansea University	Living Lab at Dundee Botanic Gardens	Creative Energy Homes	Translational Energy Research Centre (TERC), Sheffield University Energy Institute	Leeds Sustainability Institute	NeRV Centre
Active building			✓					✓
Retrofitting challenges & impacts	✓	Retrofit/ Refurbish			✓		✓	✓
Social acceptability								✓
Vulnerability analysis								✓
Fuel poverty		✓	✓				✓	✓
Inter-seasonal heat storage								✓
Community analysis			✓					✓
Buildings and networks interaction analysis							✓	✓
Whole multi-vector energy system								✓
IoT, ICT and cyber security			Energy and info share					✓
Homes flexibility against family size	✓							✓
Big data analysis								✓
Generalisation and representative aspects								✓
Multi-vector devices/demand meeting								✓

Hydrogen research	✓	✓				✓	✓	✓
Human thermal comfort								✓
Generation and storage			✓	✓		✓	✓	✓
Building material research		✓						✓
Demand Side Response (DSR)					✓			✓
Living Lab.			✓		✓			✓
Fair transition								✓
Behaviour change								✓
Energy materials		✓	✓			✓		✓
Hot water efficiency for heat demand								✓
Land use								✓
Environmental Chamber (any weather condition)	✓							✓
Full Meters & thermography	✓ Smart meters	✓		✓	✓			✓
Batteries	✓				✓	✓		
Renewables	✓				✓	✓		
V2G	✓							
Using Energy House as calibrated model for hydrogen fuel cell studies	✓							
Replicate occupant behaviour	✓			✓				
Neighbour house effect	✓							✓
Technology test & demonstration	✓	✓	✓		✓	✓		✓
Controls and smart controls	✓				✓			

Energy efficiency in the domestic sector from product to system level	✓							
Training & dissemination		✓	✓		✓			✓
Research	✓	✓		✓	✓	✓	✓	✓
Innovative designs		✓		✓	✓			✓
RetrofitLab app.		✓						✓
Adapt homes for ageing population		✓						✓
Carbon reduction studies			✓			✓		✓
Self-sufficient				✓				✓
BMS			✓	✓	✓			✓

Table 1 - Comparison of the uniqueness of NeRV Centre with other UK test house facilities (August 2025)

This comparison of the functionality of the available research and test facilities demonstrates that investment in the NeRV Centre would provide a unique facility for whole system and cross vector research and development. The NeRV Centre would support the following collaborative activities:

Impact of retrofit scenarios on utility networks and their interactions	Fair and just transition	Vulnerability and energy poverty analysis	Cyber security for energy
Whole multi-vector energy system	IoT and ICT via information sharing between active buildings	Multi-vector devices/meeting demand	Control room of the future
Big data analysis	Community analysis	Socio-techno-economic-environmental Hydrogen research	Human thermal comfort
Demand side response	Behaviour change	Energy materials/technologies	Hot water efficiency for heat demand
Land use	Homes flexibility	Inter-seasonal heat storage	

Table 2 – Summary of collaborative activities

Further to this, in its recent Future Energy Scenarios 2025 publication, NESO outlines four key dependencies for the Net Zero energy ambitions to be realised:

1. Consumer change in behaviour, for heating and transport options
    a. In the domestic sector this mostly affects the desire to replace gas boilers with heat pumps and to change vehicles choices to EVs
    b. In the domestic sector - growth in heat flexibility at peak – people pre-heating homes and then turning off heating for the coldest periods in the winter
    c. Industry and commercial demands changing their technology for heating and industrial process, to new technologies
2. New policies materialising to drive consumer change and incentivise power generation and storage options
3. New technologies developing
    a. BECCS
    b. CCUS
    c. Significant growth in new power generation
    d. Significant growth of electricity networks to support growing new power generation
    e. Large increase in LDES (Long duration Energy Storage), including hydrogen storage
4. Significant growth in bioenergy supply

One of the key messages within the FES2025 focuses on a significant increase in energy efficiency, such as heat pumps, but this also provides the opportunity to explore and invest in thermal efficiency improvements in houses and non-domestic buildings.

We have also undertaken an extensive amount of stakeholder engagement to gain support for NeRV. Throughout 2024, we held planned stakeholder engagement sessions at NeRV. The purpose was to explore with key stakeholders, both inside and outside the energy sector, how NeRV can contribute

to a collective work programme to accelerate net zero. In sharing our ambition and capability of the site, we gained direct input from key stakeholders, including NESO, IGEM, DESNZ, Water industry, Electricity sector, HSE and Government and regional stakeholders, as well as regulatory stakeholders, to understand how, and why, from their perspective our work can complement and support, work already underway across different sectors.

This was used to inform NeRV priorities providing focus and ensuring it delivers greatest impact via a collaborative work programme, and how the NeRV Centre would support the transition towards the future energy system:

- **Immersive Learning & Engagement:** Develop formal engagement programmes, open NeRV to diverse groups, and position it as an immersive learning environment for professionals and the public.
- **Testing, Demonstration & Accreditation:** Position NeRV as a testing and training ground for innovators; enable alpha testing, and provide energy efficiency accreditation, with Futures Close as a demonstration site.
- **Research & Data Leadership:** Champion a cross-utility research model and create roadmaps for visibility into upcoming projects, datasets, and reports. Explore seasonal and innovative research opportunities, such as those in summer and new drainage or wastewater practices (e.g., astroturf projects).
- **Policy Influence & Communication:** Shape public messaging on decarbonisation, influence future retrofitting policies, and support myth busting while highlighting aggregate benefits.
- **Bridging Quantitative & Lived Experience:** Link quantitative evidence with real-world lived experiences, fostering collaboration among innovators to address diverse housing stock and centring the lived experience in programme design.

We held a Supporting Communities Together Event in October 2024 where stakeholders made it clear that they wanted NGN to provide energy assistance and energy advice, reach a wide demographic of people as many do not know what support services are available. The event confirmed support for NGN's partnership approach to working with community organisations to get more energy saving skills, advice, services that really reach people who need help the most. Further to this, our annual NGN perceptions tracker (2025) shows that innovations around energy security (ensuring a consistent, reliable, and safe supply of gas to meet customer demand, while minimising disruptions caused by infrastructure issues, supply constraints, or external risks such as political factors here and globally or environmental factors including climate change) are ranked most important by both domestic and business customers, followed by innovations around sustainability. Energy security is significantly more important for those aged 50+, and directionally more for the digitally disengaged and those eligible for the Priority Services Register.

Ofgem's Businesses' experiences of the energy market 2024 highlighted that many businesses remain uncertain about the potential for meaningful decarbonisation. Smaller firms often felt their efforts were too minor to matter and questioned the UK's overall impact on global emissions. Most businesses take a passive approach to staying informed about decarbonisation, relying on news, word

of mouth, meetings, or industry bodies for updates. Around 30% had implemented or planned energy efficiency improvements in buildings. Cost remains the most cited barrier (21%), though this has decreased from 32% in 2023.

Given the NeRV Centre will feature a range of facilities that will enable a breadth of research projects to be undertaken. Data streams from the existing research facilities at the Low Thornley site will be collected, collated and archived within the NeRV Centre, and will be made accessible and discoverable by collaborators and partners e.g. local authorities. Dashboards will be used to test scenarios, calibrate results, and view insights in a holistic and time-effective environment. Datasets will be shared with and informed by, a wider eco-system of external partners, such as other research and test facilities. The NeRV Centre would be well placed to deliver all aspects of the FES2025 outlined above, as well as meeting the needs of both NGN customers and stakeholders.

The NeRV Centre would be well placed to deliver all aspects of the FES 2025 outlined above, as well as meeting the needs of both NGN customers and stakeholders. In particular, NeRV is uniquely positioned to bring together system-wide decarbonisation insights and localised innovation that address the three central pillars of the FES2025: electrification, hydrogen transition, and flexible demand. As the National Energy System Operator (NESO) transitions to a more integrated energy system and seeks to reflect public behaviours and choices in system planning, a facility like NeRV can deliver real-world, consumer-focused evidence to inform future versions of the FES.

The recent Domestic Heat Decarbonisation Insight report, produced for NESO in April 2025, identifies critical gaps in consumer understanding of low-carbon heating technologies, financial readiness, and the acceptability of flexible tariffs. NeRV could address these challenges by designing and testing interventions in partnership with communities, landlords, and installers — something that academic studies or commercial trials rarely achieve at sufficient scale or relevance to networks. The NeRV Centre would also serve as a testbed for integrating digitalisation, consumer behaviour, and infrastructure options in ways aligned with the FES assumptions and NESO's future energy planning needs.

At the same time, NeRV supports key national policy priorities, including:

- The Heat Pump Rollout (target: 600,000 installations/year by 2028)
- The Hydrogen Heating Consultation (2025, UK Government)
- The Net Zero Strategy and Clean Growth Mission
- Levelling Up, delivering high-quality green innovation jobs in the North
- Just Transition principles – ensuring fuel-poor and hard-to-reach communities are not left behind

The NeRV Centre aligns with UKRI's innovation funding goals, offers additionality beyond the scope of typical NIA (Network Innovation Allowance) projects, and positions NGN to contribute directly to the UK's system-level decarbonisation evidence base. It could also leverage existing facilities and partnerships (e.g. with Northern Powergrid, universities, and SMEs) to deliver system-wide learnings at lower cost than would be possible through dispersed individual trials. In doing so, NeRV offers significant UK plc value, demonstrating how energy networks can enable whole-place transitions to net zero.

As reported in the NeRV Engineering Justification Paper submission, we consider the NeRV Centre unique in being able to offer a number of benefits aligned with comprehensive customer and stakeholder insight: long-term solutions supporting a fair transition and ensuring those at most risk are not left behind; assisting local authorities to establish sustainable communities; enabling decarbonisation through whole energy solutions; and, maintain and improve existing digital infrastructure to increase efficiency.

The NeRV Centre will transform our existing Low Thornley site into a leading research and demonstration centre; the UK's first combined whole systems research, development and demonstration facility covering gas, electricity, and water. The NeRV Centre offers a unique platform for real-world testing and demonstration of low carbon heating solutions, supporting the transition to net zero in the North of England. By bringing together local authorities, community groups, and industry partners, it enables place-specific decarbonisation approaches while fostering workforce development in clean energy. The NeRV Centre will provide a holistic research environment allowing for the integration and optimisation of emerging technologies and data systems across homes and energy networks, delivering valuable insights and skills that accelerate progress in heat decarbonisation and provide tangible social and economic benefits.

BPI Questions

NGNQ2. Do you agree with our view that NGN passed all of the minimum requirements and as such are considered to have passed Stage A of the BPI?

Yes. We agree that we have passed all the minimum requirements set out in the Business Plan Guidance and should be considered to have passed Stage A of the BPI.

NGNQ3. Do you agree with our assessment results for NGN against Stage B of the BPI?

No. We disagree with the assessments results against Stage B of the BPI as Ofgem's assessment does not account for whether GDNs that propose low-cost plans also have a track record of delivering these plans at a low cost while maintaining high quality of service.

We recognise with the importance of comparative benchmarking of companies to determine cost efficiency and measure relative levels of ambition for the RIIO-GD3 period, however, we are concerned about the disconnect between the cost assessment process for RIIO-GD3 and past performance in RIIO-GD2. In addition, NGN have significant concerns relating to the application of cost exclusions at Draft Determination and consider that they are inconsistently applied across networks, resulting in material biases in the benchmarking. Assessment of the BPDTs and Ofgem normalisation files has highlighted significant inconsistencies in the application of cost exclusion across companies, which has resulted in the benchmarked Totex not being carried out on a like-for-like basis. We provide a comprehensive response on these topics in our responses to GDQs 35 & 36 and outline further concerns below.

1. **<u>Consequence of past performance failure</u>**

There has been no consequence for past performance built into the relative cost benchmarking for RIIO-GD3. This is at odds with the approach taken at RIIO-GD2.

As part of the benchmarking for RIIO-GD1, a cost adjustment was made to both NGN and NGGD (Cadent) to reflect the additional costs that would be incurred due to failing emergency response

licence obligation standards in 2010. The cost adjustment was equal to £0.75m, which would be equivalent to £1.17m in 23/24 prices. Ofgem stated: *"Safety is the key priority for each of the GDNs. We have therefore added costs to each of the GDNs that have failed the emergency service standard prior to running the regression analysis. We have added £0.75m based on the additional costs NGN and NGGD have stated that they would have required to meet the standard in 2010-11."*[1]

We are concerned that there do not appear to have been similar adjustments made in RIIO-GD3 modelling for GDNs that have failed licence standards in RIIO-GD2. Similarly, we present information in our response to GDQ 36 that demonstrates that many GDNs are not performing at a level which consistently meets standards required in RIIO-GD3. For example, Figure 1 and Figure 2 demonstrate the significant differences in performance levels for closing gas escapes within 7 and 28 days.

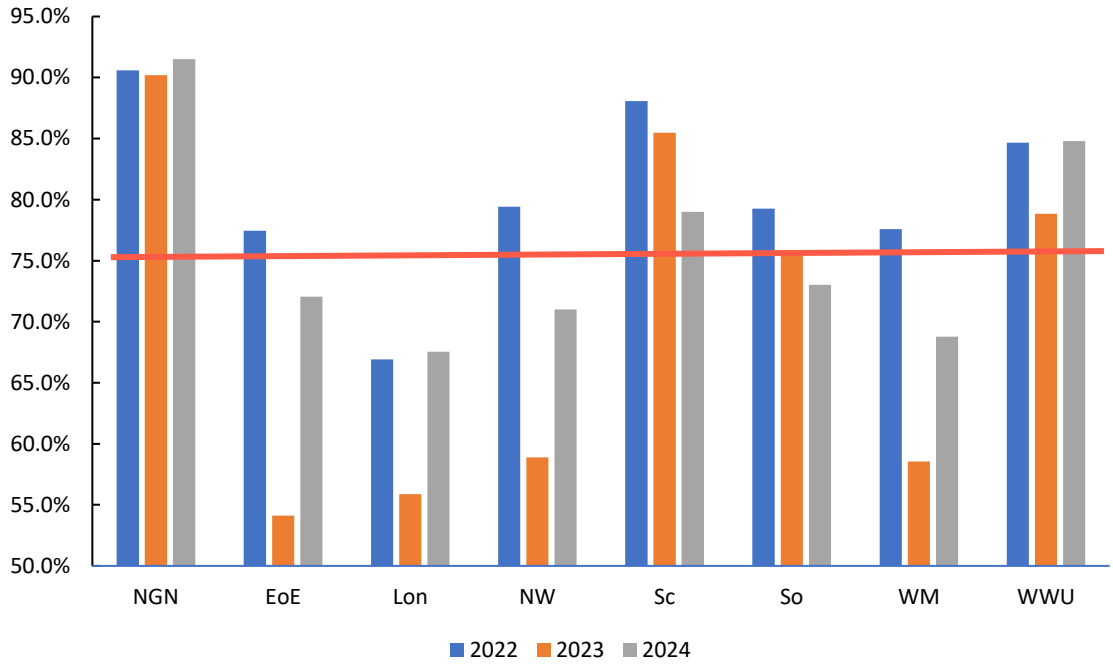


Figure 1 - 7 days ODI performance target (75%)

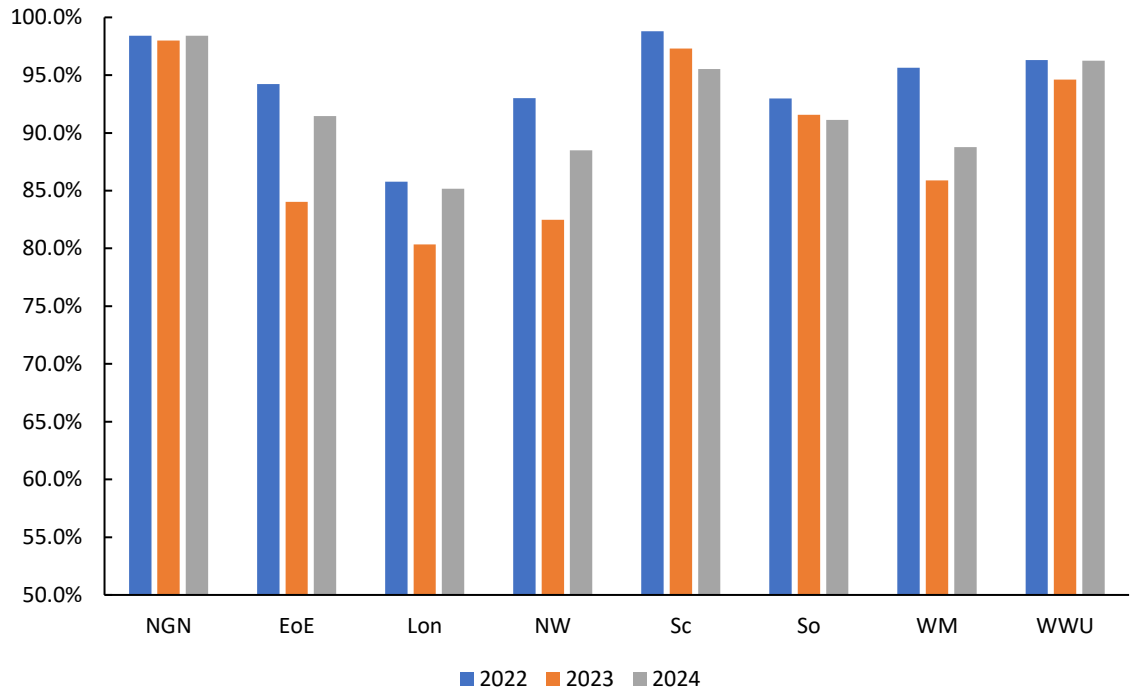


Figure 2 - 28 days ODI performance target (90%)

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[1].

To ensure consistency in approach, we consider that Ofgem should apply similar adjustments to the cost modelling to take into account costs likely to be incurred to be able to consistently meet performance standards required in RIIO-GD3.

2. <u>Additional justification for cost exclusions is required</u>

In GDQ 35 we provide a suite of evidence demonstrating the need for Ofgem to investigate further the basis for cost exclusions in the comparative benchmarking. We present the results of our analysis for Streetworks and IT & Telecom cost exclusions put forward by each company and highlight the inconsistencies in approach between GDNs. We also demonstrate just how sensitive the modelling results are to the inclusion (or exclusion) of these costs which would indicate that there should be consideration of a remedy for this issue. We proposed either retaining the current Streetworks pre-modelling adjustment but strengthening the review of submitted values and normalising them across networks, or replacing the pre-modelling adjustment with a post-modelling adjustment and re-opener, with streetworks costs being included in the modelled cost base.

Paragraph 9.6 of the Business Plan Guidance states: *"Stage B - we will assess whether the costs submitted as part of the business plan are adequately justified and efficient. We will use two separate*

1 BPI Incentives at the RIIO-GD3 DD, Oxera 2025

assessment methodologies, one for costs which are assessed comparatively, and one for more bespoke costs." It is therefore clear that there is need for additional justification of the submitted costs that are proposed to be excluded from the benchmarking before finalising the results of Stage B of the BPI.

3. **Stage B does not account for Delivery of efficient costs and service performance.**

We do not agree with Ofgem's approach as the standalone basis for the Stage B assessment. Ofgem's assessment does not account for whether GDNs that propose low-cost plans also have a track record of delivering these plans at a low cost while maintaining high quality of service. We specifically note our appended document developed with Oxera - *BPI Incentives at the RIIO-3 DD* which presents analysis of historic cost and service performance of GDNS versus the Draft determination assessment. Section 4.1, 5.1 and 5.2 of this report provide compelling evidence of how previous performance on cost efficiency service performance have not been duly considered in the cost assessment and poorer performing networks are potentially being rewarded at GD3 due to anticipated performance. This is summarised briefly below.

Ofgem revised cost benchmarking benchmarks West Midland and East of England as the most and second most efficient companies for GD3 based on their forecast cost profiles and they are rewarded through Stage B. Figure 3 shows Totex Over/Underspend against GD3 DD efficiency and evaluate how Gas Distribution Networks (GDNs) have performed in GD2 relative to their proposed efficiency positions in GD3. Companies now proposing plans near the GD3 efficiency frontier would typically be expected to have demonstrated strong cost outperformance in GD2, particularly if previously assessed as inefficient. The analysis highlights a clear alignment for West Midlands, Northern Gas Networks (NGN), and SGN – Scotland (Sc), which occupy the top-right quadrant — combining high efficiency rankings in GD3 with material underspend in GD2. This positioning reflects both robust delivery and credible forward planning.

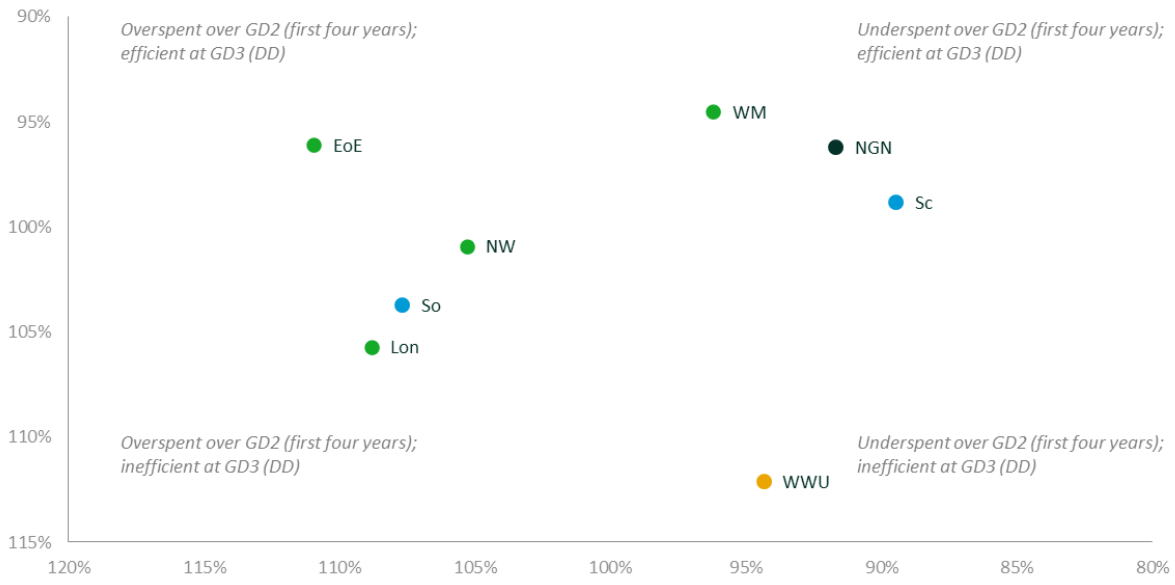
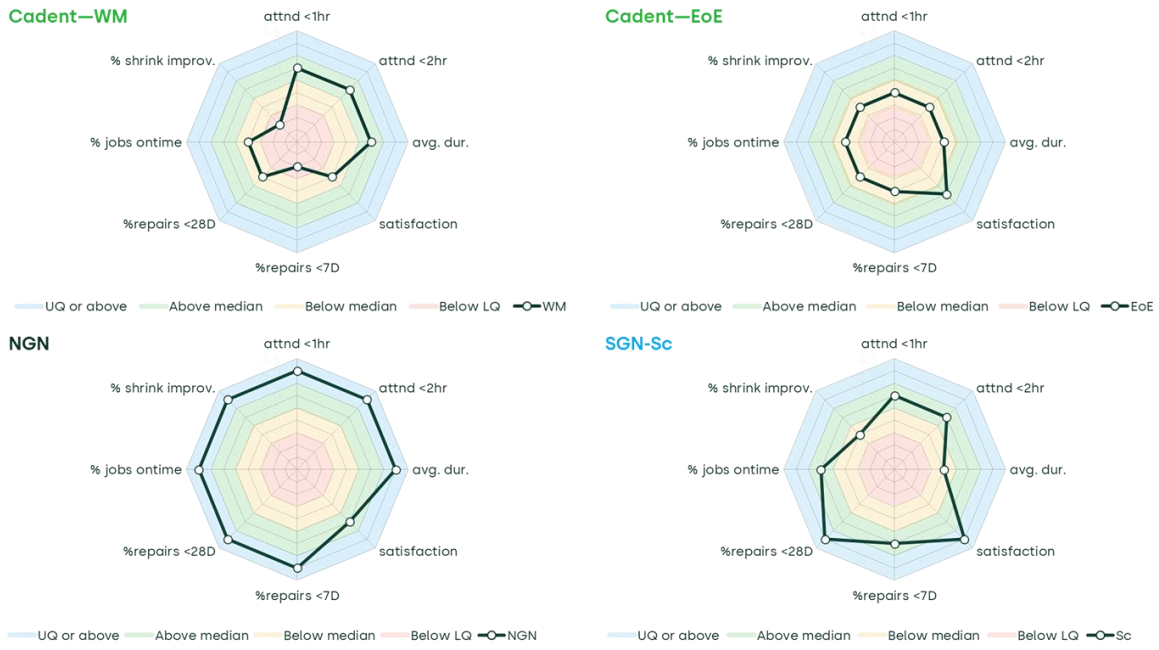


Figure 3: RIIO-GD2 TOTEX over/underspend against RIIO-GD3 DD efficiency position

Low cost, or "underspend" on its own, is not an appropriate measure of efficiency. Of paramount importance is the delivery of outputs, represented for GDNs as Service performance. Efficiency cost delivery and high service performance is the pinnacle of the RIIO framework and clearly in the consumer interest. Our analysis, extended to assess 8 core service metrics common across GDNs[1] is presented in Figure 4 and shows that among the four GDNs assessed as most cost-efficient in RIIO-GD3, NGN stands out with top rankings on 7 of 8 performance metrics, placing 3rd only in customer satisfaction. In contrast, Cadent's WM and EoE networks, while included in the most cost-efficient group post-DD, consistently rank below the top two across all metrics. EoE shows stable mid-tier performance, while WM's rankings vary more widely. No other network outside this group matches NGN's consistency in top-two service performance across metrics.



[1] * Core Service metrics included, unplanned escapes attended in under an hour (%); planned escapes 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; % jobs substantially completed by the date agreed with the customer; reduction in shrinkage, percentage improvement as outlines in section 4.2 of Oxera's report – BPI Incentives at the RIIO

Figure 4 Service quality of the less cost efficient GDNs (2021/22–24/25)

Combining, service and cost metrics as shown in Figure 5 presents a quadrant analysis comparing GDNs' average service quality rankings in RIIO-2 with their assessed cost efficiency in RIIO-GD3. It is noticeable that NGN and SGN – Scotland occupy the top-right quadrant, demonstrating both high service quality delivery to date and strong forward-looking cost efficiency. In contrast, WM and EoE, while assessed as most cost-efficient in GD3, rank significantly lower across service quality metrics.

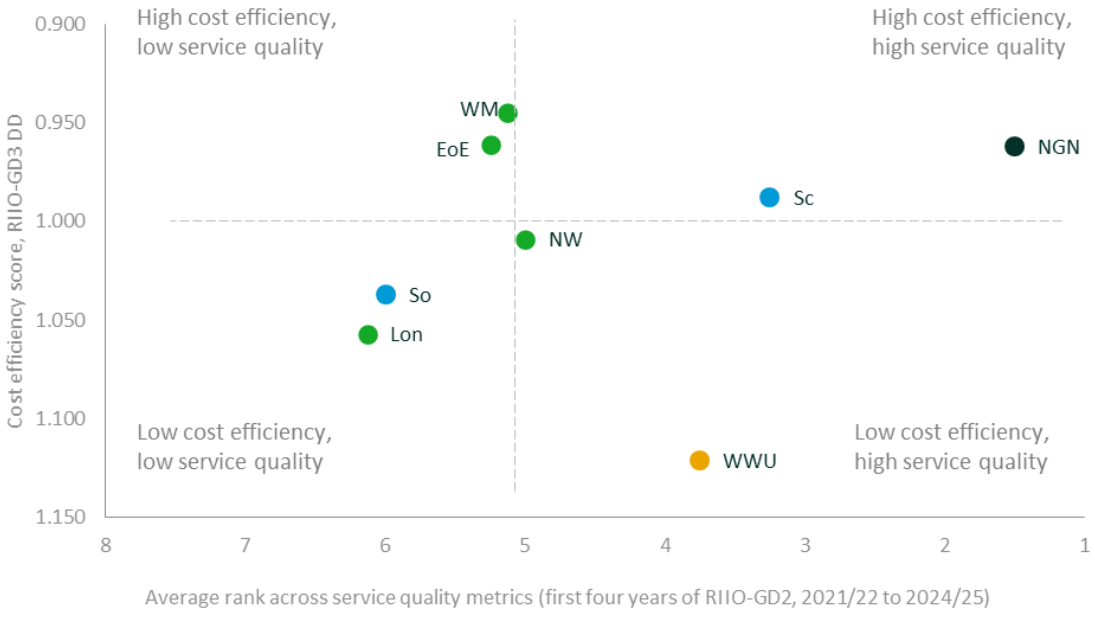


Figure 5 RIIO-GD3 modelled cost efficiency, against service quality track record for RIIO GD2 to date

This analysis demonstrates that NGN uniquely combines a consistent track record of cost-efficient delivery with sector-leading service quality that is not captured by the regression model. Initially, this multi-dimensional performance aligned with a relatively high BPI reward. However, following Ofgem's correction of modelling errors in its Draft Determination, NGN's Stage B BPI reward will reduce by £21.1m, while Cadent's WM and EoE networks will see an increase of £22.8m.

As a result, 97% of Stage B BPI rewards will accrue to networks that, despite proposing cost-efficient plans for RIIO-GD3, have either overspent in RIIO-GD2 (EoE) or underperformed on service quality (EoE and WM). This outcome risks misalignment between appropriate rewards and sustained performance in both cost efficiency and service quality.

Ofgem could consider rebalancing the incentive structure between Stage B (cost efficiency) and Stage C (service quality). Currently, the most cost-efficient GDN receives a reward equivalent to 40bps, while a GDN achieving ambitious targets across all three ODI areas earns a maximum of 3.3bps—highlighting a significant disparity.

Increasing the reward for committing to stretching ODI targets would better incentivise networks to propose plans that deliver high quality at low cost. However, without in-period accountability, this change alone may replicate issues seen in Stage B. To address this, Ofgem could vary ODI rates based on the ambition of targets and the scale of Stage C rewards—mirroring the differentiated TIM proposal that NGN has also suggested in its response to GDQ46. This could be implemented as a condition for Stage C rewards or as an opt-in for high-performing networks.

We consider that Ofgem could enhance the BPI framework by recognising the additional value of business plans that combine ambition on cost with a proven track record of cost efficiency and high service quality. Options to achieve this include:

- Integrating service quality into cost efficiency assessments, or adjusting cost assessments to reflect statutory or ODI performance.
- Making top-tier Stage B and C rewards contingent on strong performance in both cost and service quality, or on credible delivery history.
- Introducing a new BPI stage to reward networks that demonstrate low-cost, high-quality delivery backed by evidence of past performance or credible plans.

This approach would better align incentives with Ofgem's objective of promoting value for money and informed business planning.

An additional stage to the BPI could be readily introduced for the Final Determination—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.

NGNQ4. Do you agree with our assessment results for NGN against Stage C of the BPI?

No - we disagree with the assessment results for Stage C.

- While the overall evaluation for NGN was positive, we specifically contest Ofgem's subjective judgment on Clarity, which resulted in a -1.4bps penalty.

- We strongly object to Ofgem's rating of "Poor" for "coherence and justification," when all other sections were assessed as acceptable or outstanding.

Upon reviewing Ofgem's balanced scorecard, we fundamentally disagree with the assessment of our business plan as incoherent, particularly given that the broader Stage C Assessment recognised many elements as outstanding and well justified with supporting customer evidence.

In its Draft Determination Ofgem referenced two relatively immaterial examples (in the round) from our annex concerning data, digitalisation, and the NZARD UIOLI which contributed to its assessment of "poor".

NGN's approach to the UIOLIA mirrored Ofgem's own methodology at GD2, although NGN proposed an uplift of approximately 0.1% base revenue to 0.35%, compared to 0.25% at GD2. This increase was justified to ensure competitiveness with larger networks, which inherently received higher allowances due to their size. NGN's strong delivery record and high success rates with net zero reopeners and outputs positions us favourably to advance certain work streams within GD3 and we advocated for a higher allowance to achieve this.

Similarly, while Ofgem determined that data and digitalisation costs lacked sufficient justification and that there was no optioneering in the main business plan, it is important to note that 98% of these costs were deemed justified through cost assessment. This finding appears inconsistent with Ofgem's Stage C assessment, especially as optioneering was omitted purely due to page constraints imposed by Ofgem but was contained and cross referenced in accompanying appendices.

According to Ofgem's scorecard, poor justification also suggests insufficient stakeholder engagement. However, NGN undertook comprehensive stakeholder engagement throughout its business plan, as highlighted in other parts of the Stage C assessment that contributed to an outstanding rating.

We strongly dispute Ofgem's "poor" rating for coherence and justification and consider this position is not substantiated when applying a holistic qualitative assessment, in the round.

In our view, the business plan is fundamentally coherent; though we do accept that some sections may lack explicit integration, our proposed activities are well justified, and stakeholder engagement is clearly demonstrated, which clearly aligns with Ofgem's scorecard of an acceptable plan.

Based on the rationale above and the relatively immaterial examples cited by Ofgem, we consider believe the assessment should be classified as at least "acceptable."

We refer to our responses to GDQ33 and OVQ15 which expands on these areas.

Managing Uncertainty Question

NGNQ5. Do you agree that NGN's industrial and commercial hydrogen use proposal should not be eligible for NZARD UIOLI funding?

No, we do not agree with the proposal to exclude hydrogen and blending projects from the NZARD UIOLI. We are concerned with the lack of funding routes available for such projects in the RIIO-3 period and the funding gap that this creates, potentially prohibiting hydrogen from playing what could be a significant role in the delivery of Clean Power 2030 and in the Journey to Net Zero. We would refer to our response to OVQ21 which provides a comprehensive overview of our concerns in relation to this. Our specific concern is that the Hydrogen Transport Business Model (HTBM) is not the correct or

applicable funding route (due to HTBM focusing on large scale strategic infrastructure projects and the misalignment in timescales for delivery of HTBM compared to our RIIO-3 Business Plan) for smaller scale development and investigatory projects which the NZARD allowance was specifically designed to fund.

The NZARD must be able to be used for early development work for industrial and commercial hydrogen use and this must fall within the price control to ensure networks proactively explore all options to meet net zero and maintain energy security.

Cost of Service Question

NGNQ6. Do you agree with our engineering assessment of NGN's RIIO-3 Business Plan?

No, we do not agree with the engineering assessment. Please refer to our detailed NGN RIIO-GD3 Engineering Justification Annex, appended with our response and which outlines asset specific evidence to further support our GD3 business plan which justified £1,837.2m in funding to support essential Capital Expenditure (Capex), Operating Expenditure (Opex), and Replacement Expenditure (Repex) for the RIIO-GD3 price control period. Our response outlines additional information and reinforces key detail to challenge approximately £150m in engineering and volume disallowances, impacting several critical investment areas.

Our response provides targeted justification for the disallowed Capex and Repex proposals, focusing on infrastructure essential to maintaining network reliability, safety, and regulatory compliance. NGN has extended asset lives wherever practicable, delivering efficiency savings over time. However, key assets—particularly Electrical and Instrumentation (E&I)—have now exceeded their useful life, posing significant risks including non-compliance, reduced resilience, and increased operational costs. Failure to invest in these capital programmes will result in:

- Escalating repair and replacement costs
- Increased risk of supply loss and compensation events
- Regulatory penalties and compliance challenges
- Diminished asset value and reputational harm
- Reduced operational efficiency and safety
- Barriers to innovation and energy efficiency

We outline the strategic necessity, efficiency, and long-term value of the proposed investments, addressing Ofgem's concerns and reinforcing NGN's commitment to delivering safe, reliable, and cost-effective service to customers.

We specifically note Ofgem's decision to reduce NGN's Mandatory Repex by £14.4m where more evidence would be required to support the need for the proposed workforce resilience proposals.

There are multiple risks associated with the Mandatory REPEX programme that require mitigation and management. The skilled workforce performing this work is in demand both within the organisation and across other sectors due to their transferable skills. Since 2013, NGN has maintained its DSP model, which replaced nation-wide Tier 1 contractors with smaller, local businesses to create more collaborative partnerships. This approach is managed by NGN's operational leads and comprises

numerous skilled workers, contributing to excellent safety records, customer service, efficiency, and continuous improvement.

NGN faces potential challenges if DSPs leave for adjacent networks or industries offering higher allowed unit rates under different price controls. During the RIIO-GD2 settlement, NGN received the lowest unit rates in the sector despite strong benchmarking, leading to ongoing cost pressures from other parts of the industry providing higher rates. As a result, consideration of NGN's incentive mechanism retainer allowance should be linked to final benchmarked outcomes at FD.

Instead of increasing base pay to align rates with other GDNs offering higher remuneration, NGN opted to provide a retainer as an incentive for colleagues who remain until the completion of the Mandatory Replacement programme. This aims to fulfil work volume delivery commitments while maintaining competitive delivery costs, which benefit customers.

Retaining the workforce through the end of the replacement programme is considered a significant risk given the uncertainty around future workloads post-2032. To address this, NGN introduced a Long Term Incentive Programme, granting partners a lump-sum payment in 2032 contingent upon continued service throughout the programme. More details are provided in the A7 Workforce and Supply Chain Resilience Strategy, p.33.

Innovation Question

NGNQ7. Do you agree with the level of proposed NIA funding for NGN?

No, we have concerns which relate to the need for Ofgem to recognise funding for green gas research, specifically hydrogen, which has been excluded. There are several areas which we would request Ofgem to reconsider ahead of Final Determination and reflect on the rationale used to remove green gas research and innovation funding from the Draft Determination, referencing the use of the UK Government's Hydrogen Transportation Business Model (HTBM). The current, and proposed, HTBM is not an appropriate funding stream to support the innovation-based projects outlined in networks business plans, with the HTBM focus being on large scale strategic infrastructure projects.

We also disagree with Ofgem's decision to reduce NGN's NIA allowance by a further 22% following its quality assessment of NGN's Business Plan.

We have addressed the specific areas of feedback provided by Ofgem in the Draft Determination below:

For the reasons set out in our Overview Document (Chapter 10), we have decided that NIA is not the most appropriate route for further work relating to future of gas and hydrogen and so have reduced NGN's NIA award by £3.07m, to reflect the workstreams in its "Energy System Transition" area of focus that we assessed to be hydrogen or future of gas related. These were projects 1, 5, 8 and 9 from "Enabling decarbonisation through whole energy solutions" and projects 4, 5 and 6 from "Decommissioning and repurposing of existing gas networks as we move towards future systems".

We have concerns in recognition of the need for funding for green gas research, specifically hydrogen, which has been excluded. There are several areas which we would request Ofgem reconsider ahead of Final Determination and reflect on the rationale used to remove green gas research and innovation funding from the Draft Determination, referencing the use of the UK Government's Hydrogen Transportation Business Model (HTBM). We are concerned that the alternative funding mechanism

suggested, the HTBM, would not be eligible. We are also concerned that the revised NIA criteria Ofgem proposes is too narrow to support the ambitions of Clean Power 2030 and Net Zero. The role of hydrogen in meeting Net Zero targets has been demonstrated widely, and yet there appears to be a gap in suitable funding mechanisms for such projects in RIIO-GD3, with GDNs still awaiting clarity on the design and specifications of the HTBM.

The hydrogen and future gas projects included in our business plan align with NESO's recently published Future Energy Scenarios 2025, which present several pathways that involve the use of hydrogen. These pathways include applications in industrial clusters, as referenced in the Holistic Transition and Hydrogen Revolution scenarios. The future potential for hydrogen within industrial clusters would supply clean energy to areas where there are large numbers of NGN customers, both in domestic, as well as the Industrial & Commercial sector. This also builds further learnings and opportunities to support the UK's ambition for repurposing the existing gas network avoiding the stranding of assets.

We would therefore challenge Ofgem's decision to remove the following projects:

- *'Develop a commercial scale offer to understand the role of electricity and gas to decarbonisation and what information is required to manage the service.'* This is a whole systems project developing an Industrial & Commercial scale offer that could involve multiple projects within this overall topic. This would allow for collaborative working with the DNOs and NESO to better manage the current system and prepare for future scenarios that would see significant increases in electrical demand to areas that have strong existing gas infrastructure that can be used to support the ambitious plans to decarbonise.
- *'Further understanding of GDNs role for hydrogen in the transport sector and how their pipelines can be utilised to drive the cost of hydrogen down.'* Previous projects funded by NGN (Hydrogen Mobility) detailed that hydrogen transported by pipeline is significantly cheaper than the alternative of a virtual pipeline. The removal of red diesel subsidies has put a significant strain on certain industries who are pushing for alternative clean fuels. The ability to drive down the cost of hydrogen is vitally important for the construction industry, the agriculture sector and heavy goods transportation.
- *'Development of systems to better understand customer connections to identify what equipment sits beyond the meter and determine impact from multi-fuel blends.'* We do not agree that this project was removed from the Business Plan as it does not fit within the criteria of the future of gas as proposed by Ofgem. The network currently operates with a multi-fuel blend and the push towards more biomethane connections (as stated in section 4.5 of Ofgem's RIIO-3 Draft Determination – Gas Distribution consultation document) and more embedded generation will change the makeup of the energy customers receive. This project would have significant benefits to customers and would help remove blockers for low carbon energy being supplied to GB customers.
- *'Understanding fuel cell technology and the role they can play to support DNOs to minimise grid capacity issues.'* An assumption has been made that fuel cells would be using hydrogen, however this is not the case with this project. The area of interest was specifically designed based upon a decision to remove gas from properties. Specifically in this case, removal from

multi-occupancy buildings and campus settings. Fuel cells have the ability to transfer energy from natural gas to electric in properties, this would act as a transitionary option for the UK. 'Gap analysis from LTS Futures activity - projects looking at proving that certain assets can be used with hydrogen and any changes that would be required.' As detailed in the FES 2025 there will be areas of the gas network that can be repurposed, and the funding of the Front-End Engineering Design for Project Union & East Coast Hydrogen further develops this concept. Work has been undertaken to build the understanding of the requirements but there is still work to be done. We would use the NIA allowance to fund smaller scale low TRL projects that can significantly enhance networks abilities to develop their capabilities to repurpose the networks to deliver low carbon alternatives to natural gas.

- *'Future requirements for policies and procedure updates suitable for deploying hydrogen within GDNs network.'* The makeup of the gas that will be transported within the gas network will change in the upcoming years with the push for more biomethane connections and embedded generation. Requiring changes to GDNs policies and procedures, this work can be applicable for increased biomethane, 100% hydrogen, hydrogen blends, and alternative fuels on the network. Limiting the eligibility for the NIA creates a risk to the UK in the energy options that will be available in the future. Future of gas related research is certain to be required in support of the UKs ambitions for the Clean Power 2030 target, there is a concern that if the future of gas projects are removed the gas industry will not be able to respond collaboratively to these challenges in an appropriate and timely manner.
- *'Further developing hydrogen blending capabilities, by enhancing the implementation efficiencies and detailing the training requirements for staff.'* Removal of blending from the scope of NIA slows down the future development of a credible source to reduce emissions in line with the UK's Net Zero ambitions and build the hydrogen market. Blending is a viable offtake for hydrogen producers, while decarbonising the network with minimal impact of appliances.

We see the NIA as a way of Ofgem helping to de-risk and accelerate the energy systems transition and help networks achieve their net zero targets. NIA reduces the financial burden on networks and our customers while enabling learning and experimentation. For the avoidance of doubt, we can clarify that the projects highlighted in our Business Plan in Annex 1 were not an exhaustive list but examples of the types of projects that we would propose to use the NIA for and did not represent the final or entire list of projects. The reduction of the £3.07m has been calculated by giving each project within the theme the same weighting, which is not representative of the ask from NGN, assuming each of the projects are of the same scale.

After assessing NGN's Business Plan against the criteria set out in the Business Plan Guidance (par. 3.13), it was scored against each of these based on whether it had provided sufficient evidence to justify the amount of NIA it was requesting. Based on NGN's score, we decided to reduce its NIA award by a further 22%. From the criteria, we would have expected additional detail to be given in the following areas:

- *Key areas of focus for NIA spending: While NGN lays out its areas of focus at a high-level, we would expect further detail to be provided here on the problems identified, and why the specific solutions were chosen to address these.*

- *Amount of funding and justification: We would have expected more information to be given justifying the amount of funding that NGN has requested and how they arrived at it.*
- *Network collaboration to identify and deliver NIA projects: We would expect more detail to be given on how it will collaborate with other networks to identify and deliver projects, including the process it goes through and how it works in practice.*

During the compilation of the business plan we completed various engagement activities with our customers, stakeholders, our Independent Stakeholder Group, and colleagues across various areas of our business. The themes that were developed directly support national policy objectives such as Net Zero, Clean Power 2030, security of supply and fairness in transition. We see Ofgem as being a key facilitator in supporting the networks through funds like the NIA to ensure compliance with the national targets.

From this engagement activity, we were able to define two core innovation themes, those being supporting customers in vulnerable situations and facilitating the energy systems transition. Further to this we incorporated digitalisation as our golden thread which will play a key role across all our innovation projects, especially in consideration how we best manage our network in the future.

Enabling decarbonisation through whole energy solutions was derived due to the alignment with current government policy and net zero ambitions. There is therefore a requirement for GDNs to evolve from the way we currently operate to start supporting low carbon alternatives. This theme has been developed to help break down any barriers there might be and continue to collaborate with gas, electricity, heat, and water companies. We feel that integrated systems are more flexible and resilient to loss of supply incidents or sudden changes to energy demand, which benefits the consumer with a more reliable energy supply. The whole systems approach can often involve more community engagement, where consumers can gain more control and choice over their energy use and gain access to locally generated energy which in turn opens financial incentives to actively participate in energy markets.

We pride ourselves on the mature relationships we have with various industry bodies within the sector which aid the development and delivery the most impactful innovation projects. Working with organisations such as Future Energy Networks, Institute of Gas Engineers and Managers, National Energy Action, Energy Networks Association, Hydrogen UK, Institute Chemical Engineers, Institute of Mechanical Engineers, and IET etc. NGN continue to collaborate on projects, working with 56 partners over the 44 NIA projects we took part in within the 2024/25 financial year. We ensure there are clear communication channels between ourselves and the other networks.

We are contributing members of the Gas Innovation Governance Group (GIGG) which is a consortium of the five GDNs. Facilitated by FEN, GIGG meets every two weeks to highlight upcoming innovation projects through the Project Notification Form process, where the one-page document is uploaded onto the shared area site and tracked on the project tracker. This allows for visibility of projects as well as optimising the opportunity for collaboration, the same process is in place working with the Electricity Innovation Managers group on the monthly Innovation Steering Group. The role of GIGG can be found on the FEN portal.

We are also members of the Energy Innovation Centre (EIC) which has access to over 10,000 innovators. The membership also enables NGN to collaborate with all the UK electrical transmission

companies as well DNOs who are also EIC members. The EIC has developed deep insight into innovator needs and requirements in working with the industry, and has also developed proven processes that provide consistent, high-quality support for innovators and networks across the sector. This process opens up the ability for NGN to collaborate on joint projects with international networks to help deliver change, in the form of Gas Networks Ireland.

- *Ensuring projects aren't duplicative: NGN gave insufficient information on how it will ensure that projects aren't duplicative of previously funded innovation work and didn't provide sufficient detail on the processes they have in place to accomplish this.*

Due to the way NGN and networks collaborate (see above), we have a particularly good understanding of all the projects that have been delivered through NIA and SIF. All projects are listed on the FEN and ENA Smarter Networks Portal; we also engage with the other networks while compiling the Innovation Measurement Framework and collating all networks responses into the Annual Innovation Summary. Through these various activities and dissemination events throughout the year NGN have a sufficient understanding on what projects are being delivered across the innovation space. This being the case, while scoping out ideas we consider previously funded projects and what was achieved. At the next stage, the projects are discussed through the GIGG forum where other networks have the opportunity to comment on project eligibility, collaborate on the work and highlight if there is any potential duplication. All projects are openly available prior to them commencing and therefore open to external scrutiny. NGN have never been highlighted on duplicating any efforts of previously funded innovations.

Further to this, we also work closely with the EIC (see section on collaboration), where NIA projects and ideas for Innovation are listed and are open for collaboration. For example, all our Customer Vulnerability projects are open for networks and 3rd sector organisations to collaborate, offering greater benefit for our customers in vulnerable situations, along with providing value for money when we look to use NIA funding on such projects. Through collaboration with other gas and electricity networks on projects we lead or join helps to reduce the chance of consumer postcode lottery when research or practical solutions are developed.

- *Proposals to disseminate: We expected further information to be shared regarding NGN's past dissemination efforts, as well as future plans for dissemination.*

Throughout the calendar year, NGN attend various events where we share the learnings from our innovation portfolio. These being the Energy Innovation Summit, Innovation Zero, Utility Week Live, NGNs annual stakeholder conference and the Annual Vulnerability and Carbon Monoxide Allowance (VCMA) Showcase. Outside of industry events NGN also disseminates learnings through various other events, such as the Great Yorkshire Show where we showcased the findings from NGN's Hydrogen Farm of the Future project but also on wider industry works such as East Coast Hydrogen, with the main topics being on production of clean energy and future fuels for transport. We also attended the Cenex Expo which provided the opportunity to engage with the transport industry and present various transport related innovation projects.

We attend various IGEM events to present innovation projects, such as the annual innovation conference, gas utilisation event, and individual section events. The learnings from the projects are disseminated far and wide, engaging with local authorities and councils at various events where they

will be unveiling net zero related projects. We also disseminated the Community Resilience project findings and research outputs at a National Energy Action event. This event was open to all sectors of the Energy Industry and was attended by 26 third sector organisations, charities, Social Enterprises, Social Housing, Academic, Water, and Energy Suppliers. As a further example, Bradford City Council hosted an event to unveil the funding of HAR1 funded Braford Low Carbon Hydrogen Hub, where NGN were invited to showcase their NIA funded hydrogen transportation model. We also have a dissemination event scheduled in September 2025, to be hosted by the SME's who conducted the research for our recently completed 'Supporting Off Grid Communities' project, which will include attendees from Local Authorities, DNO's and Energy representatives.

All the projects that we have been involved in can be found on the FEN Portal and the ENA Smarter Networks Portal. They are detailed every year in our Annual Innovation Summary, that highlights every project from that year and then goes into greater detail on some of the larger projects that are pulled out as case studies. So far, the 2024 report has been read by over 1,000 visitors to the web page.

- *An explanation of why the innovation in question cannot be funded from the totex allowance: NGN provided insufficient information as to why each innovation workstream it is requesting funds for cannot be funded through the totex allowance.*

During the compilation of the business plan we completed various engagement activities with our Independent Stakeholder Group and internal sessions with various areas of the business. The themes that were developed directly support national policy objectives such as Net Zero, CP2030, security of supply and fairness in transition. We see Ofgem as being a key facilitator in supporting the networks through funds like the NIA to ensure compliance with the national targets. Within the 6 themes we have identified they do not all offer a clear commercial return for the business, which can carry significant risk. The NIA allows for projects that do not necessarily have measurable financial returns on investment but can deliver works that have societal and environmental value. Energy systems transition projects involve high uncertainty and potentially long payback periods. The NIA allows GDNs to share the risk with Ofgem and deliver innovations. Using NGNs TOTEX allowance could lead to inequitable outcomes, where only financially profitable projects are delivered. Projects being funded via the NIA ensures uniform access amongst the networks and fair distribution of the benefits to all consumers.

Further to this, reducing NIA allowances for NGN will ultimately affect our ability to collaborate and support the very customers it is intended to be for, looking forward to GD3, there has never been more of a need to develop, research and support our customers and colleagues through innovative outputs, whether this be long or short-term projects. Maintaining awareness of the evolving vulnerability landscape and ensuring an appropriate allowance will enable NGN to continue collaborating, developing long-term solutions, and retaining the flexibility to pursue relevant research or practical outcomes. This approach aims to support efficiency and value for money for all customers.

Data & Digitalisation Question

NGNQ8. Do you agree with our proposed level of funding for NGN's data and digitalisation investments?

Yes, we agree with the proposal to fund 98% of the investments that we proposed in our Business Plan, which demonstrates a well justified and coherent strategy.