



# RIIO-GD2

## Strategic Commentary

2023-2024

**we are  
the network**

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## 1 Chief Executive's Update

This year has been another challenging year for many of our customers and communities. The energy supply and security crisis and increased cost of living continued to have an impact even as inflation has eased. This has understandably driven customer and stakeholder concerns and in response we have focused our efforts on providing both crisis support for our customers 'in the moment' and sustainable solutions for the future. The success of this work has been underpinned by a flexible and collaborative approach from voluntary and community sector partners, and dedicated colleagues across our business.

It was pleasing last summer, when Ofgem agreed to repurpose funds from the Fuel Poor Network Extension Scheme (FPNES) to the Vulnerability and Carbon Monoxide Allowance (VCMA). This resulted in an additional c£13m being allocated, over the final three years of GD2. I am extremely proud of the support that NGN has been able to provide consumers through this repurposed allowance. We live and breathe a customer-first culture, always considering what we can do beyond our core obligations. This is in our DNA.

We have engaged broadly with our stakeholders to ensure that we are investing this allowance to deliver maximum impact, tackling the consumer needs our partners were seeing. To further support customers and add value to the communities we serve, we have also continued the support that we provide through our unique Customer Support Fund and Community Partnering Fund. These initiatives are 100% funded by our shareholders. We are also the first and only GDN to reallocate allowed revenue (from the unbilled energy workstream), back in to support for customers most in need. This revenue has enhanced the Customer Support Fund and provided further essential support for our customers.

Given the backdrop of continued financial pressure and strain on households and businesses throughout our network, delivering value for money for our customers is more important than ever. I am delighted with our performance against our GD2 output targets in 2023/24, where we have continued to perform strongly in all areas. Our achievements this year continued to push the frontiers of performance in the sector and invest in innovation to deliver significant long-term value, not only for our own customers, but for all gas customers in the UK.

Innovation remains more important than ever in supporting delivery of our overarching objectives to provide a safe, reliable gas service; support the transition to net zero; continue to modernise our operations and provide help to our vulnerable customers. Over the past year, we have looked towards the future and explored the ways we can drive down the costs of alternative energy solutions and most effectively repurpose our network. Innovative

solutions and technologies will enable us to keep pushing boundaries, explore and develop new energy sources, and improve how we better support our vulnerable customers both now and in generations to come.

Our focus on the needs of future generations has seen NGN at the forefront of championing the use of hydrogen for heat. Our world-leading research on the safety case for hydrogen through our H21 project has continued and we were listed by the UK Government as the preferred location for the Hydrogen Village Trial, at Redcar. We were successful in raising £100m in private contributions to match the funding provided by Ofgem and the UK Government to deliver a world first trial. I was bitterly disappointed with the Government's decision not to proceed with the trial in December 2023. Issues outside of our control meant that it would not be possible to generate the volumes of hydrogen required by 2026, making the trial unviable. While we won't get the opportunity to explore hydrogen's potential for heating homes and businesses in Redcar at this time, we know customers want energy choice and we have built invaluable knowledge and insights over the last two years that will help to inform future work around hydrogen for heating, in addition to actively supporting industry projects such as H100, led by SGN.

As we look ahead, we are incredibly excited about building on the challenging work delivered by our colleagues throughout the network this year. We remain resolute that the only way to meet net zero targets is through a whole systems approach.

Lastly, and importantly, planning is well underway for our next regulatory business plan for RIIO-GD3 (2026 – 2031). Our approach was always that GD2 should be an evolving plan, shaped by the feedback from our customers, the continued delivery of ongoing exemplary service at a fair price to customers. Our GD3 Plan will draw on the rich evidence from our ongoing engagement, capitalising on our position as the frontier gas distribution network to ensure that we can continue to deliver a reliable, resilient, and affordable energy system for our customers while getting in the best possible shape to deliver net zero.



Mark Horsley, Chief Executive Officer, Northern Gas Networks

## 2 Board Statement

The company's business strategy is to provide, develop and maintain a safe, affordable, and secure gas distribution pipeline system for the provision of gas supplies to the people and businesses within our region.

Underpinning this strategy is a strong compliance culture which the Board directly monitors through its risk management, audit, treasury, and compliance committees. The integrity of our reporting and information provided to customers and stakeholders remains a key focus. In 2024 we maintained our internal assurance of our reporting processes and these processes continue to align with examples of good practice across the industry.

During 2023/24 we continued to demonstrate strong customer, safety, reliability, and environmental performance despite the challenges that were endured which have impacted all areas of our business. We are pleased with NGN's exemplary track record in delivering against output targets agreed as part of the RIIO-2 regulatory contract. Incentive arrangements for the senior management team are directly linked to the safety, customer, and efficiency targets within the regulatory contract. These targets are review and updated annually.

The focus of the Board continues to be to support NGN in its ambition through significant investments and innovations in the network, notably in relation to objectives to meet net zero targets but also supporting infrastructure and people to improve the performance of the business in both the short and longer term.



Andrew Hunter, Chairman, Northern Gas Networks

# Performance Summary

## 3 Performance Summary

Outputs Summary	
<b>Meeting the needs of consumers and network users</b>	
Consumer vulnerability minimum standards	
Number of Fuel Poor connections	
Complaints metric	
Guaranteed standards of performance	
Emergency response – 97% controlled gas escapes	
Emergency response – 97% uncontrolled gas escapes	
Loss of supply – duration of unplanned interruptions	
Planned interruptions survey (score out of 10)	
Emergency response and repair survey (score out of 10)	
Connections survey (score out of 10)	
<b>Maintaining a safe and resilient network</b>	
Repex – tier 1 mains replacement	
Repex – tier 1 services	
Capital projects	
<b>Delivering an environmentally sustainable network</b>	
Shrinkage and environmental emissions	
Biomethane connections information	
Environmental action plan and annual environmental report	
Business Carbon Footprint (BCF) reporting	
Carbon Monoxide Awareness	

We delivered more Tier 1 mains replacement work than targeted, and 39km more than we delivered in 2022/23. We will continue to deliver above targets over GD2 to recover the shortfall seen during the Covid-19 pandemic.

Financial Summary	21/22	22/23	23/24	24/25	25/26
£m, 18/19 prices					
Regulatory Asset Value	2,263.4	2,293.3	2,322.0	2,353.1	2,381.8
Allowed Revenue	384.6	509.1	456.6	409.4	440.2
Return on Regulatory Equity	6.95%	6.86%	5.78%	4.82%	5.33%

The Regulatory Asset Value (RAV) increases year on year in line with expectations as we continue to invest in our assets. Allowed Revenue includes £81m and £21m in 2022/23 and 2023/24, respectively, for Supplier of Last Resort charges, which is a pass-through cost. The Operational Return on Regulatory Equity reduces throughout the price control as we expect our outperformance against the allowances to reduce over time.

Totex Incentive	21/22	22/23	23/24	24/25	25/26	Total
£m, 18/19 prices						
Actual costs	214.9	220.9	242.6	265.6	256.6	1,200.6
Adjusted Allowances	255.5	256.0	244.3	244.0	248.5	1,248.3
Outperformance	(40.6)	(35.1)	(1.6)	21.6	8.0	(47.7)
Outperformance %	(15.9%)	(13.7%)	(0.7%)	8.9%	3.2%	(3.8%)
Return to customers	20.7	17.9	0.8	(11.0)	(4.1)	24.3

We outperformed the allowances by 0.7% this year, but expected workload increases and cost pressures, against a reducing allowance will lead us to spend more than the current in-year allowances over the remaining years of RIIO-2. We expect to deliver a 3.8% outperformance over RIIO-2, which compares to a forecast of 3.0% last year. Note, our allowances this year include c.£41m of reopener monies relating to: HSE policy £16.5m, Streetworks £11.5m, Cyber £8.5m and Net Zero £4.9m.

Other Incentives	21/22	22/23	23/24	24/25	25/26	Total
£m, 18/19 prices						
Customer service	1.4	1.6	1.6	1.6	1.6	7.7
Complaints	-	-	-	-	-	-
Unplanned Interruptions	-	-	-	-	-	-
Environmental Emissions	(0.34)	0.36	0.40	0.29	0.12	0.83

We expect to maintain our customer service performance in future years, delivering £7.7m incentive over RIIO-2. We expect to pay no penalties under the Complaints and Unplanned Interruptions. We were in penalty in the first year under the Environmental Emissions Incentive, but this has been recovered in all other years of the price control.

# Financial Performance

## 4 Financial Performance

### 4.1 Return on Regulatory Equity

Ofgem use the Return on Regulatory Equity (RORE) to measure the potential financial returns or penalties on the portion of the value of the company that is financed by equity. RORE is calculated by using the cost of equity (Allowed Equity Return) as the starting point as this amount is funded directly in revenue. The cash value of any outperformance from the incentive mechanisms is then divided by the 40% notional equity portion of the Regulatory Asset Value to calculate the additional return on equity earned.

Return on Regulatory Equity	21/22	22/23	23/24	24/25	25/26
Allowed Equity Return	4.52%	4.56%	5.28%	5.59%	5.52%
Totex outperformance <sup>1</sup>	2.29%	2.01%	0.21%	(1.02%)	(0.42%)
Business Plan Incentive	0.13%	0.13%	0.13%	0.13%	0.12%
Customer Satisfaction Survey ODI	0.15%	0.18%	0.17%	0.17%	0.17%
Complaints metric ODI	-	-	-	-	-
Unplanned Interruption Mean Duration ODI	-	-	-	-	-
Shrinkage Management ODI	(0.04%)	0.04%	0.04%	0.03%	0.01%
Network innovation input for RORE	(0.02%)	(0.02%)	(0.03%)	(0.03%)	(0.03%)
Carry-over Network innovation	(0.02%)	-	-	-	-
Strategic innovation	-	-	-	-	-
Penalties and fines	(0.07%)	(0.04%)	(0.03%)	(0.04%)	(0.04%)
<b>RoRE – Operational performance</b>	<b>6.95%</b>	<b>6.86%</b>	<b>5.78%</b>	<b>4.82%</b>	<b>5.33%</b>

Our operational RORE starts at 6.95% and reduces over the price control to 5.33%, an average of 5.95% and slightly higher than the 5.64% forecast last year due to increased Totex outperformance. After the Allowed Equity Return, the main driver is the Totex incentive mechanism. We expect our out-performance against the Totex allowances to reduce over time, partly due to workload movements, but also due to the tightening of the allowances, which includes a very stretching efficiency assumption. In addition, allowances have increased by 3.1% relative to last year on a 2018/19 price basis, mainly driven by additional re-openers values in relation to HSE, and local authority street-works requirements. We

<sup>1</sup> Calculated differently to other tables (NGN TIM share, RAV disposals & Net Zero UIOLI)

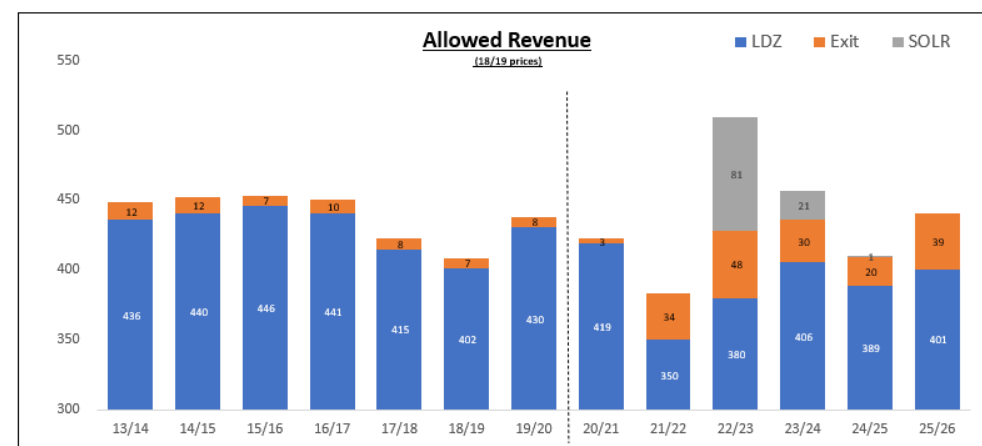
expect to earn further rewards under the Customer Satisfaction Incentive, whilst the Shrinkage Management Incentive is forecast to be a slight positive over the price control.

### 4.2 Revenue and Customer Bills

#### 4.2.1 Allowed Revenue

At the beginning of the price control Ofgem set our Base Revenue, assuming we deliver in line with the allowed costs and workload. Our Allowed Revenue is then calculated based on our actual cost and workload performance and is used to set customer bills. However, because of movements in customer numbers and levels of consumption, our Collected Revenue for that year is unlikely to match the Allowed Revenue. Any under or over collection is adjusted for in the following years' Allowed Revenue.

In addition to our LDZ (own) Revenue, the gas networks collect revenue to pay for the National Transmission System (NTS) Exit Capacity charges, and the Supplier of Last Resort payments. These are pass-through costs – the gas networks have no control over the charges and simply collect the revenue to be passed on. However, they are a significant part of the end customer's bill.

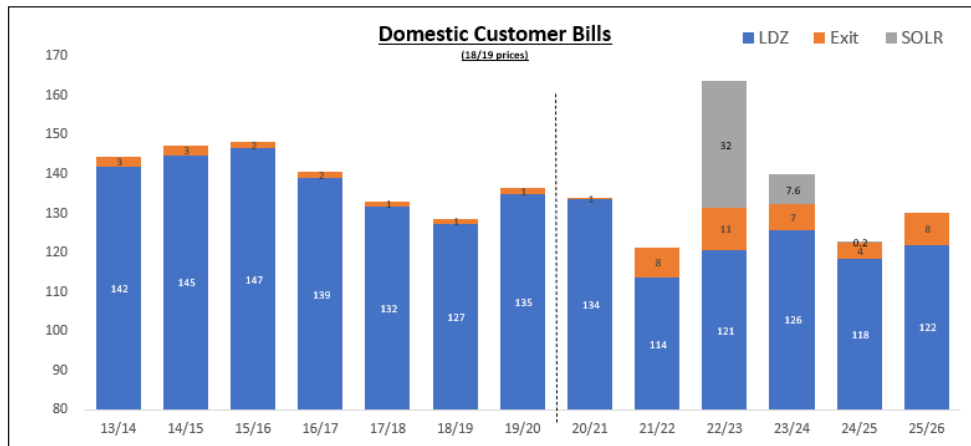


Our average LDZ Allowed Revenue for RIIO-2, falls in real terms to £385m, a 10.1% reduction from the RIIO-1 average of £429m, reflecting the challenging nature of the RIIO-2 settlement. NTS Exit Capacity charges increase from an average of £8m in RIIO-1 to £34m in RIIO-2. We have collected c.£102m in Supplier of Last Resort Payments in years 2 and 3 of the price control.

#### 4.2.2 Customer Bill Impact

The amount each customer pays through their bill is driven by three factors – Allowed Revenue for the year in question, changes in the number of customers, and changes in the level of gas consumption for these customers. For instance, if the number of customers increases for a fixed allowed revenue, then each customer would pay proportionally less.

Our domestic customer bill analysis shown below is calculated using NGN's average Annual Quantities (AQ) consumption and peak daily capacity requirements.



The average LDZ Domestic Customer Bill falls to £121, a 12.6% reduction from the RIIO-1 average of £137. This reduction is smaller than the reduction in Allowed Revenue which is a function of changing gas consumption. Exit costs increase significantly from £2 to £7 on the bill. Supplier of Last Resort (SOLR) payments increased the bill by £32 and £8 in 2022/23 and 2023/24 respectively.

## 5 Our performance against the allowances

### 5.1 Totex performance

Totex	21/22	22/23	23/24	24/25	25/26	Total	Allowed	Variance
Opex	73.9	85.7	93.0	98.7	94.7	446.1	476.6	(30.4)
Capex	40.3	39.4	45.8	64.4	58.2	248.0	257.4	(9.4)
Repex	100.7	95.8	103.8	102.5	103.7	506.4	514.3	(7.9)
<b>Totex</b>	<b>214.9</b>	<b>220.9</b>	<b>242.6</b>	<b>265.6</b>	<b>256.6</b>	<b>1,200.6</b>	<b>1,248.3</b>	<b>(47.7)</b>
<b>Allowance</b>	255.5	256.0	244.3	244.0	248.5	1,248.3		
<b>Variance</b>	<b>(40.6)</b>	<b>(35.1)</b>	<b>(1.6)</b>	<b>21.6</b>	<b>8.0</b>	<b>(47.7)</b>		
<b>Cumul. Variance</b>	<b>(40.6)</b>	<b>(75.7)</b>	<b>(77.4)</b>	<b>(55.7)</b>	<b>(47.7)</b>			

This year we outperformed the Totex allowance by £1.6m.

Controllable Opex saw outperformance of £0.5m mainly from two key areas:

- Higher than expected Maintenance costs. Accelerating workload, additional resourcing and increased energy costs have resulted in a £5.4m increase in spend compared to previous year and a £3m increase against forecast. Our forecast assumes that maintenance spend will level out across the remaining years.
- Lower than expected costs in Business Support. These costs, as forecast, have increased compared to last year due to increased utility bills and insurance premiums. Costs are expected to increase further over the remaining two years of RIIO-2 as we continue our investment into Cyber Security resource, and insurance premiums and associated claims increase.

Capex saw a £7.3m outperformance. Third party driven works account for c80% of this, with delays to the TransPennine Rail Electrification project and lower than expected Reinforcement workload. Reduced expenditure on IT & Telecoms contributed further Outperformance, which was off-set by overspend on vehicles as deliveries were accelerated following global supply chain shortages experienced in previous years.

Connections expenditure was also overspent as the updated allowance for RIIO-2 currently excludes our non-variant allowance which should add an additional £5.9m to allowances and requires correction through consultation with Ofgem.

Repex saw a £6.2m overspend, driven primarily by additional workload delivery on Tier 1 mains as we recovered the previous year's shortfall and moved ahead of target for RIIO-2 providing assurance in delivery of all workload targets across Tiers in RIIO-2. We continued our Tier 1 Stubs programme which does not have an allowance in years 3-5 of RIIO-2, and experienced ongoing delivery cost challenges due to macroeconomic factors.

The Repex adjusted allowance for RIIO-2 currently contains a forecasted increase for the HSE Policy Re-opener of £1.7m in the year and £16.5m across RIIO-2 which is not relating to Repex, and will be corrected via statutory consultation exercise with Ofgem to align to Opex (£13.9m) and Capex (£2.7m).

### 5.2 Opex performance

#### 5.2.1 Controllable Opex

Controllable Opex (2018/19 prices)	21/22 Actuals	22/23 Actuals	23/24 Actual	24/25 Forecast	25/26 Forecast	TOTAL Forecast
Holder demolition	3.2	4.2	2.8	3.0	1.2	14.3
Env. Remediation	0.4	0.3	0.4	1.0	1.3	3.4
Other Work Mngt	10.3	12.9	14.3	12.9	11.6	62.1
<b>Work Mngt</b>	<b>13.9</b>	<b>17.4</b>	<b>17.5</b>	<b>16.8</b>	<b>14.1</b>	<b>79.8</b>
Emergency	9.0	10.2	10.0	11.5	11.2	52.0
Repair	14.3	17.0	16.1	18.4	18.0	83.9
Maintenance	12.9	15.2	20.6	21.4	21.8	91.9
Other direct activities	3.1	3.1	3.8	3.0	3.1	16.1
<b>Work Execution</b>	<b>39.4</b>	<b>45.5</b>	<b>50.5</b>	<b>54.3</b>	<b>54.1</b>	<b>243.8</b>
<b>Business Support</b>	<b>18.7</b>	<b>20.1</b>	<b>22.2</b>	<b>22.9</b>	<b>21.1</b>	<b>105.1</b>
Training / Apprentices	1.9	2.7	3.8	4.7	4.4	17.5
<b>Total Costs</b>	<b>73.9</b>	<b>85.7</b>	<b>93.0</b>	<b>98.7</b>	<b>94.7</b>	<b>446.1</b>
<b>Final Allowance</b>	<b>97.7</b>	<b>95.4</b>	<b>93.5</b>	<b>94.7</b>	<b>95.2</b>	<b>476.6</b>
<b>Variance</b>	<b>(23.8)</b>	<b>(9.7)</b>	<b>(0.5)</b>	<b>4.1</b>	<b>(0.5)</b>	<b>(30.4)</b>
<b>Cumulative Variance</b>	<b>(23.8)</b>	<b>(33.5)</b>	<b>(34.0)</b>	<b>(29.9)</b>	<b>(30.4)</b>	

Our Controllable Opex costs were £93.0m this year, £7.3m higher than the previous year. This brings our costs more in-line our business plan as activities and costs have increased



since the Covid-19 pandemic. We have seen a significant increase in maintenance costs within work execution, as we have caught up on the Annual Maintenance Plan (AMP) as well as investing additional resources to deliver work, provide long-term resilience and reduce the age profile in this part of the business. Additional costs have also been incurred in Other Direct Activities, as well as additional Apprentices as part of our strategy to replenish skills and experience within our workforce. We expect to outperform the 5-year Final Allowance (workload adjusted and including forecast RPEs) by £30.4m.

### Work Management and Work Execution

**Holder Demolition** and **Environmental Remediation** costs can vary materially by size, condition and other site factors. This year we demolished 5 holders, 5 less than last year and 1 more than planned. This is purely phasing of work, leaving 1 holder remaining, and results in lower expenditure for the remainder of RIIO-2 and an outperformance against our plan through efficient delivery of the programme. We spent in line with our Environmental Remediation plan this year, and expect work on these complex projects to increase over the later years of RIIO-2, so that overall we expect to complete our planned work over RIIO-2 in line with our planned costs.

We spent £1.9m on **Asset Management** this year, £0.1m below the £2m assumed in our business plan. We expect to spend in line with our plan for the remainder of RIIO-2.

We spent £0.5m on **System Control** this year but expect costs to increase marginally to £0.7m over the remainder of RIIO-2. This is below our business plan forecast. We now flex the resource in this area to support other asset management activities to increase efficiency and maximise output across Totex.

Under our Totex operating model **Operations Management, Customer Management, Emergency** and **Repair** costs can all be affected by the relative level of workload across Opex, Capex and Repex. In Opex, the main workload drivers are the volume of Publicly Reported Escapes (PREs) and Repairs we see in the year.

Workload	19/20	20/21	21/22	22/23	23/24	24/25	25/26
Forecast PREs	90,529	89,869	89,234	88,626	88,041	87,480	86,942
Forecast Repairs	20,199	19,551	18,838	18,153	17,497	16,866	16,260
Actual PREs	74,948	70,115	67,770	69,945	68,202	-	-
Actual Repairs	17,317	17,794	19,482	20,658	18,835	-	-

Expenditure in **Emergency** and **Repair** has reduced to £26.1m this year compared to £27.2m in 22/23.

**Emergency** costs reduced by £0.2m to £10.0m as, despite 23 additional engineers recruited to date in RIIO-2 to improve resilience and a move towards Health and Safety Executive fatigue requirements, we provided additional Purge and Relight support to our Repex programme as enabled by reduced PREs. PRE workload in the year was 23% below forecast in a year due to a mild winter. Our forecast of increased costs for the remainder of the period are based upon a typical winter where the ability to support wider Totex delivery through stranded resource is limited.

**Repair** costs reduced by £0.9m as Repair volumes were 9% lower than the previous year but continue to be above our forecast due to ageing network and associated increase in ratio of PREs to Repairs. We have maintained our strategy of realigning resource from other areas where customer driven workload has fallen – connections, fuel poor and service alteration work to reduce the number of outstanding escapes as well as align resource to wider Totex workstreams. Reinstatement and materials unit costs continue to increase, linked to complexity of the repairs carried out on these escapes. We expect repairs to gradually trend down over time as a result of the Repex programme, but not necessarily every year as other factors such as weather and asset performance will influence the overall workload.

Our forecasts for Emergency and Repair have increased since last year as we have updated our forecast of the extra costs associated with meeting the Health and Safety Executive fatigue requirements. A re-opener submission for an increase in allowances to cover this will be made in September 2024, but are currently incorrectly categorised as Repex in our adjusted allowances, resulting in £13.9m of Opex in re-opener application being aligned to Repex allowances.

Our Repair forecast is also based on a more prudent 'normal' winter workload compared to the mild winters experienced in GD2 to date. We expect to outturn lower than our forecast when weather is milder, but we cannot always assume this will be the case and are therefore forecasting additional costs to maintain required gas escape and repair standards during winter.

We spent £1.2m more on **Operations Management** this year. The main driver was additional contractor costs associated with security across our operational sites due to increased theft and damage. There was also an increase of £0.2m in payments associated

with the Incremental Pensions Deficit. We expect expenditure to be marginally higher than previously forecast to support the increased maintenance workload referenced below.

We spent £0.3m more on **Customer Management** this year due to additional variable costs associated with the Emergency Call Handling contract as volume of calls increased. We expect to spend in line with our plan for the remainder of RIIO-2, which assumes a more 'normal' winter workload.

We spent £5.4m more on **Maintenance** this year, a £9.3m increase since 2021. This now brings annual costs higher than in our business plan, which outlined our strategy to increase maintenance in several areas. This year's increased costs included more work on district governor sites to extend their operational life and reduce Capex expenditure, as well as the associated remedials as an output of our in-line inspections programme which now uses new technology on our 4" high pressure pipelines. We also experienced a significant increase in utility costs across our sites because of the energy crisis. It was forecast that we would be accelerating workload post the Covid-19 pandemic to maintain compliance across the network and that additional resource would be required. We now expect to be fully caught up by the end of GD2 with expenditure being higher than our plan due to the continued impact of utility costs, and the significant recruitment programme being undertaken to adequately resource the team internally and remove any reliance on contractors ensures our ability to deliver the programme into future regulatory periods.

We spent £0.7m more on **Other Direct Activities** than forecast, £0.7m higher than each previous year. Increased costs were incurred on overcrossing remedials, asset decommissioning and several incidents. Costs in this area can vary year on year, driven by non-routine activities, the number of district incidents we encounter and our success at recovering costs from third parties if they caused the incident. Our plan continues to be based on the long-term average costs for this area.

#### **Business Support and Training and Apprentices**

We spent £0.6m less on **IT and Telecoms** this year as we replaced both our cloud hosting and WAN/LAN service providers, resulting in a reduced annual cost. We expect this annual cost benefit to continue and overall costs to reduce to around £6.1m for the remainder of RIIO-2.

Our **property** costs have increased by £0.7m this year and are £0.2m above forecast. The main increase is due to utility bills across our offices and depots linked to the energy crisis

with a benefit from the purchase of our Thorpe Park Head Office reducing rent. Costs are expected to reduce in the remainder of RIIO-2 following the purchase of our Thorpe Park Head Office, reducing our annual rental payments and associated fees.

Our **Human Resources** costs have remained consistent this year as reduced recruitment costs were off-set by a new Employee Relations Manager role. We expect costs to remain at this level for the remainder of RIIO-2 as we continue to invest in wellbeing, hybrid working and talent development strategies, as well as expanding on our existing diversity and inclusion plans through employee led community groups.

We spent £0.6m more on **Audit, Finance and Regulation** this year, from costs associated with development of the RIIO-3 business plan. These costs have been marginally offset by benefits our Theft of Gas Team. We expect costs to increase and peak next year as development of our RIIO-3 business plan ramps up.

We spent an additional £0.2m this year on **Insurance** due to increased premiums. The insurance market has seen a shift in premium costs, which we are now experiencing. Our forecast has marginally increased to reflect these premium increases.

Our **CEO and Group** costs remained static this year. We are behind our plan for the first three years but expect to catch up next year, with costs then remaining broadly flat for the remainder of RIIO-2 as we progress our RIIO-3 plan.

**Procurement** costs are in-line with last year and are forecasted to reduce across the remainder of RIIO-2 as the team support our Repex and Capex delivery partners leading to an increased capitalisation through our overheads capitalisation policy.

#### **5.2.2 Non-Controllable Opex**

Non-Controllable Opex (2018/19 prices)	21/22 Actuals	22/23 Actuals	23/24 Actuals	24/25 Forecast	25/26 Forecast	TOTAL Forecast
Shrinkage	7.9	15.4	5.9	6.1	6.3	41.6
Ofgem Licence	2.3	2.2	2.4	2.7	2.8	12.4
Network Rates	42.1	38.7	30.2	31.4	31.6	174.0
Pension Deficit	4.9	12.5	13.0	5.7	0.0	36.1
NTS Exit Costs	39.3	34.1	25.9	28.5	41.3	169.2
Xoserve	3.3	2.5	2.8	2.3	3.1	14.0
Other (inc. Supplier of Last Resort)	3.5	83.2	23.4	3.7	2.6	116.4
<b>Total</b>	<b>103.4</b>	<b>188.5</b>	<b>103.6</b>	<b>80.5</b>	<b>87.7</b>	<b>563.7</b>

By definition Non-Controllable costs are outside of the control of the GDNs. Costs are significantly higher than the level we forecast in our Business Plan. The main drivers are:

- Shrinkage gas costs forecast has reduced by £7.5m (15%) but is still expected to be 73% higher over the price control as a result of the increased cost of gas, driven by the Ukraine war and other economic factors.
- Supplier of Last Resort payments peaked at £81.3m in 2022/23, were £20.9m and total over £103.5m over the price control. We did not include any costs for this in our Business Plan.
- Pension Deficit increases reflect the recovery of the cost of the buy-in of pensioner liabilities, as discussed with Ofgem in June 2023.
- The Ofgem Licence has increased by nearly a third.

## 5.3 Capex

### 5.3.1 Capex against the Allowance

Capex (2018/19 prices)	21/22	22/23	23/24	24/25	25/26	TOTAL
LTS, storage and entry	9.2	7.7	9.7	19.7	23.4	69.7
Connections	7.5	5.5	5.4	5.4	4.6	28.3
Reinforcement	4.7	4.9	4.4	4.0	3.9	21.9
Governors (ex. reinforcement)	0.3	1.7	2.6	8.0	6.3	18.8
Other Capex	18.5	19.7	23.7	27.4	20.0	109.3
<b>Total</b>	<b>40.3</b>	<b>39.4</b>	<b>45.8</b>	<b>64.4</b>	<b>58.2</b>	<b>248.0</b>
<b>Final Allowance</b>	<b>49.6</b>	<b>54.1</b>	<b>53.1</b>	<b>51.9</b>	<b>48.7</b>	<b>257.4</b>
<b>Variance</b>	<b>(9.3)</b>	<b>(14.7)</b>	<b>(7.3)</b>	<b>12.5</b>	<b>9.5</b>	<b>(9.4)</b>
<b>Cumulative Variance</b>	<b>(9.3)</b>	<b>(24.0)</b>	<b>(31.4)</b>	<b>(18.9)</b>	<b>(9.4)</b>	

Our Capex costs were £45.8m this year, £7.3m lower than the allowance. We expect costs and workload to increase in the next 2 years so that we are more in line our Business Plan over the five years of GD2. We expect to outperform the final allowance (workload adjusted and including forecast RPEs) by £9.4m.

**LTS, Storage and Entry** costs were £9.7m, c£6.8m lower than forecast. The main driver for this has been delays in starting work on some of the major projects associated with the Network Rail-driven TransPennine Electrification project. This year's allowance was £6.7m

with an actual spend of £0.2m in the year. This is the largest area of expenditure on our LTS assets in RIIO-2 and is expected to involve work at 4 separate locations. NGN proposed this c£20m project should be a PCD as we are not driving the work, location or timing, and so the final costs are uncertain. Following further discussions with Network Rail, there have been scope changes resulting overall cost of delivery now expected to be £12.9m resulting in a reduced spend against original allowance. Delivery of the various diversions are scheduled in 2025 and 2026. Further details are provided in section 6.3.3.

We continue to experience delays with long lead items and a shortage of expert contractor resource, driven by general economic conditions and wider demand from expert delivery partners across the utility sector. Despite this we expect costs to increase for LTS, Storage and Entry in line with our Business Plan excl. Transpennine, and to peak in 2024/25.

**Net Connections** costs were £5.4m this year, c£0.2m higher than forecast. Workload reduced on total Mains by 2% and increased on total services by 1% compared to last year. Costs increased in the year due to a higher proportion of Non-Domestic connections and stranded overhead costs resulting in increased unit costs.

Connections (2018/19 prices)	21/22	22/23	23/24	24/25	25/26	TOTAL
<b>Allowed volume</b>						
Domestic Services	5,462	5,802	6,137	6,468	2,174	<b>26,043</b>
Domestic Mains	27.0	30.3	33.5	36.8	3.2	<b>131</b>
Fuel Poor Services	-	-	-	-	-	<b>2,154</b>
Non-Domestic Services	512	517	522	526	530	<b>2,608</b>
<b>Actual and Forecast volume</b>						
Domestic Services	3,931	2,725	2,802	2,807	1,909	<b>14,174</b>
Domestic Mains	17.1	14.9	16.1	16.2	11.0	<b>75.3</b>
Fuel Poor Services	854	185	100	100	100	<b>1,339</b>
Non-Domestic Services	405	282	318	312	305	<b>1,622</b>
<b>Actual &amp; Forecast cost/allow</b>						
Total Connections Net Costs	<b>7.5</b>	<b>5.5</b>	<b>5.4</b>	<b>5.4</b>	<b>4.6</b>	<b>28.3</b>
Total Connections Allowances	<b>4.8</b>	<b>2.2</b>	<b>1.9</b>	<b>1.6</b>	<b>3.0</b>	<b>13.6</b>
<b>Variance</b>	<b>2.6</b>	<b>3.3</b>	<b>3.6</b>	<b>3.7</b>	<b>1.5</b>	<b>14.7</b>
<b>Cumulative Variance</b>	<b>2.6</b>	<b>5.9</b>	<b>9.5</b>	<b>13.2</b>	<b>14.7</b>	

## Connections workload

Domestic and Non-Domestic Connections workload was c53% lower than our allowed workload. All workloads reduced during the Covid-19 pandemic and have not returned to the levels seen in the latter years of RIIO-1 which drove our business plan forecasts and supported allowed workload.

Actual Connections workload in 2023/24 has increased by 4% compared to the previous year driven by Existing Housing and Non-Domestic connections which increased by 14% and 13% respectively. The reduction in gas prices following the energy crisis in 2022/23 has seen an increased demand and we expect similar levels of demand in 2024/25. Our forecast workload is based on the workload trend we have seen in RIIO-2 to date which results in a c46% lower forecasted workload than the allowed workload in RIIO-2. We expect to see new domestic connections stop in 2025/26 as a result of government policy preventing the installation of new gas boilers in new properties.

Fuel poor workload continues to be lower than planned, 100 compared to our original Business Plan annual target of 1,000. The repurposing of the FPNES has directed allowance into VCMA projects and we have adjusted our forecast to reflect the significant reduced volume of work expected in RIIO-2 to 1,339 connections – a 73% reduction vs. Business Plan.

### Connections allowance and costs

Costs were £3.6m above allowance this year and £0.2m higher than forecast despite reduced workload compared to forecast. c£4.2m (53%) of our gross connections and fuel poor costs were overhead related in 2023/24 compared to £4.3m (51%) in 2022/23. Despite this marginal reduction in total overhead costs, the value of overhead has increased as a proportion of our unit costs due to stranded costs from our Connections design, planning, delivery and customer teams. These teams are flexed where possible onto other activities but can't be scaled in-line with frequent fluctuations in work demand whilst maintaining high levels of GSOS and customer experience performance.

The latest RIIO-2 allowance for Connections, after adjustments for Workload volumes and RPEs, excludes a non-variant allowance of £5.9m which contributes to a forecasted overspend of £14.7m. Reduced work volumes across domestic connections and Fuel Poor presents significant challenges on control of overhead cost and we continue to experience cost pressures across materials, reinstatement and plant hire on the work we deliver. We expect a proportion of these cost challenges to be off-set across RIIO-2 by reduced non-

domestic work that is not volume driven, but due to the associated overheads in the business to deliver Connections activities alongside the removal of area-based qualifications making it much harder to qualify for fuel poor connections, we are forecasting to overspend against allowance by £14.7m, £8.7m after adjusting for the non-variant allowance error .

**Mains reinforcement** costs excluding governors were £4.0m this year. We delivered 13.6km of mains, compared to 15.2km in 2022/23, at a unit cost of c£293 per metre, a 4.6% increase from £280 per metre in 2022/23.

Costs and workload have reduced due to minimal enquiries from large load energy producers resulting in unused allowance, that we plan to utilise for network reinforcement associated with enabling efficient delivery of our Repex programme.

**Replacement governor** costs were £2.6m this year, c£1.0m above forecast, which is also reflected in the workload delivered – 213 district governor projects were completed in 23/24 compared to 3 in 2021/22 and 78 in 2022/23. The commencement of our service governor programme in the year and our site upgrade programme, resulting in a significant amount of governor housing being replaced, were key drivers to increased volumes. We expect to deliver the planned Business Plan volumes over the price control.

**Other Capex** costs were £23.7m this year, c£4.3m below forecast. The main drivers for this underspend were:

- c£2.3m lower expenditure on **IT and Telecoms** than planned. This is due to insourcing a sizeable proportion of our IT development team providing more efficient and agile delivery of projects.
- c£2m lower expenditure on **Pipelines**. We continue to experience issues with Network Rail as well as contractor resourcing issues on our overcrossings projects. We still expect to deliver the agreed units in the regulatory period.

We expect costs and workload to increase in future years and to be more in line with our business plan specifically on overcrossings and pipelines as we recover the position outlined above. We do expect to see some cost pressures on vehicles, especially as part of our EV trials as well as on areas such as electrical equipment, plant, tools and equipment.

## 5.4 Repex

### 5.4.1 Costs and allowances

Repex Costs (2018/19 prices)	21/22 Actuals	22/23 Actuals	23/24 Actuals	24/25 Forecast	25/26 Forecast	TOTAL Forecast
Tier-1 - Mains	52.9	53.1	56.5	52.6	52.0	267.0
Tier 1 - Services	9.4	8.8	10.1	10.7	10.5	49.5
Tier-2A Mains and Services	1.6	2.4	0.2	0.2	0.6	5.0
Tier-2B Mains and Services	6.1	6.9	10.2	8.8	8.3	40.3
Tier-3 Mains and Services	3.4	3.4	6.6	6.7	7.7	27.7
<=2" Steel Mains and Services	6.6	4.7	5.0	5.9	6.2	28.4
>2" Steel Mains and Services	4.6	4.6	4.5	4.3	4.6	22.5
>30m Mains	1.4	1.0	2.6	2.2	2.0	9.1
Other Mains and Services	0.2	1.8	0.9	1.2	1.2	5.3
Diversions Mains and Services	7.3	1.9	0.6	1.8	2.1	13.7
Other Services (not mains assoc.)	6.1	5.2	5.2	5.4	5.8	27.6
Tier 1 Stubs	1.1	1.9	1.3	2.4	2.4	9.1
Risers	0.0	0.1	0.2	0.5	0.5	1.2
<b>Total</b>	<b>100.7</b>	<b>95.8</b>	<b>103.8</b>	<b>102.5</b>	<b>103.7</b>	<b>506.4</b>
<b>Allowance</b>	<b>108.2</b>	<b>106.5</b>	<b>97.6</b>	<b>97.4</b>	<b>104.7</b>	<b>514.3</b>
<b>Variance</b>	<b>(7.5)</b>	<b>(10.7)</b>	<b>6.2</b>	<b>5.1</b>	<b>(1.0)</b>	<b>(7.9)</b>
<b>Cumulative Variance</b>	<b>(7.5)</b>	<b>(18.2)</b>	<b>(12.0)</b>	<b>(6.9)</b>	<b>(7.9)</b>	

The latest Repex allowance for RIIO-2 after Re-openers, volume drivers and RPEs has increased to £514.3m but includes £16.5m of forecasted allowance for HSE Policy which is incorrectly aligned to Repex. This forecasted adjustment to allowance should be against Opex (£13.9m) and Capex (£2.7m).

Our Repex costs were £103.8m this year, £6.2m higher than the allowance. The main driver was additional Tier 1 workload delivery as we recovered the previous year's shortfall and moved ahead of target. This year we decommissioned 469.6km of Tier 1 mains against a RIIO-2 annual target of 437.3km, a further 32.2km delivered in the year.

Increase to delivery costs has also been a key driver of cost increase as Unit Costs are c£7 per metre above corrected allowance across all Tiers. These increased costs are expected to continue through the remainder of RIIO-2 and into RIIO-3.

Tier 1 Stubs work has continued in the year, with no allowance, as Ofgem provided allowances for the first two years of RIIO-2 as the HSE policy was under review at the time, and so the volume and timing of work was uncertain.

It is now clear under HSE policy that many Tier 1 stubs still need replacing, and so our cost forecast takes this into account for all RIIO-2 years. This is one of the drivers for the overspend against allowance in the remaining years of RIIO-2, as we have included costs with no associated allowance.

We have delivered 101.8% of our targeted workload over the first three years of RIIO-2. We plan to deliver an additional 5km of Tier 1 work in year 4 to provide a further buffer on work delivery.

We expect Repex costs to increase further throughout the remainder of RIIO-2 as a result of the factors highlighted in the year-on-year performance section below. We have however successfully completed a tender process to secure our Direct Service Providers for the remainder of RIIO-2 and RIIO-3. This will enable us to maintain our frontier position and deliver further efficiencies across our Repex delivery model, but these will be more than offset by cost pressures. As a result, we are now forecasting to overspend against our RIIO-2 allowances by £8.6m after adjusting for the HSE Policy re-opener.

#### Mains Workload

Mains Workload (km)	21/22	22/23	23/24	24/25	25/26	TOTAL	ALLOWED
Tier 1	437.4	430.4	469.6	442.3	406.9	2,186.5	2,144.3
Tier 2a	3.2	1.6	0.8	0.5	2.0	8.2	10.1
Tier 2b	19.1	17.7	24.6	21.7	18.9	102.0	102.0
Tier 3	5.3	5.4	5.5	5.8	6.2	28.1	22.7
<b>Iron Mains (ex. &gt;30m)</b>	<b>464.9</b>	<b>455.0</b>	<b>500.5</b>	<b>470.3</b>	<b>434.0</b>	<b>2,324.8</b>	<b>2,279.2</b>
Steel <2"	45.4	33.0	36.0	44.0	44.0	202.4	218.9
Other	35.8	31.0	40.2	42.7	42.7	192.4	189.8
Diversions	11.1	9.4	13.2	13.3	13.3	60.3	56.6
<b>Total</b>	<b>557.3</b>	<b>528.4</b>	<b>590.0</b>	<b>570.3</b>	<b>534.0</b>	<b>2,779.9</b>	<b>2,744.4</b>

This year we have delivered a total of 590.0km of mains abandonment.

The **Tier 1 Mains** target is 2,144.3km over RIIO-2, or 428.9km per annum. Over RIIO-2 we plan on delivering 2,186.5km, or 437.3km per annum. This is an increase of 8.5km each year

and 42.5km over the 5 years. This will allow us to recover the Covid-19 related shortfall of workload seen in the final year of RIIO-1 by the end of the Repex programme in 2032. This increased workload will be funded under the Tier 1 Mains volume driver. This year we abandoned 469.6km of **Tier 1 Mains**, 32.2km above our annual target.

**Tier 2a Mains** are also subject to a volume driver as the workload is very difficult to predict. We expect to deliver 8.2km over RIIO-2.

We are on track to deliver the allowed workload for **Tier 2b and Tier 3 Mains**, as well as **>2" Steel** by the end of RIIO-2.

We expect to deliver broadly in line with the allowed **<2" Steel mains** commissioned workload over the price control, however, we will likely under deliver against the decommissioned targets. Volumes are likely to vary year on year as the majority of this mains type is replaced when we find it whilst replacing Tier 1 iron mains. The under delivery on decommissioned targets is due to a combination of the lay to abandon ratio used as part of RIIO-2 planning, and the volume of these mains found as part of Tier 1 replacement schemes.

**Other Mains** and **Diversions** work is difficult to predict, as the former includes poor performing PE and Asbestos, which we replace when it's found, and the latter is third party driven. Given current trends, we expect to slightly over deliver against the allowed workload over RIIO-2.

#### 5.4.2 23/24 year-on-year performance

Year on Year Performance (2018/19 prices)	23/24		19/20	20/21	21/22	22/23	
	Net Cost	Workload	Unit Cost	Unit Cost	Unit Cost	Unit Cost	
Tier 1 and <2" Steel	60.5	505.6	122	107	142	122	126
Tier 2a	0.2	0.8	419	356	538	510	1056
Other	23.9	70.3	349	350	432	258	357
Diversions	0.4	13.2	65	283	79	700	192
<b>Total Mains laid</b>	<b>85.0</b>	<b>590.0</b>	<b>149</b>	<b>135</b>	<b>191</b>	<b>150</b>	<b>153</b>
Tier 1 and <2" Steel	11.2	37,157	318	306	299	312	306
Tier 2a	0.0	7	318	331	266	312	299
Other	0.7	814	274	307	291	322	303

Diversions	0.1	379	321	346	340	312	307
Other Services	5.1	5,599	917	1457	1252	1091	829
<b>Total Services</b>	<b>17.2</b>	<b>43,956</b>	<b>392</b>	<b>462</b>	<b>509</b>	<b>413</b>	<b>387</b>
<b>All-in Mains cost</b>	<b>102.2</b>		<b>179</b>	<b>171</b>	<b>220</b>	<b>182</b>	<b>183</b>

In terms of year-on-year performance, unit costs have reduced from 2022/23, with the all-in mains cost reducing from £183 per metre to £179 per metre. This has been mainly due to reduced costs on higher diameter work and non-mandatory Tiers. We have however seen an increase since 2019/20, a pre-Covid 19 comparable year, from £171 to £179 per metre.

This is mainly driven by Tier 1 and <2" steel mains and the associated services, which on a combined basis have increased by c12% from c£129 per metre to £145 per metre. There are several factors behind this increase in cost, and the anticipated continuing increase throughout the remainder of RIIO-2:

- Inflation factors across delivery - resources, materials, equipment and reinstatement.
- Maintaining our Strategy of delivering a balanced work programme which does not always result in the cheapest or most efficient work being delivered.
- Increased restrictions imposed by Councils.

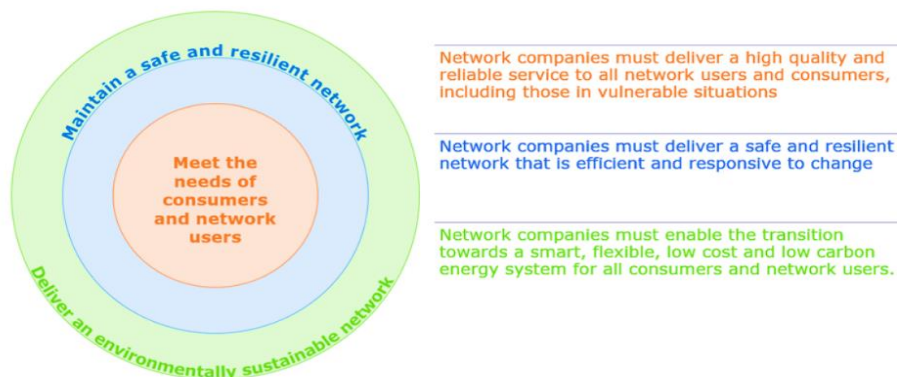
We expect these cost pressures to continue for the remainder of RIIO-2 and, along with other cost pressures and engineering challenges, increase significantly until the end of the Repex programme. We continue to work on developing a better understanding of how costs and workload can be best managed to deliver the most efficient mix of work overtime for the customer.

## 6 Outputs and Incentives

### 6.1 Introduction

The adoption of an output and incentive-based framework is a key element of the RIIO regulatory contract. By defining the outputs companies need to deliver, and any incentives or penalties they will receive for over or under-performance, as well as setting cost allowances, companies are incentivised to innovate and deliver the services that customers require at the least cost. An outputs-based framework also provides greater transparency for customers and the networks, as to what services and standards the networks need to deliver.

Outputs for RIIO-2 are grouped into three consumer-facing output categories, as set out below:



There are three potential types of output, depending on what the ultimate aim of the output is. Some outputs fit into more than one type.

**Price Control Deliverables (PCDs)** specify the deliverables for the funding allocated, and the mechanisms to refund consumers if an output is not delivered (or not delivered to a specified standard). Their purpose is to hold the networks to account for delivering work that has been funded through the expenditure allowances, and that they are only paid for what they deliver.

**Licence Obligations (LOs)** set minimum standards that network companies must achieve. Failure to deliver to these standards means the network is in breach of the licence and can receive a material fine and further sanctions.

**Output Delivery Incentives (ODIs)** drive service improvement through Reputational and Financial incentives. Network performance will either be rewarded or penalised financially or by reputation when compared against their own targets and those of the other companies.

### 6.2 Meeting the needs of consumers and network users

#### 6.2.1 Consumer Vulnerability and Carbon Monoxide

Ofgem have introduced three outputs related to consumer vulnerability and carbon monoxide.

- The **Consumer vulnerability minimum standards (LO)** which aims to retain and improve in some cases on the existing standards in a new Licence Obligation.
- The **Consumer Vulnerability reputational incentive (ODI-R)** aims to ensure there is focus on three key themes and six key metrics related to vulnerability and carbon monoxide (CO) awareness. This will ensure comparison and knowledge sharing between the gas networks.
- The **Vulnerability and Carbon Monoxide (CO) allowance** is to allow the gas networks to provide bespoke services to support consumers in vulnerable situations and raise awareness of the dangers of CO. It takes the form of a Use-it-or-Lose-it Allowance. NGN has received an increased allowance of £19.7m over the price control (2018/19 prices) following a recent Ofgem decision to repurpose some of the Fuel Poor Network Extension Scheme allowance towards VCMA projects.

#### 6.2.2 Consumer vulnerability reputational incentive

In 2023/24 we embarked on specific engagement with key stakeholders to understand how we could invest the increased VCMA Allowance - for NGN, the total VCMA allowance increased from £6.9m to **£19.6m** in October 2023. Alongside this we continued to follow our embedded engagement framework with our customers in vulnerable situations stakeholders, and brought a new channel on line – monthly Network Partnering call. We heard that our stakeholders were concerned about the sustainability of their projects, especially as we approach the end of GD2, and they wanted the opportunity to meet with

each other, share ideas, strengthen their offering, and ultimately continue beyond VCMA funding.

The table below outlines the headline results for the 6 key Ofgem metrics, with some additional reporting on the number of customers referred to the Priority Services Register (PSR).

Key Performance Indicator	23/24
Customers reached through Carbon Monoxide (CO) awareness initiatives – using agreed 3% proportion of overall awareness research (customers likely to take actions as a result of the increased awareness)	10,665,683
Number of CO awareness visits / surveys with customers	18,410
Average score before awareness visit	6.71/10
Average score after visit	8.59/10
Number of customers referred onto the Priority Services Register (PSR)	10,003
Average customer satisfaction score for PSR customers directly impacted by NGN	9.3/10
Number of Fuel Poor Network Extension Scheme Connections	102

Here are some specific actions that we have taken to help deliver these results.

### Carbon Monoxide Campaigns

During 2022/23 the GDNs agreed to have a consistent approach to reporting CO awareness 'reach' and we agreed to continue this for 2023/24 reporting. RRP is based on reducing the overall reach to 3%, as this is the % likely to take action as a result of increased awareness.

Through 2023/24, following support from our stakeholders to continue with regional alongside national campaigns, we have delivered an exceptional year of engagement projects. Key to the success of our regional campaigns, compared to national, has been our approach. We recruited a dedicated social media manager through BAU and this has allowed us to identify internal and external campaigns and maximise our CO reach.

There has been relatively low-cost investment to fund paid-for advertising, but the uplifted VCMA allowance has allowed us to really increase our regional reach significantly. There has also been a greater investment in CO awareness related activities – utilising remaining funding from the original VCMA allowance. We have also noted that NGN specific campaigns have reached more widely than the collaborative summer and winter

campaigns this year and have delivered a higher social return on investment. The reasons for this are that:

- NGN target all routes, including traditional media – news online.
- NGN use specific regional data and safety driven messaging, targeted at capturing media interest, and linked to key risk groups. Also use specific language to appropriate groups. Integrated campaigns
- Collaborative campaigns are typically general advice-led on symptoms and CO safety. Also focused on social media, outside, and radio advertising

### Using data to inform our approach

Working closely with innovation colleagues we have strengthened our offer to customers by using the Network Innovation Allowance to support our VCMA work. An example of this is the NGN Vulnerability Visualisation Tool, which is a collaborative project between Northern Gas Networks, Cadent, Northern Powergrid, SSEN and Egnida Innovation to **create a single touch point for measuring and assessing community vulnerability**.

This is an interactive model which maps multiple vulnerabilities from ONS and other data sources. From this we can identify gaps based both on geographical location and vulnerability themes to be able to identify and target suitable projects across our network. It is a powerful visual tool with the potential to change the way vulnerable people are supported by the energy sector and beyond. It provides:

- **One central source of truth** - avoids duplication of effort across the industry and better data alignment.
- **Over one hundred datasets and counting** - pulling information about health, education, environment, energy, finance and local services.
- **Easy to use and adopt** - overlaying datasets at the touch of a button to build a picture of social issues experienced across regions. 3D functionality has been built for people to understand the data quickly and easily.

### The aim of the tool

The aim of the tool is to identify where vulnerable customers might be and to create an understanding of the multiple, cumulative factors that might impact on their lives. There are a lot of datasets built into the tool that are important when considering vulnerability: fuel poverty, IMD, income, air quality, EPCs, digital exclusion, population and health data



sets and more. These come together as a powerful tool which help NGN when looking at new potential VCMA projects. Put simply, the tool is a turbo-powered map of the UK!

We have been able to use this tool to look at our network as a whole, where the areas of most need are, and partner/invest wisely.

### **Providing additional support to compliment VCMA**

#### **Customer Support Fund (CSF-Previously called Hardship Fund)**

We committed to an annual allowance of £150k per year to support our most vulnerable customers, where other funding (such as VCMA) could not be used. We have been strategic in how this fund is used to ensure greatest impact and avoid duplication with other funding mechanisms. Importantly, we have used this fund to provide additional support into VCMA projects, strengthening our ability to offer holistic support.

In 2023/24 we were **the first, and currently only, GDN to ringfence revenue gained from pursuing unbilled energy (Theft of Gas) to help support our customers in extreme crisis.**

In 23/24 this increased the CSF by c£118k. This commitment will continue for the duration of GD2 and will fund the work to support off-gas, vulnerable households to obtain first time gas central heating through our project Off Gas Warmth, in partnership with Communitas Energy. This work has been invaluable in supporting customers with multiple health risks associated with living in cold homes, where they would otherwise have struggled to stay warm and well in their home. Although this work supports a small number of households, it has made a significant positive impact on the lives of those who have benefitted and supports our commitment to prioritising health as a key target area. We are also looking to evaluate carbon savings associated with this work. In 2024/25 the unbilled revenue will uplift the CSF by c£200k.

#### **Community Partnering Fund (CPF)**

The Community Partnering Fund has enabled the opportunity for small, local projects to develop further and reach those most vulnerable in their communities. We have maintained our commitment to invest £50k per year in this fund and have targeted various geographic areas within our network. During GD2 the Community Partnering Fund has supported 23 grassroots community projects with grants of up to £10k per organisation, administered through local grant-giving bodies. This fund has enabled NGN to build stronger relationships with small community-based organisations, and we have benefited from having the insights

of these stakeholders during our engagement events. The CPF allows us to test small with our grass root partnerships and support them to have the confidence to evolve and grow projects into the VCMA. **We are really proud that six of the initiatives funded through CPF have evolved into larger VCMA funded projects.** For example, Skills 4 Work was funded through CPF during 22/23 and matured into a VCMA project in 23/24.

### **6.2.3 Vulnerability and Carbon Monoxide Allowance**

Over 23/24 we adapted our approach to take account of the increased allowance. We engaged with our stakeholders to understand how we should be prioritising spend, and they told us to focus on the following areas:

- Increased focus on health
- Collaboration and linking up partners and funding
- Increasing capacity for support within partner organisations
- Connecting and responding to different aspects and complexities of
- Continued support for those in financial hardship
- Scaling up existing projects

We have responded effectively to each of these priority areas, with several case studies below to illustrate. Full details are provided in our Annual VCMA Report - [https://www.northerngasnetworks.co.uk/wp-content/uploads/2024/06/NGN\\_VCMA\\_report\\_2024.pdf](https://www.northerngasnetworks.co.uk/wp-content/uploads/2024/06/NGN_VCMA_report_2024.pdf)

We increased our level of spend this year 2023/24 in line with the re-purposed funding and are forecasting to spend the full allowance by the end of March 2026.

Collaborative spend at end of year three is 35% of our overall allowance – guided by our regional stakeholders to ensure that the collaborative projects we support have a strong footprint in the NGN region, and meet the ambitions of our overarching Vulnerability Strategy.

We are now leading on collaborative projects that equate to 35% of total collaborative VCMA allowance. Currently we have 53 live VCMA projects ranging from small amounts of less than £10k (NGN) to £500,000 per annum (collaborative)

**Case Study: Warm Homes, Healthy Futures** (increased focus on health)

We have embarked on leading the most ambitious collaborative VCMA project to date with NEA and all four GDNs. This project aims to **connect health professionals and local public health bodies to energy advice and other specialist services**. This will enable NEA to support people to live in warm and safe homes and improve health.

To gain maximum traction with local health partners and greatest social and health return on investment, the project will use the NHS England Core20Plus5 approach to guide the project and unlock health sector partnerships. This is an existing framework for action across much of the NHS that closely mirrors VCMA priorities around low-income areas, priority demographics and cold homes related health conditions. Although this framework has been developed for use in England, NEA believe that the same model can also be applied to target those worst affected by cold homes in Wales and Scotland.

The target is to engage with 24,000 unique beneficiaries throughout the life of the project.

**Case Study: Citizens Advice, Bradford** (collaboration and linking up partners and funding)

We have **worked closely with other utility partners** to ensure that we respond appropriately to meet the needs of customers in high-risk areas across our respective networks. Working in partnership with Northern Powergrid, we set up a jointly funded project with Citizens Advice Bradford to enable the provision of specialist energy and debt advice to customers in this area. Using a programme of outreach community support, the service reaches a diverse audience of customers which reflects the local demographic; particularly those from ethnic minority backgrounds. This geographical area is known to have some of the highest levels of deprivation but was previously underserved by both utilities. The cross-utility partnership is complimentary, with NGN and NPg working together to fund different elements of support provided by Citizens Advice Bradford. This has resulted in a more holistic service provision for customers that might not otherwise have been achieved through an individually funded project.

**6.2.4 Fuel Poor Network Extension Scheme (ODI-R) (Capped Volume Driver)**

Outputs	21/22	22/23	23/24	24/25	25/26	TOTAL	Cap	Variance
Fuel Poor	854	185	102	102	102	1,354	2,154	(560)

The purpose of the Fuel Poor Network Extension Scheme (FPNES) is to help tackle fuel poverty by supporting off-grid, fuel poor households to connect to the gas network.

Our updated cap is to connect a maximum of 2,154 fuel poor households in RIIO-2. This is subject to a volume driver to ensure we only get paid for the number of connections we deliver up to this volume.

In 2023/24 we delivered 100 FPNES connections, compared to 185 in 2022/23. As there is no funding available for in-house measures, it is becoming increasingly challenging to find customers eligible for connection through the FPNES. Customer Satisfaction Surveys (ODI-F)

Outputs	21/22	22/23	23/24	24/25	25/26	Average
Unplanned Work	9.54	9.62	9.65	9.62	9.62	9.57
Planned Work	9.09	9.06	9.02	9.13	9.13	9.12
Connections	8.96	9.13	9.12	9.13	9.16	9.06
TOTAL	9.20	9.27	9.26	9.27	9.29	9.25
Incentive (£m 2018/19 prices)	1.4	1.6	1.5	1.8	1.8	1.6

The purpose of the Customer Satisfaction Survey (CSS) is to ensure GDNs maintain good customer service and reward GDNs that deliver exceptional performance. The CSS itself involves interviewing customers based on three types of interaction that they have had with the network – connections, unplanned interruptions, and planned interruptions.

Ofgem has set separate targets and rewards/penalties for each type of interaction, with each category weighted equally. Each category also has a deadband within which no reward/penalty is applied. The overall reward/penalty is capped at 0.5% of Base Revenue. This is summarised in the table below.

Survey	Weight	Max Penalty Score	Penalty Score	Reward Score	Max Reward Score
Connections	33.33%	7.43	8.11	8.65	9.33
Planned Work	33.33%	7.90	8.34	8.69	9.13
Unplanned Work	33.33%	8.85	9.00	9.43	9.58

This year we achieved an overall score of 9.26 and demonstrates sustained and continual improvement from RIIO-1.

We continue to drive improvements through our local and regional customer groups, making sure that they are led from within the business. The network-wide customer improvement group looks at more strategic improvements, and reviews any signification changes to process, people or technology that we are looking to introduce to improve customer experience.

Specifically in 2023/4 we recognised that issues linked to cost of living are still present and remain an issue for our customers.

To mitigate this, we have:

- Broadened support for those customers with additional needs, including Fuel Bank vouchers, One number referrals (repair/replacement of appliances) and enhanced carbon monoxide safety checks with works completed by NGN engineers.
- Continue to look for service improvements within the Network Customer Group to bring to front line engagement, including DSP contacts attending meetings.
- We have broadened out the scope of engagement with Explain, to make sure that colleagues hear first-hand the analysis that is being undertaken, what it is saying, and how that can influence how we carry out our day-to-day activities.

### 6.2.5 Complaints metric (ODI-F)

The purpose of the Complaints Metric is to ensure that GDNs maintain good performance in their handling of complaints. The metric is a composite score calculated as the sum of each GDN's performance against four weighted indicators outlined in the table below. The lower the score, the better the GDN is at resolving complaints.

Indicator	Weighting
Percentage of complaints unresolved after one working day (1WD) of receipt	10%
Percentage of complaints unresolved after 31 working days (31WD) of receipt	30%
Percentage of repeat complaints	50%
Percentage of Energy Ombudsman findings against the GDN	10%

The complaints metric has stayed the same as RIIO-1, but the threshold for penalty has reduced from 11.57 in RIIO-1 to 5 in RIIO-2.

Outputs	21/22	22/23	23/24	24/25	25/26	Average
Complaints Metric	2.8	1.8	1.9	-	-	-
Target	5.0	5.0	5.0	5.0	5.0	5.0
Penalty (£m 2018/19 prices)	-	-	-	-	-	-

This year we targeted both sustained performance on the complaints metric as well reducing the overall number of complaints received. The overall metric score has increased from 1.8 in 22/23 to 1.9 in 23/24. This is due to one repeat complaint being received in year (none were received in 22/23), and a marginal (not material) decrease in D+1 and D+31 performance. Whilst we continue to target an overall reduction of 5-10% for complaints received year on year, our complaint volume for 23/24 increased by c20% compared to the previous year, from 1168 to 1382. We have analysed complaints data, and there are looking to be two key reasons for this increase:

- 1 The increase in complaints can be linked to the increase of impacted customers across planned work, which is the workstream with the highest percentage of complaints, compared to the other two work workstreams – connections and emergency/repair. We completed more work than in 22/23, and when we consider the % complaints/number of overall customers impacted, this has increased by 10%
- 2 We have also seen an increase in customer expectations with many issues, specifically on planned work, being linked to reinstatement, wanted more to be done in terms of new driveways, extended remedial works etc.

Our focus on driving performance around preventing complaints and improving the quality and timeliness of closure when we do receive a complaint, remains a priority. We do this by

- Daily management information issued across the business to highlight performance against the 4 key metrics.
- Monthly best practice call, attended by over 200 colleagues, celebrating what has worked well, including hearing customer accolades.

### 6.2.6 Guaranteed Standards of Performance (GSOPs)

GSOPs	21/22	22/23	23/24	24/25	25/26
Paid Out	£0.68m	£0.42m	£0.35m	-	-

GSOPs set common minimum performance standards for GDNs across the service areas of interruptions to supply, gas connections and customer service. If the GSOPs are not met, NGN must pay compensation to customers. There are 14 GSOPs that NGN must monitor and report performance against in RIIO-2, consistent with RIIO-1.

The GSOPs regime has changed materially from RIIO-1 to RIIO-2 with many of the standards seeing reduced timescales, increased payment values and proactive rather than reactive payments. We supported this approach in our business plan. The change has impacted processes within NGN and Xoserve and the response has been positive with the intended improved outcomes for customers. In total, payments fell from £0.68m in 2021/22 to £0.35m in 2023/24. Voluntary “Cost of Living” payments of £0.075m made to customers who suffered an unplanned interruption to their gas supply of between 4 hours and 24 hours are included within this.

For Connections GSOPs, we have continued to achieve results significantly above our regulatory target of 90%. GSOPs 4 to 9 achieved over 99%, GSOP 10 achieved 95.8% and GSOP 11 achieved 97.8%.

### 6.2.7 Emergency response time (LO)

Outputs	21/22	22/23	23/24	24/25	25/26
One Hour Response	99.75%	99.55%	99.81%	-	-
Two Hour Response	99.95%	99.69%	99.93%	-	-
Target	97%	97%	97%	97%	97%

The purpose of the emergency response time licence obligation is to ensure GDNs respond to 97% of reported gas escapes within one hour when they are uncontrolled, and within two hours when they are controlled. Performance against both these targets can be adversely affected by large incidents or very severe winter weather conditions.

This year we achieved 99.81% and 99.93% for our one-hour and two-hour response respectively. Achieving this standard is a core target for our network and receives day to day focus from our operational teams, in particular in the key winter periods.

### 6.2.8 Unplanned interruptions (ODI-F)

Outputs	21/22	22/23	23/24	24/25	25/26
Actual	5 hours	5.58 hours	5.31 hours	-	-
Minimum Performance Level	10 hours	10 hours	10 hours	10 hours	10 hours
Excessive Deterioration Level	17.5 hours	17.5 hours	17.5 hours	17.5 hours	17.5 hours

The purpose of the unplanned interruptions financial output delivery incentive is to ensure that GDNs manage the duration of these interruptions appropriately and performance does not deteriorate. An unplanned interruption is one where no prior notification has been given to the customer. These are typically caused by problems with the network assets (upstream of the ECV), damage to assets by third parties, and water ingress.

The incentive is penalty only, with a collar of 0.5% of Base Revenue. Each GDN has an individual Minimum Performance Level (MPL), representing the point at which a penalty will be incurred, and an Excessive Deterioration Level (EDL), where the maximum penalty will be incurred. The penalty will increase linearly between these two levels.

This year our average duration was 5.31 hours for 11,044 interruptions, which compares favourably to the RIIO-1 average of 6.6 for 12,488 interruptions. The duration of interruptions is very dependent on factors such as location, ground conditions, and extreme weather conditions.

### 6.2.9 Data Best Practice and our Digitalisation Strategy and Action Plan (LO)

The purpose of the **Data Best Practice** licence obligation is to ensure the delivery of a digitalised energy system that will maximise the value of data for consumers. Ofgem own and publish a Data Best Practice Guidance document which defines the data that we must

comply with, and then details a principles-based compliance approach. This document was published on November 15th, 2021, and has been adopted by NGN. As active members of the Data and Digitalisation Steering Group (DDSG) representing energy distribution and transmission companies, NGN have engaged with Ofgem, BEIS (at the time) and other key stakeholders to help shape the guidance and to promote its consistent application. NGN chairs a sub-group of the DDSG on Data Interoperability.

The purpose of the **Digitalisation Strategy and Action Plan** (DSAP) licence obligation is to ensure GDNs work to make better use of Energy System Data and digital technologies to generate value for customers and stakeholders. This could include delivering a more efficiently planned, maintained and operated energy system, with users having greater information and insight.

Under the licence obligation GDNs are required to publish and seek feedback on:

- An updated Digitalisation Strategy at least once every two years.
- An updated Digitalisation Action Plan at least once every six months.

NGN's latest Action Plan can be found using the link below:

<https://www.northerngasnetworks.co.uk/previous-plan/the-future/digitalisation-strategy/>

## 6.3 Maintain a safe and resilient network

### 6.3.1 Repex - Tier 1 Mains and Services (PCD)

Outputs	21/22	22/23	23/24	24/25	25/26	Total	Target
Mains	437.4	430.4	469.6	442.3	406.9	2,186.5	2144.3
Services	30,220	28,688	31,929	30,031	27,627	148,496	147,469

The purpose of the Tier 1 mains and Tier 1 services PCDs is to fund the workload delivered under the Tier 1 replacement programme. Both PCDs contain an Allowance Adjustment Mechanism that ensures consumers only fund the volume and mix of work delivered, subject to an upward cap to limit the amount of any over delivery.

Over RIIO-2 we plan on delivering an average of 437.3km of Tier 1 mains per year in the same workload mix contained within our Business Plan. This is an increase of 8.5km each year and 42.5km over the 5 years. It will allow us to recover the Covid-19 related shortfall

of workload seen in the final year of RIIO-1 by the end of the Repex programme in 2032. This is below the 3% cap for mains workload and is therefore funded through allowances.

This increase in mains also drives an increase in services, where we expect to deliver 1,027 extra over the 5 years, 205 per year. This is below the 10% cap for services.

### 6.3.2 Gas holder demolitions (PCD)

Outputs	21/22	22/23	23/24	24/25	25/26	Total
Actual	5	10	5	-	-	20
Target	9	5	5	3	1	23
Cumulative Out / (Under)	-4	1	-	-	-	5

The purpose of the Gas Holder Demolition PCD is to fund the removal and decommissioning of gas holders. These assets are no longer required to operate the network and present a safety risk and require maintaining whilst still in situ. If we do not complete all targeted 23 holders in RIIO-2 then our allowance reduces by a set unit cost.

This year we successfully demolished 5 holders, ahead of our business plan target by 1 unit i.e. target at end of 23/24 was to have completed 19 and 20 are complete. We remain on track to complete the programme in RIIO-2.

### 6.3.3 Capital Projects Price Control Deliverable (PCD)

The purpose of the Capital Projects PCD is to hold the networks to account for the delivery of specifically funded capital investments. NGN has two such projects, discussed below.

**TransPennine Rail Electrification** – this is the largest area of expenditure on our LTS assets in RIIO-2 and is expected to involve work at 4 separate locations. NGN proposed this project should be a PCD as we are not driving the work, location or timing, and so the final costs are uncertain.

The LTS asset diversions required as part of the Network Rail Trans-Pennine Upgrade (TRU) project are at varying stages due to the progress of each respective scheme (East and West).

The TRU West Scheme works have been reduced from three to two diversions through the implementation of a plant protection solution at Ravensthorpe, which is currently forecast

for delivery in Autumn 2024 by Network Rail. This will represent a significant cost saving due to the scope of works that would have been necessary to complete a full diversion, and secure the additional land that would have been required to safely undertake the works.

The remaining two diversions at Heaton Junction had their designs completed in Year 3, with significant outlay made for the sourcing of long lead items. The design tender was commenced and the project has mobilised to site in June 2024, with a target for completion in January 2025. A significant portion of funding has been secured from Network Rail due to 75% of the works falling outside of the National Agreement.

The TRU East diversions have now recommenced, with the TRU East Scheme at Ridge Road (previously designed in RIIO-1 but ultimately suspended), now having been revalidated and with the associated land negotiations now nearing completion. The Austhorpe Lane scheme has had a design tendered ready for award, however ongoing land negotiations has delayed the detailed design from commencing.

A tender for a trenchless crossing contractor - required for both schemes – is due to be completed in July 2024 and has been undertaken to mitigate time and costs risks to the delivery of the diversion works. Both schemes are being targeted for delivery in 2025, with mobilising to site commencing within Q4 of Year 4.

All of these schemes are still subject to the requirements of Network Rail, and any repeat changes to their scheme could result in suspension or cancellation of the works.

**Overcrossings** – we build these assets when our below-ground pipes cross natural or man-made obstacles such as rivers, canals, road and railways. We have a total population of 352. If an overcrossing fails, we risk an explosion, loss of supply, and methane leakage. There is also a security risk should a member of the public access the site and fall from the pipework (such an incident happened with another GDN network in RIIO-1).

Under this PCD we have a target to deliver 39 condition upgrades, 11 removals, 2 replacements and 67 security upgrades for £8.4m over RIIO-2. In Year 3, we have completed 5 condition upgrades, 5 removals and 17 security upgrades. The running cost incurred to date is £1.265m (£833k allowance). However, this is inclusive of the costs incurred for future / ongoing schemes, which includes significant costs for BAPA's with Network Rail and licences required for the EA and Canals & Rivers Trust. These units are also typically the more expensive units within the GD2 programme. Our current forecast is in slightly excess of the allowances by £53k.

We are targeting the majority of the remaining workload within year 4 of the price control, however this is very much subject to reaching the necessary agreements with Network Rail.

#### 6.3.4 Cyber resilience IT and OT (PCD)

The purpose of the Cyber Resilience Information Technology (IT) and Operational Technology (OT) PCD allowance is to support NGN in managing risks associated with the security of its information and operational technology. The funding seeks to:

- Reduce the likelihood of security incidents occurring.
- Minimise the impact of security incidents that have occurred.
- Improve the continuity of gas distribution services whilst operating in cyber-affected states.
- Support wider business objectives such as digitalisation and net zero initiatives.

This work is business critical and sensitive in nature so is not considered in detail here. We received funding for use across the first three years of RIIO-2. Funding was not provided for the later years due to the increasingly uncertain nature of the risks and hence the funding required.

#### 6.3.5 Job completion lead-time including re-instatement (ODI-R)

Outputs	21/22	22/23	23/24	24/25	25/26
Total completed Jobs	1,174	1,284	1,069	-	-
% Completed within target	57.6%	82.3%	91.1%	-	-

This output requires NGN to complete works for a connection or service alteration at sites where flow rates are below 275kWh per hour within 20 working days of payment. The RIIO-2 target for NGN is to ensure this is achieved 45% of the time by the end of the price control. NGN's performance in 2018/19 was c31%.

This year we exceeded the target, achieving 91.1% of works within 20 days, a continual improvement on the 82.3% delivered in 2022/23. The target was formally embedded within our workforce planning activities and our Totex operating model ensured resource was available to significantly improve performance.

### 6.3.6 Multi-Occupancy Building Record Keeping (BAU)

In RIIO-2, we continue to ensure our approach to multi-occupancy buildings is consistent with best practice and will exploit the new analytical capabilities of SAP HANA. We do not expect any significant developments or issues to occur in RIIO-2 that would impact our record-keeping related to MOB assets, however we will continue to monitor and adapt as more information arises.

In Year 3 the 3-5 storey riser population grew as we continued the programme beginning in Year 2 to identify and survey our 'medium rise' (3-5 storey) asset population. We anticipate this figure will continue to rise as we progress further. Whilst in previous years we have had a full view of 'high rise' (6+ storey) population, our data in the lower population has been more limited. The 10+ storey riser population declined as two local authority housing operators converted some tower blocks to use alternative heating sources. We anticipate this will continue in Year 4.

An app is under development to replace the existing paper-based survey forms, which will improve data capture through in-built validation rules.

## 6.4 Deliver an environmentally sustainable network

### 6.4.1 Shrinkage and environmental emissions (ODI-F and ODI-R)

The purpose of the shrinkage and environmental emissions ODI is to incentivise the gas networks to reduce shrinkage and leakage gas volumes.

Shrinkage gas includes gas illegally taken by third parties, own use gas the networks use primarily for pre-heating gas at locations where the gas moves from one pressure tier to the next, and leakage gas. The reputational ODI covers all of shrinkage gas.

During 2023/24 we successfully reduced our overall Shrinkage Gas volumes by 15.2GWh to 268.2GWh. This has brought us back on track with our original business plan target. Our improvement in performance is a result of targeted effort in increasing our MEG saturation levels and reducing our average system pressures. We have increased our filling and sampling levels, improved our routes, and developed internal performance league tables which has driven our saturation levels in an upwards direction. In 2023/24 we have achieved a decrease in average system pressure from 31.04mbar to a network total of 31.00mbar. Daily MI has allowed us to target efforts in the areas which matter most resulting in a continued reduction in leakage. We are now expanding pressure control in 7

further networks as per our OFGEM commitment which will put us in a great position for the remainder of GD2 and for GD3.

This outcome can be seen in our assessment of our current and forecast performance against the financial ODI that covers leakage associated with average system pressure and gas conditioning levels. In 2024/25, we are conservatively forecasting no outperformance in Average System Pressure on the basis that the winter and operation conditions may be more severe than experienced in 2023/24, but we will show a continued outperformance in MEG Saturation.

Environmental Incentive	21/22	22/23	23/24	24/25	25/26	Total
£m, 18/19 prices						
Environmental Emissions	(0.34)	0.36	0.40	0.30	0.12	0.85

### 6.4.2 Commercial Fleet EV Price Control Deliverable (PCD)

The purpose of the Commercial Fleet Electric Vehicle (EV) PCD is to support the networks in converting their vehicle fleets to EVs or other zero emission equivalents. The base totex allowance includes funding for updating the network vehicle fleets. The funding in this PCD relates to the incremental cost of purchasing an electric vehicle in place of an equivalent internal combustion vehicle. Whilst the unit costs are for vehicles and infrastructure based electric vehicle data, the PCD allows equivalent zero-emission vehicle types, such as hydrogen, to be substituted for an EV where this is efficient. The PCD is also subject to a volume driver which adjusts the five-year allowance to reflect the actual volume and mix of EVs delivered over the price control.

NGN's PCD includes replacing 146 small and medium vans with EVs and installing 182 electric vehicle charging points.

The above figure has since been revised due to the constraints and challenges with implementing a full electric emergency response fleet, throughout RIIO-2 we aim to replace 52 small and medium vehicles with EV and install 161 charge points.

Our plan was to begin installing the EV charging points in the first year of RIIO-2 and to purchase 2 EVs to fully trial and understand the impact on operations of adopting EVs. However, the Covid-19 pandemic delayed the preparatory work needed to deliver this. A successful tender exercise was completed in 2022, where we appointed an EV

charger supplier. Once we completed all the required surveys to ensure our offices and depots have the necessary electrical capacity to support the EV charging points, along with securing local DNO approval we have since installed 43 electric vehicle charge points across our operational depots and offices. These EV charge points will support charging of battery electric vans and encourage more colleagues to make that switch from an internal combustion engine to a full battery electric car for both personal and business travel.

NGN continued to search the market for a fit for purpose battery electric van and has undertaken research and surveys across the network to understand suitability for operational use and emergency response. We were aiming to purchase a batch of 10 battery electric medium vans EVs in May 2024 to fully trial across the network within the First Call Operative emergency response role. Delivery dates maybe subject to worldwide supply chain issues that are still being experienced by fleet operators, we anticipate this trial to start January 2025. Further orders may be placed in RIIO-2 subject to suitability assessments and availability of vehicles.

### 6.4.3 Environmental action plan and annual environmental report (ODI-R)

The purpose of the Environmental Action Plan (EAP) and Annual Environmental Report (AER) is to ensure that GDNs take responsibility for the environmental impacts arising from their networks and are transparent in what they are doing to mitigate these. It aims to support the delivery of environmental outcomes and encourage greater environmental ambition.

The EAP included workload targets for three key **Land Remediation** activities:

1. **On-going periodic condition reviews** for all 148 sites within the portfolio to ensure conditions remain stable and existing environmental risk assessments remain valid.
2. **Environmental monitoring** works at up to 9 sites and intrusive survey works at up to 7 sites to confirm site conditions and refine the existing environmental risk assessment.

This year we completed the above activities across 55 sites, in line with the EAP target. This included desktop assessment at 2 of the sites, intrusive land contamination survey work at 4 of the sites, and environmental sampling at 13 of the sites to update the environmental risk and potential liability. Site inspections were completed at 37 sites to ensure their conditions remain stable and the existing risk assessments remain valid. Some sites saw more than one work activity.

3. **Remediation works** at up to 8 sites where we have identified potentially non-compliant conditions, or where remediation would deliver environmental betterment to reduce the long-term contamination risks associated with the sites.

During 2023/24 we completed long-term remediation works at Howdon Gas Holder Station with a total of c.58,000 litres of hazardous liquid coal tar, sludge and contaminated water recovered from inside an infilled below-ground former gas holder tank. We also completed remediation feasibility assessments for 10 sites and commenced detailed design works to enable completion of our scheduled land remediation projects during 2024/25 and 2025/26.

Full details of our performance against our **Environmental Action Plan** initiatives will be provided in our **Annual Environmental Report** which will be published by the 1<sup>st</sup> of October 2024. A summary of the key actions we have taken during 2023/24 is provided below:

- Company car fleet – 100% are now hybrid, plug-in hybrid or battery electric vehicles only. Our colleagues can also take advantage of an electric and hybrid vehicle leasing salary sacrifice scheme to enable them to make sustainable vehicle choices. Our programme of installing EV chargers at our office and depots is well underway providing infrastructure for charging company and colleague electric vehicles.
- In partnership with the White Rose Forest, Humber Forest and Community Forest Trust we directly funded the planting of 22,400 trees and 1200m of new hedgerow to directly tackle poor urban air quality in our region. This means during RIIO-2 to date we have funded the planting of 45,500 urban trees in our region, already outperforming our RIIO-2 target of 40,000 trees.
- Homes for Nature – 96 NGN infrastructure sites now have improved conditions to encourage biodiversity, in addition to successfully trialling an expanded 'No Mow May' programme during 2023 at 10 of our gas infrastructure sites.
- Office and depot waste – 1.3% reduction in total waste and percentage waste to landfill reduced to 0.22%. This means we are on track to reach our 2026 targets.
- Zero excavation spoil disposal to landfill (0.00%) and lowest ever virgin aggregate use in reinstatement (2.74% compared to 9.5% in 2022/23) due to effective partnership working with our supply chain. We are on track to achieve our end of RIIO-2 targets (<0.1% spoil to landfill and <2.5% virgin aggregate use in reinstatement).



- Awareness and understanding – we started a programme of delivering environmental training to our colleagues on topics including circular economy and carbon and climate.

Section 7.4.2 above provides details of our actions taken during 2023/24 to achieve our Commercial Fleet EV Price Control Deliverable.

#### 6.4.4 Business Carbon Footprint (ODI-R)

The purpose of the business carbon footprint (BCF) reputational incentive is to ensure that GDNs take responsibility for their BCF and are transparent in what they are doing to reduce this. Our Environmental Action Plan (EAP) included targets for the reduction in BCF over RIIO-2.

Business Carbon Footprint		21/22	22/23	23/24	24/25	25/26
Non-Shrinkage BCF for Scope 1 and 2 <sup>^</sup> – tCO <sub>2</sub> e	Actual	4,785	5,099	5,102		
	Target*	4,943	4,527	4,011	3,688	3,612
Non-Shrinkage BCF for key Scope 3 – tCO <sub>2</sub> e	Actual	15,200	15,233	17,355		
	Target*	15,298	15,030	14,724	14,457	14,191
Scope 1, 2 <sup>^</sup> and key 3 BCF – tCO <sub>2</sub> e	Actual	19,985	20,333	22,457		
	Target*	20,241	19,557	18,735	18,145	17,803
Total Scope 1, 2 <sup>^</sup> and 3 BCF – tCO <sub>2</sub> e	Actual	27,191	26,730	28,878		
Scope 1 - Shrinkage tCO <sub>2</sub> e	Actual	363,345	328,250	308,973		

\* Business plan targets amended in May 2022 (Scope 3) and April 2023 (Scope 1) in agreement with Ofgem to bring emissions reporting in line with best practice methods.

<sup>^</sup> Market-based Scope 2 emissions methodology

The impacts of the Covid-19 pandemic temporarily influenced our Scope 1 and 2 BCF during 2020/21 and 2021/22 as our business travel habits changed and energy consumption fell. Our Scope 1 and 2 BCF (market-based excluding shrinkage) has since stabilised and during 2023/24 was 1400 tCO<sub>2</sub>e (21%) below our pre-Covid value from 2019/20 (location-based), but 27% in excess of our revised annual target for 2023/24. Our performance was stable between 2022/23 and 2023/24. The main influences on this performance are the external constraints we have experienced with our vehicle fleet investment plans, most notably delayed delivery of new diesel vehicles that we have ordered and the limited availability of suitable zero emission commercial vehicles as outlined in Section 6.4.2.

This area remains challenging for NGN to reduce emissions. Non-operational business mileage received focus from NGN Senior Management Team throughout 2023 to encourage

sustainable business practices resulting in a 7.5% reduction in Scope 1 business mileage emissions. NGN continue to purchase only 100% certified renewable electricity for our premises, and this will be supplemented by the installation of roof-top solar energy generation at our offices and depots commencing during 2024/25.

Emissions for identified key Scope 3 emissions sources increased compared to 2022/23 (+14%) and exceed our annual target (+18%), principally influenced by greater mains replacement workload directly increasing emissions associated with mains replacement contractor vehicles and purchased PE pipe. In addition, air travel emissions increased sharply as we returned to more typical business travel habits after the Covid-19 period. Full details and discussion of the BCF performance will be reported in our 2023/24 Annual Environmental Report.

## 7 Re-openers

### 7.1 Introduction

It is not always possible to anticipate all future events as some are outside of a company's control. This limits the ability of companies to accurately forecast costs, workload as well as any associated outputs.

In these circumstances Ofgem can include re-openers to manage this uncertainty. Depending on their design they allow Ofgem to adjust a company's allowances (in some cases up and in some cases down), outputs and delivery dates in response to changing circumstances during the price control period.

### 7.2 HSE Fatigue

The purpose of this re-opener is to account for changes in Health and Safety Executive (HSE) policies that result in material changes to Totex costs during RIIO-2. Funding can move up or down in response to HSE policy changes that impact safety requirements.

The HSE has engaged with the GDNs to assess our fatigue management approaches to ensure they are appropriate and benchmarked against the good practice as outlined in Managing Shift Work: Health and Safety Guidance (HSG 256). This includes a systematic approach for assessing and managing the risks of work-related fatigue, covering the planning and monitoring of working hours, and an audit of working time arrangements.

The exact impact is unknown at this point, but as part of the analysis and modelling used to support a proposed re-opener submission in September 2024, a material increase in resource will be needed to cover our 24-hour 365 days a year operation. We are already incurring additional cost of circa. £2m per annum to meet new HSE fatigue requirements, based upon additional resourcing recruited to date within Emergency. These costs are estimated to reach circa. £10m p.a. by the end of RIIO-2 across Totex. We are continuing to work on resource and associated shift pattern modelling, to establish the most efficient response to this challenge to mitigate cost increases whilst remaining compliant with best practice.

### 7.3 Streetworks

The purpose of this re-opener is to allow GDNs to recover the efficient costs of complying with new permit and lane rental schemes, or new requirements introduced by public bodies after the RIIO-2 price control was set. These public bodies include agencies such as the Environment Agency, not just the Highways Authorities. Therefore, the scope of this re-opener includes the situation where the GDNs incur increased costs for disposing of excavated material from streetworks, if the Environment Agency withdraws Regulatory Position Statement 211.

When we submitted our business plan 7 out of 25 authorities in our network had introduced permit schemes, at a cost of c£2m per year. All 25 authorities have now introduced schemes which has increased our costs across the whole network. We manage the process, pay the permit fees, and the permits themselves impose conditions on how we are to manage streetworks and operate in the street, which often impacts productivity. We estimate this will cost, on average, an extra £2.3m per annum based on current actual costs and run rate. This equates to £11.5m over RIIO-2. Further to this 3 of the HA's have signalled their intent to roll out lane rental schemes by the end of the GD3 period which will further increase our costs. Consultation on this is due to commence soon with roll-out in 2025/26. Importantly we did not include a forecast for this increase in our Business Plan submission and have looked to mitigate the impact where possible. We expect to re-open in September 2024.

The Environment Agency have stated their intention to withdraw Regulatory Position Statement 211, which provides utilities with regulatory exemptions regarding the waste classification of excavation spoil. Street Works UK is leading an industry working group to develop an alternative way of working to ensure that utility excavation spoil waste can be practicably managed in accordance with waste legislation. We have participated in three phases of field work to characterise excavation spoil waste and develop and test new methods of risk assessment. This work to develop a new spoil waste management protocol in agreement with the Environment Agency is continuing throughout 2024/25 with a subsequent period of training and preparation prior to full industry implementation. Depending on progress and the likely outcome, this may be included in our re-opener in September 2024.

## 7.4 Cyber Security

The purpose of the Cyber Resilience Reopener is to support NGN in managing risks associated with the security of its operational technology network and information systems which can change materially over time. This work is business-critical and sensitive in nature, therefore it is not considered in detail here.

In the 2021 Re-Opener submission, NGN identified a number of projects required investment, to deliver the necessary improvements to security and resilience over the GD2 period. In 2023, NGN revised the approach taken towards the delivery of the Security & Resilience Improvement Plan, in response to significant changes in the risk landscape. As part of the 2024 Re-Opener Submission, NGN reviewed the projects that were previously agreed in 2023 against the requirements of the Cyber Assessment Framework Enhanced Profile (CAF EP). The outcome from this review identified additional activities and projects required to satisfy the CAF EP requirements and respond to the constantly evolving threat and technology landscape.

Ofgem also require confidential annual reports on progress made during the GD2 period.

## 7.5 Tier 1 Stubs

The purpose of this re-opener is to allow GDNs to recover efficient costs for decommissioning Tier 1 iron stubs. A Tier 1 stub is a short length of Tier 1 iron main attached to a larger diameter parent main which would previously have been decommissioned at the same time as the parent main. Under the Three Tier Repex approach introduced in RIIO-1 not all large diameter parent mains will be decommissioned, as they may not pass a Cost-Benefit assessment.

Ofgem provided allowances for the first two years of RIIO-1 as the HSE policy was under review at the time, and so the volume and timing of work was uncertain. It is now clear under HSE policy that many Tier 1 stubs still need replacing. We did not utilise the re-opener window in October 2023 and will complete the Tier 1 stubs programme in RIIO-2 and into RIIO-3 using the existing allowance.

## 7.6 Net Zero Pre-construction Work and Small Net Zero Projects Re-opener

East Coast Hydrogen is a collaboration between Northern Gas Networks, Cadent and National Grid Gas Transmission. It is a 15-year programme that will be carried out in multiple discrete phases. Further detail is provided in the below section.

FEED works are needed for the next phase of the East Coast Hydrogen Project. The full needs case, options and costs are being collaboratively drawn up with project partners to enable next phase of ECH. However, each partner submitted a separate re-opener application for their element in 2024, including NGN.

## 8 Innovation and Futures

### 8.1 Introduction

One of NGN's key objectives within RIIO-2 is to prepare the network to deliver Net Zero at the lowest cost to the consumer, whilst maintaining world-class levels of system reliability and ensuring that we support the needs of consumers in vulnerable situations. We are aware that investment in our network is likely to need to increase to meet Net Zero targets as we progress through this decade.

To achieve this key objective, there are three allowances, the Strategic Innovation Fund (SIF), Network Innovation Allowance (NIA) and Net Zero Use It or Lose it Allowance (UIOLI), which can facilitate the transition to a Net Zero future.

NGN is committed to a whole systems approach to deliver sustainable energy solutions that will benefit our customers and contribute to meeting the UK's Net Zero emissions targets. A whole systems approach is one that facilitates strong collaboration and integration across utilities, operations, markets and supporting processes and is tested against a range of future scenarios.

### 8.2 The Strategic Innovation Fund

The Strategic Innovation Fund (SIF) is a funding mechanism which aims to find and fund ambitious, innovative projects with the potential to accelerate the transition to net zero. These projects should help shape the future of energy networks and succeed commercially where possible. Ofgem have allocated £450 million to this fund over the period 2021 to 2026, with the option to extend and increase as necessary. The SIF is delivered in partnership with Innovate UK, part of UK Research and Innovation (UKRI).

The following table shows the Innovation Challenge areas across the four rounds of SIF funding opportunities in RIIO-2 so far. These are:

Round 1	Round 2	Round 3	Round 4
Whole system integration	Supporting a just energy transition	Whole system network to facilitate network transformation and rollout	Faster network development
Data and digitalisation	Improving energy system resilience and robustness	Unlocking energy system flexibility to accelerate electrification of heat	Embedding resilience
Heat	Preparing for a net zero power system	Novel technical, process and market approaches to deliver an equitable and secure net zero power system	Greater heat flexibility
Zero emission transport	Accelerating decarbonisation of major energy demands	Enabling power-to-gas (P2G) to provide system flexibility and energy network optimisation	Accelerating towards net zero energy networks

With subsequent rounds of funding these key areas evolve across a wider range of themes focusing of specific challenges for both the gas and electricity sectors.

The SIF is structured over three Project Phases (Discovery Phase, Alpha Phase and Beta Phase), with successful application and assessment against Eligibility Criteria as a condition of receiving SIF Funding for the relevant Project Phase. An example of one of our SIF-funded projects progressed in 2023/24 is outlined below:

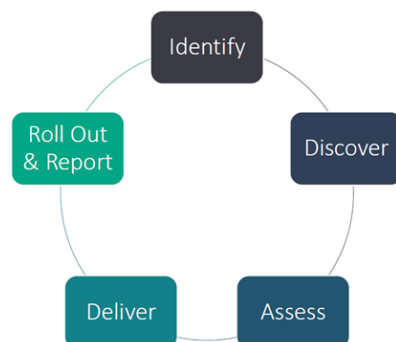
### 8.2.1 Hydrogen Cost Reduction

The transition to net zero will require upfront investment, and a key focus area for us is identifying how we can develop reliable sources of green energy at the lowest possible cost for customers. We are exploring the role hydrogen can play in reducing this initial investment, and our SIF-funded Hydrogen Cost Reduction (HyCoRe) project has helped us to understand the current cost of hydrogen production, and the ways we can bring those costs down using renewable energy.

We have examined the best way of using excess wind from offshore windfarms to generate green hydrogen, determined the optimal UK locations for green hydrogen production facilities and scrutinised how assets in those areas could be utilised to provide best value. We have completed both the Discovery phase and Alpha phase of the project and established the areas most suited to green hydrogen production.

### 8.3 Network Innovation Allowance

Within RIIO-2 the purpose of the Network Innovation Allowance (NIA) is to fund innovation relating to support for consumers in vulnerable situations and/or the energy system transition. NGN recently implemented its five-step process to decide on which projects to fund through the NIA Allowance. This process helps identify barriers to realising a successful outcome and ensures that they are removed. It also allows us to better understand the project data and stakeholder requirements upfront. We are already realising benefits from the implementation of the new process, including minimised effort to develop the business case and move to a more agile and speedier approvals model, as well as increased engagement and validation with key stakeholders.



Key highlights from some of the projects we have progressed in 2023/24 are outlined below. Further details of these and our other projects can be found in NGN's RIIO-2 Year 3 Innovation report.

#### 8.3.1 Alternative Power for Equitable Communities (APEX)

Beginning in March 2024, this early phase exploratory project has been designed to show us how we could produce community-centred energy systems in the future. Through a research test phase, our expert team has been investigating how to leverage the capabilities of power-to-hydrogen (PtH2) technology within three typical community settings – urban, rural and commercial/industrial - while exploring whole energy scenarios for the future gas system.

The concept revolves around harnessing excess, local renewable energy to produce hydrogen through electrolysis, to bring down energy costs, contribute to sustainable development, and move towards low-carbon, place-based community heating schemes. We want to ensure there is fairness in the transition to Net Zero, and that there is cost effective options for everyone. We have a responsibility to make sure everyone is eligible. We selected three representative communities across our region and delved deep into the differences of their gas infrastructures: a national park in Northumberland to represent a rural community, the city of Leeds as an urban setting, and an industrial park in Hull as our commercial test ground. Within each, we've been able to detail out their population densities and customer vulnerability levels and look at what the contrasting energy demands are for each. The findings should allow us to create an archetype of gas infrastructure for each typical community and see what alternative energy sources and methods we can implement within them.

This phase of the project, funded by the NIA, will be complete by summer 2024. The data will help us to make solid recommendations on how hydrogen can integrate with community energy systems in line with the UK's vision of a Just Transition to Net Zero.

#### 8.3.2 Network Resilience and Diversification

As we transition towards net zero, the UK's energy landscape is changing, and the future of gas remains uncertain. Our gas network has been developed and maintained over many years due to vast investment from customers, paid for through their energy bills. We have a huge responsibility to ensure the network is being used in the best ways possible, both today and in a low-gas future.

One way of ensuring the future of the network and retention of consumer investment is to look at the re-use and repurposing of our existing asset base to transport other services. We partnered with nuron, Analysys Mason and DNV to see if this would be viable, first exploring the possibility of installing a ducted infrastructure into our live gas pipes to house other utility systems, including optical fibre and telecoms cables.

This project has demonstrated that our existing gas network can be effectively utilised to house and transport other utilities and systems, to meet changing needs and future energy use. It has proved that we can repurpose the network in a range of exciting ways, all with minimum disruption to customers. It has also helped us look to the future and explore the possibilities open to us, which will enable us to effectively plan and adapt as we transition to net zero.

### 8.3.3 Vulnerability Visualisation Tool Phase 2

Following its inception in 2021, the NGN Vulnerability Visualisation Tool has continued to go from strength to strength thanks to funding from the NIA and is now used far and wide as a single point of contact for vulnerability data in the UK. Through our intricate online map of vulnerable customers, where they're located, what challenges they face, what services they have access to, we've been able to get to grips with different communities' needs like never before. That has allowed us to tailor our services and products to suit them better, creating meaningful social change as a result.

Phase 2 of our intuitive Vulnerability Visualisation Tool has been about making it more widely available to partners and charities, so they too can use the data for doing good. We've seen an extraordinary increase in the tool's usage across the energy sector and beyond this year, and our mission to continue its development, bring in more partners, add to the amount of data available in the system, and start creating machine learning models on the map is now complete. Phase 2 has seen a massive leap forward in both the technical abilities of the tool and the potential that it now offers for collaboration and insights.

Phase 3 will be about taking this further, using machine learning and generative AI to make interacting with the data and the tool even easier.

### 8.3.4 Community Resilience

As we prepare for an energy systems transition in the lead up to 2050, it is important that we create a comprehensive and consistent approach to building community resilience and

safeguarding vulnerable customer groups. To help us do this, we partnered with National Energy Action (NEA) to undertake a cross-utility review that considered the range of support currently being provided, which organisations provide this support, and what good practice means for community resilience and consumer safeguarding, both now and during the future energy transition. We conducted a large-scale piece of research, which included interviews, roundtables and workshops with a wide range of vulnerable customers and stakeholders, to identify the short and long-term risks to community and customer resilience, and to determine how we best manage and mitigate these risks.

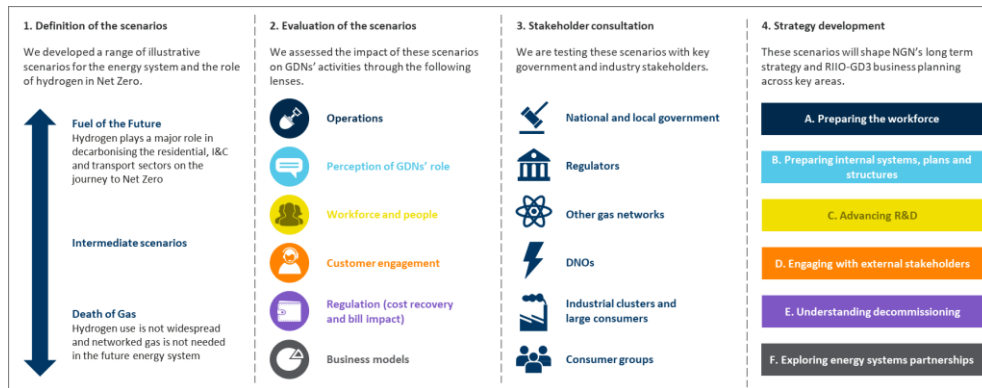
Using the results of the research, we created a set of six guiding principles, which set out how to best serve vulnerable customers. Each guiding principle comes with its own set of best practice guidelines, which can be used by utility companies and service providers across the UK, enabling them to empower vulnerable customers and build community resilience.

## 8.4 Futures

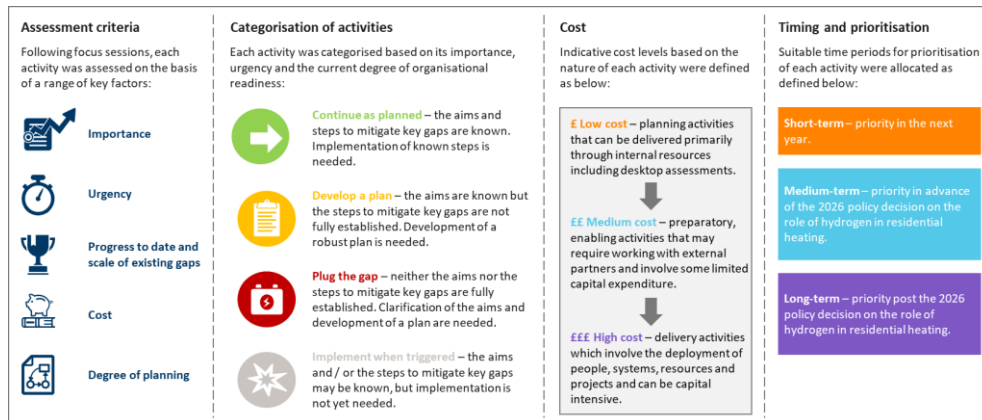
In its RIIO-2 Final Determination, Ofgem established a Net Zero and Re-opener Development Fund Use it or Lose it allowance ("NZARD UIOLI"). The purpose of the NZARD UIOLI is to enable Network Licensees to fund small Net Zero facilitation projects, and to allow for early development work on projects that network companies intend to bring forward at a later stage through other RIIO-2 Net Zero-related mechanisms. NGN were awarded £4.6m under the NZARD UIOLI.

### 8.4.1 Overview of NGN Futures projects

In 2023/24 NGN has allocated its UIOLI across a number of projects which predominately focused on understanding the role that gas would play in helping to achieve the UK Net Zero emissions targets. We have also focused on developing a strategy and roadmap for energy futures that considers the impact of changes across the whole energy system. This will help to ensure that we deploy the UIOLI in its most effective manner. The figure below outlines our approach to our Net Zero Strategy development.



In our strategy analysis we identified a range of actions that NGN could implement to prepare the business for potential future scenarios, which differ by importance, urgency, cost and progress to date as shown by the figure below. Any steps taken will prioritise the 'low regrets' actions which are relevant in multiple future scenarios.



Key highlights from some of the projects we have progressed in 2023/24 are outlined below.

### 8.4.2 East Coast Hydrogen

East Coast Hydrogen is a 15-year infrastructure project led by NGN, Cadent, and National Grid, and supported by a consortium of partners across the hydrogen value chain. The project will establish connections among hydrogen supply, demand, and storage locations

using a combination of repurposed and new pipelines. The project will create a regional hydrogen backbone capable of delivering hydrogen to industrial and commercial users across the east coast of northern England to underpin their decarbonisation goals.

During RIIO-2, we completed the Pre-FEED study which included a technical feasibility assessment and route design optioneering. The Pre-FEED analysis highlights that hydrogen is one of the most viable decarbonisation options for Britain's industries and businesses and highlights the magnitude of potential hydrogen market through primary conversations with our consumers, producers and storage providers. It will be the first major step in the conversion of our national gas networks to hydrogen and will act as a blueprint for subsequent conversions across the UK. The project also demonstrates the innovation, engineering capabilities and economic opportunity in the North, and creates tens of thousands of highly skilled green jobs in the future hydrogen economy.

NGN plans to invest more of its UIOLI in 2024/25 to progress the East Coast Hydrogen project to generate evidence to support an application for additional funding to commence the project build through the Net Zero Pre-construction and Small Net Zero Projects Re-opener later in RIIO-2.



### 8.4.3 Costing the Carbon Commitment

The aim of the Costing the Carbon Commitment project was to identify cost optimal pathways to decarbonising the UK energy system by 2050, adhering to the UK Government carbon budgets. The project was funded using UIOLI and brought together stakeholders from across the UK's energy value chain. The project identified principal factors driving the cost of different credible decarbonisation routes and provided recommendations on the low regrets interventions that should be prioritised by policy and decision makers to enable fair transition to clean energy systems. We've identified that the Costing the Carbon Commitment project could evolve into creating a whole systems energy model capable of serving the needs of regional strategic energy planning.