RIIO-GD3 Business Plan

December 2024

Navigation

Return to contents

This interactive pdf has navigation built-in. Links to specific pages and external websites are highlighted with blue underline.

Executive Summary

page 01

- Introduction from our Chief Executive
- Highlights of our plan
- A statement from our Board

Context and priorities

page 12

Outcomes we will deliver

page 31

Costs and financing

page 69

Supporting documents

page 100

- Strategy documents
- Investment Decision Packs

Contents

Costs and financing

Executive Summary

Introduction from our Chief Executive

Simon Kilonback, Chief Executive, SGN

I'm pleased to share our GD3 Business Plan for the five-year period starting in April 2026, which prioritises the efficient operation of a safe and reliable gas network.

Our role in society

We are a key part of Great Britain's critical national infrastructure. Every day we provide heat and energy to families, schools, hospitals, power stations and essential businesses across Scotland and southern England. SGN also provides the entry point for more of Great Britain's green gas than any other network.

We transport energy to nearly six million homes and more than 188,000 businesses. Together these businesses contribute circa £500bn in GVA to the economy and support seven million jobs. Our purpose is to serve our communities, keeping everyone safe and warm.

Our role in net zero

We are also committed to playing our part – utilising our modern network – in a fair and affordable energy transition. The five years covered by this price control will be critical for the UK's decarbonisation plans, including the Government's ambition to achieve clean power by 2030.

The net zero challenge is so great that a range of solutions will be required, and we are committed to investing in the technology and the people needed to deliver clean energy.

We already have capacity to supply the equivalent of 323,000 households, including approximately 10% of homes in Scotland, with biomethane. It's a green gas solution that is available now, provides the same heat experience and involves no customer disruption.

In GD3 we will go further and faster, making it easier for suppliers of green gas to connect to our network and opening up our data to boost innovative businesses focused on accelerating the journey to net zero.

What we will deliver

Our core commitments have been shaped by our most extensive engagement programme ever, with input and constructive challenge from our customers and the many stakeholders we work alongside locally and nationally.

Our plan is detailed, robust and evidence-based and will be delivered through the dedication and skill of our people, our greatest asset.

In GD3 we are committing to making SGN a leader in safety, value for money and customer service. Recognising that many

"We transport energy to nearly six million homes and more than 188,000 businesses. Together these businesses contribute circa £500bn in GVA to the economy and support seven million jobs"

customers are struggling to afford their household bills, we are also committing to even more targeted help for the vulnerable and those that need it most.

Our performance in GD2

As we prepare for the future, we recognise that our performance in the past has not always met expectations. Over the past two years we have renewed our leadership team, reset our strategy and taken far-reaching steps to improve performance. We have enhanced our operating model to further strengthen our frontline resources, despite the acute challenges of regional labour markets.

We are particularly proud of the role we play supporting communities and vulnerable customers, demonstrated by our many awards for excellence in customer service during GD2.

Value for money

Strong performance must be delivered cost effectively for the regions we work in. For that reason, our plan means customers' bills will increase but remain lower than in GD1.

We will ensure long-term value for money by optimising our operating model and processes and harnessing data and digitisation. Our plan also protects our customers' interests by balancing affordability with essential investment required to maintain safe, secure and resilient infrastructure.

"We have renewed our leadership team, reset our strategy and taken far-reaching steps to improve performance"

Importance of our network into the future

We understand the energy needs of all our customers, including thousands of businesses which rely on our network. They operate in a globally competitive market and face significant impacts on jobs and business productivity if they can't secure access to affordable and resilient energy supplies. Their decarbonisation journeys will be complex and will take time.

For that reason, we see an enduring role for our network through the transition, to support communities and the wider economy by providing the resilience and security of supply that only our infrastructure can deliver.

Safeguarding investment

This price control must recognise the necessary investment required in the network to maintain its safety and integrity for as long as it is needed. This investment will safeguard our infrastructure, ensure asset health, uphold safety standards and protect against cyber threats.

It will also secure a robust workforce and supply chain, while maintaining optionality for society as the energy landscape and our network evolves.

Stable regulatory framework

Great Britain's long-standing, predictable environment for investing in regulated assets is highly valued by international investors.

The next five-year regulatory settlement must provide a stable financial framework, which mitigates against rising costs of finance to protect customers from short- and longer-term bill rises, particularly for those that are least able to afford it.

Crucially, it must also ensure costs for consumers are allocated fairly across current and future generations.

I am grateful to everyone who has contributed to shaping our approach to GD3. It is the right plan, delivers value for money, and reflects the needs of our customers, stakeholders and broader society. Everyone at SGN is fully committed to its successful delivery.

"This price control must recognise the necessary investment required in the network to maintain its safety and integrity"

Simon Kilonback
Chief Executive, SGN

Highlights of our plan

Our priority for GD3 is the efficient operation of a safe and reliable gas network. This is what our customers expect. Our plan is set in the context of Great Britain's transition to net zero and will accelerate decarbonisation to give our customers access to affordable, clean energy through our network.

We will invest more than £4.5bn between 2026 and 2031, including:

- **£1.8bn** to replace nearly 5,000km of metallic mains with plastic pipes that are safer, reduce emissions from our network and are ready to transport green gases;
- **£847m** to maintain and improve our network so it remains safe and resilient to transport energy to homes and businesses;
- **£463m** to deliver a 24/7 emergency service and repairing our network following gas escapes and third-party damage;
- **£248m** to improve the safety of high-rise tower blocks by replacing ageing gas pipes and isolation valves in these highly populated buildings;
- **£173m** to protect our customers from cyber attacks and energy system disruption;
- **£130m** to maintain our industry leading customer service and provide targeted help to at least 650,000 of our most vulnerable households;
- **£63m** on training and apprenticeships to improve the skills of current and future frontline employees to deliver ongoing safety and high customer care;
- **£51m** on innovation that enhances the safety, efficiency and sustainability of our service today and contribute to achieving net zero;
- **£31m** to implement new technology to control pressure and detect methane leaks from our pipes so we can make targeted repairs, which together with our mains replacement programme will reduce our carbon emissions by more than 155KtCO_2e and;
- **£23m** on projects that will increase the amount of biomethane within our network that will save at least 1,100KtCO_2e per year.

Key issues for GD3

The GD3 determination must recognise the scale of necessary investment that is still required in the gas network for many control periods to come, both to maintain its safety and integrity and to provide critical resilience in the UK's energy mix through an uncertain transition to net zero. It must also maintain investor confidence and provide value for money for consumers. There are six key issues that this price review must address:

1. As the mandatory **mains replacement programme** enters its final phase and the remaining projects are **more complex and expensive**, the financial impact of this needs to be fully reflected.
2. Emergency repair volumes have increased and the types of repairs are changing. **The efficient cost of repairs must be reassessed** taking account of evidence provided.
3. The **competition for skilled labour in southern England is particularly acute**, increasing the cost of attracting contractors and direct labour into the market and undermining deliverability. **These regional costs pressures must be allowed for**.
4. There must be a **well-calibrated cost assessment** that recognises the differences in the **efficient cost of doing business between regions** and aligns efficiency expectations with the wider economy.
5. **Accelerated depreciation in isolation will not protect consumers** or investors from the impact of customers migrating away from the gas network. An alternative approach is needed.
6. A gas risk premium on the cost of debt has emerged in GD2. **We need a more flexible mechanism to fund these increasing premiums**. Additionally, **the cost of equity needs to be appropriately calibrated** to ensure investability.

Listening and responding to the needs of our customers and stakeholders

We have conducted our most extensive customer and stakeholder engagement to date, using insight from more than 11,000 engagements to inform our decisions and shape our plan. Our industry-leading approach to research has been recognised by the Market Research Society and shortlisted in its annual awards.

We have heard from domestic customers, including many in fuel poverty, as well as small businesses, large industrial users, customers of the future and local, regional and national stakeholders. Inevitably, there are differences in views, but we have carefully triangulated what they have told us with support from our Independent Stakeholder Group (ISG) to build a plan that meets their needs.

In Chapter 2 we set out how customer and stakeholder insight has informed our plan. This prioritises investment to maintain a safe network and deliver a high quality of service today. It also shows how we have responded to customers' appetite for us to invest more in low carbon energy solutions to deliver a safe and resilient transition to net zero and give customers choice around the clean energy that will heat their homes and power their businesses in the future. We also show how we will support vulnerable customers and implement new technology to improve the environment.

We recognise the affordability challenge facing our fuel-poor customers, who are also facing higher costs for other essential services such as electricity and water. This is why we carried out extensive and robust insight to understand the impact that rising bills might have. This showed that while two thirds of fuel poor customers would find a bill share of £200 as "getting expensive but still acceptable", a quarter would find this "unacceptable".

We have responded, challenging ourselves to focus on the projects that prioritise safety and resilience, while delivering most value to our customers. We'll also ensure that our larger frontline workforce – needed to ensure the safety and wellbeing of our employees while meeting emergency response times – are maximising opportunities to deliver non-emergency work during the summer months when calls are fewer.

However, we continue to face rising cost pressures, some of which are out of our control, which means in GD3 our bill share will be £178 per year across both our networks. This is an increase of £28 per year, on average, across the five-year period, which our latest research shows around 82% of fuel-poor customers will find 'acceptable' or 'getting expensive but still acceptable'. We know that this won't be the case for everyone, and some people will still struggle to pay. To help them, we will target extra support to those in most financial need to help them manage the challenge of rising bills, working with our network of extensive partners including debt-advice and income-maximisation experts.

During GD3 we will continue to engage with our customers, so we develop a deeper understanding of their needs through the energy transition and help those at risk of being left behind by providing choice and support. Working with stakeholders at a local and regional level, we will look at the role that all sustainable energy sources can play in achieving net zero without compromising the safety and reliability of supplies.

Customer priorities

- Receive a high-quality service
- Keep the gas flowing
- Act safely
- Support people in vulnerable circumstances
- Improve the environment
- Develop low-carbon energy solutions
- Affordable bills

We have made 21 commitments that reflect our customers' and stakeholders' expectations and are ambitious in the areas that are most important to them. They are built on credible evidence of need and are stretching in the areas that matter most to our customers.

Our GD3 commitments

SGN RIIO-GD3 outcomes	SGN RIIO-GD3 commitments
High-quality service from regulated firms	
Our customers receive industry-leading service	We will provide high-quality service so both networks are in the industry top three for customer satisfaction by the end of GD3 We will provide high-quality service so both networks are in the industry top three for fewest complaints per 10,000 customers every year in GD3
More vulnerable customers will receive high-quality, targeted support	We will help at least 650,000 households in the most vulnerable circumstances in GD3 We will provide training to all frontline employees to help them identify and support vulnerable customers in GD3
Our investment creates more social value for customers and communities	We will maximise the Social Return on Investment for every £1 invested through the VCMA programme, while always prioritising the needs of vulnerable customers
Secure and resilient supplies	
Our network transports gas safely and reliably to meet the demands of our customers in all scenarios	We will maintain our network, so there is no deterioration in its performance or reliability We will continue to look after the health and safety of our employees by targeting a maximum working day of 12 hours by the end of GD3
Our network is ready to transport clean energy to our customers	We will establish processes that allow us to safely and reliably blend more green gas into our network We will implement a framework to assess alternatives to natural gas when refurbishing or replacing supplies to high-rise multiple occupancy buildings
We are resilient to a range of external shocks and stresses	We will introduce a measure for climate resilience and establish a standard baseline from which we will monitor our progress We will meet or exceed the Enhanced Cyber Assessment Framework
Infrastructure fit for a low-cost transition to net zero	
We adopt a whole-systems approach to delivering net zero	We will contribute to the development of the Regional Energy Strategic Plans (RESPs) and relevant local authority energy plans in Scotland and the south of England
More people will have access to biomethane	We will work collaboratively to maximise biomethane injection and reduce connection times for producers to provide the capacity to transport it to the equivalent of one million homes
Harnessing green gas will help remote Scottish communities contribute to net zero	We will transport locally produced biomethane to Wick and Thurso SIUs to replace liquified natural gas supplies
We will be ready to accept blended hydrogen onto our network to supply customers	We will complete the evidence for hydrogen blending in the first two years of GD3
We will reduce the impact our operations have on the environment	We will reduce our operational carbon footprint by 46% compared with our 2019 baseline with a focus on reducing methane emissions
System efficiency and long-term value for money	
We will deliver value to customers through efficient investment and delivery	We will be ranked in the top three for efficiency for both our networks in a well-calibrated cost assessment that reflects the efficient costs of working in our network areas
Innovation will deliver improvements and efficiencies that benefit customers	We will deliver more than £89m of operational savings through core innovation across GD3
Digitalisation and the effective use of data will enhance network performance and support the transition to net zero	We will open our data to facilitate collaborative planning and the development of whole-system solutions
We will build a more resilient workforce that works efficiently to deliver more value to our customers	We will increasingly reflect the communities that we serve We will recruit and train more than 50 apprentices each year

Investing in our network for today and tomorrow

Our customers expect us to maintain the safety and reliability of our network in GD3 and invest where needed to uphold standards and provide resilience during a 1 in 20 winter. This continues to drive our investment programme, so we deliver strong safety and operational performance.

Over recent years we have been modernising our network. This has included replacing the majority of smaller diameter (Tier 1) mains with plastic pipes that are safer and can carry green gas in the future. Because of this, we expect repairs to these mains to reduce over GD3.

However, significant parts of our network remain unmodernised. Larger-diameter mains (Tier 2 and 3), which were removed from the HSE-enforced mains replacement programme, are rapidly deteriorating and we are seeing an increase in repairs to these mains. This will require ongoing investment over the coming years to maintain the safety and resilience of energy supplies. The cost of repairing these mains is typically higher, so the cost assessment process must be updated to reflect this and the changing workload.

We must also strike the right balance between proactive refurbishment and reactive repairs, so we maintain our network as efficiently as possible and minimise disruption to customers and communities. This includes replacing nearly 300km of Tier 2 and 3, and steel mains – targeted at those mains that are deteriorating the most and delivering the highest environmental benefit. These are supported by a robust cost-benefit analysis to ensure we deliver value for money. This needs to continue in GD3 and beyond.

We remain committed to completing the HSE-enforced mains replacement programme in 2032, so in GD3 we will replace more than 4,500km of metallic (Tier 1) mains. The costs of replacing the remaining Tier 1 mains will be higher than in previous price control periods as projects become more complex. This is because we have always prioritised projects that have the greatest safety benefit. Those that remain are typically further away from houses and are in more complex locations. This makes them more time-consuming and resource-intensive to deliver.

The cost pressures we face are exacerbated further in our Southern network, where the workforce needed to deliver the programme is scarce due to high competition from other sectors for the highly skilled people. Instead, we are reliant on supply chain resources from other parts of the country and pay a premium to cover their costs and expenses as they travel away from home. This means that the main replacement costs in our Southern network are 17% higher than the national average. These regional costs pressures must be recognised and included in the cost assessment so we can successfully complete this important safety-driven programme.

Securing a resilient workforce and supply chain for GD3 and beyond is a significant challenge and we are focused on building a diverse and multi-skilled workforce. As we embed safer working practices into our business by targeting a maximum working day of 12 hours, we need to recruit circa 500 more people across GD3 to maintain our rapid emergency response service. We will invest in trainees, apprentices and graduates and upskill our existing workforce, so we deliver more value to our customers and develop the skills needed for the energy sector in the future.

We also need to invest to get ahead of new challenges such as cyber threats and climate change so our network remains resilient in a changing world.

"Maintaining safe supply should be their priority... you don't want to be without gas. You also want it to be done safely."

Domestic customer, Scotland

Delivering a safe and resilient transition to net zero

We are committed to playing our part in reaching net zero and recognise that we must transition away from fossil fuels. Our energy system needs to be cleaner and more sustainable while supporting economic growth and meeting customer needs. We recognise that renewables will form the basis of an integrated energy system and there will be a shift to the electrification of heat. However, our gas distribution network will continue to play a key role, transporting biomethane and hydrogen created by renewable energy to provide a resilient energy system.

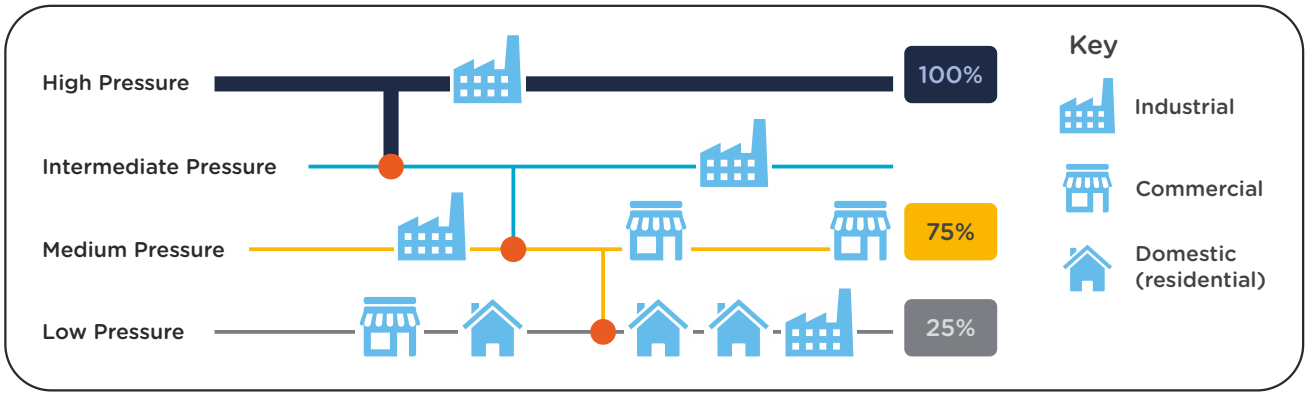
A successful transition to net zero is particularly important for the critical industrial and commercial (I&C) customers that support more than 7 million jobs and contribute approximately £500bn of GVA to the UK economy. 40% of the total energy we deliver is consumed by I&C customers who are geographically dispersed and connected to all pressure tiers. They are dependent on the same network as domestic consumer and cannot be segregated into industrial clusters.

We have conducted our own modelling to understand the potential timing and impact of customers switching away from our network with the aim of maintaining a 'minimum viable network' (MVN) at all stages of transition which is safe, affordable and resilient. Our analysis uses detailed property level information and customer demographic data, calibrated through customer survey data.

Our results show that even with the current incentives, the movement of customers away from the network will require time, investment and significant changes in consumer behaviour. As a result, change will be highly dispersed across the network with limited opportunity for significant decommissioning in the absence of a mandated street-level transition. Our I&C customers have complex and differing energy needs making their transition even harder to predict.

We have modelled a scenario, which assumes that all domestic customers are disconnected from the network, leaving just I&C customers supplied by biomethane, hydrogen or a combination of the two. Using four representative regions (urban/rural, Scotland/Southern), our analysis shows that the entire local transmission network (high-pressure), three quarters of the intermediate and medium-pressure network and a quarter of the low-pressure network will be required to supply I&C customers. This is represented on the figure below.

Figure a: Integration of I&C customers on our gas distribution network and their future reliance on the network pressure tiers



Source: SGN

"Around 40% of the gas we deliver is consumed by industrial and commercial customers who are geographically dispersed and supplied through the same pipes as our domestic customers. We must maintain resilient energy supplies throughout the transition to net zero and this will require ongoing investment in the gas network to be maintained."

Antony Green, Future of Energy Director, SGN

Providing value for money

Our plan is ambitious and seeks to deliver long-term value for money while protecting our customers' interests. It also reflects the ongoing macroeconomic environment while balancing the needs of the environment, safety and resilience. Above-inflation cost pressures have driven a significant increase in costs during GD2 with costs in the final three years expected to be 12% higher, on average, than those across the entire GD2 period. If we account for the impact of higher workloads, we have still experienced 8% higher cost pressures, primarily due to mains replacement labour costs. This is particularly evident in southern England where competition from other industries is driving significant shortages in the supply chain for labour and contractors, driving up prices in Southern compared to Scotland.

We anticipate higher workloads required to maintain the safety and reliability of our networks will drive a cost increase of over 7% in GD3. In addition, because we have always prioritised mains replacement projects that deliver the greatest safety benefits, those that remain as part of the HSE's mandatory programme are increasingly complex and expensive. This, together with the more complex Tier 2 and 3 repairs and targeting 12-hour working conditions across our frontline teams, is expected to increase our costs by a further 8%, compared to the last three years of GD2.

To mitigate these cost increases, we have challenged ourselves to deliver an 8% cost reduction on a workload-adjusted basis compared with the last three years of GD2 performance. In calibrating an efficient allowance, Ofgem's determination must recognise the increasing complexity of the mains replacement programme and highly competitive regional market for skilled labour.

To achieve the efficient operation of our network, our baseline plan is just under £4.5bn over the five-year period, with an average annual expenditure of £891m per year (including efficiencies). This is the minimum expenditure necessary to deliver our core network safety commitments and customer expectations. We have identified a further £0.3bn that customers have asked us to deliver through uncertainty mechanisms.

The table below shows the Capex, Opex and Repex expenditure across GD3 for both our Scotland and Southern networks, separating out our commitment to ongoing efficiency improvements.

Table a: Headline Totex (23/24 prices) expenditure comparison GD2 vs GD3 plan

Expenditure Category		GD2 Avg (£m/yr)	GD2 Last 3 yrs Avg (£m/yr)	GD3 Avg (£m/yr)	GD3 Total (£m)
Scotland	Opex	93.0	102.0	112.0	560.0
	Capex	72.0	88.0	71.0	355.0
	Repex	73.0	76.0	86.0	423.0
	Totex (exc. eff)	-	-	**268.0**	**1,342.0**
	Totex (inc. eff)	**238.0**	**266.0**	**263.0**	**1,316.0**
Southern	Opex	196.0	224.0	207.0	1,033.0
	Capex	80.0	87.0	114.0	568.0
	Repex	224.0	250.0	320.0	1,602.0
	Totex (exc. eff)	**-**	**-**	**641.0**	**3,203.0**
	Totex (inc. eff)	**500.0**	**561.0**	**628.0**	**3,140.0**
SGN Total (inc. eff)		**738.0**	**827.0**	**891.0**	**4,456.0**

Source: SGN Business Plan data

The table above shows the increase in cost from GD2 and then to GD3. We will drive efficiencies across our business and stimulate competition across the supply chain, however the cost of labour will remain significantly higher in the south and we will continue to pay a premium for the people we need to complete essential work to maintain the safety of our customers. This must be recognised in our cost allowances.

A fair share of customers' bills

In developing this plan, we have been guided by our customers and challenged by our Independent Stakeholder Group to strike the right balance between delivering value for money and investing in our network. By focusing on investment, we can keep bills lower while prioritising safety and resilience, ensuring we maintain the health of our assets. Enhanced expenditure beyond maintaining our core services has been limited only to areas specifically supported and endorsed by our customers.

Our plan means customer bills will increase from GD2 to GD3, but remain lower than in GD1, while we continue to invest in a safer and more resilient network. Our proportion of the average household dual fuel energy bill will be circa 9% in GD3, providing stability, value for money and affordability.

In the table below we have set out the customer bill impact of moving from GD2 to GD3, as a direct comparison, and then including the impact of policy changes proposed in the GD3 SSMD.

Table b: Bill impacts in GD3

£/household (23/24 values)	GD1 Average	GD2 Average	Direct Comparison with RIIO-2				Policy impacts in RIIO-3			
			Maintaining core services	Proposed Enhancements	Change in Cap Finance Terms	GD3 Average Bill Impact	Faster Investment Cap Recovery	Semi-Nominal WACC Impact	Disconnections	GD3 Average Bill Impact
Scotland	**£176**	**£146**	£12	£4	£8	**£170**	£31	£8	£15	**£225**
Southern	**£188**	**£152**	£19	£3	£8	**£182**	£35	£9	£21	**£247**
SGN	**£184**	**£150**	**£17**	**£4**	**£8**	**£178**	**£34**	**£9**	**£19**	**£240**

Source: SGN (Headline figures may not tally due to rounding differences)

The figures provide a direct comparison between bills in GD2 and GD3, considering what we need to invest to maintain our core services, deliver the enhancements expected by customers and apply financial changes that are largely outside of our control (this includes tax, licence costs, debt costs, interest rates and market return expectations). This shows that in GD3 our share of household gas bills is expected to increase by £28 per year compared with the average in GD2.

The second set of figures assume that we follow the FES Holistic Transition pathway to net zero and show the proposed policy changes that look to bring forward cost recovery as set out in Ofgem's sector methodology decision document. This will have the following impacts:

1. An extra £34 will be added to customer bills so investment in existing and future infrastructure is recovered over a shorter period, known as accelerated depreciation.
2. An extra £9 will be added because of the semi-nominal weighted average cost of capital (WACC), which covers the cost of recovering inflation earlier.
3. An extra £19 per year to recover the cost of customers disconnecting from the network, assuming significant numbers of customers will move to other sources of heat.

Combined, these will result in a bill share of £240 per year, £62 higher than our direct comparison.

Delivering net zero

Central to our plan – and the investment priorities within it – is the fact that even under the most ambitious strategic pathway to net zero we must invest to maintain the safety and integrity of our network for decades to come. A clear, consumer-led pathway to decarbonise is needed to have confidence in the Future Energy Scenarios[1] (FES) set out by the National Energy System Operator (NESO). Until then, significant uncertainty remains around the pace at which customers will adopt new technologies and potentially leave the gas network.

The Holistic Transition pathway in the FES framework, forecasts that the significant majority, >60%, of UK households will still be connected to the network in 2035. This requires continued investment in safety and resilience, and our business must remain financeable, supported by a regulatory structure that supports and maintains the flexibility to respond to customer changes in a transparent and predictable manner.

The application of the Holistic Transition pathway in GD3 assumes there are no customers (domestic or I&C) connected to the network after 2050. To align with this, Ofgem proposes to recover investment costs more quickly, and fund disconnections from the network. This is not a fair approach for customers and it will reduce investor confidence. We have set out alternative proposals to address this in the short term.

1 Future Energy Scenarios, ESO Pathways to Net Zero; July 2024

Our alternative approach to managing the cost of the net zero transition

We fully support the transition to net zero and agree that a mix of sustainable energy sources is needed to secure supplies and give customers choice about how and when they decarbonise.

At present there is considerable uncertainty around the speed at which customers will move away from gas and take up alternative energy sources such as heat pumps. There is currently no proven consumer-led pathway which we can plan against for the fair and appropriate recovery of investment.

Under the Holistic Transition pathway, irrespective of depreciation policy, there is a disconnect between costs of safely operating the network and the customer base to recover these costs from. This creates an affordability and cost-recovery problem which cannot be addressed through accelerated depreciation alone.

We appreciate Ofgem's recognition of the challenge associated with protecting consumers through the transition and its openness to alternative proposals.

We propose an alternative approach that aligns the rate of cost recovery with customer action and is set out in more detail in Chapter 10. This would enable us to recover the costs of disconnections in a way that is proportionate to the number of customers leaving the network, rather than setting policy on forecasts that have historically demonstrated a high level of optimism bias in expectations of consumer behaviour. Taking this approach will treat customers fairly and strike the right balance between customers' and investors' needs.

Our proposed approach provides greater flexibility to manage uncertainty. It avoids unnecessary bill increases for customers today and creates a lower net present cost under both the Holistic Transition and Counterfactual pathways.

Wider cost recovery concerns risk further reducing investor confidence at a time when new investment remains critical. These concerns must be addressed as a whole to have a sustainable and enduring solution that creates a better balance of cost and risk between current and future customers. Immediate assurance is needed that all investment and costs will be fully recoverable. Furthermore, in GD3, the Government and Ofgem need to establish a holistic approach to these complex issues that creates a fair and sustainable solution for recovering investment, ongoing costs, disconnection and decommissioning costs.

We are happy to work with Ofgem and key stakeholders on alternative solutions to reduce the bill impact on customers.

Financing our plan

The financeability (the ability to secure and attract appropriate levels of debt) and investability (the ability to retain and attract appropriate levels of equity investment) over the long term remains critical to attract investment into a critical infrastructure asset that delivers heat to over six million domestic, commercial and industrial customers.

The forecast reduction in the utilisation of the gas assets as a result of a public policy is a unique situation that does not have a point of comparability for any other utility. As a result, careful attention is required on the long-term impact of policy change in order to assess the consequences for financeability, investability and bills, whilst delivering the necessary investment to maintain safety and reliability.

The political uncertainty around the future of gas networks is already increasing the cost of debt as investors factor in higher risk. Relative to electricity, gas networks are being offered shorter debt lending terms, which requires them to regularly return to market. This further increases cost and risk. This is evident in current market data and is expected to become more marked unless longer-term risks are appropriately mitigated through appropriate policy intervention. Whilst less directly observable, an equivalent premium must transfer to equity, recognising the greater risk exposure of equity investors.

As we set out above, if the Holistic Transition pathway forms the basis of policy, then there is a fundamental issue of cost recovery as customer numbers decline. This issue arises irrespective of decisions made on accelerated depreciation and leads to bills rising to a point where they are politically unacceptable and unaffordable to customers. Investors need assurance before the GD3 final determination that these costs will be recoverable with a reasonable expectation of return.

If policy is implemented that leads to the rapid recovery of the Regulated Asset Value (RAV)[2], and the reduction in customer numbers suggested by the Holistic Transition pathway does not materialise, this creates an asset infrastructure company without an asset value, but with ongoing investment requirements to maintain safety and reliability. This is fundamentally different to the regulatory model that has supported investment in networks since privatisation and will require new regulatory mechanisms to adequately compensate and protect investors and keep bills down for customers. Work needs to begin on these new mechanisms now, and the principles of a sustainable regulatory model must be defined by the start of GD3.

Given the risks associated with both scenarios – (i) the Holistic Transition pathway is correct and there is a RAV and ongoing cost recovery issue, or (ii) the Holistic Transition pathway is incorrect and there is a regulatory structure issue – we believe it is too early to commit to a defined accelerated depreciation pathway. We have proposed an alternative approach that is evidence-based and flexible in its approach. This will provide time to fully evaluate customer, financial and delivery risk over the long term and establish regulatory and government policies that will provide a stable and transparent regulatory framework to support investment in all scenarios.

As a priority, a review of the way in which efficient debt funding is assessed for gas networks is needed to ensure that efficient debt costs are recoverable, and equity investors are not exposed to poor calibration of debt costs using current methodology. There also needs to be a recalibration of an appropriate dividend yield. Unlike electricity networks, gas networks are unable to realise value through RAV growth, and the underlying dividend yield has to be consistent with an appropriate cost of equity. We have presented evidence that the notional company should be anticipated to generate a return on equity of at least 6.7%, 1.3% higher than the midpoint suggested in the SSMD. The higher value is primarily due to evidence supporting a higher asset beta and total market return (TMR).

The price control needs to ensure that the underlying framework and longer-term arrangements are both investable and financeable to meet Ofgem's duties. Failure to do so would result in the GD3 plan not being financeable or investable – regardless of the short-term cashflow ratios during the five-year period and would not be in consumers' interests.

A statement from our Board

Our shareholders are three long-term investors: Ontario Teachers' Pension Plan (OTPP), Global Infrastructure Partners (GIP) and Brookfield, which collectively own 100% of Scotia Gas Networks, which is in turn the 100% owner of three regulated transportation networks: Scotland Gas Networks, Southern Gas Networks and SGN Evolve Network. SGN Evolve operates in Northern Ireland under a separate regulatory regime and outside of this Business Plan. We also operate multiple unregulated companies, covered by strict business separation procedures.

Our Board is comprised of two Sufficiently Independent Non-Executive Directors, who are independent of the shareholders, the Chair, and seven Shareholder Non-Executive Directors. The Board is supported in its decision-making through the work of six board committees (audit, finance, health and safety, remuneration, stakeholder, environment social & governance and nomination). Our Independent Stakeholder Group engages directly with the Board.

Our Board has been fully involved in the development of our RIIO GD3 Business Plan for SGN Scotland and SGN Southern through the establishment of a GD3 Board Committee and working groups. We are particularly appreciative of the statutory independent directors and their guidance and challenge in developing the RIIO GD3 Business Plan.

We, the Board of Directors of SGN, including our Sufficiently Independent Directors, confirm our collective ownership of the strategy and direction outlined in the Business Plan. We take full responsibility for ensuring that the plan is both complete and of high-quality, and that its associated costs and financial package have been appropriately challenged for accuracy, ambition, efficiency, customer interest and financeability.

The full Board Assurance Statement can be found in SGN-GD3-SD-17: Board Assurance Statement.

2 Regulated Asset Value (RAV) refers to the net value of the company's fixed assets used for calculating depreciation and return on capital components of allowed revenues.

Context and priorities

Chapter 1: Introduction to SGN

In this chapter we provide an introduction to our networks and how we are performing in GD2. We highlight that:

1. **We operate distinct networks in Scotland and Southern.**
2. **Scotland is able to deliver to allowances with slight outperformance.**
3. **Southern is expected to overspend allowances by £242m.**
4. **Severe regional labour and contractor shortages have impacted Southern's costs.**
5. **Our original GD2 Business Plan accurately forecast the cost pressures that we have experienced in our Southern network.**

1.1 Our networks – Scotland and Southern

Around the clock, every day of the year, our teams work to keep gas supplies flowing safely to nearly six million homes and more than 188,000 industrial and commercial (I&C) customers in the south of England and across Scotland. We operate and maintain 75,276km of gas pipes, up to the gas meter in domestic properties and businesses. We also provide a 24-hour gas emergency service.

Our network stores, transports and distributes energy at scale, quickly and efficiently. This provides resilience to the wider energy system, particularly during the winter and extreme weather conditions.

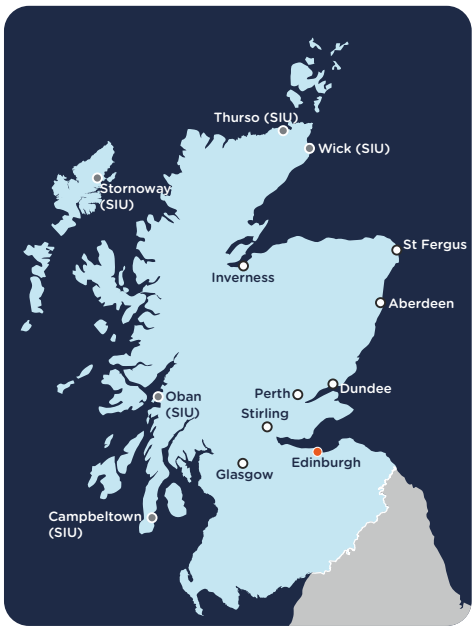
On a cold winter's day, when the system is under stress, the amount of energy we deliver on an hourly basis can be the equivalent of that carried by Great Britain's entire electricity network.[3]

In 2023 our network carried 129 TWH of energy, which is the equivalent of over 40% of the UK's total annual electricity demand.[4]

While 98% of our customer base is domestic, our I&C customers consume 40% of the energy we transport across our network. On peak days the average daily demand of I&C customers doubles from 5.9GWh to 13.8GWh.

1.1.1 Our network in Scotland

Our Scottish network supports 1.8m customers including more than 57,000 industrial and commercial businesses. It includes major cities and some of the most remote parts of the UK. The region has some of the highest levels of fuel poverty and is often subject to the UK's harshest weather conditions.



The vast area presents logistical challenges, with our teams travelling much longer distances to serve customers. We also look after two of the UK's largest cities – Glasgow and Edinburgh – which have unique housing stock and high concentrations of high-rise flats. Many of our customers live in poor quality, poorly insulated buildings, with areas of Glasgow amongst the most deprived in the UK.

The harsher weather presents challenges, impacting both the operation of our network and how quickly we can reach customers. Winter brings the coldest weather in the UK, with temperatures dropping to well below zero for days at a time, leading to more gas emergencies and disruption to journey times.

Very intense periods of rain are also becoming more common in Scotland, causing flooding that can close roads, especially in more remote areas. This increases the vulnerability of our network by wearing away the ground that protects our pipes.

3 https://assets.publishing.service.gov.uk/media/66a7da1bce1fd0da7b592f0a/DUKES_2024_Chapter_5.pdf
4 Digest of UK Energy Statistics (DUKES), chpt 5 and SGN analysis

Scotland key facts

1.8 million
properties we serve across the largest area of any UK gas network

57,700
industrial and commercial customers, including distilleries, glass manufacturers and food producers

25,064km
of network pipeline and five standalone networks known as Statutory Independent Undertakings (SIUs)

796
frontline emergency, repair and maintenance full-time equivalents

36%
of gas demand is from multiple occupancy buildings (MOBs)

1 in 3
of customers are in fuel poverty and 451,677 are on our Priority Services Register (PSR)

24
biomethane plants our network is connected to that can supply the equivalent of nearly 198,000 households with green gas

125
apprentices currently being trained

1.1.2 Our network in southern England

Our Southern network serves customers in south and south-east England including London's urban communities, coastal cities, county towns and rural villages. This includes the London Boroughs of Lambeth and Southwark, which are among the top 10 most densely populated areas in the country. Our engineers travel long distances along heavily congested roads to reach the communities they serve, which can make responding to emergencies challenging at busy times.

Many people live in high-rise developments where gas risers serve each storey of the building. Safely restoring gas supplies to these properties following an incident can take longer, and replacing risers on very high buildings can be challenging.

The proportion of households in fuel poverty in the south is the lowest in the country. However, pockets of extreme fuel poverty exist right across the region, where poor housing stock, lower-than-average incomes and a large proportion of off-gas properties are all factors. Parts of Thanet, Hastings, Southampton, Portsmouth, Medway, Folkestone, Hythe, Swale and Dorset are experiencing fuel poverty rates of above 30%.[5]

Our southern region is highly diverse in terms of customers' ethnic backgrounds. The 2021 Census reported that 46.2% of people living in London say they're from Asian, Black, mixed or 'other' ethnic groups. The capital also has the lowest percentage of people with English as a main language at 78.4%. Language and culture are some of the biggest barriers to households in the south of England accessing energy support. These factors can make it more difficult for people to benefit from the support we can offer them to stay safe and warm in their homes.

The job market is highly competitive, and we rely on contractors from across the country to support our frontline teams. This means we need to cover additional costs such as travel, accommodation and extra pay for staying away from home for extended periods. These costs are going up as the need for skilled workers grows across other utilities.

5 Fuel Poverty Rates by LSOA (England), DESNZ, 2024

Southern key facts

4.2 million
properties across the most densely populated area of the UK we serve

130,900
industrial and commercial customers, including the petrochemical sector, building material producers and consumer goods

50,212km
of network pipeline

1,459
frontline emergency, repair and maintenance full-time equivalents

20%
of gas demand is from multiple occupancy buildings (MOBs)

1 in 5
of our customers are in fuel poverty and 840,059 are on our Priority Services Register

18
biomethane plants our network is connected to that can supply the equivalent of 125,000 people with green gas

199
apprentices currently being trained

1.2 Our performance today

1.2.1 GD2 lessons learnt

GD2 has been a challenging period for society as a whole as we emerged from the Covid pandemic, entered a global energy crisis, followed by a cost-of-living crisis. These events have impacted us and our customers and tested all aspects of our business. We have maintained our dedication to our customers, continuing to deliver great customer service and going out of our way to help the most vulnerable. We have also learnt some very important lessons that have directly informed our GD3 plans.

Customer service

We have consistently achieved scores higher than 9 out of 10 for customer satisfaction in both our networks. Scotland has been the best-performing network for customer service for eight consecutive years, which shows that high-quality service is embedded in our working practices. In Southern, where delivering our service can be more challenging, we maintained a mid-ranking position, something we are committed to improving in GD3.

We are leading the industry in reducing complaints and have the lowest number per 10,000 customers of any network. We have focused on getting things right first time, and when complaints are made, we also have the best performance scores for resolving them.

Vulnerable customers

We have helped more than 400,000 vulnerable households use energy safely, efficiently and affordably so far in GD2, which is considerably higher than our original target of 250,000. Our work has enabled our customers to access more than one million unique support services and created at least £48.9m (2023/24 prices) of additional social value, although we understand the actual social return on investment to be significantly higher. We've done this through building an extensive network of partners and working collaboratively to maximise the impact of our funding and targeting it appropriately. This provides a strong platform on which to increase our reach and impact in GD3. However, we do need to address how funding is allocated. At present it is based on customer numbers, rather than level of need. This is particularly important in Scotland because lower temperatures and poor housing stock increase customers' exposure to fuel poverty. In GD3 we want to go further and will focus our funding and support on those that need it most.

Emergency response times

In our Southern network, for the first time in our 15-year operational history, we were unable to maintain our core emergency service standard during the winter of 2022/23, of responding to uncontrolled gas escapes within one hour and controlled gas escapes within two hours, 97% of the time. This was primarily due to extreme recruitment challenges, as a significant number of our frontline workforce retired following Covid, high levels of competition with other utilities and infrastructure sectors for skilled people, and the time it takes to recruit and train new people to a competent level.

Since 2021 we have successfully recruited 600 new frontline employees, who we are continuing to train and develop to the high standards required to work on the gas network. However, it highlights the impact that shortages in key roles can have on the delivery of important safety targets.

In Scotland, we missed our 97% response target for controlled gas escapes during an extreme cold snap in December 2022, where gas escapes were 4.5 times the average of the previous month. We did, however, achieve our target for responding to uncontrolled gas escapes.

This highlighted the importance of being prepared for extremely cold weather and ensuring we have the resources ready for maximum responsiveness, using both our frontline workforce and supply chain partners. As we implement new working conditions, which target a maximum working day of 12 hours to reduce the risk of fatigue-related issues, we must continue to respond rapidly to emergencies. This means we will need to recruit more frontline employees, something that is addressed in SGN-GD3-SD-03: Workforce and Supply Chain Resilience Strategy.

Changing nature of repair work

In GD2 we have seen a significant increase in the volume of Tier 1 gas main repairs that has been driven by weather and updates to processes and procedures that have arisen from safety-related events. The volume has also increased for larger-diameter, Tier 2 and 3 mains. This has been driven by the pace at which mains have deteriorated, exceeding the rate of replacement over previous price controls. This is a trend that will need to be addressed in GD3, by replacing the pipes in the poorest condition in a planned manner to avoid the disruption and additional costs of implementing a temporary repair in an emergency and then having to replace.

Mains replacement

Resource challenges have also impacted on our mains replacement programme in our Southern network. We've been unable to secure enough contractors to deliver our targets and, despite paying a significant premium above GD3 allowances, we are currently forecasting to be 219km short of our overall GD2 target to replace 3,001km Tier 1 mains. We are working hard to make up the shortfall, but there is not the capacity within the market, even with the significantly higher contractor rates being offered. Our costs are currently forecast to be 11% (£113m) higher than the allowances set in our final determination, although they are aligned to the cost we submitted within our original business plan.

The combination of a very competitive labour market from other utilities (telecoms, water and electricity), coupled with a reduction in labour due to both Covid and Brexit, meant that we were exposed to rapidly escalating labour shortages and increasing market prices and had to quickly adapt our procurement approach. This triggered a major effort from the mid-point of year two and throughout year three of GD2 to strengthen the contractor market. However, these efforts were unsuccessful, and our shortfall increased.

The challenging contractor market has been compounded by an increase in the complexity of projects, driven by factors such as multiple road crossings, proximity to schools, areas with working time restrictions and where there are multiple occupancy buildings with complex services. At the end of year three of GD2, we again reformulated our approach to build the contractor capacity and develop longer-term partnerships. This is starting to show progress, but the cost is significantly higher than the allowances that we were awarded, and it is too early to judge the extent to which we will be able to attract new contractors into the market. We will continue to work with our supply chain partners to support delivery in GD3, although the environment will remain challenging.

In Scotland we are expecting to maximise our delivery of Tier 1 mains replacement, to the cap set out within our licence, and anticipate that we will be able to deliver more than our target at a 10% lower cost than our allowance in the final determination.

Given the sharp distinction between our delivery in Scotland and Southern, there is an overwhelming case for the urgent re-evaluation of the costs of doing business in the south of England relative to other parts of Great Britain, as well as a review of the cost assessment process used to determine allowances so mains replacement in our Southern network does not become undeliverable in GD3. Evidence of contractor cost differentials between Scotland and Southern is provided as a part of this submission in SGN-GD3-SD-08: Cost Assessment and Benchmarking.

Innovation

We have been leading the way and collaborating with the other GDNs to generate evidence to inform the Department of Energy Security and Net Zero's (DESNZ) future decisions on heat policy. Our focus has been on demonstrating that our gas networks could be safely converted and transitioned to carry hydrogen as a potential future solution to heat homes and businesses. Of the nine critical areas identified by the Health and Safety Executive (HSE) for policy decisions we have focused on network suitability (material and components), risk assessment, capability and training, and standards and procedures in the first three years of GD2. We will focus on the evidence base for conversion strategy, risk assessment and controls in the remaining two years.

Key projects in the delivery of this evidence base are our H100 Fife and LTS Futures projects, both of which are sector-leading. LTS Futures demonstrates the ability of the Local Transmission System (the high-pressure pipelines that connect the national transmission systems operated by National Gas to the local distribution system) to safely and reliably transport hydrogen. The popularity of the H100 project in the local community in Fife demonstrates how important customer engagement and customer choice is when providing alternative decarbonisation pathways. H100 will demonstrate the ability for local customers to safely use hydrogen in their homes on a daily basis.

We have also progressed projects including biomethane improved access, remote pressure management and gas escape reduction. These have helped to successfully bridge the gap between innovation and commercial deployment.

Dedicated innovation funding has provided flexibility to respond as costs change in the commercialisation of technology and has enabled delivery of projects where there are no or limited financial benefits, but very substantial environmental benefits.

Safety

Our PROTECT Brand was launched in 2023, with a focus on 'Zero Harm, Zero Exceptions' to work towards the objective that we should be operating as an organisation without harm to the public or ourselves every day, all the time. We are measuring our progress using the Hudson Safety Cultural Maturity Model where independent experts assess our cultural safety across Leadership and Commitment, Management Behaviours, Employee Responsibility, Engagement in Safety Improvements and Communication, Education, and Resources. We were independently assessed in 2024 to be at level 3. Our objective is to reach a level 4 safety culture and move towards level 5.

Environment

We are making good progress in reducing our Business Carbon Footprint (Scope 1 and 2 including shrinkage). Key to this progress is the reduction of scope 1 shrinkage, which is mainly due to the mains replacement programme. In both networks we have been unable to achieve our aspirations of replacing our commercial fleet with electric vehicles, as a result of market availability and supply. This has had a knock-on impact on our business carbon footprint reduction, but we are still expecting to meet our targets.

Cyber security

Over GD2 the risk of a cyber incident has increased significantly due to the war in Ukraine and more sophisticated cyber crime methods. We have significantly scaled up our investment in this area to reflect to the increased threat posed to protect our assets and our customers.

Cyber security is a core focus and highly monitored business risk for our Executive and Board. During GD2 we have developed and enhanced our cyber security through a well-defined investment programme. In March 2023, we self-reported our compliance with the Cyber Assessment Framework (CAF) basic profile and our plans will enable us to achieve the Enhanced CAF profile by 2027.

As we look towards GD3, cyber-risk continues to be a significant threat to the resilience of Great Britain's energy sector and our customers. We have detailed and well-evidenced plans that continue to provide our current levels of cyber-resilience and prepare for emerging risks.

1.2.2 Delivery against our licence obligations, ODIs and PCDs

The table below shows our performance against our licence obligations, output delivery incentives (ODIs)[6] and price control deliverables (PCDs)[7] across the GD2 period.

Table 1a: SGN performance against licence obligations (LOs), GD2 ODIs and PCDs

Outputs Summary		SC	SO
Meeting the needs of consumers and network users			
LO	Consumer vulnerability minimum standards	🟢	🟢
LO	Guaranteed Standards of Performance (GSOPs)	🟢	🟢
LO	Emergency response time (Uncontrolled)	🟢	🟡
LO	Emergency response time (Controlled)	🟡	🟡
LO	Digitalisation Strategy and Action Plan	🟢	🟢
LO	Annual Environmental Report	🟢	🟢
LO	Holder demolition	🟢	🟢
ODI-F	Customer satisfaction survey	🟢	🟢
ODI-F	Complaints metric	🟢	🟢
ODI-F	Unplanned interruptions	🟡	🟡
ODI-F	Network Asset Risk Metric	🟢	🟢
ODI-F	Deliver an environmentally sustainable network	🟢	🟢
ODI-F	Shrinkage and environmental emissions	🟢	🟢
ODI-F	Collaborative streetworks	🟢	🟢
ODI-R	Consumer vulnerability reputational incentive	🟢	🟢
ODI-R	Fuel Poor Network Extension Scheme	n/a	n/a

Outputs Summary		SC	SO
Deliver an environmentally sustainable network			
ODI-R	Shrinkage and environmental emissions	🟡	🟡
ODI-R	Business Carbon Footprint (BCF) reporting	🟡	🟡
PCD	Commercial Fleet EV PCD	🔴	🔴
PCD	Gas escape reduction	🟢	🟢
PCD	Biomethane improved access rollout	🟢	🟢
PCD	Intermediate pressure reconfigurations	🟢	n/a
PCD	Remote pressure management	n/a	🟢
Maintain a safe and resilient network			
PCD	Repex - Tier 1 mains replacement	🟢	🔴
PCD	Repex - Tier 1 services	🟢	🔴
PCD	Capital projects	🟢	🟢
PCD	NARMs	🟢	🟢
PCD	Cyber-resilience OT	🟢	🟢
PCD	Cyber-resilience IT	🟢	🟢

🟡 **Either missed a single year or at risk of missing final year**

🔴 **Expected to miss final year**

🟢 **Achieved or expected to achieve all outputs.**

Source: SGN

The table shows that we are performing strongly in most areas including customer satisfaction, supporting vulnerable customers, managing the risks associated with our network assets and increasing biomethane access. However, there are some areas where we have fallen short in GD2 to date. These include emergency response time, Repex delivery in our southern network and the roll out of electric vehicles (EVs).

Further details on these areas can be found in the earlier GD2 lessons learnt section.

6 ODIs include ODI-Fs which have a financial reward / penalty and ODI-Rs which are reputational.

7 Price Control Deliverables are mechanisms to capture specific outputs that have been funded through the price control.

1.2.3 Delivery against GD2 commitments

In our GD2 business plan we made eight commitments in addition to our licence obligations, ODIs and PCDs, shown in the table below.

Table 1b: SGN performance against GD2 commitments

GD2 Commitment	Expected Delivery	Observation
1. We will make a positive impact by helping 250,000 vulnerable customers to use energy safely, efficiently and affordably.	✓	By the end of year three we have helped 403,717 access over 765,000 unique services delivering a social value benefit of £43.4m (23/24 prices).
2. We will make a positive impact by providing a great service to our customers, keeping up our efforts to deliver industry-leading customer experience and achieving customer satisfaction scores higher than 9 out of 10.	✓	For three years of GD2 to date, Scotland and Southern have scored over 9 out of 10 for customer satisfaction. Scotland has been #1 for customer satisfaction eight years in a row.
3. We will deliver a safe and efficient service by keeping our network as safe and resilient as it is today.	✓	As measured through NARMs we have exceeded our commitment to maintain the level of risk across our network.
4. We will deliver a safe and efficient service by reducing like-for-like customer bills.	✓	In real terms (i.e. excluding inflation) our bills have reduced from an average of £147 per household in GD1 to £127 per household in GD2.
5. We will deliver a safe and efficient service by facilitating fewer interruptions to customers' supplies as a result of third-party damage, working collaboratively towards a 15% reduction.	✓	We have delivered a 16.5% reduction in third-party damage, compared with 2018/19.
6. We will build a shared net-zero future by helping the UK Government create a future for heat that is sustainable, affordable and reliable, building impartial evidence from 100% hydrogen demonstrations.	✓	Our evidence delivery team has taken a leading role in delivering approximately 80% of the hydrogen heating evidence from the industry to the HSE and the Department of Energy Security and Net Zero (DESNZ) to inform the 2026 heat policy decision.
7. We will build a shared net-zero future by increasing the amount of greener gas in our network, to supply the equivalent of 450,000 households.	✓	We have connected sufficient biomethane capacity to supply the equivalent of 323,000 domestic properties. We are optimistic we can reach the ambition of 450,000, with seven key sites expected to connect during the remaining GD2 time frame.
8. We will build a shared net-zero future by reducing our total carbon footprint by more than 25% from 2018/19 levels.	✓	To date there has been a 21% reduction compared with our baseline year and we anticipate meeting our target. This reduction has been due to the decommissioning of the turbo expander rather than the anticipated delivery of electric vehicles.

Source: SGN

The table shows we are on track to deliver all eight commitments and provides commentary against each. These demonstrate the progress that we have made to deliver excellent customer service and create additional social value for our most vulnerable customers.

1.2.4 Delivery against our cost allowances

The tables below show our actual expenditure against allowances, updated for our latest reopener submissions. In Scotland we are performing well against our allowances, delivering outputs and spending £53m less. In Southern we anticipate we will spend £188m more than our allowances against a lower output delivery. At a combined SGN level we have spent £135m (4%) more than our latest view of our allowances.

Table 1c: Allowances GD2 vs Actual Scotland

£m (23/24)	21/22	22/23	23/24	24/25	25/26	Total
Totex	184	207	246	297	254	**1,188**
Allowances	237	253	248	252	251	**1,242**
Difference	**53**	**46**	**2**	**-45**	**-3**	**53**
Variance	23%	18%	1%	-18%	-1%	**4%**

Source: SGN 22/23 RRP submission with latest Sept 24 reopeners adjusted to 23/24 real price base

Table 1d: Allowances GD2 vs Actual Southern

£m (23/24)	21/22	22/23	23/24	24/25	25/26	Total
Totex	385	432	525	610	545	**2,498**
Allowances	444	454	465	472	475	**2,310**
Difference	**59**	**22**	**-61**	**-139**	**-70**	**-188**
Variance	13%	5%	-13%	-29%	-15%	**-8%**

Source: SGN 22/23 RRP submission with latest Sept 24 reopeners adjusted to 23/24 real price base

The additional expenditure faced in our Southern network and the contrast to our Scotland network highlights the unique cost pressures in southern England due to the shortage of labour, brought about by Brexit, Covid, increased activity in utility sector and the cost-of-living crisis.[8]

The south-east has some of the lowest unemployment rates.[9] It also has the lowest proportion of jobs in key labour categories, such as skilled trades and machinery operators, in the country. At the same time, construction job vacancies have almost doubled from 23,000 vacancies per month during GD1 to over 40,000 vacancies per month during the GD2 period to date.[10]

Looking forward, the pressure in our Southern network will increase with London, the south-east and south-west forecast to have the greatest infrastructure investment,[11] maintaining a disproportionate upward pressure on costs.

Reflecting on GD2 demonstrates the different challenges that exist across the country. The cost of efficiently completing work in our Southern region is significantly greater than in Scotland. These factors drive real and significant cost pressures which must be allowed for.

8 Source: FT 'Britain has big infrastructure plans but where are the workers?' 04/06/24 https://www.ft.com/content/d0f12c74-a01e-4157-980a-c3fb3c52565c
9 Source: ONS Labour market statistics https://www.nomisweb.co.uk/default.asp - SGN analysis (utilising SOC Major groups 5, 8 and 9, available data 2021-23)
10 Source: ONS Construction Market Vacancies https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/timeseries/jp9l/lms
11 Source: Analysis of National Infrastructure and Construction Pipeline 2023, 02/02/24 https://www.gov.uk/government/publications/national-infrastructure-and-construction-pipeline-2023/analysis-of-the-national-infrastructure-and-construction-pipeline-2023-html

Chapter 2: Understanding customer and stakeholder priorities

In this chapter we present our approach to customer and stakeholder engagement and how it has informed our GD3 plan. This highlights that:

1. **We have developed a sector-leading approach to customer and stakeholder engagement.**
2. **Deep insight into customers' and stakeholders' priorities and preferences have informed our plan.**
3. **They expect us to maintain our network and invest where needed to keep it safe.**
4. **They want us to increase investment in low-carbon energy solutions and to protect the environment.**
5. **They are asking us to invest more to support the most vulnerable customers.**

Today more than ever we need to listen and respond to our customers' and stakeholders' priorities. The impact of the cost-of-living crisis, experience of life during a pandemic and the visible evidence of climate change has influenced many people's views and our Business Plan should reflect what matters to them most.

To develop a plan that meets our customers' and stakeholders' needs, we have carried out our most extensive programme of engagement to date. The insight we have gathered confirms that the safety and reliability of gas supplies is of highest importance and investment must be maintained so standards don't fall. They want us to focus additional investment on low-carbon energy solutions, supporting vulnerable customers and improving the environment.

Their priorities are reflected in our plan and customer and stakeholder insight has informed our investment decisions, including the trade-offs we have made to ensure our plan continues to deliver value for money. In this section we summarise our approach to engagement and how we have worked with our Independent Stakeholder Group (ISG) to develop our plan. We also summarise how insight has informed our plan.

2.1 Customer and stakeholder engagement approach

2.1.1 Our engagement programme

Understanding what people want from our service is a critical part of both our long-term planning and improving our day-to-day services. We have used insight from more than 11,000 engagements with customers and stakeholders to inform our GD3 plan and ensure it delivers the outcomes customers want. Our customer research programme has been the most extensive we have ever carried out and was shortlisted in the Market Research Society Awards 2024.

We designed our programme using key learnings from GD2 and the following best practice methodological considerations:

1. **Deliberative research** – giving participants sufficient information and time to fully consider issues and contribute a considered response.
2. **Minimising cognitive biases** – through effective design and testing.
3. **Fuel-poor representation** – to ensure the views of customers who struggle to pay their gas bills are accounted for and feed into our Business Plan (we ensured 50% of domestic customers we engaged with were in fuel poverty).
4. **Innovative design** – using pioneering techniques to achieve research and engagement objectives in the most effective way.
5. **Transparency** – being open with customers and stakeholders.

Insight has been gathered through a four-stage programme involving customers and stakeholders. The figure below summarises our programme and references the relevant reports. This engagement inventory can be found on our dedicated engagement site, a central repository of customer research reports and stakeholder engagement.

Figure 2a: SGN customer and stakeholder engagement approach

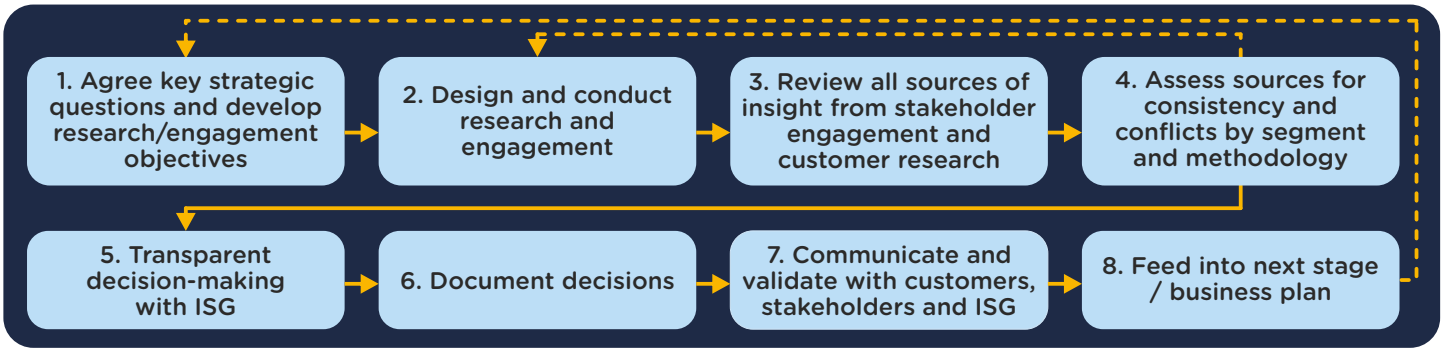
	Stage 1	Stage 2	Stage 3	Stage 4
Customer and stakeholder engagement programme	**Stage 1:** Listening to underpin plan creation July 2023 – December 2023	**Stage 2:** Test and iterate October 2023 – April 2024	**Stage 3:** Consult March – July 2024	**Stage 4:** Refine September – October 2024
Objectives	To understand customer and stakeholder priorities to shape decision-making in the creation of our draft business plan	To support the development of detailed elements of our business plan	To shape a draft of the business plan and understand any areas of concern	To test any further amendments proposed by customers, stakeholders, Ofgem and ISG
Stakeholder events and reports	Annual stakeholder satisfaction survey (Ref 222, 346) Broad stakeholder event (Ref 245)	Specialist stakeholder roundtables: • Vulnerability (Ref 248) • Safe and warm (Ref 250) • Network (Ref 252) • Environment (Ref 253) • Future of energy (Ref 268)	Broad stakeholder events (Ref 317) Specialist stakeholder engagement: • Biomethane survey (Ref 311) and event (Ref 324) • Safe and warm (Ref 312) • Third-party connections survey (Ref 310)	Broad stakeholder event (Ref 367)
Consumer research methodology and reports (domestic, fuel-poor, SME and future customers)	**Phase A** Priority refresh (Ref 254) • Deliberative workshops • Panel of 100 customers **Phase B** Customer prioritisation research (Ref 266) • Online Max Diff survey • 3,001 customers	**Phase C** Willingness to Pay (Ref 316) • 3,000 customers • Adapted Van Westendorp Price Sensitivity Meter using three key metrics • Bill impacts based on profiling usage questions to give a more accurate estimate of bill impact	**Phase D** Shaping the plan (Ref 333) • Deliberative workshops • 100 customers Focused on the three priorities identified at the first stage where there was greatest appetite for investment	**Phase E** Acceptability testing • Online survey (Ref 365) with Panel X • Deep-dive follow up focus group (Ref 366)	**Phase Y** Citizens' Jury • 24 participants from Panel X • Quarterly meetings started October 2024 Maintain transparency in the ongoing development and delivery of our plans
	Phase X - Monthly engagement with ongoing informed panel (Panel X) of 100 customers set up at phase A • Fortnightly tasks (polls and surveys) (Ref 269, 270, 275, 330, 331, 332, 347, 348)				

Source: SGN

2.1.2 Triangulation of evidence and cross-checking

The insight we have gathered through our engagement programme has been compiled in an 'Insight Bank', which is a triangulated summary of the insight. We developed a triangulation process, shown in the figure below, to assess multiple sources of customer and stakeholder insight to provide a more calibrated and evidence-based approach to business plan development. This process weighs up whether all groups should be treated equally or more emphasis placed on some than others (e.g. stakeholder experts or those customers who are disproportionately impacted).

Figure 2b: Triangulation – Overview of decision-making process



Source: SGN

2.1.3 Informing decision-making

The triangulated insight has informed our plan development. We have evidenced how we have responded to customer and stakeholder insight in our Insight Inventory. This includes how the insight has informed the commitments we have made in GD3 and areas of investment. This has been shared in full with our ISG, who have challenged us on our investment decisions to ensure that our plan delivers for our customers while maintaining a share of the bill that remains affordable, particularly for those who are struggling financially.

2.1.4 Role of our Independent Stakeholder Group (ISG)

The ISG is a fundamental part of our decision-making process.

It was known originally as the Consumer Engagement Group, formed in September 2018 to support the GD2 business plan. We have maintained it since then and it continues to add significant value to our business. It is made up of eight expert stakeholders with a broad and in-depth knowledge of the gas industry, consumer affairs, fuel poverty, environmental matters and the regulatory process.

The ISG's role is to ensure we engage widely and openly with stakeholders and act on the input we receive, while also providing challenge and scrutiny during our business plan development and its delivery.

To ensure they have full access to our thinking, we created a buddying programme between ISG members and our subject matter experts, to provide early insight into the main areas of our plan and provide an opportunity for regular review and constructive challenge throughout the process.

ISG feedback and challenge has played an integral role in shaping our thinking and our proposals. In addition to this valuable ongoing process, the ISG have also produced more formal feedback, which we have responded to as we developed our plan. We consider we have responded comprehensively to all the ISG's concerns, although we recognise there are areas in which some members of the ISG would have welcomed even more ambitious plans.

The Chair has had direct access to our CEO and has attended meetings with the Board. The ISG's statement can be found in Document SGN-GD3-SD-04: Statement from Independent Stakeholder Group Chair.

We have been transparent with customers and stakeholders involved in our engagement plan. We have been open about current performance and challenges, and where it was not possible to act upon their feedback, we explained the reasons for this.

A survey conducted at the end of the second deliberative phase demonstrated the high levels of transparency, with 92 out of 97 saying they felt we had been open and transparent about our plans. Also, 95 out of 97 said they felt their opinions and feedback were listened to throughout the project. We have shared our research and engagement reports on our dedicated engagement site.

2.2 Our customer priorities and how they have shaped our GD3 plan

Stage 1 of our research and engagement programme involved revisiting the seven priorities identified in GD2 to understand levels of relative importance to customers and their appetite for more investment. An overview of this and how it compared with GD2 is shown in the figure below.

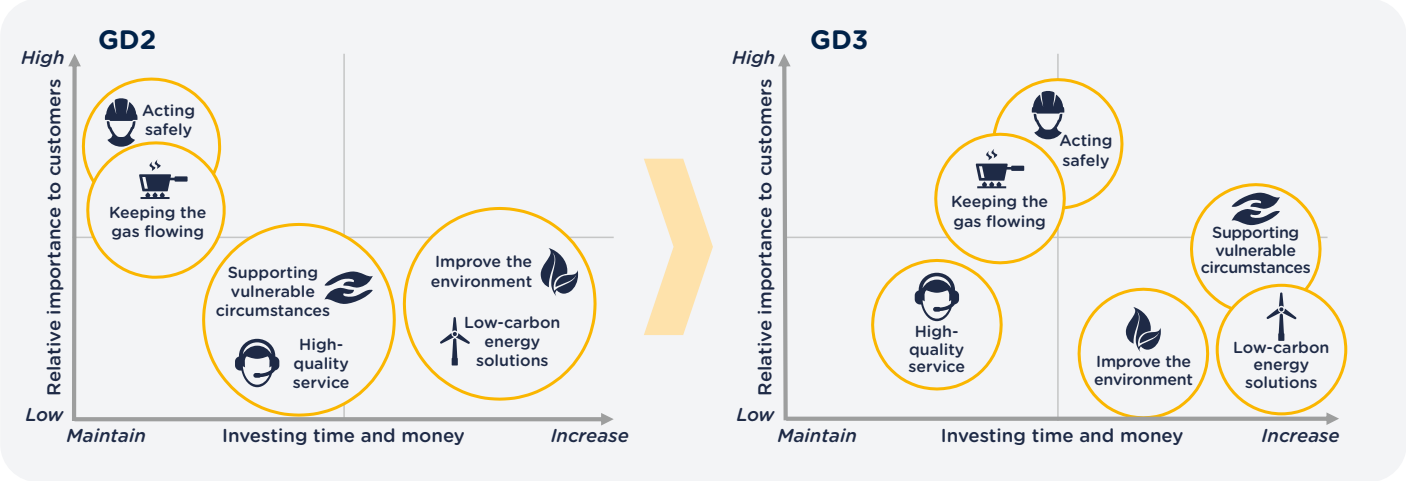
The figure shows us what customers deem to be most important (vertical axis) against the areas where they show a greater appetite for investment, in terms of our time and money (horizontal axis). Priorities to the left mean maintaining current levels. Those to the right indicate where they think we should focus more effort.

Safety and keeping the gas flowing remain a top priority for us, our customers and stakeholders, and it remains at the heart of our plan. Supporting customers in vulnerable circumstances has increased in both importance and appetite for more investment. Low-carbon energy solutions has maintained its position as an area where customers expect us to invest more time and money. Improving environmental performance has seen a slight decrease in appetite for investment. This includes reducing gas leakage which was deemed by far the most important area where we need to improve our environmental impact, which we deliver through replacing gas mains and investment.

Customer priorities

- Receive a high-quality service
- Keep the gas flowing
- Act safely
- Support people in vulnerable circumstances
- Improve the environment
- Develop low-carbon energy solutions
- Affordable bills

Figure 2c: Customer priorities in GD2 and GD3



Source: SGN Insight Bank

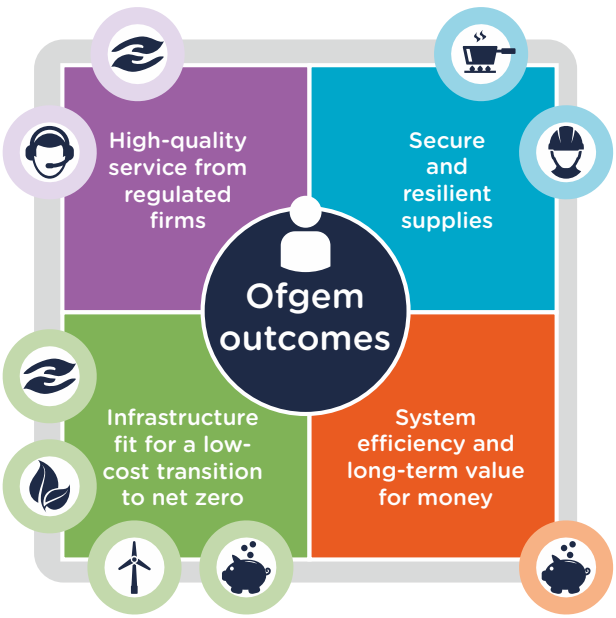
Affordable bills was tested separately through willingness to pay and deliberative affordability and acceptability research.

2.2.1 Aligning customer priorities with Ofgem's GD3 outcomes

Ofgem has identified four outcomes that consumers and network users would expect all network companies to deliver during RIIO-3. It builds on the approach taken at RIIO-2 and reflects its Consumer Interest Framework, to ensure customer priorities remain at the heart of our decision-making.

We have mapped the customer priorities identified by our own research and stakeholder engagement to Ofgem's outcomes to ensure that our GD3 plan reflects what matters most to customers. As can be seen in figure 2d, there is clear alignment, with some customer priorities crossing more than one of Ofgem's outcomes.

Figure 2d: Ofgem's outcomes mapped to our customer priorities



2.2.2 How insight has been used to develop our plan

Having understood our customers' priorities and identified where they were supportive of more investment, we explored in more detail the relative appeal of specific initiatives within these areas through stages three and four of our engagement programme. The insight we gathered was triangulated and used to inform our GD3 decision-making.

Below we provide a high-level summary of how customer and stakeholder insight has informed our plan for six of our customer priorities. Affordable bills is covered in the following section. Further detail can be found in SGN-GD3-SD-12: Stakeholder Engagement and Decision Log and in our Insight Inventory.

Triangulated customer and stakeholder insight summary	How we have responded in our GD3 business plan
Act safely	
– Acting safely is consistently rated the most important – Most feel that maintaining the current level of investment is sufficient. If more investment is needed to ensure safety levels don't fall then it should be made – Support for the recruitment and training of engineers to ensure a safe network – Support for using latest technology to install and repair gas pipes more quickly	– Plan has been developed with safety and resilience at the core of investment decisions – Commitment to maintain our network, so there is no deterioration in its performance or reliability – Commitment to continue to look after the health and safety of our employees by targeting a maximum working day of 12 hours by the end of GD3 – Commitment to employ at least 50 apprentices per year
Keep the gas flowing	
– High priority ranked second by customers and third by stakeholders. It's seen as core to our role – Lower priority for more investment, as most consider we are doing a good job – Support for the ongoing programme of pipe replacement at current levels – National stakeholders raise concerns about the resilience of the network in future, driven by the uncertainty around the future of gas, geopolitical changes and extreme weather	– Mandatory Repex programme to continue in line with the HSE requirements – We will replace 327km of mains and 10,500 steel services not included in HSE-enforced mains replacement programme but where we consider asset deterioration will lead to an increased risk of failure – Surveys to identify pipes at risk due to river flooding so we can mitigate and intervene early – Commitment to introduce a measure for climate resilience and establish a standard baseline from which to improve over the course of GD3
Support people in vulnerable circumstances	
– Highly important and a high priority for more investment – Our plans are going in the right direction and have the right level of ambition – Support from stakeholders for provision of first-time heating systems. A minority questioned if it is aligned with net zero – Stakeholders strongly supported our initiative to maintain/repair/replace gas boilers and appliances	– Commitment to help at least 650,000 households in the most vulnerable circumstances in GD3 – Included circa £16m funding within BAU with circa £43.5m from the VCMA allowance that will be targeted at those most in need – Commitment to maximise the social return on investment for every £1 invested through the VCMA programme, while always prioritising the needs of vulnerable customers

- Strong support from stakeholders for on-site community support during supply interruptions
- Recognition of the importance of early identification to provide support to vulnerable customers
- Support for us to strengthen our vulnerability partnerships working with those that have expertise in certain areas, 50/50 split of funding seen as about right
- Some question whether it is efficient for us to act as a middleman in the distribution of funds

- All frontline employees will be trained to help them identify and support vulnerable customers
- A portion of VCMA allowance will be used to maintain/repair/replace gas boilers and appliances
- Continue to improve our on-site support through our Safe and Warm team during interruptions
- Continue to work with partners through our established community network and provide evidence to maintain GD2 levels of funding within GD3

Receive a high-quality service

- Recognise excellent service as important and is a mid-ranking priority
- Lowest priority for new investment due to limited personal contact with us
- Minimising roadworks through more joined-up work with councils and other utilities is seen as an important and sensible initiative and should be business as usual
- Keeping pace with new technology in customer services is seen as 'nice to have' but not essential and some concern around new technology excluding vulnerable customers
- Ensuring customers can access real-time information is a lower priority than other initiatives

- Commitment for both networks to be in the top three for customer service by the end of GD3
- Commitment for both networks to be in the top three for fewest complaints per customer throughout GD3
- Build upon our award-winning collaborative streetworks ODI in GD3 with ambition to increase collaboration across more projects
- Core innovation to support the rollout of new technology that would provide more efficient customer support and help improve the speed of our response
- Although real-time data is not a priority, we are embracing open data where appropriate, e.g. for whole-system planning and engagement with the RESP

Develop low-carbon energy solutions

- Lower importance but highest priority for investment
- Our plans are going in the right direction and have the right level of ambition
- Positivity towards biomethane as a proven technology that can be implemented quickly. Some concerns it is short-term solution
- Strong support for hydrogen blending as an immediate action and stepping stone to full hydrogen
- Rigorous safety testing and customer engagement must be carried out
- Full hydrogen expected to have more potential for I&C customers, lower priority for investment but support for trials to inform government policy
- Strong support for whole-systems approach so energy transition is fair and affordable for all customers and not a 'postcode lottery'

- We will contribute to the development of the Regional Energy Strategic Plans (RESPs) and relevant local authority energy plans in Scotland and the south of England
- Commitment to work collaboratively to maximise biomethane injection and reduce connection times for producers to provide the capacity to transport it to the equivalent of one million homes
- Commitment to transport locally produced biomethane to Wick and Thurso SIUs to replace liquified natural gas supplies
- Commitment to complete the evidence for hydrogen blending in the first two years of GD3
- Propose to progress Edinburgh pipeline project to introduce blended hydrogen, working closely with customers and stakeholders

- Strong support for us championing a fair and affordable clean energy transition. Some were sceptical if it's realistic and affordable.
- Undecided about how costs should be split between current and future customers, taxpayers and polluters
- Support for us to train and develop more engineers to deliver future energy plans

- Propose to progress 'real-life' transition of a multiple occupancy building, assessing alternatives to natural gas, working closely with customers and stakeholders
- Work on blended hydrogen will support evidence for full hydrogen use
- Plan to improve our understanding of consumer needs to support the transition, including the needs of different users, regional variations and societal and consumer vulnerability impacts

Improve the environment

- Important to customers but of lower importance than other priorities. Third highest priority for more investment
- Our plans are going in the right direction, some stakeholders think we should be more ambitious
- Methane leakage reduction is the priority
- Replacing old pipes and using technology to detect leaks and reduce pressure is welcomed
- Some concerns about ensuring new technology is proven first, eliminating cyber security risks and ensuring there are skilled resources to implement them
- Reducing our business impact seen as good practice but lower impact by comparison
- Differing views on EV use but support, on balance, where practicable
- Support to improve climate resilience although less urgent than tackling methane leaks

- We have a licence obligation to produce an Annual Environmental Report that tracks our progress across industry key performance indicators (KPIs)
- Delivery of our mains replacement programme will help to reduce methane leakage
- Propose to increase methane detection activity using new technology that has been trialled in GD2
- Propose to roll out new pressure-management technology, building on our work in GD2
- Dedicated funding to increase cyber security in line with NSIP requirements
- Ultra Low Emission and EV vehicles will be progressed where efficient and practical to do so

Throughout our Business Plan and strategy documents, we reflect how customer and stakeholder insight has shaped our decision-making.

2.2.3 Balancing investment with affordable bills

We know that affordability is a concern for many people and have worked hard to ensure our plan delivers value for money. We conducted robust research on how much customers are willing to pay and deliberative research on the acceptability of our plan. This showed that if our share of the bills rose to above £200, a quarter of fuel-poor customers would find it 'unacceptable', while two thirds considered it as 'getting expensive but still acceptable'. Likewise, our acceptability testing showed that a bill of £198 was not considered good value for money by half of fuel-poor customers.

We have responded to this by challenging ourselves to focus on the projects that prioritise safety and resilience, while delivering most value to our customers. This has resulted in a more modest rise of £28 per year, which would take our share of the bill to £178 per year of our GD3 plan across both networks, which is lower than in GD1. This was considered to be 'acceptable' or 'getting expensive but still acceptable' by 82% of fuel-poor customers.

However, we recognise that many will struggle to pay. To help them, we will target our support to those in most financial need to help them manage the challenge of rising bills, working with our network of extensive partners including debt advice and income-maximisation experts. Further details on our costs and bill impacts can be found in Chapter 9: The cost of our plan.

Customers in recent deliberative research welcomed our response, believing it demonstrated transparency and that we are listening to their concerns. We will continue engagement with our citizens' jury as we deliver our plan to maintain this transparency and keep listening to their views.

Chapter 3: Our GD3 outcomes and commitments

In this chapter we set out our GD3 outcomes and commitments which:

1. **Align our customer priorities with Ofgem's regulatory outcomes.**
2. **Include 15 outcomes that we will achieve in GD3, supported by 21 ambitious commitments.**
3. **Are directly informed by our customers and stakeholders and are stretching in the areas they expect us to progress.**
4. **Deliver value to our customers over and above our base plan.**

3.1 Delivering for all our customers

Our GD3 plan is focused on delivering for all our customers. It fully reflects our purpose of serving our communities by keeping everyone safe and warm. We are committed to being a leader in safety, value for money and customer service, while also accelerating the decarbonisation of our network to give our customers access to affordable low-carbon energy.

We have developed a deeper understanding of our customers' energy needs and recognise there are important differences between domestic, industrial and commercial customers. Everyone must be given choice in how they heat their homes and power their businesses as we transition to net zero, which includes relying on our network for a resilient and dependable supply of energy. People must be treated fairly in the transition, so those who are most vulnerable do not carry the burden.

We will work with others involved in producing and supplying energy to help define the transformation required. We will also continue to engage extensively with all energy users, so their needs are understood and met, and we reflect regional differences across our network.

Figure 3a: SGN's values

Source: SGN

3.1.1 Industrial and commercial (I&C) customers

Ofgem's new 'net zero' and 'Growth' duties means we need to support I&C customers on a pathway to decarbonisation that enables them to grow, remain competitive and use clean energy by minimising the cost and using existing assets and equipment.

I&C customers account for 40% of the gas demand through our network. That energy is delivered through the same network of pipes that supplies household customers. Our research[12] with these businesses demonstrates how critical our

network is, with three quarters of those we engaged with reporting that a constant and uninterruptible gas supply is crucial for their business operation and half saying they would feel major business disruption and negative financial impact within one hour if their gas supply was interrupted unexpectedly. The majority of these firms see changes to the future gas usage as a longer-term issue. Nearly two thirds of customers do not expect their natural gas use to change in the next year. Over the next five years, half expect it to reduce while 12.5% expect it to increase, demonstrating their ongoing reliance on our network.

Nine in 10 organisations have decarbonisation plans in place, in development or under consideration. Overall, driving

12 SGN Insight Inventory, Source: 368 SGN I&C Large gas users research

energy efficiency is firms' most widespread route to reduce their carbon footprint. However, nearly 50% said that switching to carbon-neutral fuels was either their main route or part of their plan to decarbonise. Of these, 30% mentioned hydrogen (either alone or in combination). Other measures included electrification, carbon capture and process changes. This demonstrates the importance of taking a whole-systems approach to the energy transition.

The main perceived challenges around decarbonisation are financial, but many other factors come into play including insufficient development or guidance on alternatives.

"Everyone has got to do their bit in the process... we cannot just rely on the government... they set the direction, and we have to invest time and money ourselves. We require networks and consumers to do their bit too."

Electricity generation company

Decisions taken on behalf of the domestic consumer will have a direct impact and consequence for I&C customers and the regulatory process has historically placed less attention on them. The costs of such decisions can fall disproportionately on the I&C customer base due to their higher level of annual consumption.

More than 90% of those we engaged with believed their organisation should be responsible for determining when and how to reduce natural gas usage through a switch to a zero-carbon energy source. However around 80% recognise that decisions relating to the transition sit with the energy regulator/provider. Crucially, some I&C customers will find it hard to decarbonise by migrating to other forms of heat, as they need the intense temperatures that only gas can deliver. As we green our network with biomethane and hydrogen blending, we will need to work closely with them to ensure the nature and thermal properties of the gases continue to meet their requirements.

Our I&C research has informed some of our core commitments, including maintaining the performance and reliability of our network, carrying more biomethane and establishing processes to enable the blending of hydrogen.

We know that the I&C customer base can also be characterised as 'hard to reach' given the unique characteristics of each business. Many companies focus on the immediate future and prioritise short-term financial resilience. We are increasing our engagement with these important customers so we understand their needs and can support them through the energy transition.

3.1.2 Domestic customers (current and future)

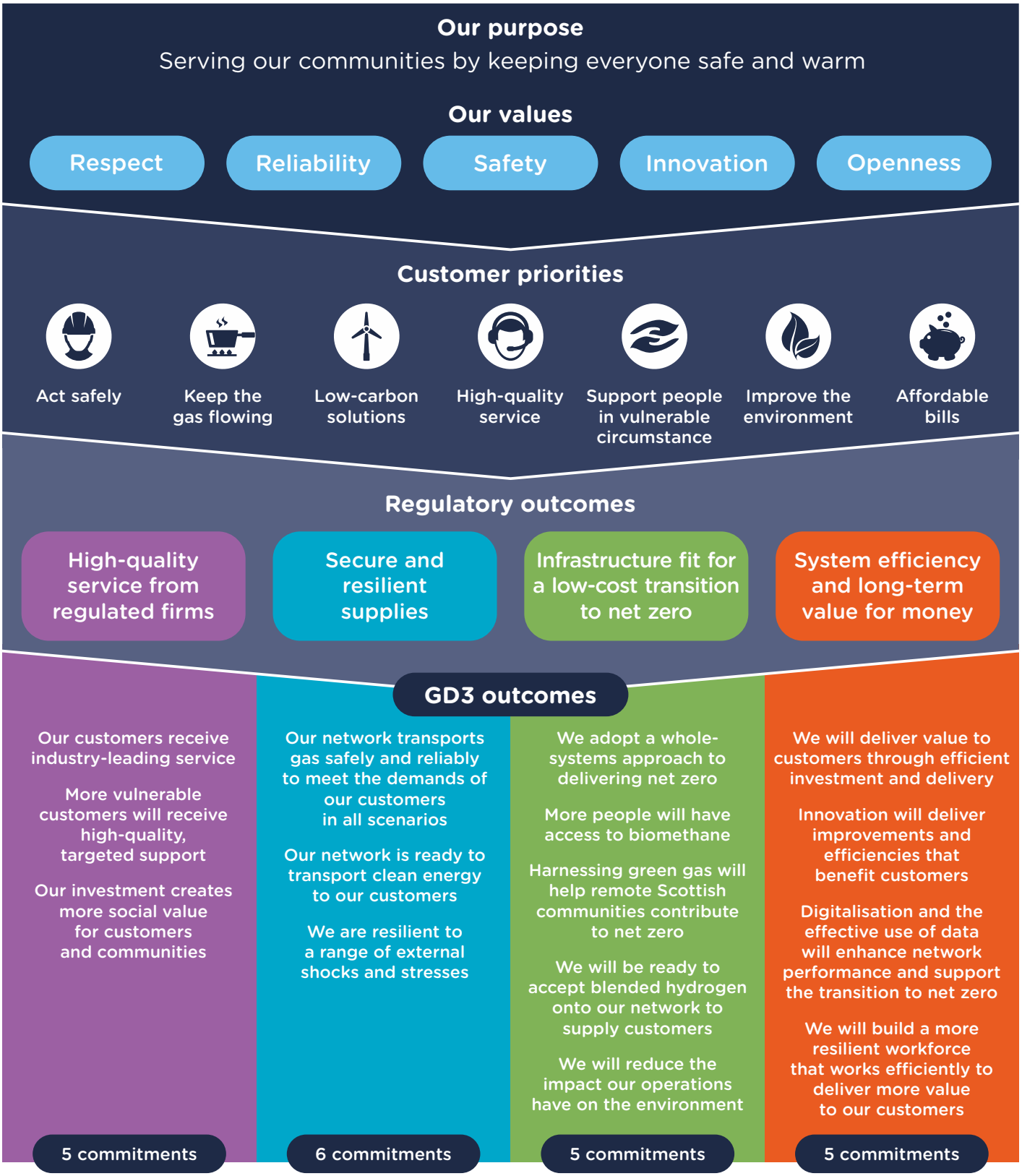
We will continue to deliver a safe and reliable service to our customers and make a positive impact in the communities we serve, building on the strong foundations we have embedded throughout GD2. We will ensure that our customers continue to influence our key decisions and priorities for GD3, particularly where our network will play a key role in ensuring a just transition for our customers.

Our extensive customer engagement programme has given us a much deeper understanding of our domestic customers' needs and has reflected the views of those who are fuel-poor and those who will be our customers of the future. We will build on this in GD3, maintaining regular engagement and monitoring changes in customers' priorities.

We need to ensure we take a customer-focused approach to decarbonisation and in GD3 we will develop a deeper understanding of customers' needs with extra focus on those who are most vulnerable. Customers in rented, poorly insulated or space-constrained properties or with less disposable income are likely to remain on the gas network and face increasing exposure to high costs compared with wealthier households that can transition away from gas more easily.

We want to ensure that all our customers have a choice in how they deploy low-carbon heating solutions regardless of property type or financial circumstances. In GD3 and beyond we will support a pathway that enables all customers to transition in an affordable manner, led by customer choice and customer demand without leaving the most vulnerable customers behind.

3.2 Our GD3 outcomes



Our plan sets out a number of outcomes that will be achieved in GD3 and 21 commitments that we will aim to achieve and report on throughout the five-year period. These are aligned with Ofgem's regulatory outcomes and reflect our customers' priorities.

We have used insight from customers and stakeholders to inform our commitments. In areas of high importance to our customers we are showing more ambition, so we meet their needs and expectations. Our commitments are underpinned by robust delivery plans and will be funded by the allowances requested in our GD3 plan. Further details about our commitments and how we will deliver them are set out in Chapters 4 to 7 and our supporting strategy documents.

3.2.1 Our GD3 commitments

SGN RIIO-GD3 outcomes	SGN RIIO-GD3 commitments
High-quality service from regulated firms	
Our customers receive industry-leading service	We will provide high-quality service so both networks are in the industry top three for customer satisfaction by the end of GD3 We will provide high quality service so both networks are in the industry top three for fewest complaints per 10,000 customers every year in GD3
More vulnerable customers will receive high-quality, targeted support	We will help at least 650,000 households in the most vulnerable circumstances in GD3 We will provide training to all frontline employees to help them identify and support vulnerable customers in GD3
Our investment creates more social value for customers and communities	We will maximise the Social Return on Investment for every £1 invested through the VCMA programme, while always prioritising the needs of vulnerable customers
Secure and resilient supplies	
Our network transports gas safely and reliably to meet the demands of our customers in all scenarios	We will maintain our network so there is no deterioration in its performance or reliability We will continue to look after the health and safety of our employees by targeting a maximum working day of 12 hours by the end of GD3
Our network is ready to transport clean energy to our customers	We will establish processes that allow us to safely and reliably blend more green gas into our network We will implement a framework to assess alternatives to natural gas when refurbishing or replacing supplies to high-rise multiple occupancy buildings
We are resilient to a range of external shocks and stresses	We will introduce a measure for climate resilience and establish a standard baseline from which we will monitor our progress We will meet or exceed the Enhanced Cyber Assessment Framework
Infrastructure fit for a low-carbon transition to net zero	
We adopt a whole-systems approach to delivering net zero	We will contribute to the development of the Regional Energy Strategic Plans (RESPs) and relevant local authority energy plans in Scotland and the south of England
More people will have access to biomethane	We will work collaboratively to maximise biomethane injection and reduce connection times for producers to provide the capacity to transport it to the equivalent of one million homes
Harnessing green gas will help remote Scottish communities contribute to net zero	We will transport locally produced biomethane to Wick and Thurso SIUs to replace liquified natural gas supplies
We will be ready to accept blended hydrogen onto our network to supply customers	We will complete the evidence for hydrogen blending in the first two years of GD3
We will reduce the impact our operations have on the environment	We will reduce our operational carbon footprint by 46% compared with our 2019 baseline with a focus on reducing methane emissions
System efficiency and long-term value for money	
We will deliver value to customers through efficient investment and delivery	We will be ranked in the top three for efficiency for both our networks in a well-calibrated cost assessment that reflects the efficient costs of working in our network areas
Innovation will deliver improvements and efficiencies that benefit customers	We will deliver more than £89m of operational savings through core innovation across GD3
Digitalisation and the effective use of data will enhance network performance and support the transition to net zero	We will open our data to facilitate collaborative planning and the development of whole-system solutions
We will build a more resilient workforce that works efficiently to deliver more value to our customers	We will increasingly reflect the communities that we serve We will recruit and train more than 50 apprentices each year

Outcomes we will deliver

Chapter 4: High-quality service from regulated firms

In this chapter we present how we will continue to deliver industry-leading service and support our most vulnerable customers. It highlights that:

1. **Our customers already value our leading customer service and want us to maintain it.**
2. **We will continue to focus on getting it right first time for our customers.**
3. **Our customers want us to do more to support the most vulnerable households in our network.**
4. **We will maintain the valued support of our independent vulnerability steering group.**
5. **We will target our support at the most vulnerable, basing our funding request on need rather than customer numbers.**

4.1 Our GD3 outcomes and commitments

We will continue to provide excellent service to the customers and communities that rely on us. This will include providing support to more people, targeted at those who need the most help staying safe and warm in their homes and those struggling to pay for the essential energy supplies they need. Our investment will extend beyond our activity alone by working with trusted partners at national, regional and local levels. Together we will provide targeted and effective support and create more social value across the communities we serve.

SGN RIIO-GD3 outcomes	SGN RIIO-GD3 commitments
High-quality service from regulated firms	
Our customers receive industry-leading service	We will provide high-quality service so both networks are in the industry top three for customer satisfaction by the end of GD3 We will provide high quality service so both networks are in the industry top three for fewest complaints per 10,000 customers every year in GD3
More vulnerable customers will receive high-quality, targeted support	We will help at least 650,000 households in the most vulnerable circumstances in GD3 We will provide training to all frontline employees to help them identify and support vulnerable customers in GD3
Our investment creates more social value for customers and communities	We will maximise the Social Return on Investment for every £1 invested through the VCMA programme, while always prioritising the needs of vulnerable customers

4.2 Our customers receive industry-leading service

We always strive to do the basics brilliantly, efficiently and get it right first time. We deliver our industry-leading performance through high-quality communication and care in all interactions with our customers. Our engineers and customer service teams understand that when they enter someone's home they are in a privileged position. They treat people with respect, maintain high-quality communication and, when something goes wrong, rectify it as quickly as possible.

Receiving excellent customer service is important to our customers, however they recognise that they have limited interaction with us, and insight shows it's their lowest priority for additional investment. Our plan therefore maintains current levels of investment but focuses on making our service more efficient when customers do interact with us, be that directly or out in the communities where we work.

4.2.1 Customer satisfaction

For eight years in a row, our Scotland network has been the number one gas network for customer service in the UK. Our Southern network has increased its overall ranking position from eighth to fifth, placing it mid-table. Both networks are in a strong position, consistently achieving more than 9 out of 10 for customer satisfaction.

Our commitment: We will provide high-quality service so both networks are in the industry top three for customer satisfaction by the end of GD3.

We have made this commitment to ensure that we continue to improve the standards of service we provide in our Southern network, bringing it up to a comparable level with Scotland. This will be demanding, as our Southern network can be prone to more complexity and disruption, making it challenging to provide a service that consistently meets our customers' expectations.

We will continue to support our frontline and customer service teams by ensuring that they have the tools and equipment they need to do the job correctly first time. Our people will be trained to recognise and respond to customer needs, with new recruits and contractors receiving comprehensive training that reinforces our high standards, enabling them to provide consistently high-quality service.

Our teams will work with agility, providing the best solutions for our customers depending on the situation and their personal circumstances. This includes embedding new initiatives and self-service tools that will enable us to provide a swift and effective response. We recognise that these won't work for all customers, and using new technology is seen by many customers as a 'nice to have' and not a priority. However, we will roll out tools that we have trialled in GD2, and we know can deliver a more effective service and enable our people to deliver more for our customers.

We will continue to listen to our customers through real-time feedback, customer focus groups, customer satisfaction sentiment, speech and text analytics and our people, to quickly understand where changes are needed to how we interact with customers at the points at which they have contact with us, and to continually improve so we meet their expectations.

We recognise that we need to pay particular attention to customers on the Priority Services Register (PSR) and have additional needs, particularly during emergencies. We will look to ensure that we are delivering a customer satisfaction score of 9.25 out of 10 or higher for these customers over the GD3 period.

Innovative customer service

We've been assessing the value of new customer service initiatives by trialling new technology, listening to our customers, understanding their issues, and looking outside the sector at best practice in other organisations. Smart video notes, as an example, is an effective customer self-service tool, enabling our customers to easily use video technology to capture new connection/alteration requirements, improving timescales and reducing effort.

We have now adapted this for mains replacement, capturing data on-site and aiding faster complaint resolution. We will embed tools such as this to drive improved customer service in GD3.

4.2.2 Complaints

When dealing with customers, we aim to get it right first time and have the lowest numbers of complaints in the industry. In GD2 to date, we have averaged 1.7 complaints per 10,000 customers on our Scotland network and 3.4 per 10,000 customers on our Southern network. The next best network is above five and some networks regularly report more than 10 complaints per 10,000 customers. This is an important metric, as it demonstrates that we are providing a high-quality service and dealing with our customers' issues effectively.

Our commitment: We will provide high-quality service so both networks are in the industry top three for fewest complaints per 10,000 customers every year in GD3.

We will maintain our strong performance in Scotland and bring Southern back to consistently receiving no more than three complaints per 10,000 customers, which matches our performance in the first year of GD2 when we had half the number of complaints compared with the next best network. We will do this by ensuring our frontline and customer service teams focus on high-quality customer service and maintain a high level of pride in the quality of their work.

Both customer satisfaction and complaints are subject to Output Delivery Incentives (ODIs) and are discussed in Chapter 8.

4.2.3 Planned interruptions

Due to the nature of our work and the need to replace older high-risk iron mains with modern and lower-risk polyethylene (PE) mains, it is necessary to interrupt customers' gas supplies for planned work. We always try to avoid interruptions by using innovative live insertion techniques, which allow us to maintain gas flow to the customer by inserting a PE main within the duct of an existing iron main. However, in some circumstances this isn't possible, and we need to disconnect the customer for a short period of time so we can replace the main safely.

We work hard to minimise disruption and give customers advanced notice of the disconnection time and anticipated duration through various means of communication dependent on the customer's needs. Communicating effectively with customers throughout the planned interruption is essential, particularly if the disconnection lasts longer than anticipated.

We assess upcoming projects to identify any PSR customers and use mapping tools and other resources to better understand the local area and the customers we serve within it. Interruptions can be particularly challenging for our vulnerable customers. In GD2 we established our Safe and Warm Community Team, and part of its role is to provide additional, proactive support to those customers affected by planned interruptions who have additional needs.

They act as a consistent support point for our vulnerable customers throughout the work, working alongside the field teams to keep them informed and resolving or escalating any issues. They also take the opportunity to identify if customers would benefit from any additional, targeted support from us or our partners such as energy efficiency advice, providing and fitting carbon monoxide alarms or income maximisation. While working on the ground the teams also raise awareness of our PSR and other services and make referrals through our Careline or direct to our partners.

Our customers and stakeholders recognise the importance of providing on-site support during incidents. In GD3 we will grow and strengthen our Safe and Warm Team, so they work across our network to ensure our customers are looked after and better informed during our works and about the wider services we offer.

We have an ODI for planned interruptions, which is explained in Chapter 8.

4.2.4 Unplanned interruptions

Incidents on our network such as an asset failure, water ingress or accidental damage can result in an unplanned interruption to customers' gas supplies. While this is extremely rare, the impact is significant and we always work to avoid unplanned interruptions where possible. Where they do occur, we respond quickly and efficiently to restore supplies.

However, when gas supplies fail, they can pose a significant safety risk. Depending on the cause of the interruption, restoring supplies can take several days, causing significant inconvenience and risk of harm to our customers, particularly if the interruption occurs during the winter when gas is needed to keep homes warm.

If a major incident occurs, we respond rapidly, getting our people, including our Safe and Warm Team and partner organisations where required, to site as quickly as possible. We start door-to-door communication with residents and set up alternative facilities, checking that we have everyone on the PSR register who needs to be, and working closely with our local resilience partners to ensure that those residents who need additional support can access it. This includes providing alternative heating and cooking provision to priority service customers within specified timescales for the duration of the outage and, for some of our customers with specific needs, we will ensure they have access to hot water.

Our ability to do this is dependent on the quality of our engagement and the strength of our relationships with local resilience partners. We regularly take part in local resilience exercises, which includes looking at how we enhance our support for customers and our operational response.

Dealing with unplanned interruptions in multiple occupancy buildings (MOBs) where our mains run throughout the building and supply multiple floors (referred to as risers) can be challenging. Wherever possible, in the event of a gas escape, we will make a temporary repair and return to complete it or make a planned replacement of the riser. Our ability to make temporary repairs has been significantly improved through new bypass techniques, which allow the area that needs to be repaired to be safely bypassed without stopping the flow of gas until a full repair can be implemented. Sometimes a temporary repair is not possible, and the riser must be disconnected for safety reasons. As replacing a riser can take several months, we try to avoid this outcome whenever possible.

We have an ODI for unplanned interruptions which is explained in Chapter 8.

To reduce the risk of risers failing, we are proposing an increase in workload to upgrade the quality of risers across Scotland and Southern GD3. Further details are provided in Chapter 5 Secure and resilient supplies.

4.2.5 Streetworks

Replacing gas mains that run below busy streets inevitably causes disruption. We work hard to minimise the impact of our mains replacement works by working with the local authorities, businesses and residents to carry our work at a time that is least disruptive. We have maximised the use of insertion techniques to minimise our time on the street rather than using traditional open-cut methods. We have deployed innovations such as more advanced vacuum excavators which help to reduce our time in the road space and we have increased the extent to which we coordinate with other utilities in London, which is subject to an ODI.

Innovation for vulnerable customers – StreetScore project

The public, particularly those with additional needs, often find journeys through and around streetworks challenging. There is an inevitable level of inconvenience caused by the works. However, if there are avoidable obstructions or signage is unclear, then it could make it harder to pass through them safely and people are likely to be less tolerant of them.

StreetScore is a collaborative project supported by SGN, which is taking a customer-focused, collaborative approach to identify how gas networks can improve people's journeys through streetworks. It is taking a phased approach, working with a user group made up of people with disabilities, carers and advocacy groups to design, develop and test concepts and processes that can be applied on the ground. The work is progressing and aims to implement technical, behavioural, and organisational change across gas networks.

4.3 More vulnerable customers will receive high-quality, targeted support

Our people are trusted to walk through the doors of around 300,000 homes each year as we respond to gas emergencies and upgrade our network. In doing so, we encounter some of the most vulnerable people in our communities and our frontline employees will always ensure that any customer in need is able to access the support they need to keep safe and warm. This puts us in a unique position and makes us well placed to provide both direct support to people whose personal circumstances make it harder to maintain a safe and warm home, and coordinate access to a wider network of services.

Since the start of GD2 we have helped more than 400,000 vulnerable households. This has never been more needed, with many of our customers facing unprecedented levels of hardship due to the cost-of-living crisis and thousands of households falling into energy debt. We have been agile, repurposing funding and responding to the significant challenges being faced by our customers. Our approach has evolved, and we have built an extensive network of over 120 trusted community partners that help us extend our reach and provide specialist support where needed using the Vulnerability and Carbon Monoxide Allowance (VCMA), a regulatory mechanism designed to support vulnerable customers and promote carbon monoxide safety.

During GD2, stakeholders and customers wanted us to continue to strengthen our vulnerability partnerships, working with those that have expertise in certain areas. We will extend this into GD3, as detailed in Document SGN-GD3-SD-10: Vulnerability Strategy, which has been extensively tested with experts and customers and builds on our learnings in GD2.

Supporting vulnerable customers is a high priority for our customers and an important area of focus for investment.

Our commitment: We will help at least 650,000 households in the most vulnerable circumstances in GD3.

In our GD3 plan we have included £16.4m of BAU funding (within core allowances), with an additional £43.6m from the VCMA allowance. Our funding will be targeted at those most in need, in collaboration with our funding partners.

Delivery of our vulnerability strategy is focused on four key areas:

1. Providing direct services for vulnerable customers.
2. Supporting priority customer groups.
3. Increasing carbon monoxide (CO) awareness initiatives.
4. Tackling fuel poverty and energy affordability.

We summarise each area below, including how much VCMA funding will be used, with further details on what is included in Chapter 8.

4.3.1 Providing direct services for vulnerable customers

Our frontline teams are uniquely placed to identify customers who would benefit from more support as they respond to gas emergencies and carry out work in our communities. We will build on the programme of co-designed training prepared with our partner organisations in GD2 to ensure that both direct employees and contract partners have the skills and the confidence to identify and support customers in vulnerable situations and deliver updates annually.

Our commitment: We will provide training to all frontline employees to help them identify and support vulnerable customers in GD3.

Our frontline teams will work alongside our dedicated Careline team who will manage their referrals and make links to the appropriate support services and partner organisations. During emergencies, unplanned and planned events we will provide welfare facilities such as alternative cooking and heating facilities for our PSR customers and others we identify in need of help.

We introduced an industry-first Vulnerability Steering Group which remains key to ensuring we're able to deliver a robust and considered vulnerability support programme. The group of experts provides guidance and governance of how we use VCMA funding, raises awareness of other funding mechanisms and gaps, challenges our programme design processes, and crucially, shares direct, real-time customer insight that enables us to adapt quickly to ever-evolving customer need.

"I like the fact SGN are also focused on partnering with organisations in the community. We all have a duty of care to look after people."
Future Customer, Scotland

Our energy safeguarding services will support priority customer groups to maintain a safe home, by providing technology such as safety locks for gas cookers. Stakeholders strongly supported our initiative to maintain and repair gas boilers and appliances and our Care and Repair scheme will continue to help financially vulnerable customers who can't afford to pay for the maintenance and repair of their essential gas appliances and pipework.

We will use £12.2m[13] from the VCMA, which includes the provision of our Care and Repair scheme.

4.3.2 Supporting priority customer groups

Some customers find it more challenging to access help without trusted support and are more impacted by living in a cold and unsafe home. Customers and stakeholders recognise the importance of early identification and want us to provide early support where needed.

As a sector, we're advocating for a joined-up approach to supporting priority vulnerability groups with services designed to safeguard those who need tailored engagement or extra help. We will work with the other gas networks and utility companies to deliver a single, easily accessible PSR to ensure that those customers who need extra help from their utility companies know what support is available to them.

13 Includes £3.1m of VCMA management costs detailed in Chapter 8.

We will continue to use data and insight, and work with stakeholders to identify the customers who would benefit most from energy industry initiatives to stay safe and warm but who are struggling to access the support. Our Safe and Warm network partners will help us reach the customers that need help the most through targeted engagement and community activities, ensuring our priority vulnerability groups can access support in the way that best works for them. Our partners will deliver tailored and practical help to reduce energy costs, as well as support to access benefits and initiatives designed to help vulnerable households maintain a safe and warm home.

We will use circa £13.3m from the VCMA, which includes delivering partner-led energy advisory schemes, debt and income support services.

4.3.3 Increasing carbon monoxide (CO) awareness initiatives

Raising awareness of the dangers of carbon monoxide will continue to be a focus. It is a priority shared across the gas networks and supported by our customers and stakeholders. Our ambition is to keep our communities safe by educating and empowering them to identify the signs and symptoms of the poisonous gas whilst helping them understand how to protect themselves. We have targeted our campaigns at key groups that are known to have the lowest carbon monoxide awareness levels or are at the greatest risk of harm, often driven through financial hardship. These financial strains and priorities often result in appliances not being serviced regularly, increasing the risk of CO exposure.

In GD3 we will take a data-driven approach to our carbon monoxide awareness and safety programme to:

- Provide inclusive safety solutions to those least likely to access support;
- Tailor engagement that empowers and increases understanding to prevent harm;
- Continue delivery of national seasonal awareness-raising campaigns; and
- Provide customers and vulnerable households with CO safety packs.

We will continue to build the skills and capacity of our Safe and Warm partnership network to help those most vulnerable stay safe from CO harm, identifying households at risk of CO harm through impactful training and access to co-designed resources.

We will use circa £4.0m from the VCMA.

4.3.4 Tackling fuel poverty and energy affordability

Targeting those in fuel poverty is a priority for GD3, as our customer insight shows that many customers will struggle to afford rising bills for essential services including gas. There is support for us to take a more targeted approach and we will use data to develop our Vulnerability Index to identify the regional communities most in need of support to use energy safely, efficiently and affordably.

Created in partnership with the Energy Savings Trust (EST), this data-driven approach combines fuel poverty data with insights from stakeholders, our Vulnerability Steering Group and our partners, and is mapped against our own data to identify areas of greatest need and where there are differences in support services available. This will help us to target those most in need and work with our community partners to provide energy efficiency services, energy debt advice, income maximisation and warm spaces. Our Safe and Warm partnership network will come together to build greater learning, skills and capacity through shared learning and cross-referrals for the benefit of our customers served and our partner organisations.

We will use £14.1m of VCMA funding to deliver this work, which includes tailored community-based initiatives delivered through our Safe and Warm partnership network.

Supporting customers through the energy transition

We are acutely aware that some customers are at risk of being left behind through the energy transition. Specific customer groups may be less able to adapt due to their financial situation, the nature of their accommodation or the level of disruption that they are willing to engage with. This increases the risk that the financial burden will fall on those least able to adapt due to their personal circumstances. As a result, more customers may find themselves in vulnerable situations or experiencing fuel poverty. There is strong support from customers and stakeholders for us to champion a fair and affordable clean energy transition, although some are sceptical if it's realistic and affordable.

Our skilled team is already working closely with local partners to address the barriers vulnerable households face in benefiting from current energy initiatives such as smart meters and energy efficiency measures. Through our GD3 innovation funding, explained in Document SGN-GD3-SD-05: Innovation Strategy, we will improve our understanding of consumer needs to support the transition, including the needs of different users, regional variations and societal and consumer vulnerability impacts. We will use this insight to tailor our support for all customers, including those that are vulnerable.

We will also learn from pilots and projects we plan to run in GD3, including our project to transition a MOB through a whole-systems approach.

4.4 Our investment creates more social value for customers and communities

By working in partnership, we can reach more customers in need and the investment we make goes further, delivering wider benefits to society. We measure the social return on investment (SROI) we deliver through our VCMA projects and use social value forecasting to help us target the partnerships and initiatives that will deliver the most value. It is through our collaborative approach that we've achieved an average SROI of £8.69 for every £1 invested, a total of £48.9 based on customer outcomes since April 2021. In GD3 we want our investment to create more value for the communities we serve.

Our commitment: We will maximise the Social Return on Investment for every £1 invested through the VCMA programme, while always prioritising the needs of vulnerable customers.

To achieve this, we will continue to plan and co-design projects with our delivery partners and use our Vulnerability Steering Group to help us prioritise the projects that best meet the needs of our customers. We have a robust governance structure in place to ensure we are maximising the benefits from VCMA funding, and we report transparently on project progress.

In GD3 we are committed to building on SROI to develop and report on a wider range of factors that demonstrate the value our investment is creating for customers and communities. We will do this in collaboration with the other gas networks to allow consistent evaluation of core services under the VCMA and demonstrate the combined social value we create.

Chapter 5: Secure and resilient supplies

In this chapter we set out the programme of expenditure required to maintain and operate a safe and reliable gas network. This shows that:

1. **Investment need is higher due to increasing asset deterioration and new safety requirements.**
2. **Irrespective of the decarbonisation pathway, we must continue investing to maintain the safety and integrity of our network for decades to come.**
3. **The regulatory cost assessment must also take into account:**
   - **The changing nature and frequency of repair workloads;**
   - **The increasing complexity and higher cost of the remaining mains replacement projects; and**
   - **Higher cost pressures in Southern due to a shortage of labour and contractors.**

5.1 Our GD3 outcomes and commitments

Our energy network is part of the UK's national energy infrastructure, providing nearly six million homes and more than 188,000 industrial and commercial customers with gas supplies across southern England and Scotland. Ongoing, targeted investment in our network is essential to ensure the safety and security of our customers' energy supplies is not compromised over GD3 and throughout the transition to net zero.

Although demand for gas is projected to fall over the long term, our network will continue to play an important role in fuelling domestic, commercial and industrial customers for many years to come and must be maintained to the same high standards even if fewer customers are connected. Our GD3 commitments will also ensure that our network can carry low-or no-carbon gas, providing optionality for delivering net zero while ensuring secure, resilient energy supplies.

SGN RIIO-GD3 Outcomes	SGN RIIO-GD3 Commitments
Secure and resilient supplies	
Our network transports gas safely and reliably to meet the demands of our customers in all scenarios	We will maintain our network, so there is no deterioration in its performance or reliability We will continue to look after the health and safety of our employees by targeting a maximum working day of 12 hours by the end of GD3
Our network is ready to transport clean energy to our customers	We will establish processes that allow us to safely and reliably blend more green gas into our network We will implement a framework to assess alternatives to natural gas when refurbishing or replacing supplies to high-rise multiple occupancy buildings
We are resilient to a range of external shocks and stresses	We will introduce a measure for climate resilience and establish a standard baseline from which we will monitor our progress We will meet or exceed the Enhanced Cyber Assessment Framework

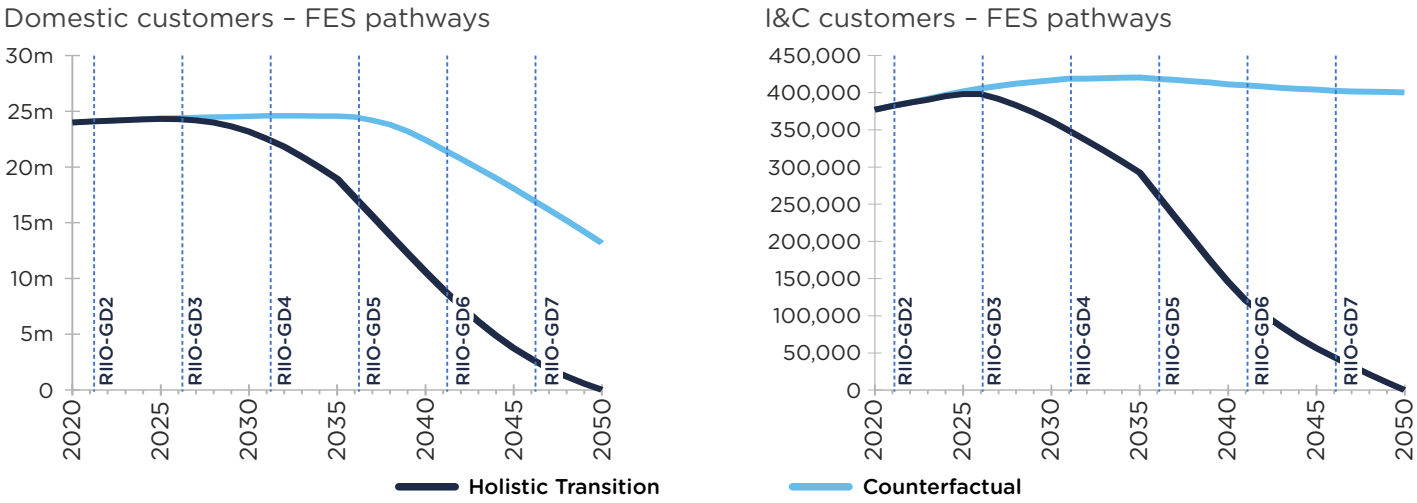
5.1.1 NESO pathways to net zero

The National Energy System Operator (NESO) has set out three strategic pathways to net zero. All have similar implications for customer disconnections from the gas network. It is these pathways that set the context for our GD3 plan, as our network must remain safe and resilient, regardless of which is realised.

These pathways assume no significant changes in policy and identify eight challenges that need to be responded to if they are to be realised, including the accelerated roll out of heat pumps, energy efficiency improvements and smart technology.

In the figure overleaf, we have shown one of these pathways – the Holistic Transition pathway (electrification and hydrogen) – and how this compares with the Counterfactual pathway. The Counterfactual pathway is used to understand the gap between successful tracking of the pathways versus enabling change too slowly and missing key targets. This shows NESO forecasts of the number of domestic and I&C gas customers over each of the upcoming regulatory periods, signalling that the significant majority, >60%, of UK households will still be connected to the network in 2035.

Figure 5a: NESO Holistic Transition pathway and Counterfactual pathway to net zero



Source: SGN representation of data in NESO Pathways 2024 data workbook

These graphs show the stark difference between the Holistic Transition pathway and the Counterfactual pathway compared with 2023:

- Under the Holistic Transition pathway, customer numbers fall by 7% (425,429) by the start of GD4 compared with a 2% (100,500) increase in the Counterfactual pathway;
- By 2036, the start of GD5, customer numbers fall by 29% (1.8m) under the Holistic Transition pathway compared with the Counterfactual pathway where they remain 1% (75,000) higher; and
- By 2041, the start of GD6, customer numbers fall by 60% (3.8m) under the Holistic Transition pathway, compared with a 12% reduction (650,000) in the Counterfactual pathway.

If the Holistic Transition pathway is not met then customer numbers will remain high.

Central to our plan – and the investment priorities within it – is the fact that even under the most ambitious strategic pathway to net zero we must invest to maintain the safety of our network for decades to come and meet all legislative obligations[14]. This requires that the integrity of the network is maintained independent of the volume of gas flowing through it, and that the network continues to provide resilience, even in the event of a 1-in-20 winter.

Our plan is therefore robust to all pathways. We have identified the short-, medium- and long-term interventions needed to ensure the safety and reliability of the network, having assessed the options. It is critical that these investment needs are balanced with investment towards net zero, so that customer safety and security of energy supplies are not compromised at any time.

5.2 Our network transports gas safely and reliably to meet the demands of our customers in all scenarios

This section sets out how we will continue to deliver a safe and reliable operation that meets the gas demands of our customers. In this section we set out our forecasts for emergency response and repair work before discussing our asset management strategy, including the iron main replacement programme and investment to improve the safety of multiple occupancy buildings (MOBs).

5.2.1 Emergency response

We provide an emergency response service that operates 24 hours a day, seven days a week. We always look to respond as quickly as possible to a public reported escape (PRE) to keep people safe. This is enforced in our licence, where we have an obligation to respond to uncontrolled gas escapes within one hour and controlled gas escapes within two hours, 97% of the time.

Currently, we employ more than 600 first-call operatives (FCOs) who respond to gas escapes, enabling us to meet our licence obligations across the year, including during peak winter periods where reports of gas escapes substantially increase. Because our networks are at either end of the UK, we are unable to move our resources around, and need to resource adequately in both to respond to calls in peak periods. In GD3 we will implement new working time conditions to help protect our employees and customers from the impact of fatigue. We will need to employ around 115 more Full Time Equivalents (FTEs) to meet our response targets.

14 These requirements include Gas Safety Management Regulations 1996 (GSMR), Pressure Systems Safety Regulations 2000 (PSSR), Pipeline Safety Regulations 1996 (PSR), Dangerous Substances and Explosive Atmosphere Regulations (DSEAR) 2002, Health and Safety at Work Act etc 1974 (HSWA), Electricity at Work Regulations 1989 and relevant guidance from industry bodies.

In this section we explain the two key factors that determine our GD3 emergency workload costs:

1. Resourcing for peak workloads.
2. The time that frontline resources are available to work.

Resourcing for peak workloads

As gas is the primary fuel for domestic heating, we typically get more PREs in the winter when the demand for gas, and pressure in the network, is higher. During the summer, we typically respond to 8,000 PREs per month on our Southern network. During the winter this can rise to up to 12,000 PREs, and during extended periods of very cold weather, can rapidly increase to over 15,000.

We must have enough resources to maintain our response standards during peak periods. The number of gas escapes in Scotland can quadruple from 200 to over 800 per day, while in Southern they can rise from 250 to over 1,000. Our emergency resource needs to be sufficient to enable us to respond within the one-hour and the two-hour timelines during these intense periods of high activity. This means there is time throughout the rest of the year when these frontline resources are not carrying out emergency response work.

During a five-year price control period we are likely to have at least one harsh winter where we will be exposed to an extreme workload. In GD2, a peak event happened in 2022/23 and in GD1 we experienced the 'Beast from the East'.

These peaks can be exacerbated if supplier or domestic appliance call centres become overwhelmed and start directing customers to the emergency number for non-emergency issues. As a principle, we respond to all calls routed to us as an emergency, so this can divert critical resource from emergency incidents. However, in extreme peaks we may look to add a further level of triage to maintain focus on emergency incidents rather than appliance failures.

FCO working time

Our GD2 plan was based on the expectation that we would limit working hours to no more than 16 hours in each day. To further reduce the risk of fatigue leading to poor decision making, in GD3 we will continue to reduce the working hours of our colleagues in safety critical roles, in line with HSE expectations. This means we will target a maximum working day of 12 hours (including time spent travelling to and from work), have an appropriate rest within a day, work a maximum of 60 hours in a week and have two days' rest in a fortnight (referred to generically as 12-hour working).

Our commitment: We will continue to look after the health and safety of our employees by targeting a maximum working day of 12 hours by the end of GD3.

To implement these new working time conditions, we need to increase our baseline FCO workforce by approximately 60 to 70 FTEs in each licence area once all working practices are fully optimised. This will require changes to the way we work, including additional equipment and support services, system changes necessary to monitor working hours more closely and changes to employment terms and conditions.

The additional headcount is anticipated to be slightly higher in Scotland. This is because Scotland is more sparsely populated and therefore requires a proportionally higher increase in FTEs to deliver the same standard of service under reduced working hours. We have begun implementation in GD2, with the cost of training and equipping this resource included within a reopener. We will continue to move towards 12-hours through GD3, with the ongoing operating costs included within the GD3 Business Plan.

As we move to 12-hour working, the time that our larger workforce is not engaged in responding to emergencies is likely to increase throughout the year. During these periods, our teams are involved in smaller projects, known as infill work. We will aim to find additional infill work for our larger frontline workforce to complete when they are not responding to emergencies. However, when doing this we must consider the time it will take to complete the task, the risk of the task being interrupted and the associated cost of the interruption should they be required to respond to an emergency. However, as with all emergency services, there will inevitably be some time that cannot be filled and this is likely to be higher in GD3 than it is in GD2 as we implement the 12-hour working conditions.

The move to 12-hour working practices is set out in more detail in our SGN-GD3-SD-03: Workforce and Supply Chain Resilience Strategy.

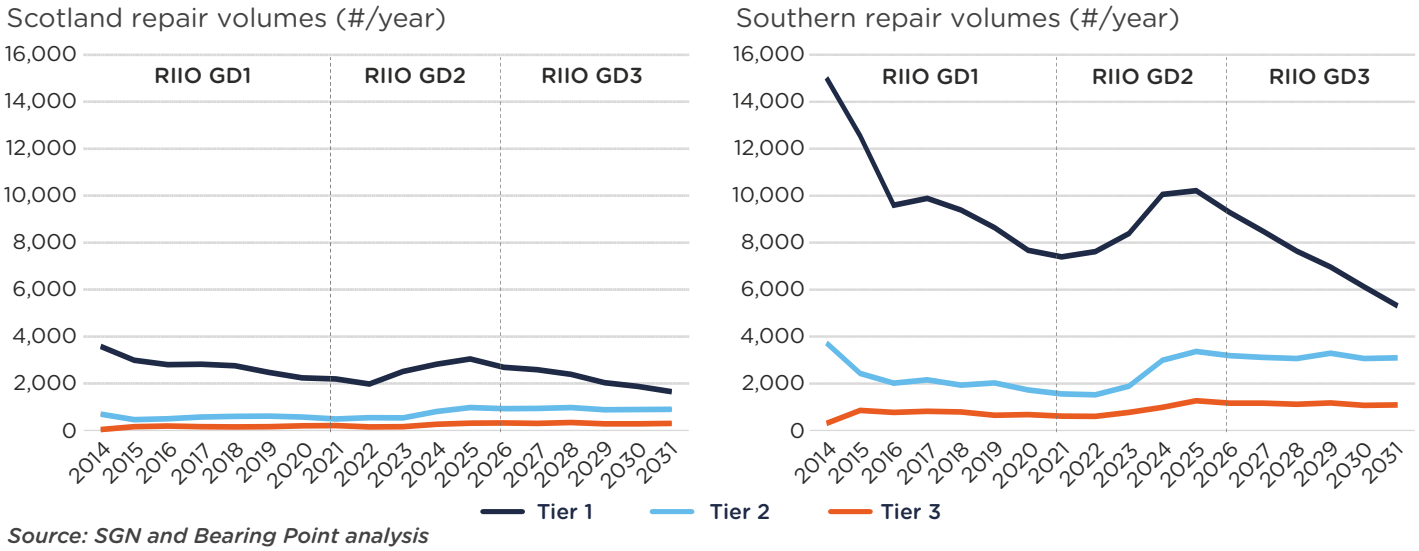
There are also opportunities to use colleagues involved in delivering mains replacement to respond during peak emergency periods. This can support the peak resource requirements during extreme winter periods, however it has similar characteristics of introducing inefficiency and cost by disrupting Repex delivery.

5.2.2 Repairs

Historical trends suggest that repair volumes should decrease over time as we replace more of the older iron network with new polyethylene pipes (PE pipes). In GD2 this trend did not hold and we saw a marked increase in repair volumes in both smaller (Tier 1) mains that are directly covered by the mains replacement programme and the larger (Tier 2 and 3) mains. This higher repair volume significantly increased investment costs. To understand the trends and inform our future forecasts, we commissioned specialist data analysts to independently assess the factors that impact repair workload and how they will change in the future SGN-GD3-ECR-02: Bearing Point - Repair Forecast and Cost Analysis. The analysis found that the main factors that influence workload are safety-related events, the rate of replacement, rate of mains deterioration and extremes of temperature (extended hot summer and intense cold periods in winter). This analysis was the basis of our forecasts for GD3.

Both historical (actual) and the forecast repair volumes for Tier 1, 2 and 3 mains in Scotland and Southern are shown in the graphs below.

Figure 5b: Historical and forecast repair volumes



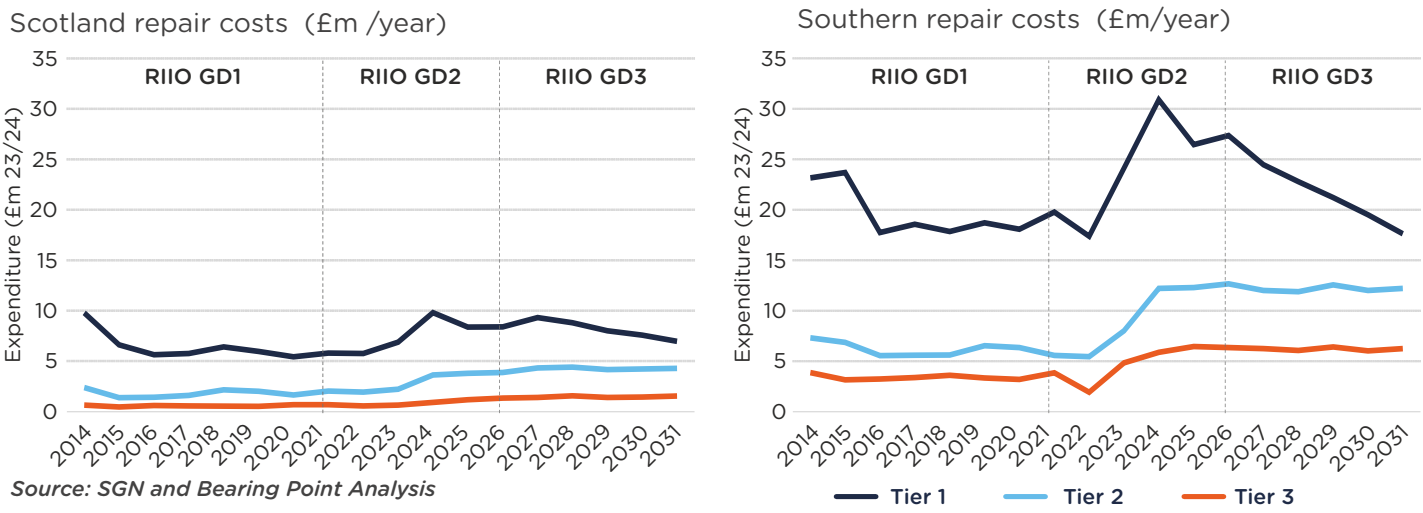
Source: SGN and Bearing Point analysis

There are a number of notable trends that can be seen from these graphs.

1. In both networks, repairs decreased during GD1 for Tier 1 (smaller diameter) repairs, due to these mains being replaced with PE through the mandatory mains replacement programme. Evidence of increased deterioration rates is discussed in more detail in SGN-GD3-SD-06: Network Asset Management Strategy.
2. Tier 1 repairs on both networks have increased since 2022, which is counter to the long-term trend we are forecasting. This appears to be driven by safety-related events and associated updates to processes and procedures.
3. Repairs to larger-diameter mains (Tier 2 and 3) are increasing as a proportion of the overall repair mix. These larger-diameter mains are outside the HSE-enforced main replacement programme and are more technically complex to repair. This is driven by a significant reduction in Tier 2 and Tier 3 mains replacement since 2013 due to the decision by the HSE to remove this workload from the mandatory mains replacement programme.

Larger-diameter (Tier 2 and 3) repairs typically take longer to repair and are placed in more challenging locations. The cost of repairs varies significantly between different-sized mains, with a Tier 2 mains typically costing 25% more and Tier 3 mains typically costing 70% more than Tier 1 repairs. Therefore, even though the total workload is projected to decrease for Tier 1 repairs, both Tier 2 and Tier 3 repairs are forecast to increase significantly. The increase in cost pressures associated with repairing more Tier 2 and 3 mains is offsetting the overall decrease in costs from reduced Tier 1 workload. This changing mix of workload has to be accounted for in the GD3 cost assessment. This is shown in the graphs on the next page.

Figure 5c: Repair forecast costs



Source: SGN and Bearing Point Analysis

Once the emergency response FCO has identified the source of the gas escape, they will also carry out a sweep of the nearby area to check for leaks on other nearby mains which are likely to be constructed with the same material and laid at the same time. This is carried out before and after the repair and can lead to multiple repairs being carried out for each reported escape.

The graph below (left) shows a comparison in the number of repairs per publicly reported escape (PRE) between gas networks. This shows a significant discrepancy between networks on the number of repairs undertaken per PRE. This is likely to be due to differences in how the repairs are recorded, with some networks logging a report for each repair, while others record multiple repairs for each report. This inconsistency is removed by comparing the ratio of repairs per km of metallic mains as reported by networks in their Regulatory Reporting Pack (RRP) and shown in the figure below (right). This shows that we are broadly in the same range and following the same trend. It is important that either the inconsistency between networks in reporting methodology is resolved or we need to find a more comparable explanatory ratio that is less susceptible to reporting variances.

Figure 5d: Ratio of repairs to reported escapes

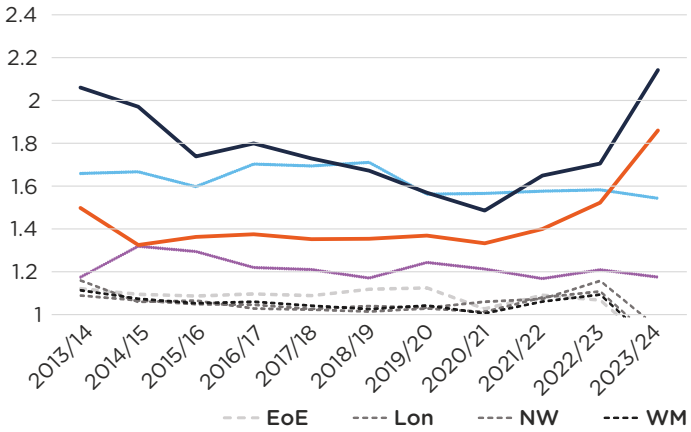
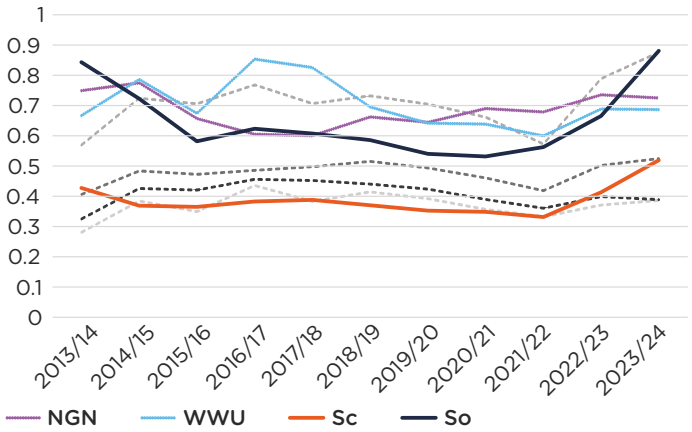


Figure 5e: Ratio of repairs per km of metallic main



Source: SGN Analysis of RRP returns

In the GD2 cost assessment approach, repair allowances were largely determined by the number of reported escapes. In the left-hand graph above we can see a significant divergence between networks in the repair-to-report ratio, particularly in the last two years of data. Using the repair-to-report ratio introduces inconsistencies and therefore factual errors into Ofgem's cost assessment process. This has a material impact on the determination of allowances and fails to achieve its intended purpose of defining an efficient cost. In doing so it distorts the outcome of the cost assessment process to the benefit of some and detriment of others. Given the materiality of the issue, Ofgem must correct this by using a more robust metric such as repairs per km of metallic mains.

5.2.3 Maintaining the network

We have an ongoing programme of maintenance activities needed to maintain safety and reliability across the network and ensure that our asset remains functional and fit for purpose.
These are divided into:

- **Routine maintenance** – work required under our annual maintenance plan and in-line and over-line inspections and condition surveys. As the condition of the asset ages, the risk associated with that asset rises and the frequency of the inspection regime increases. The average cost of routine maintenance in GD3 is £37m per year; and
- **Non-routine maintenance** – where an intervention is required to maintain the standard of an asset due to an unanticipated event, the raising of a fault or alarm or the unanticipated deterioration in an asset. The average cost of non-routine maintenance in GD3 is £27m per year.

Typically, with lower rates of asset replacement, we would expect maintenance work to increase over time for both routine and non-routine maintenance work, increasing short-term operating costs.

5.2.4 Network asset management

Our Network Asset Management Strategy is organised across six classes of asset, each of which has a dedicated section within SGN-GD3-SD-06: Network Asset Management Strategy. We measure the condition of our network using Network Asset Management Resilience Metric (NARMs). This is a consistent tool used across networks to measure the monetised risk of the asset base. As with all assets, they will deteriorate over time due to the conditions they operate in and the gases they carry. NARMs provides a consistent methodology to measure the likely deterioration in the network if we do not intervene and the anticipated benefit of intervention.

Our commitment: We will maintain our network, so there is no deterioration in its performance or reliability.

Our strategy is driven primarily by safety, compliance and risk management to ensure we continue to supply gas safely and reliably to all customers across GD3 and beyond. To achieve this, we will:

- Maintain and operate our assets in accordance with our Safety Case prepared in accordance with the Gas Safety (Management) Regulations and other relevant legislation;
- Deliver Ofgem and HSE outputs as part of our licence obligations and legislative requirements; and
- Plan, design, install and maintain our assets in accordance with industry best practice guidance and required regulations and safety standards.

To identify the appropriate intervention we use our 4R's strategy. When an asset fails we carry out an immediate **repair** in order to maintain supplies. When we have evidence that a more significant intervention is required (i.e. through failures or site inspections) we assess the options of **refurbishing**, **replacing** or **rebuilding** the asset.

The intervention is determined by a detailed assessment of the asset and a whole life-cycle cost comparison of the alternative options. This is set out in the Network Asset Management Strategy.

The table below provides a summary of the investment we anticipate we will make in the distribution and transmission network over the GD3 period.

Table 5a: GD3 investment in the distribution and transmission network as per the 4R strategy

		Repair (*)	Refurbish	Replace	Rebuild
Distribution <7bar	# of interventions	3,270	16,522	8,513	228
	Cost of interventions £m	4.5	45.3	13.5	46.4
Transmission >7bar	# of interventions	1,335	6,349	978	21
	Cost of interventions £m	3.0	57.2	12.7	75.7

Source: SGN

* Repair workload is significantly higher but is predominantly smaller reactive interventions and is not included in the Network Asset Management Strategy.

5.2.5 Iron main replacement programme (Repex)

The iron main replacement programme began in 1974 following a series of severe gas incidents. In 2001, the '30/30 programme' was introduced, which required all iron mains within 30 metres of a building to be replaced within 30 years. It will be completed in 2032, however, over time the approach has evolved, changing which mains have been targeted. The introduction of the three-tier approach known as the Iron Main Risk Reduction Programme (IMRRP), focused on replacing smaller diameter mains, known as Tier 1, that pose the greatest safety risk. In 2013, Tier 2 and Tier 3 mains were removed from the mandatory programme, which changed the nature of our work and had a subsequent impact on our repair workloads, as described previously.

At the start of GD3, we forecast 81% of our network will have been converted to PE. This means we have 5,590km of Tier 1 mains remaining that need to be replaced under the HSE-enforced programme by 2032. We also have 3,404km of larger iron mains and 4,835km of steel mains within our networks that sit outside this programme.

In GD3, we will invest more than £1.8bn in replacing nearly 4,900km of metallic mains (Tier 1, larger iron mains and steel) across our network with PE pipes to improve safety. These pipes can also transport green gases as the energy system is decarbonised.

There are two key factors influencing the delivery of our iron mains replacement programme in GD3:

1. The increasing complexity of the remaining projects, which require more time and resources than in the past.
2. The availability and cost of both direct and supply chain resources, particularly in southern England, due to the highly competitive skilled labour market.

These factors must be accounted for in calibrating an efficient allowance, as they drive real and significant cost pressures which must be allowed for, particularly as we come to the end of the mains replacement programme in 2032 and need to incentivise continued delivery.

In this chapter we focus on our mains replacement workload and how this is influencing our GD3 costs. It should be read in conjunction with:

- Chapter 7, where we cover the workforce and supply chain factors with more detail provided in SGN-GD3-SD-03: Workforce and Supply Chain Resilience Strategy;
- Chapter 8, where we cover uncertainty, risk and incentives. Our mains replacement programme is covered predominantly within our baseline allowances through a volume driver for Tier 1 and we also utilise PCDs and reopeners to manage the risk and uncertainty of certain workloads; and
- Chapter 9, where we explain our costs, which is supported by SGN-GD3-SD-08: Cost Assessment and Benchmarking.

Our mains replacement strategy is organised in three categories of activity.

1. Category A: programme driven by HSE enforcement policy, mandating workload over a predetermined time period – this is predominately Tier 1 main (less than or equal to 8" diameter) but also includes <2" steel mains and PVC mains in our Southern network.
2. Category B: mandatory safety-driven programme driven by The Pipeline Safety Regulations (1996). This includes Tier 2 and 3 mains, >2" steel mains and iron mains more than 30 metres outside a property.
3. Category C: precautionary programme driven by the need to reduce the safety risk posed by cohort of assets not included within the mandatory programme – this includes steel service pipes, complex engineering schemes and a project to replace a 15km section of the London Medium Pressure system.

The table below summarises our GD3 workload and costs for our Repex strategy.

Table 5b: GD3 Repex workload and costs (2023/24 prices)

Repex category	Scotland		Southern	
	GD3 workload (km)	GD3 costs (£m)	GD3 workload (km)	GD3 costs (£m)
Category A	1,176.9	£278.5	3,370.6	£1,117.8
Category B	105.9	£51.6	191.1	£174.9
Category C	8.6 plus 3,000 steel services	£12.5	21.7 plus 7,500 steel services	£51.0

Source: SGN Network Asset Management Strategy

While sitting outside of the IMRRP, steel and other materials also make up an important part of our workload. While steel does not fracture in the same way as iron and is less likely to have a critical safety incident associated with a catastrophic failure, it does corrode, and this increases the emissions escaping to atmosphere. Currently the rate of replacement for steel, other materials and larger-diameter Tier 2 and Tier 3 mains is below the rate of deterioration. In our GD3 business plan we have looked to maintain an appropriate balance between the timing of when projects should be delivered, the efficiency of projects, the environmental and safety benefits, and deliverability of the workload, particularly in Southern where contractor availability constrains deliverability.

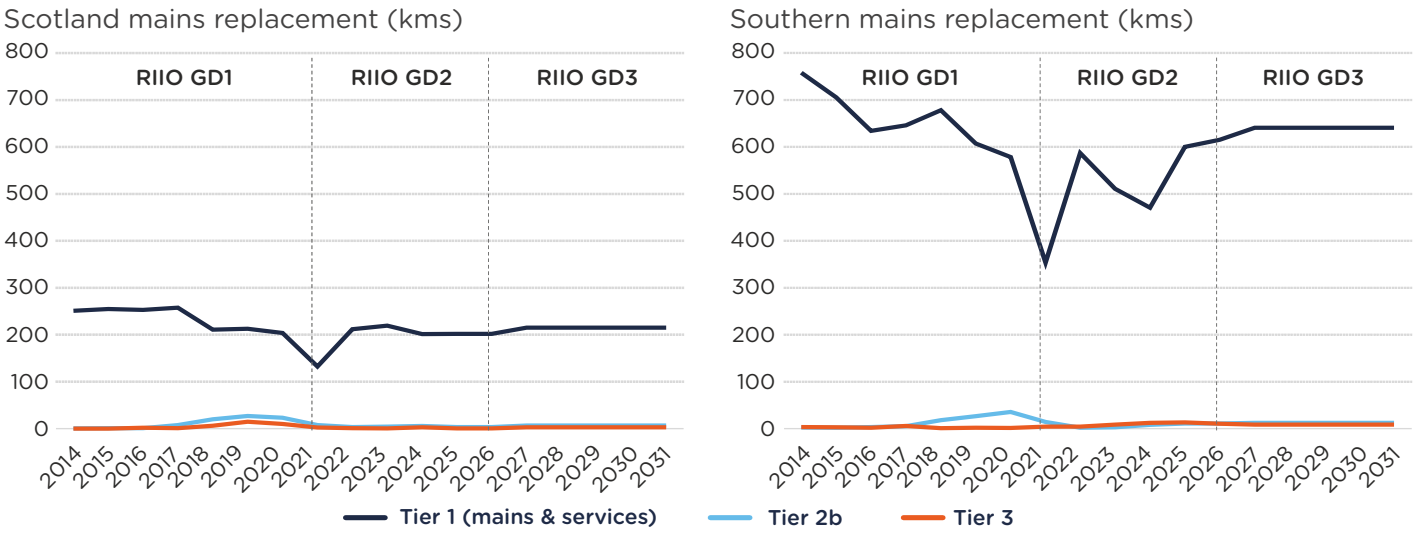
The following Engineering Justification Papers (EJPs) support our Repex strategy:

- SGN-GD3-EJP-RPX-005: Tier 1 mains and services
- SGN-GD3-EJP-RPX-001: Bulk services
- SGN-GD3-EJP-RPX-003: Other mains and services
- SGN-GD3-EJP-RPX-004: South London Main

Repex workload

The workload associated with our Repex strategy is shown in Figure 5f below. Tier 1 workload continues through to the delivery of the HSE-enforced programme and Tier 2 and Tier 3 work is broadly consistent with the average lengths delivered across GD1 and GD2.

Figure 5f: Mains replacement (Repex) length



Source: SGN Business Plan submission

The figure shows that delivery in Southern has been significantly more volatile than in Scotland. At the start of GD2, there was a sharp reduction in delivery due to the Covid pandemic and restrictions on non-essential working. There was a recovery after the pandemic, however, this faltered due to a loss of contractors from the Southern region.

For GD3, while the total length of metallic mains to be replaced with PE is broadly the same, the nature of the projects is changing significantly. From a safety perspective, the remaining population of mains is lower risk. However, the network configurations are more complex, due to factors such as higher numbers of road crossings, assets that are geographically isolated, short lengths of pipes (stubs), greater service density or long services, crossroad services (i.e. services that attach to properties on the other side of the road) or are linked to risers that also need to be replaced.

As set out in SGN-GD3-ECR-01: MJM Energy - Historical review of Repex, and detailed in our Network Asset Management Strategy, the more complex nature of the remaining projects is due in part to changes in the HSE enforcement policy and Ofgem regulatory expectations. These frequent changes in policy and regulatory incentives have created a body of assets that have effectively been stranded as a result and need to be replaced. These are often small segments where you are unable to achieve economies of scale on planning or mobilisation costs.

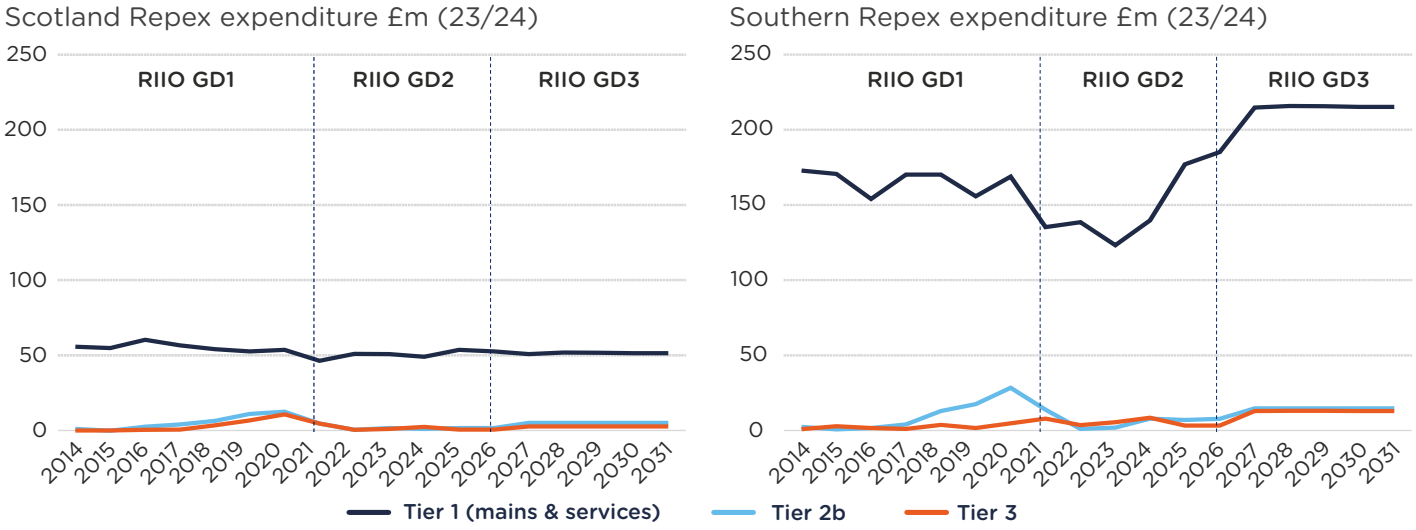
The policy has also focused on the removal of risk as the primary output. As set out in the MJM report, this have been achieved and mains that were categorised in the highest risk band have had the highest replacement rate, which has delivered a better customer outcome in the most efficient way. A consequence of the focus on risk removal is that it has focused delivery on smaller-diameter mains that are closer to properties. The mains that are further away from properties tend to be in more complex locations and so take longer to deliver. MJM's analysis assessed seven categories of complexity and their prevalence in the remaining workload. Their findings identified a strong regional factor with two thirds of Southern projects having one or more complexity factors, while in Scotland it is around half.

Mains replacement costs

The change in cost pressures is shown in the figure below, in 2023/24 values. The cost pressures in GD2 and GD3 vary significantly between Scotland and Southern. On a simplified unit cost basis (£m/km), delivery costs in Scotland are anticipated to be 5% lower than they were in GD1, while in our Southern network they are anticipated to be 25% higher (although it should be noted that these headline changes mask multiple changes in the underlying mix of workload).

The graphs also show the uplift in costs associated with increased Tier 2b[15] and Tier 3 workloads. Due to the high unit rates for these higher diameter pipes, a slight increase in the workload can have a marked impact on overall investment requirements.

Figure 5g: Repex expenditure



Source: SGN GD3 Business Plan submission.

The increase in complexity factors and smaller projects are already driving cost increases. These are more prevalent in the Southern network as it's more densely populated and has more constrained road space. This has led to the remaining mains being quite different to those replaced in the past, which needs to be understood and considered in both the way in which we deliver the GD3 programme, and how the funding is allocated.

More complex projects will take longer to deliver and have greater risks associated with them, making it harder to retain and attract contractors to deliver that workload unless there is a premium to cover that risk.

In GD3 we will continue to build our in-house resource. However, labour market shortages in the south, due in part to the high cost of living, puts a greater emphasis on importing contract labour from other regions. In GD2 there has been a significant reduction in the availability of contractors willing to travel to southern England to complete mains replacement work following Covid, Brexit and high competition from other utilities (high-speed fibre roll-out programme, investment from electricity and water). We are therefore paying increased costs to induce them to work in the south, which are outside standard labour force costs captured within standard Office for National Statistics (ONS) methodology.

More detail on our mains replacement costs can be found in the Cost Assessment and Benchmarking appendix.

15 Tier 2 workload is split into two categories. Tier 2a are mandatory 'replace on find', Tier 2b are replaced based on the level of risk they present.

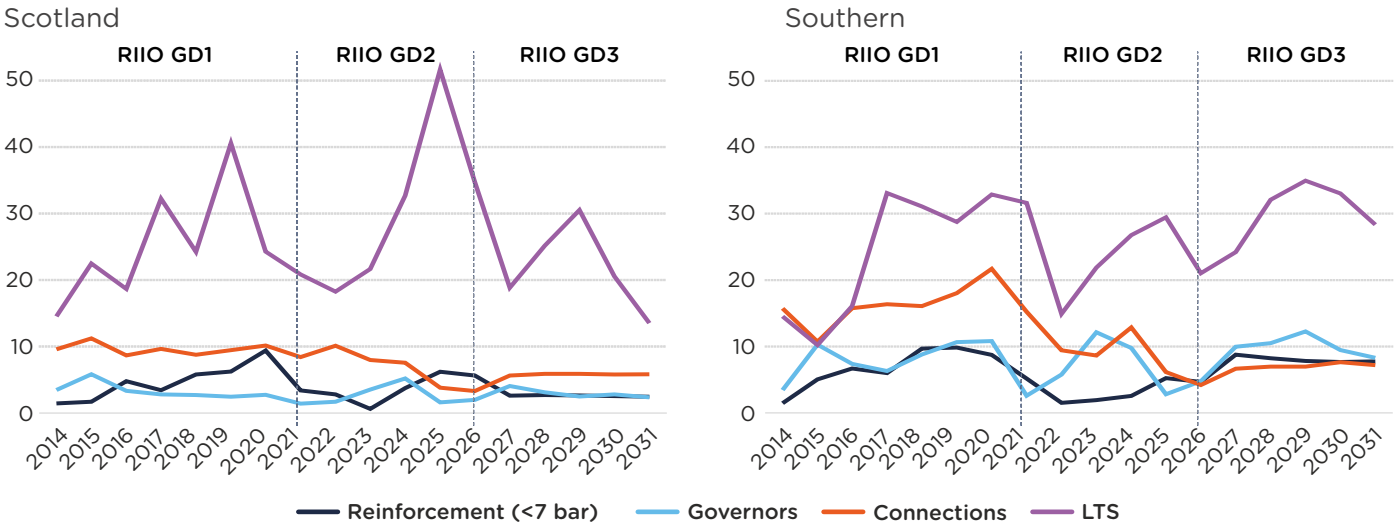
5.2.6 Investing in network integrity

In addition to our ongoing mains replacement programme, we need to make specific interventions to maintain the integrity of our assets. The local transmission system (LTS) provides high-pressure transport across our network, linking the national transmission system to cities, towns and neighbourhoods. The expenditure profile for LTS expenditure is highly volatile, with investment requirements driven by the needs of specific assets and the need to plan and implement large projects.

The characteristics of the network in Scotland and the fact it covers a broad geographical region means it has a higher proportion of LTS pipelines per customer than other regions in the UK. This drives a higher level of expenditure in Scotland relative to our customer base when compared with our Southern network.

In GD2, specific projects increased investment in Scotland. Now that these are complete, requirements are higher in Southern over GD3. For distribution assets (low and intermediate-pressure assets) the expenditure profile is dominated by three broad categories of costs: governors, reinforcement and connections. Figure 5h below shows the expenditure required to maintain asset integrity to both the LTS and the intermediate and low-pressure system (<7 bar) network.

Figure 5h: Capital expenditure – network integrity £m/yr (23/24)



Source: SGN Business Plan submission.

Governors – we will invest £13m per year across our network as part of an ongoing programme of replacement and repair following a similar workload to GD2, with approximately 3,600 interventions (excluding District Medium Pressure inlet refurbishment where the programme of work has reduced significantly. More details can be found in EJPs SGN-GD3-EJP-G&I-001 to 005.

Reinforcement – work is required at a localised level to manage pressure and ensure that there is sufficient capacity to manage a 1-in-20 winter peak demand, which depends on local changes in domestic, industrial and commercial demand. In the initial years of GD2, reinforcement requirements were suppressed due to Covid, with demand now returning. Reinforcement is required to accommodate these changes and other network changes over time. Given the variation in the NESO pathways shown earlier in this chapter and the safety requirement associated with maintaining end-use pressure, we have included a base level of expenditure and proposed a volume driver in Chapter 8. More details can be found in EJP SGN-GD3-EJP-DST-005.

Connections – volumes have reduced by 59% in GD2 compared with GD1 (excluding fuel-poor network extension connections that were largely discontinued in GD2). We anticipate a 78% decrease in GD3, which is being driven by changes to building standards and a larger proportion of connections being provided by alternative service providers. In GD3 the removal of the Domestic Load Connections Allowance (DLCA) is likely to further reduce volumes, however, the timing and mechanism of this change is not currently clear.

We propose to maintain a volume driver to cover both connection costs and disconnection costs explained in Chapter 8. As connection volumes decline, a large proportion of the costs are associated with overheads and administration as we remain obliged to provide a quotation to all customers within specific time periods (as set out under the Guaranteed Standards of Performance). As such, an increasing proportion of the costs is spent on providing the quotation service rather than completing work.

5.2.7 Supplies to multiple occupancy buildings (MOBs)

Approximately a third of the customers we transport gas to live in multiple occupancy buildings (MOBs). Gas is supplied through assets including risers – pipes that supply the multiple floors of the building, and complex distribution systems (CDSs), which are on a larger scale, typically supplying commercial premises such as schools, hospitals and shopping centres. We have been delivering a programme to refurbish and replace risers throughout GD1 and GD2.

In GD3 we are proposing to increase this programme, which will require £248m of investment across the five-year period to improve the safety of gas supplies to these highly populated buildings. This is detailed fully within SGN-GD3-EJP-DST-004: MOBs-Risers.

Our plan reflects a 43% increase in workload so we can take a more proactive approach to replacing older risers and target younger assets in coastal areas which are more exposed to the elements and deteriorating more rapidly.

Our programme of works planned for MOBs, primarily dealing with risers, has been established on current guidance and reflects the initial findings to the Grenfell Inquiry Report and the requirements of the Building Safety Act 2022. We are already experiencing increased workload and requirements for buildings currently defined as high-risk, and it has been indicated that the definition will be reviewed and has the potential to include most of our asset population based on the occupancy type and complexity of the building rather than just the height.

To meet the initial Grenfell recommendations, we will proactively replace all recorded PE riser installations, with steel systems to domestic MOBs with six floors and above, which have been deemed as a risk. This will continue in GD4 to cover buildings three to five storeys. Part of the wider programme will also include the management and remediation of pipeline isolation valves (PIVs) on the supply mains to riser systems to make them more accessible, as well as the consideration of sleeving (fire stopping) on ageing pipework in some older buildings.

As this remains an area of intense scrutiny by the HSE with further changes anticipated, our delivery requirements in GD3 may require additional workload. This is in response to updated standards or expectations for maintenance of risers, signage and inspection and/or new expectations for legacy installations which are not proposed to be replaced in full. We therefore propose a reopener during GD3 to deal with this uncertainty.

In addition to the domestic workloads, we have introduced CDSs as a new asset category for commercial MOBs. As we are in the early phases of a survey programme for these installations, the volume and level of intervention is not fully defined. We have therefore requested one year of seed funding for interventions on these assets, while we gather further intelligence and evidence to establish a design solution, appraise options for replacement and their costs.

Our surveys into CDSs show that there are likely to be a high number of less complex solutions to single commercial supplies alongside a smaller proportion of more complex systems that will be more costly to refurbish and replace. Because the costs associated with these are harder to estimate, we propose to use a reopener as detailed within Chapter 8.

Alongside our important investment to make gas supplies to MOBs safer in the short term, we will actively look at options to decarbonise them, with further details in the following section.

5.3 Our network is ready to transport clean energy to our customers

A key outcome for GD3 is for our network to be ready to facilitate clean energy transition choices for our domestic, industrial and commercial customers. It is intrinsically linked to our outcome of ensuring a safe and reliable operation delivering gas supplies to six million homes and businesses in all demand scenarios.

Our asset management strategy will ensure the right interventions are made to deliver our safety obligations. Validating any decarbonisation options for our customers will not impact on the safety and reliability of our network and we will always consider the potential impact on bills.

As described in SGN-GD3-SD-05: Innovation Strategy, during GD2 the UK government made a strategic policy decision to support blending of up to 20% hydrogen (by volume) into Great Britain's gas distribution networks. Evidence from key innovation projects being delivered by us and the other GDNs will inform future decisions on heat policy. The EU is also proposing to allow a blend of up to 5% hydrogen in cross-border transport, therefore gas entering the National Transmission System at terminals such as Bacton Interconnector or Isle of Grain could contain blends of up to 5% hydrogen in the near future.

Throughout GD2 we have been working with the other gas networks and stakeholders to support the introduction of hydrogen blending and increase the amount of biomethane injection into our network. This approach is crucial and deemed 'no regrets' work by us and our key stakeholders, as it is enabling activities which help facilitate the energy system transition for gas consumers.

We plan to build on this work in GD3 using the Carryover Network Innovation Allowance (CNIA) to complete projects started in GD2. This will allow us the opportunity to plan these projects effectively to deliver credible outcomes, rather than forcing them to be completed by the end of GD2.

These 'no regrets' activities also align with our Network Asset Management Strategy described earlier in this chapter. This will ensure that we deliver value to customers through efficient investment and delivery whilst continuing to engage with all key stakeholders to develop Regional Energy Strategic Plans (RESPs) for a viable and safe net zero transition pathway that meets the needs of our customers and recognises the need for network safety and resilience, which is covered in Chapter 6.

Our commitment: We will establish processes that allow us to safely and reliably blend more green gas into our network.

We recognise the importance of supporting people in MOBs transition to net zero safely and affordably. We therefore need to put in place a clear framework to support decision-making and ensure best practice.

Our commitment: We will implement a framework to assess alternatives to natural gas when refurbishing or replacing supplies to high-rise multiple occupancy buildings.

To date there has been limited appetite from some building owners to transition to alternative energy supplies. In Chapter 6 we set out our plans to carry out a real-life project to transition a selected MOB to a decarbonised energy supply taking a whole-systems approach that assesses all options to deliver heat. This will enable us to develop a best-practice framework for transitioning MOBs in the future in a customer-focused and efficient way.

5.4 We are resilient to a range of external shocks and stresses

Our network needs to continue operating when faced with external shocks and stresses. This section focuses on how we are increasing our resilience to climate change and cyber threats and the investment we need in GD3 to address these challenges. Our previous section on Asset Management includes how we are addressing physical stresses on our network, and Chapter 10: Financing our plan covers our approach to financial resilience.

5.4.1 Climate resilience

Ensuring that our business is resilient as the climate changes is a critical part of our long-term planning. SGN-GD3-SD-02: Climate Resilience Strategy, sets out our approach to addressing climate change risks in GD3. Our two networks already operate in quite different climatic conditions and our past investment and operational approaches reflect this to ensure our service is resilient to the weather experienced.

Through the Adaptation Reporting Power (ARP), which is a DEFRA requirement, we identify and analyse the impact climate change is having on all aspects of our business and identify the actions needed to mitigate its impacts. Through our Taskforce for Climate Related Financial Disclosure (TCFD) reporting we also disclose our climate-related risks and opportunities to our stakeholders.

This has identified that the key risks we face include extreme precipitation, flooding, drought, subsidence, extreme cold and heat stress. Data from the Met Office shows that there is significant variation in the amount of rainfall occurring throughout the UK, with the driest areas in the south-east and wettest areas in the west and the highlands.

Over the last few years, due to exceptional levels of rainfall, we have experienced an unprecedented rise in pipe washouts, where riverbank erosion causes pipes to become exposed, increasing their risk of failure. The highly localised and intense nature of these rainfall events is expected to become more frequent with climate change. In GD2 to date, we have had more than 100 washouts in our Scotland network. We will continue our survey programme to identify further washouts.

In our Southern network, increased prevalence of drought conditions leads to the drying and contraction of the clay-dominated ground across the south-east. This ground movement increases the risk of damage to mains and associated emergency and repair work.

To tackle the key risk of pipeline washouts, we propose more frequent and, as required, specialised surveys. This proactive approach will enable us to identify where we need to carry out

interventions, reducing risk to the network and protecting customers' supplies. We have included the cost of ongoing survey work within our baseline expenditure. The cost of repair work, interventions and associated diversions (if repair or alternative interventions are not appropriate) would be included as a reopener given the uncertainty surrounding the number of projects, the nature of the intervention required, and the location in the country. Furthermore, we have proposed a reopener for pre-emptive climate change resilience activity that may be identified through our ongoing analysis of climate change risks and impacts on our network.

Our commitment: We will introduce a measure for climate resilience and establish a standard baseline from which will improve over the course of GD3.

We will work collaboratively with other GDNs and DNOs through the Climate Change Adaptation & Resilience Working Group, at the Energy Network Association, to derive suitable metrics and KPIs for monitoring and managing climate resilience. We will also make this part of the development of our long-term strategic asset management plan, which will include transitional and physical climate-related risks.

5.4.2 Cyber-resilience

We operate an essential service and our customers expect a resilient supply of energy. We must therefore ensure that we continue to respond to threats to our cyber security as much as we protect our physical assets. We need to quickly achieve the enhanced cyber security objectives set out in the Network and Information System (NIS2) Directive, and take appropriate measures to prevent any cyber or IT incidents having an impact on the reliability of our energy supply.

We will develop, implement, and maintain state-of-the-art cyber security systems to protect our infrastructure. This includes integrating advanced technologies such as artificial intelligence and machine learning for enhanced threat detection and response, and cultivating a culture of cyber security awareness among our employees and stakeholders. We will continue to build and maintain strong partnerships with government agencies, our suppliers and contribute to industry forums to stay ahead of emerging cyber threats. Furthermore, we will continuously review and update our cyber security strategy to adapt to the changing threat landscape.

Our Business Plan is supported by detailed cyber security plans that ensure we meet and maintain the Enhanced Cyber Assessment Framework Profile by 2027. We have set specific cyber security objectives for the next price control period which aim to enhance our resilience to cyber-attacks.

Our commitment: We will meet or exceed the Enhanced Cyber Assessment Framework.

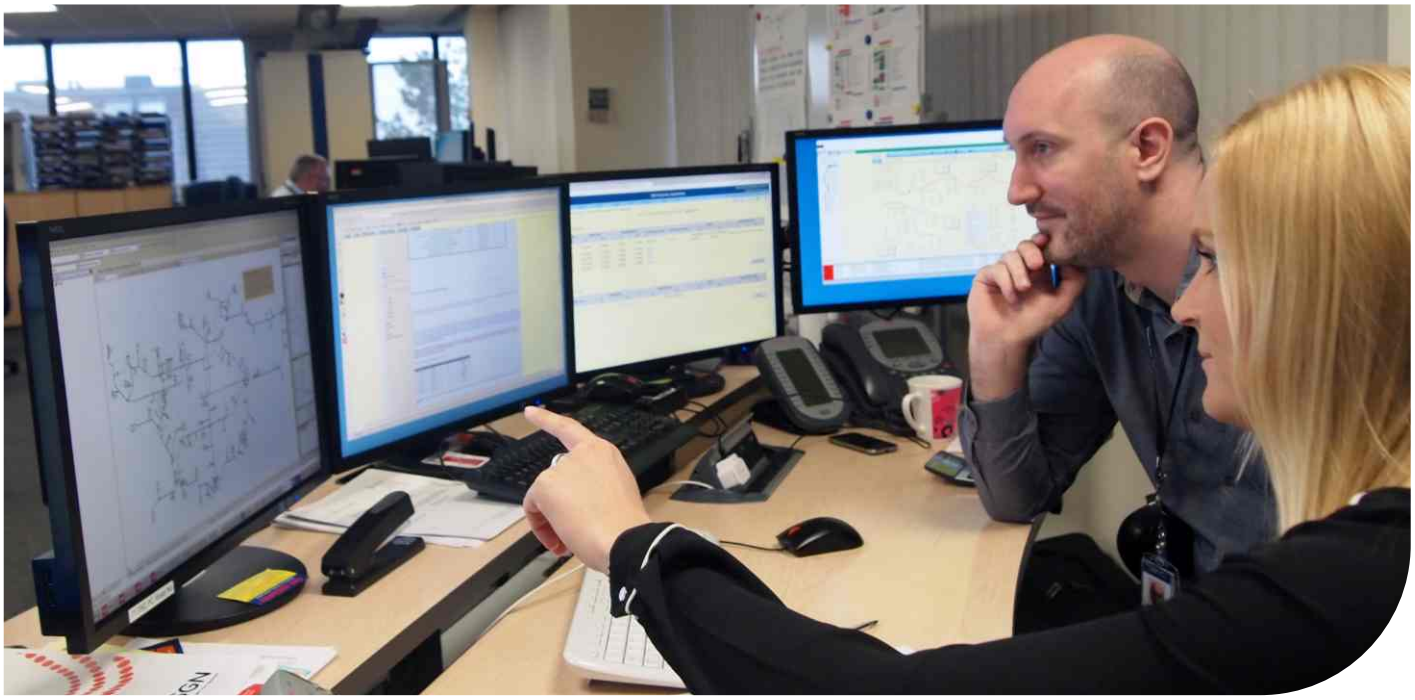
In GD3 we will:

- Achieve significant improvements in threat detection and incident response times through the implementation of advanced security technologies;
- Improve customer and employee data protection and privacy through enhanced security measures;
- Invest in cyber security training and awareness programmes for our employees who may be targeted by cyber criminals using more sophisticated methods;
- Conduct regular security assessments and audits to identify and address vulnerabilities; and
- Enhance our state-of the-art security operations centre for our IT and Operational Technology (OT) estate to implement real-time monitoring and response to emerging threats.

To achieve our cyber security objectives, we are requesting funding of £173m for cyber OT and IT. This includes advanced cyber security technologies, infrastructure enhancements, continuous training and development programmes, regular security assessments, audits and compliance efforts, as well as additional resources.

As well as meeting important legal requirements, our enhanced cyber security measures will protect customers' data and the reliability of gas supplies. They will enhance public safety by preventing disruptions and potential disasters caused by cyber-attacks on the gas distribution network.

Our cyber programme is supported by SGN-GD3-SD-07: IT and Telecoms Strategy.



Chapter 6: Infrastructure fit for a low-cost transition to net zero

In this chapter we explain what we will do to contribute to Great Britain becoming net zero, through giving more people access to green gases and by reducing our own carbon emissions. We describe how:

1. **We will increase our capacity to transport biomethane so we can decarbonise the equivalent of one in six homes connected to our network.**
2. **Within two years, our research will enable the blending of hydrogen into our network.**
3. **We will develop an approach to decarbonising high-rise, multiple occupancy buildings that gives customers choice in how they transition from fossil fuels.**
4. **We will support a consumer-led approach to decarbonisation across our regions.**
5. **We will invest in new technology to enable us to reduce methane emissions, in line with our customers' expectations.**

6.1 Our GD3 outcomes and commitments

The GD3 price control period will be critical in Great Britain's transition to clean power by 2030, net zero by 2045 in our Scottish network and 2050 in our Southern network. By taking a holistic, whole-systems view we can maximise the use of existing infrastructure and innovate to explore the role gas networks can play in achieving net zero.

Developing low-carbon energy solutions is our customers' and stakeholders' highest priority for additional investment. We will expand on the progress made in GD2, concluding work already funded and focusing new investment on areas where we have demonstrated there are further opportunities to sustain the trajectory to net zero. Details on how we will fund these activities is explained in Chapter 8 of this document. We will also continue to take steps to reduce our own emissions to help improve the environment.

SGN RIIO-GD3 outcomes	SGN RIIO-GD3 commitments
Infrastructure fit for a low-carbon transition to net zero	
We adopt a whole-systems approach to delivering net zero	We will contribute to the development of the Regional Energy Strategic Plans (RESPs) and relevant local authority energy plans in Scotland and the south of England
More people will have access to biomethane	We will work collaboratively to maximise biomethane injection and reduce connection times for producers to provide the capacity to transport it to the equivalent of one million homes
Harnessing green gas will help remote Scottish communities contribute to net zero	We will transport locally produced biomethane to Wick and Thurso SIUs to replace liquified natural gas supplies
We will be ready to accept blended hydrogen onto our network to supply customers	We will complete the evidence for hydrogen blending in the first two years of GD3
We will reduce the impact our operations have on the environment	We will reduce our operational carbon footprint by 46% compared with our 2019 baseline with a focus on reducing methane emissions

6.2 We adopt a whole-systems approach to delivering net zero

In GD3 we will play an active role in moving towards decarbonisation. Demand for unabated natural gas and other fossil fuels must be phased out and replaced by low-carbon and ultimately renewable energy sources. In doing so, it is important to recognise that regional characteristics will drive solutions and technology adoption, and we must consider the whole energy system as we transition to net zero. Our Scotland and Southern networks have different attributes and policy environments that will impact their net zero pathways, which remains highly uncertain in the context of heat.

Customer and stakeholders strongly support a whole-systems approach, so the energy transition is fair and affordable for all customers and not a 'postcode lottery'. However, some are sceptical about whether it is realistic or affordable. Customer acceptance and engagement will be critical to the energy transition, and working to better understand consumers' needs and their decarbonisation options is central to our approach.

6.2.1 Innovation to achieve net zero

We will invest just over £51m in innovation activities that will provide critical evidence to underpin future decisions on energy supplies as part of a whole systems transition to net zero. Our ambitious plan focuses our delivery in GD3 on areas that will provide the most impact in the transition, through the early adoption of low-carbon technologies and those sectors of the economy that will help deliver a just transition, such as industrial and commercial consumers. Over the course of GD3 we will increase access to green gas, so we help to accelerate decarbonisation.

Our net zero transition activity is detailed in SGN-GD3-SD-05: Innovation Strategy, which has four areas shown in the graphic below, along with the associated funding.

Table 6a: SGN Innovation Strategy areas

Understanding our consumers' needs		
Understand our consumers' needs and preferences in greater depth and breadth. Maintain strong relationships to support decarbonisation, whilst our assets preserve energy security. £1.6m		
Today's network	**Network transition**	**Future network**
Responsible investment in research and development that benefits all. • We are more efficient, safe, resilient, and sustainable. • We understand the nature of vulnerability, responding to our customers' needs. • Our customers' energy is decarbonised through a whole-systems approach. £4.9m	**A coordinated whole-system approach, delivering carbon reductions for our consumers now.** • Maximise biomethane, greening energy supplies. • Verify, validate and demonstrate hydrogen blending. • Coordinate decarbonisation solutions for multi occupancy buildings. • Collaborate for a whole-system approach to decarbonise the energy system. £33.9m*	**Supporting a low-carbon energy transition, a key component of a system transformation.** • Repurpose our assets, supporting the energy system transition. • Understand the impact of network decommissioning for our customers. £10.38m

Source: SGN Innovation Strategy
* This includes £6.7m of Network Innovation Allowance funding that will be carried over from GD2.

6.2.2 Understanding customer needs in a clean energy transition

We recognise the importance of taking a customer-led approach to the energy transition. Engaging with and understanding customers' needs will be critical in delivering decarbonisation and meeting the UK and Scottish Governments' net zero targets in a just way.

To develop a deeper understanding of consumers' needs we will take a data-led approach to customer segmentation. We will further develop our consumer modelling tool with observed data, trends, changes in costs and energy policy to support an informed view of decarbonisation and its implications across our network. This will be augmented with additional data sets to provide further insights (e.g. electrification capacity). Through this work we will:

- Develop detailed consumer segmentation and demographic analysis;
- Understand consumer needs;
- Carry out an impact assessment for each end-user type;
- Assess regional variations in requirements; and
- Understand societal and consumer vulnerability impacts.

Segmentation of our industrial and commercial user base is a further key element to this. To support the increased data-led analytics and engagement, we will establish a dedicated industrial and commercial consumer engagement team and invest in the support systems and data analysis functions to augment the delivery of credible information for consumers.

By developing strong relationships with these businesses we can support their forecasting and decarbonisation plans as they navigate the energy transition. Utilising our network will guarantee their energy security while ensuring that they continue to provide significant value to the economy.

This work, alongside the engagement we will carry out with customers as part of our projects to introduce hydrogen blending summarised later in this section, will help us support our customers through the energy transition so no customer is left behind, including those whose personal circumstances make them more vulnerable.

Decarbonising multiple occupancy buildings (MOBs)

Approximately a third of the customers we transport gas to live in MOBs.

In GD3 we plan to deliver a 'real-life' demonstration of a whole-system energy transition within a selected high-rise MOB.

This will showcase how various systems can integrate and focus on:

- Demonstrating the technical feasibility and integration of renewable energy systems;
- Engaging with stakeholders and end users to ensure their needs are met; and
- Creating a blueprint for future retrofits that can be scaled across other high-rise MOBs.

Our customers living within MOBs are considered some of the most vulnerable in society.

Our customers and stakeholders have told us that they expect us to engage effectively with customers, so this will provide a valuable opportunity for us to learn how we can best communicate with some of our most vulnerable customers and understand how to support these customers through the energy transition.

6.2.3 Working with the regional energy strategic planner

The National Energy System Operator (NESO) will be taking on a new role known as the Regional Energy Strategic Planner (RESP). The new body will ensure energy networks are regionally coordinated across fuel sources and providers, and between geographies with the right level of local input into the process as well as regional democratic oversight. The RESP policy framework is still being finalised, but the regional plans are expected to be developed around three building blocks – modelling supply and demand, identifying system need and technical co-ordination. Collaboration and the provision of data will be critical in the development of the RESP and the pathway to net zero in both Scotland and Southern.

We will contribute to the development of the Regional Energy Strategic Plans (RESPs) and relevant local authority energy plans in Scotland and the south of England.

6.3 More people will have access to biomethane

Reducing the carbon impact of gas conveyed in our network has wide societal benefits to customers. Biomethane is a renewable energy source with the potential to play a major role in greening the gas grid. It is produced by organic matter and can be transported through our network to households where it works seamlessly with customers' existing heating and cooking appliances without the need for new infrastructure.

We connected Great Britain's first biomethane plant to the gas grid in Didcot in 2010 and now have 42 plants connected. We have the capacity to supply the equivalent of 323,000 households, including approximately 10% of homes we supply in Scotland, with biomethane. We are leading the roll out of biomethane, carrying more green gas than any other network. In GD2 we were given an additional allowance to improve biomethane plant access to our network. This funding is being used to support enhanced propane management solutions, smart control and instrumentation to improve the flow of biomethane.

These technologies are now becoming established, and we have a better understanding of their ability to support an increase in the flow of biomethane across the network. In GD2 we have developed the first biomethane-specific charging zone (LDZ) and we have provided support to independent gas transporters to change the rules to facilitate biomethane injection into their networks.

Many of our customers are positive about the use of biomethane as a proven technology that can be implemented quickly, although some have concerns that it is a short-term solution. In GD3 we will continue to support the delivery of biomethane as part of a broader range of tools and interventions to increase the amount of green gas that can be transported by our network.

Our commitment: We will work collaboratively to maximise biomethane injection and reduce connection times for producers to provide the capacity to transport it to the equivalent of one million homes.

Maximising the delivery of biomethane requires us to work closely with industry, listen to their proposals and, where appropriate, support their implementation.

To deliver this we will:

1. Prioritise biomethane gas injection over natural gas – we will operate and develop our networks to ensure biomethane gas will be enabled to always flow onto the network as a priority over natural gas.
2. Develop the regulatory landscape to enable biomethane entry capacity to deliver security of supply standards, mirroring the existing arrangements for natural gas.
3. Develop a meaningful target for biomethane growth – actual energy delivered to the network versus potential.

We are committed to establishing an efficient, standardised connection process across GDNs and building and maintaining enduring relationships with our biomethane producers. We recognise the importance of providing transparency on the available entry capacity on our networks and will communicate this to our customers to assist in the development of new biomethane connections.

In GD3 we are requesting funding to complete eight improved roll-out projects at a cost of £7.3m over the five-year period. This is included within our Net Zero And Reopener Development (NZARD) Use-It-Or-Lose-It (UIOLI) request.

To date, the network has accommodated additional biomethane capacity without the need for significant reinforcement work. As we move into GD3, the increased injection of biomethane could take up the network's existing capacity, so more reinforcement may be needed to avoid constraining its use. It is important, given the current uncertainty around government heat policy, that biomethane connection and reinforcement costs the networks incur can be recovered on an efficient basis through a reopener mechanism. This is set out in Chapter 8.

"I like biomethane because it feels natural, like you are recycling waste in a way."

Domestic gas customer, Southern

6.4 Harnessing green gas will help remote Scottish communities contribute to net zero

We operate five SIUs in remote parts of Scotland each with between 1,000 and 2,500 customers. These are networks which are independent from the main transmission and distribution system and fuelled primarily by liquid natural gas (LNG), delivered from Kent to site by road tanker. Stakeholder groups have encouraged us to look more closely at decarbonisation options for the SIUs and we have undertaken a number of studies evaluating alternative decarbonisation pathways. This has identified biomethane as the most cost-effective zero-carbon solution.

These studies have moved to concept design stage, using compressed biomethane (Bio-CNG) produced at local distilleries to support the decarbonisation of the Wick and Thurso SIUs. The detailed design will be completed in GD2. We have included £15.8m of Net Zero Pre-construction and Small Projects (NZASP) reopener funding to progress the construction and delivery of these sites. A refined cost estimate will be provided at the time of the draft determination. We will also progress with design work for Oban and Campbeltown SIUs in GD3. We have included £5m of NZARD UIOLI funding to progress.

Without this investment there is a real risk of security of supply for our most remote customers in Scotland, given that supplies of LNG arriving in the UK are impacted by demand in global markets. There is also an inherent risk that the energy system remains siloed, preventing effective coordination of the transition to net zero and potentially creating sub-optimal outcomes for consumers where networks become less resilient and more costly over time.

This investment will also deliver wider social benefits that include sustainable reduction in both methane and CO_2 emissions from LNG tankering. There are further benefits that include:

- Increasing the resilience of the nation's energy supplies, with less reliance on imported fuel;
- Protecting less affluent customers from the significant capital cost of converting to heat pumps or district heating;
- Providing learnings on the process and practice involved in converting a given geography from methane to biomethane; and
- Reducing the impact on consumers, as the conversion to biomethane should be largely seamless from our customers' perspective.

Further details on our approach to decarbonising the SIUs are detailed within our SGN-GD3-SD-11: SIU Strategy.

If these two sites are successful, we anticipate that this technology can be applied to replace LNG for the other SIUs and more broadly to support the deployment of biomethane.

Our commitment: We will transport locally produced biomethane to Wick and Thurso SIUs to replace liquified natural gas supplies.

6.5 We will be ready to accept blended hydrogen onto our network to supply customers

GD3 provides the opportunity to introduce hydrogen, blended up to 20% with natural gas, to reduce emissions from existing gas consumers and stimulate full hydrogen production as part of the whole-system energy transition. It is supported by customers and stakeholders, who see it as an action that can be progressed now and an important step to full hydrogen use.

Hydrogen blending offers a route to market for producers, not least those seeking to create green hydrogen from water by electrolysis utilising 'wasted' or constrained wind power. This approach could provide Great Britain with a resilient energy source while unlocking opportunities for the development of renewable sources at a regional scale, as part of a whole-systems approach. It would also bring significant benefits to communities by offering a means of decarbonising hard-to-abate emissions and boosting the local economy through the creation of new green jobs.

Our early-stage hydrogen blending development work is currently being funded through the Network Innovation Allowance (NIA) and will be progressed through the NZARD and NZASP routes for pre-production trials and pilot projects within GD3.

Our commitment: We will complete the evidence for hydrogen blending in the first two years of GD3.

We will continue to evolve and develop a framework to deliver a targeted approach for hydrogen blending in the gas network with an emphasis on technical considerations for optimal network management. Our aim is that by the end of GD3 our network is ready to accept blended hydrogen to supply our customers. This must be done safely, and efficiently so blended hydrogen can enter the gas network seamlessly.

We will continue to support the blending programme, working with the wider industry to develop the technical, regulatory and commercial aspects of blending and ensuring we are operationally able to facilitate hydrogen blending on the network. In our innovation strategy we have included a project to introduce hydrogen blending into our network using the NZASP reopener.

Hydrogen blending in Edinburgh

Our approach to blending focuses on our highly successful LTS Futures Project, which is repurposing the Grangemouth to Granton pipeline in Scotland and will be the first hydrogen-ready pipeline in Great Britain. This puts us in a unique position, providing an ideal pilot to facilitate hydrogen blending directly into Edinburgh.

If implemented, it would provide significant support in decarbonising the capital city of Scotland, providing a step on the pathway to meet regional and national net zero targets. It will provide a direct route to market for a hydrogen hub and enable us to test network constraints to support the future development of our network. Furthermore, it provides another opportunity for us to work with hydrogen producers, local stakeholders and customers to help inform our approach for the future.

More detail on this project can be found in SGN-GD3-SD-05: Innovation Strategy.

> "It's good to see that they are looking at a mix of solutions. This means they can act now and look into the future too."
>
> Future customer, Scotland

6.6 We will reduce the impact our operations have on the environment

In addition to supporting the pathway to net zero by decarbonising the gas that our network transports, we also need to reduce emissions from the network itself, and our wider operations to help lower the impact we have on the environment.

Customers and stakeholders have highlighted the importance of us improving our environmental performance as the third highest priority for investment. Reducing how much methane leaks from our pipes is the area where they expect us to put most focus. Their expectations are that we go above and beyond the leakage reduction that is achieved because of our safety-driven mains replacement programme and use new technology that is proven to drive methane leakage down further.

Shrinkage is the term used to describe gas lost from the network and includes what we use ourselves, theft and methane leakage from our pipes. Together, this makes up around 97% of our Business Carbon Footprint (BCF). Our BCF is our biggest environmental impact, and working towards net zero operational emissions is one of the pillars of our Environmental Action Plan (EAP), which supports our GD3 plan. SGN-GD3-SD-01: Environmental Action Plan. Figure 6a sets out a summary of our EAP goals.

6.6.1 Reducing methane leakage

Leakage makes up around 94% of the total shrinkage from our network and is the area our customers and stakeholders expect us to focus on.

Our commitment: We will reduce our operational carbon footprint by 46% compared with our 2019 baseline with a focus on reducing methane emissions.

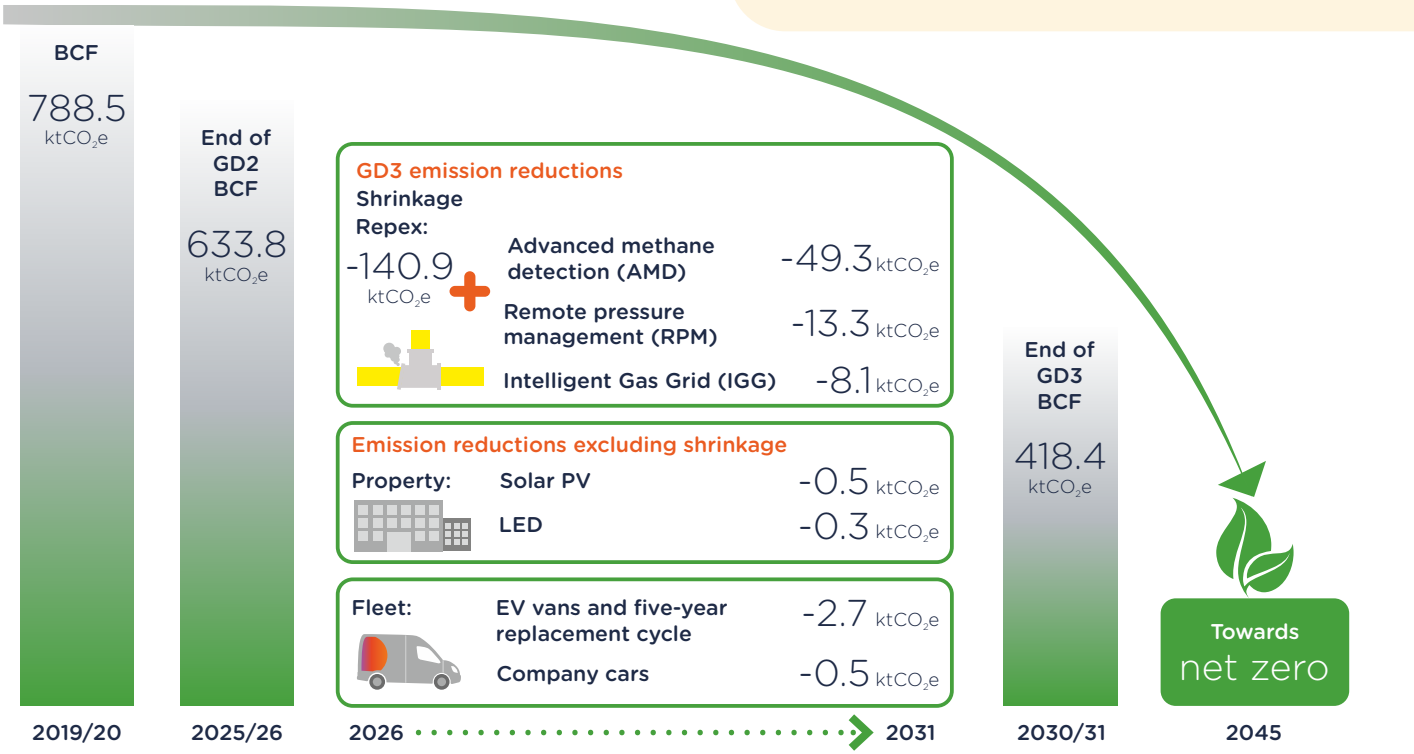
Our aim is to reduce emissions from shrinkage by 34% or 211,257tCO_2e in GD3. We will invest £31.7m in implementing new technologies that will help us to reduce methane emissions from our network, funded primarily through the NZARD UIOLI allowance. They include:

- Advanced methane detection – £13.4m;
- Remote pressure management – £11.2m; and
- Intelligent gas grid – £7.1m.

Advanced methane detection is new technology that will enable us to detect and monitor methane emissions from our network. This real-time data will improve our understanding of our network and help us to target our interventions to improve its condition and reduce leaks.

"It is easy to understand that AI will play a huge part in detecting leaks and other issues, being proactive to improve safety and efficiency while decreasing the impact on the environment."
Fuel-poor domestic customer, Scotland

Figure 6a: Environmental Action Plan



The technology is still being developed and tested through GD2 innovation projects so the costs may vary, but we will deploy methods that have been proven to work most effectively. We will roll-out advanced methane detection across our whole area with the aim to reduce shrinkage emissions by 8% or just over 49,000tCO_2e.

The technology itself does not reduce emissions but guides our intervention. It will enable us to take a more proactive approach to repairing and, where needed, replacing sections of pipe that leak, rather than relying primarily on public reports of gas leaks. Without the appropriate funding to make the repair or replace that section of pipe the emissions reduction will not be realised to the extent anticipated.

Remote pressure management will enable us to effectively manage the pressure in our network to reduce how much gas is leaked. We first implemented this in GD2, and it is now established and operating successfully. We have seen an additional 1.2GWh of leakage reduction/year, and once fully rolled out in our South LDZ by the end of GD2 we estimate to achieve 3.4GWh of leakage reduction/year. In GD3 we are looking to complete the roll out across the Southern region to reduce shrinkage emissions by 2% or 13,300tCO_2e.

Intelligent gas grid is a Strategic Innovation Fund (SIF) project we are leading that applies artificial intelligence (AI) and machine learning to autotomise pressure management. Its full implementation in GD3 is dependent on us being funded to expand remote pressure management technology (described above). It will reduce leakage and improve biomethane feed-in. We anticipate it will deliver 1% of shrinkage emissions or 8,106tCO_2e.

Within our EAP we have also included the roll out of Digital Platform Leakage Analytics (DPLA) currently being progressed through Ofgem's SIF. DPLA, being led by Cadent, is aiming to demonstrate how data, analytics and innovative sensors can be used to identify and predict leaks on the gas network. We estimate the roll out of DPLA across our network will cost circa £53m and we propose to use the NZASP reopener mechanism when the technology has been adequately progressed and proven.

6.6.2 Other EAP-driven initiatives

In addition to reducing methane leakage, we will carry out a range of activities to reduce our BCF and make wider environmental improvements. These EAP activities including improving our fleet and estate, managing waste and increasing biodiversity are included within our baseline allowances and funded through BAU activities, a number of which we highlight opposite.

Improved estate

We will continue the work under way to deploy solar photovoltaics (PV) and improve the management of energy across our estate. As part of our ongoing GD2 programme we have installed solar PV at four sites and will continue to install additional systems for the remainder of GD2 in line with our strategy. Our GD3 programme builds on this by installing a further 2MW PV generating capacity (with battery capacity) and further improves the efficiency of the existing building stock. This is expected to cost £8.66m and save nearly 740tCO_2e.

Improved fleet

In GD2 we set the ambitious target to convert half our fleet to electric vehicles (EV). Unfortunately, the supply chain has not been sufficient to achieve this. EV technology for heavier goods vehicles is not far enough progressed and charging infrastructure is insufficient for critical frontline services. We are therefore focusing on the conversion of our cars and small vans not used by frontline teams and will continue this in a cost-effective manner.

We will look to replace around 240 vehicles with electric or zero-carbon equivalents and also move to a five-year replacement programme to bring in new diesel vehicles (with lower emissions and pollution) and small EV vans faster. We anticipate this will reduce our carbon emissions by just over 3,000tCO_2e.

Biodiversity net gain

We will continue to improve biodiversity on the sites we own by progressing actions identified through surveys undertaken in GD2. We have adopted the DEFRA biodiversity metric tool to help us assess the increase in biodiversity, which will be used to measure improvement on our projects over time. Our aim is to achieve biodiversity net gain in the long term and we are targeting a 10% increase over GD3.

We are committed to exploring wider opportunities to enhance and protect biodiversity. We will consider how we can engage our employees, stakeholders, and the wider communities where we operate in such projects. For example, projects could include nature-based improvements of natural carbon sinks like peatland restoration in Scotland or wetland restoration in the south of England. It is important to us that any activities we engage with are related to the communities where we operate and that local customers can relate to them.

Further details of our environmental initiatives can be found in our Environmental Action Plan. This includes how we will embed contractual sustainability obligations on our supply chain and build clarity around how we will measure and reduce embodied carbon.

Chapter 7: System efficiency and long-term value for money

In this chapter we present how we will deliver value for money for our customers over the long term by:

1. **Targeting investment in our assets to reduce short-term operational costs.**
2. **Creating value by making our data available to third parties to facilitate collaborative planning.**
3. **Investing in our workforce and building the skills needed through training and apprenticeships.**
4. **Supporting our contractor base to invest in their future whilst promoting competition.**
5. **Investing to efficiently deliver 12-hour working practices.**

7.1 Our GD3 outcomes and commitments

A key pillar of Ofgem's regulatory framework is efficiency, to ensure customers pay fairly for maintaining a safe and resilient network. This is aligned with our values of respect, openness and innovation.

In GD2, our Scotland network has shown strong cost efficiency against the workload delivered. While we have encountered challenges within our Southern network, we are improving our position ahead of GD3. As such, the costs in our GD3 plan are efficient for the regions in which we work and will ensure we continue to operate a safe, resilient network for our customers today and one that plays a role in a net zero future.

SGN RIIO-GD3 outcomes	SGN RIIO-GD3 commitments
System efficiency and long-term value for money	
We will deliver value to customers through efficient investment and delivery	We will be ranked in the top three for efficiency for both our networks in a well-calibrated cost assessment that reflects the efficient costs of working in our network areas
Innovation will deliver improvements and efficiencies that benefit customers	We will deliver more than £89m of operational savings through core innovation across GD3
Digitalisation and the effective use of data will enhance network performance and support the transition to net zero	We will open our data to facilitate collaborative planning and the development of whole-system solutions
We will build a more resilient workforce that works efficiently to deliver more value to our customers	We will increasingly reflect the communities that we serve We will recruit and train more than 50 apprentices each year

7.2 We will deliver value to customers through efficient investment and delivery

7.2.1 Balancing investment with value for money

The individual investments we are making within our GD3 plan carefully balance a complex set of trade-offs including safety requirements, expectations of our stakeholders and customers, different investment options and affordability, which we outline in more detail below.

1. **Safety** – Assets degrade over time and at different rates. We are improving our understanding of our assets' condition, those at greatest risk and how those risks are changing. In our Business Plan we have used a risk-based approach to develop a programme of work that will maintain safety standards through targeted and timely interventions in GD3 and beyond, based on the best data and cost information available to us.
2. **Stakeholders** – The expectations of key stakeholders such as our regulators and government change as issues such as cyber-resilience, open data and climate change evolve. Establishing the right balance of investment is more judgemental and anticipatory of future needs, compared with physical assets where there is a well-defined approach to risk and acceptable risk thresholds.
3. **Customers** – We have developed a deeper understanding of our customers' needs and priorities using multiple sources of insight to remove bias. However, the picture can be distorted by changes in background information such as underlying bill increases that are outside of our control, and the perceived role of the networks when it comes to broader social issues such as supporting vulnerable customers. Our acceptability testing provides evidence that our plans to maintain a safe and reliable

network are supported by our customers, as are our plans to progress with priority initiatives at an efficient cost.

4. **Investment options** – Different investments have a different impact on the customer bill. For example, a repair may initially be cheaper, however, an asset may require multiple repairs over a ten-year period with the associated cost and disruption. In contrast, the up-front cost of replacing the asset may be more, but it avoids repeat work and costs less over the long term. We carry out a cost-benefit analysis (CBA) of different options to assess which is the most cost-effective, which is explained in SGN-GD3-SD-08: Cost Assessment and Benchmarking. Often the main constraint is capacity to deliver work in a five-year period.

5. **Affordability** – We recognise that many of our customers are experiencing real financial hardship and costs are increasing across most of their vital services. We will only do work that is necessary to maintain a safe and reliable network, and will focus on making capital investments that spread the costs over the lifetime of the asset, rather than interventions that have short-term bill impacts. Our GD3 plan provides the right balance between these different attributes. We have responded to customer feedback on how much more they can afford to pay, and what we should prioritise. We have also challenged ourselves to work as efficiently as possible and deliver more value to our customers, while recognising some of the unique cost pressures we face, particularly in our Southern network.

7.2.2 Regional characteristics

It is important to recognise that the regional characteristics of the market in which we operate impact on our costs. As a natural monopoly, we are not able to choose to relocate to a part of the country where the cost of business is cheaper, we must serve customers in our area as efficiently as we can and seek to drive down those costs.

In GD2 we are expecting to spend £188m more than the allowances awarded to us in the final determination for our Southern network. Over the course of GD2 our shareholders have limited the dividend that they have accepted from the regulated networks to enable reinvestment into the company to transform our operating practices and processes.

Data from the RRP shows there are clear regional differences in cost of delivery and performance against allowances. Figure 7a below shows how Northen Gas Networks (NGN), Scotland (Sc) and West Midlands (WM) are the clear leaders utilising the GD2 model whilst East of England (EoE), Wales and West (WWU) and Southern (So) are struggling to remain competitive.

Figure 7a: Updated efficiency position in GD2 with updated costs and drivers

Network	FD outcomes		Updated RRP outcomes GD2	
	Efficiency score	Rank	Efficiency score	Rank
Sc	0.98	5	0.91	3
WM	0.99	6	0.91	2
Lon	1.09	8	0.94	4
NW	0.97	3	0.98	5
NGN	0.92	1	0.89	1
WWU	0.97	2	1.06	7
EoE	0.97	4	1.14	8
So	1.05	7	1.03	6
Upper quartile	0.963		0.903	
85th percentile	0.962		0.900	

Source: SGN analysis

As we set out in Chapter 9: The cost of our plan and the Cost Assessment and Benchmarking appendix, we have no confidence that the GD2 cost assessment methodology is a robust determination of efficient costs, unless the specific issues we highlight are addressed. Later in this chapter, we explain the challenges faced with securing a supply chain to deliver our mains replacement programme that clearly demonstrates that the cost assessment model does not accurately reflect the efficient cost of doing business in southern England.

Our commitment: We will be ranked in the top three for efficiency for both our networks in a well-calibrated cost assessment that reflects the efficient costs of working in our network areas.

7.3 Innovation will deliver improvements and efficiencies that benefit customers

Forecasts show that the gas networks will continue to operate as they do today throughout the GD3 period. Customers will still require natural gas, transported through our assets, to heat their homes and run their businesses. Therefore, we will deliver innovations that enable us to provide a safe and reliable supply of gas, reduce our environmental impact and deliver a high quality of service as efficiently as possible, while maximising the value our customers get from our investment.

7.3.1 Innovation strategy

The strategic areas within SGN-GD3-SD-05: Innovation Strategy will deliver the following benefits to customers:

- Delivering a network that is secure and resilient through operational innovation, providing system efficiency and long-term value for money to consumers, especially for those who are vulnerable;
- Delivering carbon reductions for consumers by transporting green gases including biomethane and hydrogen blending and enabling a low-cost transition to net zero; and
- Taking a whole-system approach in the transition to net zero, where our investment supports local needs, delivering security of supply and resilience to customers.

During GD2 we implemented an industry-aligned programme and project control framework to ensure all projects are appraised through a consistent governance process. This provides high confidence that benefits for customers are delivered, avoids duplication, ensures financial risk management controls are in place and, where appropriate, they can be implemented in BAU activities.

We are delivering groundbreaking projects during the GD2 period to advance the energy system transition, that are described in detail within our Innovation Strategy. This includes our 100% hydrogen project, H100 Fife, our first of its kind demonstration of how green hydrogen can be used to heat homes.

The GD2 governance framework for innovation projects provided funding that facilitated the energy system transition or benefited consumers in vulnerable situations. Funding for innovation focused on operational safety, resilience, efficiency, or broader customer or sustainability-themed projects was not permitted.

We have been creative in finding funding for these areas through additional external funding mechanisms such as lane rental schemes with Transport for London and others.

Our commitment: We will deliver more than £89m of operational savings through core innovation across GD3.

Stakeholders have asked us to do more and at a faster pace, so we need to explore solutions they want both now and in the future, to contribute to decarbonisation while protecting our customers. In response we have realigned our innovation strategy to focus on four themes:

1. Understanding Customer's Needs.
2. Today's Network.
3. Network Transition.
4. Future Network.

Other strands of the strategy are covered in Chapter 6, and here we focus on 'Today's Network', which will drive innovation that enables us to be, safer, more efficient and sustainable.

- **Safety** – We will find, test and scale up innovations that keep our network, colleagues and customers safe. We will focus on real-time risk assessments and innovation that eliminates hand-arm vibration syndrome (HAVS), supresses dust and improves air quality;
- **Efficiency** – We will make our processes as efficient as possible while maintaining safety. We will focus on 'right-first-time' in repair and Repex by having the right information when we need it, reducing the need to dig by enhancing keyhole techniques and reducing reinstatement costs; and
- **Sustainability** – We will aim to embed sustainability across everything we do, aim to eliminate waste where possible (time and materials), ensuring our network and activities are progressing toward net zero and reusing materials wherever possible to target zero-emission construction.

We have requested £1.25m of Network Innovation Allowance (NIA) funding and included £3.65m of innovation funding within our business-as-usual (BAU) Totex, to drive meaningful innovation into our organisation that becomes part of how we deliver our day-to-day service.

7.4 Digitalisation and the effective use of data will enhance network performance and support the transition to net zero

In March this year we published our updated Digitalisation Strategy, which outlines our continuing commitment to our digital journey. Since the publication of our previous Digitalisation Strategy in 2022, we have made robust steps towards digitalisation and data capability development.

We have invested in our people, processes and technology to establish the foundations for governing our critical data assets. Through this investment, our Enterprise Data Management team are developing their expertise, embedding our governance framework and cataloguing our critical data sets. We have also implemented our Open Data Portal and published four open data sets with more in the pipeline, providing the mechanism to share those data assets required by our data consumers and support the journey towards net zero solutions.

7.4.1 Digitalisation strategy

Figure 7b summarises our Digitalisation Strategy and shows the main building blocks which we have used to construct our GD3 plan. This also shows three platforms from our SGN-GD3-SD-07: IT and Telecoms Strategy which overlaps with the digitalisation strategy and contributes to the achievement of our business outcomes – namely the Fyld Services Platform, The Asset Management Platform and the Enterprise Resource and Planning Platform.

Figure 7b: SGN Digitalisation Strategy

Digital and Data Ambition	To make a positive impact on society by delivering excellence in the provision of safe and efficient services to the communities we serve and supporting vulnerable customers and accelerating decarbonised energy solutions to create a shared net-zero future by modernising our business to become data-driven and digital at our heart				
Business Outcomes (Creating Value)	**Stakeholder and Societal Value** Our digital and data products and services are inclusive, secure, sustainable and reliable. They deliver recognisable value to our customers and stakeholders	**Regulatory Obligations** SGN sustainably meets Ofgem's expectations on Data Best Practice, Interoperability, AI and Digital Twin solutions, and aligns to legal mandates	**Business Transformation** Modernisation programme achieves performance gains by rebuilding legacy business processes as modern digital and data-enabled processes	**Business Excellence** Data, analytics and AI allows us to drive performance gains in a broad range of business activity and address our most difficult problems	**Energy Futures and Innovation** We pilot and implement new technologies to bring about future performance gains and influence regulators and legislators
Platforms and Capability	**Data-Sharing Platform** Allows automated access to our data sets, internally and externally, under open data or published under licence	**Analytics and Reporting Platform** Allows SGN people to analyse our data sets to derive insight.	**Innovation Platforms** To support AI, digital twin, Internet of Things which enable testing and adoption of these technologies		
	Data Lake and Integration Layer Data storage and plumbing that allows data sets to be accessed by other platforms				
Getting the Basics Right	**High-Quality Data** Data owners take accountability for the quality and completeness of data. We apply Q-FAIR principles: quality, findability, accessibility, interoperability and re-useability, to our data	**Digital and Data Governance** We govern our data to ensure it is fit for purpose and delivers value. We treat data as a strategic asset, developing and embedding a comprehensive data governance framework	**People with Digital and Data Skills** Our people understand the value of data, and have skills to analyse data to derive business insight		
	Secure by Design Digital solutions and platforms have cyber-security built in				

Source: SGN Digitalisation Strategy

Data and digitalisation are critical enablers and help us create more social and public value. They also enhance our ability to deliver excellent service to all customers, but with a specific focus on those who are most vulnerable. We will work across industries and government to shape the UK's low-carbon sustainable energy future by using digital platforms and opening our data.

Our commitment: We will open our data to facilitate collaborative planning and the development of whole-system solutions.

In GD3 we plan to invest £26.8m to enhance network performance through digitalisation and improve the data-rich environment we operate in. Of this, £12m will be capital expenditure and £14.8m will be operating expenditure.

Underpinning our digital and data ambition, the digitalisation strategy is organised in three layers.

1. **Getting the Basics Right** is the foundational layer that underpins the rest of the strategy and includes work to ensure our data is high quality, that we have appropriate digital and data governance, and that our people have the digital and data skills they need for us to achieve our business outcomes.
2. **Platforms and Capability** are the technology platforms that allow us to operate our core business, serve our stakeholders, meet our regulatory commitments, transform our business, allow us to use analytics and AI to optimise our business, and innovate to drive forward the low-carbon energy future.
3. **Business Outcomes** are how we meet our digital and data ambition and the measurable results that are sought by our stakeholders.

Each layer is underpinned and enabled by the one below. For example, the business outcome to share data sets under delivering societal value relies on the data-sharing platform, which is built on top of the data lake and integration layer, which in turn is dependent on high-quality data with appropriate governance.

The digital and data investments in our GD3 plan will create value by enabling five key business outcomes:

- **Stakeholder and societal value** – Our digital and data products deliver sustainable value to our customers and stakeholders and are aligned to their needs and priorities;
- **Regulatory obligations** – Our focus on complying with the data best-practice guidance and future expectations by participating in the data-sharing infrastructure and interoperable data standards as a precursor to digital twins in the future;

- **Business transformation** – We have ambitious plans to transform and modernise our core business by rebuilding our legacy business processes as modern digital ones built on high-quality data sets;
- **Business excellence** – We are driving a performance culture to address our most challenging business problems. This is based on trusted data and evidence and utilises AI and data science. It requires us to build capacity for insight, analytics and visualisation to focus process improvement efforts; and
- **Future of energy and innovation** – We recognise the need to support innovation to drive towards a low-carbon, data-driven energy system. We are maturing our data capabilities to provide the bedrock of innovation in this area.

To deliver these outcomes our 'Platforms and Capability' layer identifies the technology platforms that will enable us to achieve the business outcomes. This is a combination of continuing to invest in the capability of existing platforms (Data Lake, Analytics and Reporting), upgrade and enhance legacy platforms (Asset Management and Enterprise Resource Planning), and deploy new platforms that fill a capability gap (Data Sharing, and Fyld Services). We also recognise that innovative platforms may emerge over GD3, supporting improved application of AI and the Internet of things

This is predicated on the 'Getting the Basics Right' layer. This includes work to catalogue and implement master data management on our critical data sets, deliver improved data governance by appointing data owners and data stewards, independently assuring ongoing data quality, recruiting new data talent and providing apprenticeships in data and digital as part of developing people with data sklils.

We have produced the following EJPs to support the delivery of our Data And Digitalisation Strategy:

- SGN-GD3-EJP-Data-CatMasterData-001: Catalogue and Master Data Management
- SGN-GD3-EJP-Data-DataGovern-002: Data Governance
- SGN-GD3-EJP-Data-RecApprentDL-003: Recruitment Apprenticeships and Data Literacy
- SGN-GD3-EJP-Data-DataPlatModel-004: Data Platform and Operating Model
- SGN-GD3-EJP-Data-BusAnalyticsExp-005: Business Analytics and Exploration

7.5 We will build a more resilient workforce that works efficiently to deliver more value to our customers

Our people are our greatest asset and, as a major employer within both our regions that provides a critical service to society, we must ensure that both our workforce and our supply chain are resilient and ready for the future. Our workforce is highly skilled and undergo significant training to ensure they are competent to work on the gas network. We face fierce competition for talent from other sectors, particularly in south-east England.

In GD2 we have worked hard to rebuild our frontline teams and develop the skills needed to deliver a safe and reliable service to our customers. This includes employing 366 apprentices, trainees and graduates who are key to the future of the industry. This will continue in GD3 with the recruitment and training of more than 150 people through early career routes (i.e. apprentices, graduates and trainees) each year, of which at least 50 will be apprentices.

We need to implement new working practices to keep our people and customers safe and to make sure our larger frontline workforce is productive when not dealing with emergencies and repairs. We also need to meet our employees' expectations of work-life balance, so we retain motivated and committed people who deliver more for our customers.

We will partner with innovative and forward-thinking supply chain partners who will enable us to deliver our critical safety-driven work and support our longer-term ambition for our network to play a role in a decarbonised energy future.

7.5.1 Workforce resilience

Our workforce resilience strategy for GD3 will:

1. Enhance workforce flexibility.
2. Prioritise safety and wellbeing.
3. Provide competitive and equitable compensation.
4. Promote career development and progression.

How we achieve this is set out in SGN-GD3-SD-03: Workforce and Supply Chain Resilience Strategy. In the following sections we focus on some key parts of our GD3 plan.

Promoting equality, diversity and inclusion (EDI)

Having a modern, diverse and well-trained workforce is critical to the delivery of our GD3 plan and to ensure we deliver value to our customers. There is significant evidence that diversity matters, and that more diverse organisations are more successful than their less diverse counterparts. One of the objectives of our GD3 plan is to ensure that our workforce is demographically and cognitively diverse and has a shared sense of purpose.

In GD3 we will recruit approximately 2,000 FTEs. This presents a unique opportunity for us to continue to diversify our workforce. In GD2 we made significant strides to increase diversity – for example increasing our ethnic minority representation by 56% in the past four years, but we acknowledge we can go further. We will enhance our brand and employee offering to ensure we are attractive to as many people as possible. This includes working with schools to ensure we are an enticing proposition to the next generation of employees.

We will strive to remove CV bias from our recruitment process, ensure our leaders embody and place greater emphasis on EDI and enhance our employee support networks. We will measure our progress through close tracking of our workforce characteristics and continue to work with other networks to attract more women into senior roles who can act as role models for future talent. This will allow us to build on the positive impact we have had in GD2 and further enhance diversity within our recruitment process for GD3.

Our commitment: We will increasingly reflect the communities that we serve.

Ensuring the safety of our employees and customers

The health and safety of our employees and the public is our top priority. The increased evidence of the impact of fatigue on operational decision-making in safety critical roles has driven changes to the health and safety legislation which we need to meet.

As explained in Chapter 5, we are committed to looking after the health and safety of our employees by targeting a maximum working day of 12 hours by the end of GD3 (unless in exceptional circumstances). To achieve this and inform our workforce strategy, we have undertaken detailed modelling to establish how we move to a 12-hour maximum working hour policy and the impact it will have on different frontline teams.

We anticipate that we will need to recruit 514 FTEs (387 additional FTEs to comply with fatigue limits and a further 127 to offset one-off attrition). The efficient cost for this is £99m for frontline staff, over the course of GD3.

To keep our employees and customers safe, we need to implement the 12-hour working conditions in a reliable and robust way. To achieve this, we have established a comprehensive programme of work. This includes: (i) significant planning and forecasting; (ii) an increase in recruitment and training of apprentices and trainees; (iii) updating employee expectations; and (iv) alignment of supporting functions in terms of personnel and tools, equipment and fleet. This will ensure these safer working practices are fully embedded by the end of GD3.

"Competency of engineers is key. Training technicians and engineers is really important, so you know you are not getting a 'cowboy' job."
SME, southern England

Building in-house capacity

As we move towards 12-hour working patterns, we need to have flexible, multi-skilled internal resources that are able to deliver different types of work to maximise productivity. We will focus on attracting people to the energy sector by developing relationships with trade schools, universities and community colleges, building on our previous programmes which had a national footprint of 117,000 pupils in the 2023-2024 academic year. Alongside promoting careers in energy to the next generation, we will work with HM Prison and Probation Service to introduce a new initiative to hire ex-offenders, helping them to reintegrate into society and giving us access to a broader talent pool that promotes inclusivity and supports the community.

We will also increase the number of apprentices across our organisation, training them so they are multi-skilled and able to deliver complex mains replacement work and frontline activities. We have employed this approach successfully in Scotland for many years, while in Southern we have relied more heavily on the supply chain due to high levels of competition from different sectors for highly trained operatives. However, the shortage in trained contractors means we need to build our in-house capacity. In addition to attracting new talent, we will work hard on retention by making SGN a great place to work so we don't lose people we have trained and developed to other sectors.

Our commitment: We will recruit and train at least 50 apprentices each year.

7.5.2 Supply chain resilience

We strive to create an efficient and sustainable supply chain. There have been significant increases in the cost of contract labour and materials, with further cost escalations expected. These are detailed within Chapter 9 and SGN-GD3-SD-08: Cost Assessment and Benchmarking. The correct contracting strategy alongside a streamlined supplier base can bring multiple benefits such as improved quality control, improved risk mitigation and flexibility to meet business demand. Through our supply chain resilience strategy, we will tackle some key issues for GD3 including:

- The increasing complexity in the work that needs to be delivered;
- Increasing contractor costs; and
- Limited internal and external labour.

Our strategy focuses on reducing inefficiencies and optimising cost management, which are critical components of our transformation efforts. It specifically addresses the ongoing goal of building a robust, future-proof supply chain that can adapt to changing market conditions and regulatory demands. By adopting industry-standard New Engineering Contract ("NEC") contracts and improving forecasting accuracy, we will enhance supplier engagement and reduce project delivery risks. The strategy also supports our long-term financial goals and addresses key regulatory requirements by ensuring that the company remains compliant.

Our strategy will enable us to capitalise on efficiencies between different work categories, allowing for better resource allocation and reducing the likelihood of stranded assets. By bundling similar work types and introducing a phased approach to sourcing we can improve our contractor engagement and secure better value for money. This strategic alignment is crucial for us to meet our regulatory, financial and operational goals over the next five years.

Our supply chain resilience strategy has two key objectives:

1. Creating long-term capacity.
2. Maintaining maximum competitive tension.

Creating long-term capacity

We will take a strategic approach to creating long-term capacity. Establishing and maintaining strong relationships with our suppliers is critical to ensure sufficient materials and services are secured. In preparation for GD3 we have created a new, centralised supplier team that is addressing gaps identified in existing supplier management processes, maintaining collaborative relationships with supply chain partners and supporting the mitigation of wider supply chain pressures. We will mitigate supply chain pressures by taking steps such as slot-booking, pre-ordering, buying in bulk and strategically increasing our stock levels where appropriate.

Collaboration with industry and government bodies provides valuable opportunities to add further value from our procurement and supply chain processes. It will enable us to benchmark ourselves against best-in-class, share procurement-related learnings, collaborate to address common supply chain challenges efficiently and provide greater standardisation in procurement processes that suppliers face, thereby reducing their bidding costs, allowing them to offer better value for our customers.

Maximising competition

Our team procure and manage third party spend in the region of £650m per annum, across 1,500 active suppliers. The internal procurement team own and manage circa 200 sourcing events concurrently at any one time. A significant proportion (circa 40%) of this spend is attributed to the 30-year mandatory iron main replacement programme.

Maximising the use of term framework arrangements is a preferred route (as opposed to one-off tender events) to allow strategic longer-term relationships to be formed with suppliers. We regularly gauge market interest through Requests for Information (RFI) and consistent feedback is that suppliers are seeking long-term commitment to allow investment into the gas industry. We plan to create an efficient, resilient and sustainable supply chain to deliver GD3 workload and beyond. It is widely evidenced that implementing the correct strategy alongside a streamlined supplier base can bring multiple benefits including increased quality control, improved risk mitigation and flexible arrangements to meet business demand.

We see innovation as a key element to be able to improve the quality of our outputs, improve efficiency and offer good value for money to our customers, maximising our competitive position. To drive innovation in our supply chain, we are proactive in identifying new ways of working and technologies to leverage. We also encourage direct communication across our supply chain, with collaboration being viewed as a key aspect in identifying further cost or logistic benefits.

Our supply chain strategy can be read in SGN-GD3-SD-03: Workforce and Supply Chain Resilience Strategy.

Supply chain – Repex delivery

The most significant supply challenge we face is delivering our mains replacement programme in our Southern network, due to a significant shortfall in supply chain resources and the impact this has on our costs.

In GD2 our target was to deliver 3,001km of Tier 1 mains in our Southern network and 1,020km in our Scotland network. This was a price control deliverable (PCD) aligned with the HSE's mandatory programme. In Scotland we have consistently exceeded our target and anticipate delivering 10% outperformance in GD2, while in Southern we have fallen behind significantly, and this can be traced back to the sustainability of the contractor supply chain.

The Southern contractor market has historically relied upon imported labour from across Europe and the rest of the UK. In the GD2 determination, there was a notable discrepancy between the contractor rates that we were observing in the market and the allowances awarded. This was discussed extensively during the GD2 settlement process, and we eventually accepted the efficiency challenge set out within the final determination.

Since then, in addition to our challenging allowance settlement, Brexit reduced the supply of critical labour to our contractors, Covid changed lifestyle preferences with contractors requiring a greater premium to work away from home and we have faced increased competition from other utilities. This has reduced resources and further increased costs. We have transparently reported our progress and how we have attempted to address the situation in our annual RRP submissions.

At the end of the first year of GD2 we had delivered 586.5km/year of mains replacement compared with an internal linear target of 600.3km/year. Plans were put in place to pick up the shortfall, however, it was anticipated that it would take until year three to fully recover.

In the second year of GD2 we progressed all available options to maintain delivery whilst trying not to substantially increase contractor rates beyond the allowances that we had been awarded. However, a number of contractors went into administration and the more complex replacement work reduced productivity. We ended the year having dropped to 510.3 km/year. We recognised that we would need to increase contractor rates to recover and forecast an overspend of 10%, or £88m, for the GD2 period.

In the third year of GD2 the issues with attracting contractors intensified further, and the complexity of the work has resulted in increased unit costs due to contractor scarcity and further cost pressures to attract new contractors. Despite paying higher rates, delivery has continued to fall to 470km/year. As a result, we expect to overspend our southern Repex allowance by 11% and we are forecasting a 219km shortfall in delivery across the GD2 period.

We continue to progress a wide range of measures to attract new contractors to the market. These include alternative contract strategies, long-term visibility of the work and management support for the smaller contracting businesses.

The fourth year of GD3 has started positively and we are on track to meet our linear annual target. Whilst we are seeing positive progress, this has also come at a cost due to the complexity of work and the challenges of attracting new delivery partners to the market. We will build on the positive steps we have made recently and continue to do all we can to make up the shortfall ahead of GD3.

Costs and financing

Chapter 8: Managing risk and uncertainty

In this chapter we explain how we will manage the uncertainty in our plan. We set out how:

1. **We will maintain flexibility within the bounds of the regulatory framework at a time of uncertainty, to protect customers.**
2. **Risk will be managed in a clear and transparent manner for the benefit of our customers.**
3. **Use-It-Or-Lose-It (UIOLI) funding will ensure our customers only pay for investments delivered.**
4. **We have 60 discrete projects for which we provide evidence of need and funding requirements.**
5. **Reopeners will be used to provide confidence for consumers around high-risk future projects.**

We are committed to having a well-balanced price control where we manage the risks that are within our control. We want to provide greater transparency of individual projects and their delivery to give customers confidence of cost and delivery. This is particularly important in the delivery of new initiatives or projects which have significant risks associated with them due to the nature of the project and uncertainty around scale, workloads and/or costs.

8.1 Our approach to managing risk

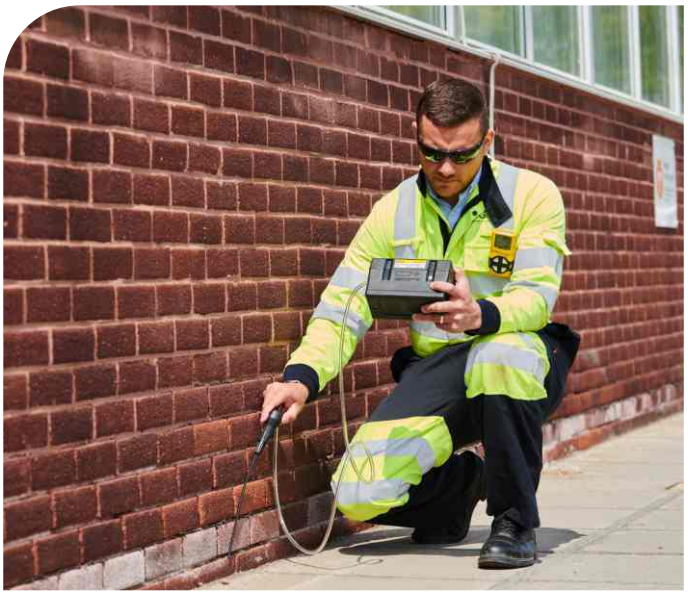
A key consideration for GD3 is the appropriate balance of risk in our Business Plan where there are areas of uncertainty. Where there is high confidence in the volume of work to be delivered and a robust evidence base for cost assessment, no uncertainty mechanism is required – this applies to the majority of our anticipated expenditure. Where there is uncertainty, we propose the use of uncertainty mechanisms.

How we will use uncertainty mechanisms:

1. Where there is high confidence in the outcome to be delivered, however, there is a significant risk around the cost of delivery or supply chain delivery risk, then we have proposed a UIOLI mechanism.
2. Where there is a robust evidence base for cost assessment, but there is significant uncertainty surrounding the volume of workload, then we have proposed a volume driver.
3. Where there is a lack of clarity on the outcome to be delivered, whether it is required or not, or the cost of delivery, which we expect to be resolved during the price control period, we have proposed a reopener.

When considering whether an uncertainty mechanism should be applied, we have recognised that there is an administrative burden associated with their implementation and, as a result, only propose them where the costs in question are financially material and would impact on customers.

We have also identified a number of projects, which, although they don't meet the £15m threshold for a Price Control Deliverable (PCD), we have named within our Business Plan alongside their associated costs. We also identify areas where we will pass costs through to third parties, as they are outside our control.



"The plan is broken down well and seems achievable."
Future customer, Scotland

8.1.1 Proposed uncertainty mechanisms

In the tables below we have identified the expenditure proposed across the GD3 period under each uncertainty mechanism. For each expenditure category, we have set out a description of the project and why it is suitable for inclusion as an uncertainty mechanism, along with the anticipated value.

Vulnerable and Carbon Monoxide Allowance Use-It-Or-Lose-It (VCMA UIOLI)

These projects support the delivery of our Vulnerability Strategy and are summarised in Chapter 4: High-quality service from regulated firms. We propose the VCMA UIOLI is used because it allows us to deliver support beyond what is required as part of our core service and ensures there is transparency around our decision-making, supported by a robust governance approach.

Table 8a: VCMA UIOLI expenditure in GD3

Expenditure category	Description	Anticipated value (£m)	
		Sco	So
Direct services for customers including Care and Repair	Support services for households in vulnerable circumstances directly impacted by our emergency, planned and unplanned works. Includes our dedicated customer team providing energy safeguarding services directly and through our Safe and Warm partnership network. Care and Repair is the provision of maintenance and repair of essential gas appliances and pipework for financially vulnerable households who are unable to pay.	£3.0	£6.1
Supporting priority customer groups	Provision of energy safeguarding services for customer groups that face the greatest barriers in accessing support. These partnerships are co-designed and tailored to meet each community's specific needs and ensure energy safeguarding outcomes benefit those they were designed to support.	£4.4	£8.8
Fuel poverty and energy affordability	Tailored community-based initiatives co-designed and delivered though our Safe and Warm partnership network providing energy safeguarding services to those most in need. Services delivered are holistic, tailored and address current energy matters including energy debt through to eligibility assessments for local energy efficiency grant schemes.	£4.7	£9.4
Carbon monoxide community schemes	Delivery of partnership-led services that ensure that the most vulnerable in our communities have access to accessible carbon monoxide alarms. Partnerships include regional fire and rescue services and Gas Safe Charity.	£1.3	£2.7
VCMA management	Manage the delivery and governance of the VCMA portfolio. Insight, stakeholder engagement, research and reporting to ensure delivery of outcomes for customers.	£1.0	£2.1
VCMA UIOLI Total		**£14.5**	**£29.1**

Source: SGN

(Headline figures may not tally due to rounding differences)

Net Zero and Reopener Development Use-It-Or-Lose-It (NZARD UIOLI)

These projects support the transition to net zero and the objectives set out in Chapter 6. They are strongly supported by our customers, as they will enable us to progress low-carbon energy solutions and help to reduce our environmental impact by reducing methane emissions from our network. However, there are uncertainties associated with the cost, technology and anticipated need, therefore it is important for customer confidence that they are funded through a UIOLI mechanism.

Table 8b: NZARD UIOLI expenditure in GD3

Expenditure category	Description	Anticipated value (£m)	
		Sco	So
Biomethane roll out	We will deliver further propane management solutions at new and existing biomethane connections across both networks. Building on our GD2 projects which developed our in-depth understanding of the technical complexities, these projects have many bespoke characteristics, so a UIOLI will support transparency on the technology delivered and its cost. We estimate the eight projects identified will deliver 1,164tCO_2e/yr in reduced emissions.	£4.6	£2.7
Statutory Independent Undertakings (SIU) decarbonisation (design costs)	Our ambition, supported by stakeholders, is to substantially decarbonise four of the SIUs by converting natural gas supplies to biomethane. Compressed biomethane (bio CNG) would be transported via tanker from local sources of production (replacing LNG transported from the Isle of Grain). We have included £5m of NZARD UIOLI funding to progress concept and detailed design work for Oban and Campbeltown SIUs in GD3. For two sites, Wick and Thurso, the design work will be completed in GD2 and we will enter contract and support the application for a reopener, detailed in Table 8d.	£5.0	n/a
Hydrogen blending	Progress the decarbonisation opportunities for consumers by introducing hydrogen as a blend into our network.	£0.5	£1.1
Remote Pressure Management (RPM)	In GD3 we will extend the installation of RPM Electronic Actuator systems started in GD2, into the integrated South London low-pressure network (317 District Governors), and into six networks in the south-east region (120 District Governors). The RPM project is anticipated to reduce methane emissions by 2,660tCO_2e/yr.	n/a	£11.2
Intelligent Gas Grid (IGG)	We will deploy a GD2 innovation project to apply machine learning and AI techniques to predict daily demand, optimise pressures, identify pressure anomalies and use the information to predict network demand. IGG builds on the implementation of the RPM project and is anticipated to reduce methane emissions by 1,620tCO_2e/yr.	n/a	£7.1
Advanced Methane Detection (AMD)	AMD will be used to evaluate the network to understand the volume of low-level leakage from below-ground mains using a repeated testing procedure coupled with vehicle-mounted sensors. This information could be used to prioritise mains replacement and locate larger leaks undetected by the public. Whilst the AMD programme in isolation will not reduce emissions, early detection and targeted repairs on the most substantial leaks are estimated to reduce methane emissions by 10,143tCO_2e/yr.	£3.7	£8.7
Total NZARD UIOLI		**£13.3**	**£29.7**

Source: SGN

Volume drivers

These important programmes of work form part of our SGN-GD3-SD-06 Network Asset Management Strategy. We have robust evidence of costs, set out in SGN-GD3-SD-08: Cost Assessment and Benchmarking. However, there is uncertainty around the volume of workload anticipated in GD3, so we have proposed they are included as volume drivers. For each, we need to consider the fixed operating cost and the variable unit costs separately. The table below shows the costs that are built within the baseline as a balanced ex-ante ask and proposed to flex dependent upon workload changes.

Table 8c: Volume drivers in GD3

Expenditure category	Description	Baseline value (£m)	
		Sco	So
Tier 1 mains and services	We support the SSMD decision for this area of work to remain covered through a volume driver. As we have set out in this Business Plan and in the supporting appendices, the ability to retain and attract contractors is a major risk to delivery. We would encourage that the proposed application of a cap and collar on these workloads should be reconsidered, as it is our view that a cap will undermine delivery in the final years and could lead to higher price for the remaining defined workload.	£256.9	£1,076.2
Reinforcement	Reinforcement workload remains highly variable due to economic factors and changing customer requirements, new industrial loads, peaking plants and additional biomethane. We have a safety obligation to maintain pressure across our network and licence obligations to support customer connections. These are outside of our control and require us to respond to changes in demand and constraints on the network which are highly localised and dependent on economic activity. In addition, we undertake reinforcement activity to enable more effective project design in our mains replacement workload facilitating high rates of insertion. Given the uncertainty, we propose that the reinforcement workload should be managed through a volume driver.	£12.9	£40.2
Tier 2a mains	This approach is a continuation from GD2, with workload reflecting the current forecast position, although it is anticipated that the volume of work undertaken may change as a result of the HSE's review of the iron mains enforcement policy.	£0.0	£0.0
Connections	The Domestic Load Connections Allowance (DLCA) enables a proportion of a gas connection to be shared across all customers. This is being removed, however, there is uncertainty around the timeline and the treatment of connections booked prior to its removal. Given this uncertainty, it is important that the volume driver is retained through this period. There is a fixed cost associated with maintaining response times to enquiries that are set out under the guaranteed standards of performance (GSOPs) that should be treated separately and recoverable under core allowances.	£29.0	£35.4
Disconnections	The FES Holistic Transition pathway forecasts a significant increase in disconnections in the GD3 period, while the Counterfactual pathway presents a modest increase in connections. Given the range of uncertainty, a volume driver is appropriate. However, it must be recognised that unit cost volume drivers are appropriate for marginal changes, they are not appropriate for the scale of change anticipated by the Holistic Transition pathway. There must be an opportunity to recover additional costs of significantly rescaling the workforce and process to handle this volume and recalibrate the unit cost. The volume driver should also include legacy GSIUR cut-offs, where recent HSE guidance requires us to go back to disconnected sites and cut off at the main rather than the meter.	£3.3	£18.4

Source: SGN

Reopeners

These projects and programmes of work require further investigation and assessment in the remaining years of GD2 and start of GD3. We therefore propose them as new reopeners or variations to existing reopeners that we expect to deliver during the GD3 period.

Table 8d: Proposed GD3 reopeners

Expenditure category	Description	Anticipated value (£m)	
		Sco	So
Diversions and loss of claims reopener (river erosion)	Weather-related erosion events impact our assets and require a range of interventions that can include restoring cover, diverting assets or rebuilding sites. In GD3 we have included the cost of known diversions. It is important that this reopener is retained to cover the costs of future diversions, or the costs of diversions not provided for under the GD2 reopener. As with GD2, this should include the loss of development claims.	£6.0	£3.5
Diversions and loss of claims reopener (overbuilds)	Overbuilds arise where a property has been built over the top of an existing asset, in breach of pipeline safety regulations, potentially leading to a high-risk gas in building event. Advanced data techniques have allowed us to identify almost 82,000 potential overbuild locations and we are using baseline funding to identify where an intervention is required. Due to the unique characteristics of each site and the associated cost, we request a reopener in year 2 of GD3 to enable accurate costing of the work required.	£6.3	£6.3
Climate change resilience work	The diversions reopener, above, enables the recovery of costs post-event. We are proposing a climate change resilience reopener to put forward pre-emptive works to stop assets being affected by the results of climate change. By investing early, the cost can be lower and early intervention reduces the risk of loss of supply.	£7.4	£4.0
Cyber reopener	Cyber security risk continues to evolve and change with new threats being presented by increasingly sophisticated cyber criminals. It is not possible at this stage to identify and predict the risks that we will need to respond to during the GD3 period out to 2031. However, we do anticipate that they will become increasingly advanced and challenging to mitigate. It is important that we have a reopener that allows us to calibrate our investment to the changing nature of these risks (e.g. the uncertainty of the timing of post-quantum cryptography).	£TBC	£TBC
Data and digitalisation	The understanding of the benefits of open data and broader data sharing continue to develop and evolve as more and new data becomes available and the social benefits of consistency and coordination are realised. We anticipate that the National Energy System Operator, the Regional Energy System Planner, and other bodies will drive a higher demand for data sharing. The standards and form of this data, the datasets required and the scale of the data sharing will become established in GD3. It is important to have a reopener that provides the opportunity to respond to the changing nature of this demand.	£TBC	£TBC
HSE reopener (complex distribution systems)	Complex distribution systems typically operate in commercial settings such as shopping centres, hospitals, etc, and are of a similar asset type to MOBs. They are highly site-specific in nature and the age of the assets is heightening concerns around integrity. We have requested £2.2m (see section 5.2.7) to complete a survey programme to identify the interventions required, appraise options, establish a design solution and determine costs to inform a reopener submission in mid-GD3.	£12.8	£18.3
HSE reopener (GSIUR cut-offs)	Reopener for legacy GSIUR cut-offs, where recent HSE guidance may require us to go back to disconnected sites and cut-off at the main rather than at the meter. Given the potential volume of disconnections, overheads need to be considered separately to the cost of individual project delivery.	£TBC	£TBC
HSE (risers)	Our programme of works planned on MOBs, primarily dealing with risers, has been established on current guidance and includes our initial response to the Grenfell Report. This remains an area of intense scrutiny by the HSE, and as a result, delivery requirements in GD3 may change to include additional workload in response to updated standards or expectations, new expectations for maintenance, signage and inspection and/or new expectations for legacy material that is no longer deemed appropriate due to updated risk information (materials such as PE risers). Depending on the outcomes of the MOB whole-systems demonstration (reopener below) this may need to be aligned with the coordinated adjustment mechanism.	£TBC	£TBC

Expenditure category	Description	Anticipated value (£m)	
		Sco	So
HSE (enforcement policy change)	As stated within the volume driver section, the HSE published a draft review of the iron main enforcement policy in October 2024. This has not provided enough time to secure clarity of the implications of the new policy and we request that updates can be provided at the draft determination stage. As the HSE policy does change in response to events and safety-related information, it is important that a reopener mechanism remains available for us to accommodate these changes in an efficient and cost-effective manner.	£TBC	£TBC
SIU biomethane	This reopener funds delivery of the biomethane CNG project (outlined in the NZARD UIOLI section). Based on early engineering design work, the capital cost is estimated to be £15.8m, including cost for CNG road tankers. In the remaining years of GD2 we will progress towards detailed design and either provide a full cost estimate at the time of the draft determination or in the first year of GD3 through the net-zero reopener mechanism. This project has the potential to save 10,950tCO2e/year from end customers and 294tCO2e/year from transport. Subject to progress on the design work and experience of Wick and Thurso, there is the opportunity to extend decarbonisation to Oban and Campbeltown (noting that planning for these remains at an early stage and therefore they have not been included in the anticipated value).	£15.8	n/a
South London Medium Pressure (MP) replacement project	The South London MP replacement is a major construction project to be undertaken across south London. Due to the complex nature of this project and the extensive planning required with local stakeholders, it will require engagement and consultation to minimise the impact on local communities, transport and to maximise collaboration with other utilities. We will undertake this engagement in the first years of GD3 to establish a project plan that will cover multiple price control periods. Due to the uncertainty surrounding the cost and the timing, we propose a reopener for the work undertaken in GD3 is appropriate to establish a firmer cost base for the continuation of delivery into GD4.	n/a	£30.0
Net zero reopener (MOB whole-system demonstration)	Decarbonising MOBs is a significant and pressing challenge. We will progress the demonstration of a whole-system transition within a selected high-rise MOB. This project will showcase how various energy systems can integrate and support the shift towards low-carbon solutions, offering a replicable model for future high-rise retrofits. It will look to address the technical, social, and operational elements of alternative solutions to heating in high-rise buildings, including electrification, district heating, or green gas. By completing this early in GD3 we would then look to apply the outputs to riser replacements towards the end of GD3.	£6.6	£13.3
Net zero reopener (hydrogen blending into Edinburgh)	Building on the knowledge gained through our LTS Futures and NIA programme in GD2, our ambition in GD3 is to deliver a programme of works through NZASP reopener to facilitate the blending of hydrogen using the Grangemouth to Granton pipeline, including detailed design, land acquisition, build and commissioning. To achieve this, we will develop a whole-system strategy, utilising different sources of hydrogen and consumption models, aligning with the regulatory, safety, legal, commercial, technical, and engineering requirements for hydrogen blending. These areas will form part of our NIA operational readiness programme in GD3.	£6.0	n/a
Net zero reopener (Digital Platform For Leakage Analytics (DPLA))	DPLA seeks to replace the current leakage model using a combination of advanced methane detection and other technologies, such as short-wave infrared sensors on satellites. The platform will replace the current model used to infer leakage on the network that uses field test data from sample mains, taken in the early 2000s. The project has been a collaborative SIF project and shows significant potential, however, costs are uncertain as we move from pre-commercial innovation to commercial roll-out. Our experience in GD2 of projects at a similar stage is that costs can vary significantly and the balance of costs and delivered benefits will impact the optimal solution. Furthermore, it is our view that the reopener mechanism will allow us to clearly establish the benefits of implementation, given that the technology itself supports improved decision-making rather than directly leading to a reduction in emissions.	£17.0	£33.0

Source: SGN

8.1.2 Named projects and Price Control Deliverables (PCDs)

In our GD3 plan, we have 60 discrete projects for which we have provided Engineering Justification Papers (EJPs) and, where required, conducted cost-benefit-analysis (CBA). The full list of projects can be found in the Supporting Documents section at the end of this document.

From this list, we have identified projects or programmes of work which are significant in scale and should be presented separately to provide transparency of delivery. In the table below we have included eight named projects. These are all below the £15m PCD threshold set in the SSMD, but are above £5m, so we consider it is important that they should be separately identified.

These are large technical projects that should be separately assessed, outside of benchmarking, and excluded from the NARMs and associated risk-trading. This is because, given their relative size, they could distort the risk trading mechanism and associated adjustments made at the end of the price control. For each project we have included the anticipated net present value (NPV) by licence area. The NPV is the value of the total benefits over the lifetime of the project, compared to the cost to deliver the project. A positive NPV implies a project is worth progressing.

Table 8e: Named projects and PCDs

Area	Project	Description	Anticipated Value (£m)		16 year NPV (£m)	
			Sco	So	Sco	So
Repex	Complex engineering schemes	Complex engineering schemes have been developed using data insights that have looked at whole-network issues and proposed replacement solutions. They are exclusively on high-value projects that are not comparable to other workloads considered before.	£7.6	£5.8	£4.5	£12.4
	Cams Hall	Cams Hall Tunnel is a project to replace the intermediate pressure pipeline that crosses Fareham Creek. We have concerns over the integrity of the pipeline which feeds circa 30,000 customers and has been inaccessible for more than 40 years, due to previous remediation works.	-	£6.3	-	£61.8
Capex	Glenmavis (Offtake)	Targeted intervention to rebuild, replace and rationalise defective, ageing and redundant assets at Glenmavis Offtake, a site capable of supplying up to 1m customers.	£5.7	-	£26.1	-
	Offtakes – local gas treatment	To remain compliant with present-day standards, we will replace 15 of the 30 local gas treatment (LGT) systems that are used to provide odour into our gas at the point of entry to our network.	£8.9	£6.5	£14.6	£35.3
	Welling (PRS)	Welling PRS is an HP-MP system operating at 14bar located in a residential street in south-east London. The site, which is located in pits below street level in a public footpath, requires intervention due to integrity, safety and compliance concerns, and will be relocated to a more suitable location.	-	£8.9	-	£13.1
	Isle of Grain (PRS)	The Southern network has two gas entry points from the Isle of Grain. These entry points, and the associated equipment, are a legacy arrangement from the plant's liquefaction process that has been adopted into daily use following conversion of an LNG terminal. The equipment on site is critical for the operation of the LNG plant and is at the end of its life and requires replacement. We will seek to address a host of compliance and resilience concerns with the equipment that were not addressed at the point of conversion.	-	£9.3	-	£17.1
	Pressure control and asset health	Replacement and modification of the existing unreliable pressure regulator streams and replace obsolete regulator equipment (lineguard primary protective devices) at 23 pressure regulator sites supplying approximately 245,160 customers.	£8.5	-	£48.4	-
	Functional safety	We have 18 unique legacy installations where instrumented slam-shut systems were fitted in the 80s and 90s. These systems need to be replaced in GD3.	-	£8.6	-	£2.4

Source: SGN

8.1.3 Cost pass-through

These costs are outside our control and imposed by a third party so will be passed through in GD3.

Table 8f: Cost pass-through in GD3

Expenditure category	Description	Anticipated value (£m)	
		Sco	So
Taxes and licence fees	These are rates that are deemed to be outside of our control and they should be treated as pass-through. Recent increases in National Insurance costs are expected to be captured at the draft determination stage.	£10.9	£25.6
Business rates	Business rates should be a pass-through cost as they are not directly controllable by the networks. This would be consistent with electricity distribution.	£195.2	£403.4
Xoserve	Xoserve implements the code and code changes determined by the industry. These costs were moved to pass-through at the start of GD2 and this remains appropriate.	£13.1	£29.3
Joint Office of Gas Transporters	Joint Office is the programme office for code management. The service is provided to all industry parties and the allocation of costs to pass-through would facilitate the alignment of services with the expectation of service users and a more fundamental reform of governance.	£3.7	£7.4
Total pass-through		**£222.8**	**£465.6**

Source: SGN

8.2 Incentivising delivery for customers

We are subject to a range of reporting requirements and financial mechanisms that ensure we maintain a high-quality service to our customers and are transparent about our performance. This includes our licence obligations (set out in Chapter 1), PCDs (explained above), Output Delivery incentives (ODIs) and Guaranteed Standards of Performance (GSOPs).

8.2.1 Output Delivery Incentives (ODIs)

ODIs are used to incentivise strong performance for customers. Financial ODIs (ODI-F) have a penalty for underperformance and reward for outperformance associated with them. Reputational ODIs (ODI-R) require us to report transparently on our performance. We are not proposing changes to the ODIs put forward in the sector-specific methodology decision or to include any bespoke incentive mechanisms for the GD3 period.

Customer satisfaction metric (CSAT) (Financial ODI)

Both networks provide exceptional customer service standards with scores greater than 9 out of 10. Scotland has consistently been the best-performing network for customer satisfaction, while Southern has typically been mid-point within a crowded and competitive field. Our customers expect our high service standards to be maintained and our approach to continuous improvement will enhance the service we provide.

The ODI-F is comprised of three components: planned work, unplanned work and connections. We anticipate planned work and unplanned work volumes will remain roughly constant and therefore current calibration is appropriate. With connections, the phasing out of the DLCA and associated reduction in customer connections will lead to increasing volatility in the score. It is important that the deadband accommodates this or a minimum volume threshold is applied.

Under the FES Holistic Transition pathway, the number of disconnections is anticipated to increase. If this increase is substantial, we support the inclusion of disconnections as part of the overall customer satisfaction measure. However, there is significant uncertainty surrounding the rate of disconnections, and networks should not be unduly exposed to risk should those disconnection volumes not materialise. We would therefore support its inclusion on a reputational basis only until volumes are more established.

Complaints metric (Financial ODI) and complaints volume reporting

We always aim to get customer service right first time. As a result, we are proud that both our Scotland and Southern networks have significantly fewer complaints per customer than any other network as shown in the table below.

Table 8g: Number of complaints per 10,000 customers by gas network

	2021/22	2022/23	2023/24	3 yrs Average
Scotland (SGN)	1.3	2.0	1.7	**1.7**
Southern (SGN)	2.5	3.8	3.8	**3.4**
NGN	5.9	4.6	5.4	**5.3**
WWU	5.8	6.0	5.1	**5.6**
London (Cadent)	6.5	7.6	7.8	**7.3**
East of England (Cadent)	5.5	7.3	9.7	**7.5**
North West (Cadent)	7.7	7.5	9.1	**8.1**
West Midlands (Cadent)	12.6	18.3	12.8	**14.6**

Source: SGN analysis

The table shows that we have performed consistently better than all the other networks, with our strongest performance in year one of GD2, where we received half the complaints of the next best performing network. The step back in Southern coincided with a period of significant resource challenges and a higher dependency on contractors and new recruits coming into the business. This highlights how important it is for us to reinforce our high standards with new recruits and provide appropriate training.

We remain concerned that lower volumes of complaints could increase exposure to erratic results under the ODI-F complaints metric, and this could create a perverse incentive to receive a higher number of complaints that can be 'resolved' quickly. We consider it a better customer outcome to avoid a complaint in the first place and this should be prioritised ahead of the current focus on resolving the complaint once it has occurred. We also recognise that focusing on volumes of complaints in isolation could discourage reporting; as such, we would support improved consistency in the reporting on complaint volumes.

PSR customer complaints and satisfaction (ODI-Reputational)

We recognise the approach put forward within the SSMD to call out customer satisfaction scores for PSR customers as a reputational ODI to ensure that the same high standard of customer services applies equally to all customers and particularly those customers that are most likely to be vulnerable.

With PSR customers, as with all customers, we will again focus on avoiding a complaint in the first instance. Our customer service teams are trained to identify and work with customers that have specific needs or vulnerabilities. PSR customers are prioritised in the service that they receive, and we welcome the opportunity to demonstrate both the limited number of complaints raised and the speed with which they are resolved.

Unplanned interruptions (ODI-Financial)

In GD2, an ODI-F was introduced to penalise networks if the average duration of an unplanned interruption exceeded a minimum threshold, up to a ceiling where a maximum penalty of 0.5% base revenue would be applied. This is in addition to a very strong incentive under the failure to supply gas performance standard which compensates customers by £70 per day (uplifted with inflation) for each 24-hour period without a gas supply.

We exceeded the maximum ceiling in Scotland in 2022/23 due to a single event in a MOB where a riser was disconnected due to safety. Wherever possible, we will implement a temporary repair with a riser and return to complete the enduring repair/replacement in a planned manner. In this instance a temporary repair was not possible and it took three months to get the necessary planning permission and reinstate customers. This one incident prompted a total compensation payment of £200,000 (£6,500 per customer) and a penalty of £1.8m (23/24).

Southern is a larger network that is less exposed to single incidents, however, we still exceeded the maximum cap in 2023/24, mainly due to factors outside of our control, specifically, third-party incidents. The impact of such incidents can vary. In two years, we experienced a similar number of third-party incidents that affected a similar number of customers. However, in the first year they could be quickly rectified, and the average time the affected customers were without gas was 18 hours, whereas in the second year that damage was to more complex assets and took an average of 60 hours to resolve. In addition to the increased failure to supply gas payments, this also incurred a penalty.

The GD3 ODI separates non-MOB and MOBs. For non-MOBs we have reviewed our own and other networks' performance in GD2. We have considered that as we replace Tier 1 (smaller-diameter) mains, more repairs are occurring on larger-diameter pipes, which take longer and are most costly to repair. We have also considered the increased time it takes to implement a repair in our Southern network due to regional productivity factors, as recognised in the cost assessment process, compared with an equivalent repair in Scotland.

For MOBs we adopted the principle that a network should not be penalised for acting safely, and we have based our performance standards on the time it took to reconnect a riser outage in Scotland, which we consider to be an efficiently delivered riser replacement. We have assumed that the minimum performance level (at which a penalty starts) should be set on the expectation that one such riser is cut off each year. The excess performance level (the level of maximum penalty) is based on the expectation of two riser cut-offs each year.

The risk of unplanned interruptions on MOBs has increased, as some temporary repair techniques have been deemed unsuitable, such as heat shrink wraps. This increases the risk of us having to disconnect a riser for safety reasons, resulting in a protracted unplanned interruption. For Scotland the levels are higher, as the smaller region makes the exposure to a single event greater than in a larger region such as Southern which has more of an averaging impact.

Table 8h shows the mean duration of unplanned interruptions in our Scotland and Southern networks in GD2 and our proposed minimum performance and excess performance level in GD3.

Table 8h: Mean unplanned interruptions

Mean Duration (hours)	2021/22	GD2 3 yr Average	GD2 3 yr Max	GD3 Minimum Performance Level	GD3 Excess Performance Level 23/24
Scotland (SGN)	MOBs	184.4	470.4	549	969
	Non-MOB	11.5	11.8	16	23
Southern (SGN)	MOBs	193.1	211.8	243	434
	Non-MOBs	15.5	22.6	21	29

Source: SGN

Collaborative streetworks (ODI-Financial)

The collaborative streetworks ODI-F was originally proposed as a bespoke incentive in GD2 to support more collaborative work across networks in the GLA area. We consider this has driven strong collaboration and has benefited from the overall coordination and validation role played by the GLA, which we do not see replicated in other parts of the country. Maintaining this incentive remains important, particularly as the work becomes more complex and potentially more disruptive, requiring us to collaborate even more to deliver important consumer benefits. We therefore support its continuation into GD3 and will continue to engage with other utilities wherever possible to minimise the impact of our work on the public.

8.2.2 Delivering to minimum standards

In addition to uncertainty mechanisms and ODIs, there are also a series of minimum requirements that are built into our licence condition.

Emergency response (LO)

In GD3 we will continue to aim to respond to all escapes as quickly as possible given the nature of the emergency. As a minimum standard we will respond to uncontrolled gas escapes within one hour and controlled gas escapes within two hours, at least 97% of the time.

Guaranteed Standards of Performance (GSOPs)

GSOPs set minimum performance standards for interruptions, connections and customer services. These standards include:

- Restoration of supply within 24 hours;
- Reinstatement of the customer premises within five working days (three if a priority customer);
- Provision of heating and cooking facilities for priority customers in the event of a loss of supply;
- Notification seven days in advance of planned interruptions;
- Responding to complaints within five days;
- Timeliness of providing quotation requests;
- Accuracy of the quotation request provided; and
- Timeliness with which work is commenced and the timeliness of completion.

The compensation amount is indexed by inflation on an annual basis. Where we do not meet the standards of service then the customer will be compensated within ten working days. Furthermore, for many of the GSOPs we must maintain delivery 90% of the time or it is a breach of licence. Many of the GSOPs are focused on connections and quotation times. Under the Holistic Transition pathway, the number of connections is expected to significantly reduce, which increases the risk of erratic results and we therefore recommend a minimum threshold of numbers to ensure statistical robustness is applied (in a similar manner to the CSAT scores).

The most financially material of the GSOPs is the cost of failure to restore gas supplies within 24 hours, with customers receiving payments of £70 per day. We agree it is appropriate for the network to compensate customers when the interruption is within its control. However, where external factors such as planning permission or the actions of residents delay reconnection, we do not think it is appropriate for us to continue paying for the failure to supply gas. In GD2 there have been instances of customers receiving sums greater than £6,000 due to the time it takes to secure planning permission from the local council. It is important that there are clear rules around when this is beyond the network's control and payments can be ceased.

"Keeping the gas flowing? You've got to do that, or there is no point."
Future customer, Southern

Chapter 9: The cost of our plan

This chapter explains our investment requirements in GD3 and the bill impact of our Business Plan. It highlights that:

1. **Our GD3 bill share is forecast to be £178 per year, which is £28 higher, on average, than GD2. The bills remain lower than GD1 when inflation is accounted for.**
2. **Our investment requirements are 7% higher than in GD2 to deliver improved safety and environmental outcomes.**
3. **External factors such as labour and contractor rates are increasing costs by 8%.**
4. **We have committed to efficiency savings of 8% across GD3 to help offset some of these external cost pressures.**
5. **The impact of changes to policy and regulation to reach net zero and allowing for inflation could increase bills by £62 to £240 per year.**

9.1 Explaining our costs

Our GD3 costs are increasing by 21% (before inflation), relative to the GD2 five-year average. This is due to a combination of higher workloads and increasing cost pressures, over and above inflationary pressures. These cost pressures are due to changing external requirements relating to safety, updated working practices, cyber-resilience, and data and digitalisation that we need to embed within our business. In addition to these external factors, our internal workload is changing. A greater proportion of our workload is focused on more complex and time-consuming repair and Repex projects.

We have carried out an internal assessment and utilised external consultancy support to drive efficiencies in GD2 that help to counter these cost pressures. Furthermore, we have committed to an ongoing efficiency (OE) of 0.5% per year in GD3, which is explained later in this section.

The total cost of our plan is just under £4.5bn. To put forward the most robust cost forecasts, we have based our plan on our anticipated disconnection volumes in the GD3 period, following current trends. If the Holistic Transition pathway is realised, it is anticipated that around 450,000 customers could migrate away from the gas network by 2031. This is 435,000 higher than the current rate of disconnections would suggest.

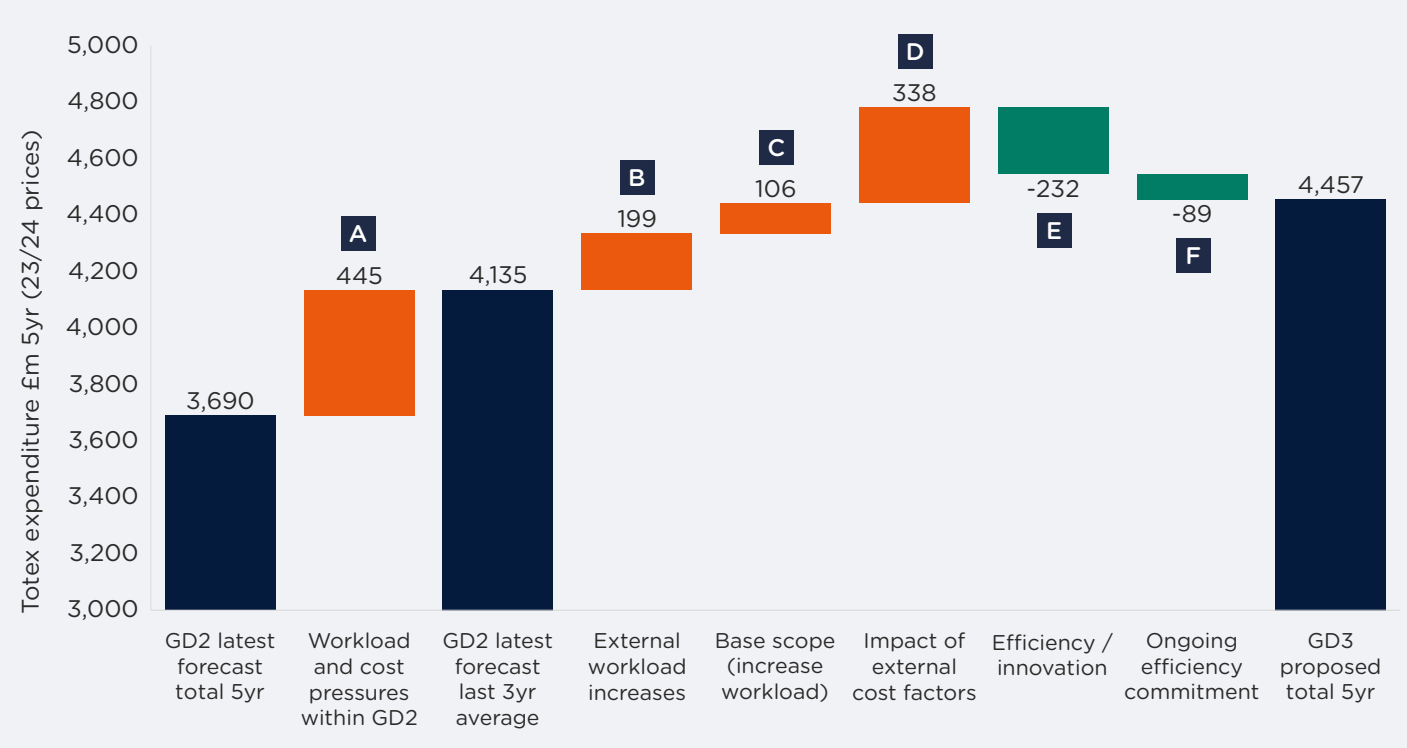
The cost of safely disconnecting each property is currently around £1,300 per disconnection. Simple estimates based on today's costs suggest that if the Holistic Transition pathway is realised, the total cost of our GD3 plan could increase by over £700m, which represents the first instalment of a total disconnection cost of approximately £9.8bn by 2050.

We put forward our plan in this way to ensure our ex-ante ask is the lowest it can be. However, we highlight the need for flexibility regarding potential disconnection Totex costs should the actual forecasts increase to the level anticipated in the Holistic Transition pathway.

In the figure on the next page we demonstrate how our costs have evolved between GD2 and GD3 and provide a summary explanation of each movement.

Full details of our costs can be found in SGN-GD3-SD-08: Cost Assessment and Benchmarking.

Figure 9a: SGN movement of Totex between GD2 and GD3



Source: SGN

A Workload and cost pressures within GD2: Our reference year for compiling the GD3 Business Plan is 2023/24, to reflect the current real cost base. As such, it is important to explain cost variances against the last three-year GD2 average, as opposed to the five-year GD2 average. These workload and cost pressures have developed during the GD2 period due to changing external factors. Of the £445m movement, 33% is assessed to be a result of workload changes, in areas including:

- Increased reactive repair workloads which we have incurred in the later years of GD2;
- Cyber-related workload that started in the later parts of GD2 due to Ofgem's approach to reopeners for assessing spend; and
- Timing of our Repex programme which, due to challenging GD2 allowances, started at a slower pace in our Southern network.

The remaining 67% of the GD2 movement is due to increasing cost pressures that are recognised in our latest cost base. This includes:

- Costs associated with starting to move to 12-hour working; and
- Increasing costs of delivering our Repex programme based on the real contractor market rates received through more recent tenders, which are at least 35% higher than the prices we incurred at the start of GD2.

B External workload increases: These are the activities and associated costs that we will incur in the GD3 period due to changing requirements placed on us. This is forecast to increase our costs by £199m over GD3 compared with our GD2 position and is made up of three core areas:

1. Implementation of 12-hour working – as set out in Chapter 7, embedding new working practices to help protect our employees and customers from the impact of fatigue – will increase our ongoing operational costs as we need to maintain a higher frontline workforce.
2. Complying with Ofgem's SSMD requirement of enabling data and digitalisation – making data more openly available will be a benefit to consumers and support more efficient allocation of capital across the whole system on the transition to net zero. The additional costs to achieve this are included within our GD3 cost base.
3. Connections costs – while the DLCA will be withdrawn, our obligation to offer quotations within defined timelines and to be the connection provider of last resort will not. As a result, the overhead costs associated with providing quotes is expected to remain broadly the same, while our ability to recover those overheads is expected to decrease as fewer quotes are expected to be undertaken, creating a stranded overhead. Given the uncertainty in the number of customer connections, we have proposed a reopener mechanism to enable a flexing of overhead recovery.

C Base scope (increased workload): Higher workloads in GD3 have driven a net increase in costs of £106m, on a like-for-like basis compared with GD2. In GD3 we forecast an increase in Tier 1 Repex workload as we deliver the 30-year replacement programme by 2032, and an increase in riser replacement activity as we respond to recommendations in the recent Grenfell enquiry report. We expect some workloads to reduce in GD3, primarily Tier 1 repair workload because the Repex programme has successfully converted most metallic mains to plastic. These movements are set out in SGN-GD3-SD-06: Network Asset Management Strategy.

D Impact of external cost factors: This highlights the cost pressures that we anticipate within the GD3 period, mostly associated with the Repex programme. These cost pressures are driven by external contractor costs due to a more challenging market for carrying out this work and the more complex nature of the projects that need to be completed. These are already being realised in GD2 and are anticipated to continue into GD3.

The complexity factors we are most concerned about are projects that involve ductile iron, cross-road services, long services and road crossings. This is because such projects take longer to complete and can require more resource. As we move towards the end of the Repex programme, we anticipate these factors will be proportionately higher compared with our historic activity, as explained in SGN-GD3-ECR-01: MJM Report.

Contractors in Great Britain's supply chain are fully aware of the challenges and complexity involved in completing this HSE-mandated programme, and as such there is much greater cost pressure in the remaining seven years that needs to be taken into account in any cost review.

We discuss the challenge of these cost and complexity pressures in greater detail within our Cost Assessment and Benchmarking appendix, as well as the different ways in which the regulatory framework can acknowledge these challenges. This will be a challenging area within the GD3 cost assessment, as it is likely the networks will face differing cost challenges in completing the 30-year iron mains replacement programme. This is due to different network configurations and the lack of a stable regulatory framework for this vital safety programme over time, which has led to many changes in the way that the networks have delivered the work required.

E Efficiency / innovation: This is vital to minimise the impact on customer bills. We acknowledge that within our Southern network, the first two years of GD2 were challenging with the labour and contractor shortages making it hard to deliver efficiencies. We have carried out in-depth analysis of our cost base within the last 18 months, running an internal programme to identify and implement process efficiencies. This has led to us embedding efficiencies of circa £47m per year in our cost base compared with our GD2 comparative position.

Efficiencies have been focused on back-office areas that support our frontline operatives. We have also identified efficiencies through better onboarding and training of our frontline staff, improving the productivity of our workforce and reducing the need for expensive overtime rates.

Finally, we have identified key unit rate areas where improved processes can deliver more efficient costs. For example, more efficient processes to reduce the unit rates of delivering bulk service and relay after escape service replacements, which were high compared to the reported industry average in GD2.

F Ongoing efficiency commitment: In GD2, Ofgem set a target for ongoing efficiency of 1% per year. This target was based on a long-term historical average (dating back to the 1970s) and an assumption that productivity growth would return to longer-term trend rates during GD2. This has not been realised, and the UK has continued to experience very limited productivity growth, which has been a characteristic of the UK economy since the 2008 financial crisis.

UK economic forecasts do not project an improvement in national productivity. Recent ONS data[16] suggests that growth was zero in June and July 2024. Furthermore, output per hour growth was -0.2% and +0.3% in the first two quarters of 2024. In February 2024, the Bank of England forecast total factor productivity (TFP) growth[17] averaging 0.3% p.a. for 2024 to 2026.

The second factor bringing network productivity into line with the rest of the economy is the removal of innovation funding for operational efficiency, safety and environmental benefits in GD2. Instead, innovation expenditure was focused on the energy transition and supporting vulnerable customers. As such, there is no basis on which to assume that networks should be able to achieve productivity improvements higher than the national average.

Analysis in SGN-GD3-ECR-20: Economic Insight - Ongoing Efficiency for Gas Networks at RIIO-3, suggests an estimated ongoing efficiency range of 0.2% to 0.8% and a central recommendation of 0.5% per year. We have committed to an ongoing efficiency of 0.5% per year in our plan, which we believe is a stretching target considering the wider challenges networks are likely to encounter in GD3. This results in an additional £18m per year of savings. These are additional to the committed efficiencies discussed above. This is a significant value within such a challenging and evolving macro landscape. A prediction of future ongoing efficiency above what is embedded within our inflation factors is always a challenge, but we consider alignment to the UK's productivity trends is most appropriate.

16 https://www.ons.gov.uk/economy/grossdomesticproductgdp/bulletins/gdpmonthlyestimateuk/july2024#monthly-gdp
17 https://www.bankofengland.co.uk/-/media/boe/files/monetary-policy-report/2024/february/monetary-policy-report-february-2024.pdf, pg 79

9.1.1 Real price effects

In GD2, Ofgem used a real price effects (RPEs) methodology to "true up" allowances on an annual basis to account for divergences in sector-specific inflation from CPIH. For the gas distribution networks, the RPE mechanism allowed for differing inflation in labour and materials only. Costs that were previously deemed to be immaterial during the GD2 assessment have had a material impact on the cost that we have been exposed to, [redacted] These RPEs should be incorporated into the GD3 Business Plan.

This is explained more fully within SGN-GD3-SD-08: Cost Assessment and Benchmarking.

9.1.2 Regional cost factors

The cost assessment process, in principle, determines the cost of efficiently carrying out work on an average basis across the UK. We operate two networks at both extremes of the national average.

Scotland has amongst the lowest density of customers per network and incurs additional costs associated with greater travel time and the extra resource requirements needed to deliver the same level of service compared with the national average, referred to as sparsity costs. These costs are particularly notable when embedding 12-hour working practices as areas with a smaller frontline resource base will experience a more significant impact when delivering the same workload, compared with areas with a broader resource base from which to draw on. In total, Scotland costs are 4% higher than the national average.

Southern in contrast operates in some of the most congested and high-density parts of the UK. Operating in highly urbanised areas, within a highly congested above-ground and below-ground street space combined with the disruption associated with congestion and locating emergency services close to potential gas escapes, all increase the cost of doing emergency and repair work in the southern region.

This congestion increases the cost of delivering core programmes of work and providing the back-office services necessary to support that in the southern region. The current methodology calibrates costs according to the Annual Survey of Hours and Earnings (ASHE) data set. However, this data set reflects regional labour costs according to direct labour employed, the direct wage costs and the point of employment. The ASHE data is not representative of the costs incurred on major delivery programmes, such as Repex. As described in Chapters 5 and 7, our Southern Repex programme is predominantly delivered by a contractor workforce from other parts of the UK, which results in additional costs associated with travel, sustenance and accommodation. In total, Southern costs are 17% higher than the rest of the national average.

We do not consider that the regional adjustments applied in GD2 are appropriate or sufficient to recognise the cost of doing business in the south. In SGN-GD3-ECR-08:Frontier Economics - Regional factors and Ofgem's GD2 model, we provide an independent assessment of Ofgem's GD2 model to determine appropriate considerations to be made within the GD3 cost assessment methodology. We set out more details within the cost assessment methodology.

Furthermore, the explanatory power of the model is limited by it being a single Totex model. The gas distribution cost assessment process is unique among regulatory settlements by putting so much confidence in a single model. In the Cost Assessment and Benchmarking appendix we identify alternative model structures and disaggregated models, all of which have a significant impact on the outcome of the cost assessment process. It can be clearly demonstrated that alternative model variations generate significantly different results on the level of efficiency. Therefore, it is incorrect to place weight on a single model as a representation of efficiency.

9.2 Customer bills

9.2.1 GD2 average to GD3 average bill movement

Our customers are understandably concerned with affordability, and we recognise that they are facing rising bills across many essential services. We have focused on achieving the right balance between bill movements and investing in our network for the next price control, while also providing targeted support for those who need it.

We have listened and have carried out an extensive reassessment to ensure the costs put forward in our plan will maintain the safety and resilience of our assets, which are ageing and deteriorating. We anticipate our share of the bill to increase by £28 per year compared with the GD2 period on a like-for-like inflation basis, based on the same overarching financing policies. There is potential for a further increase of £62 if proposed policy changes to support the net zero transition and adjust for inflation are introduced.

The table below presents a breakdown of the GD3 average bill compared with GD2 and GD1.

Table 9a: Bill Impacts in GD3

£/household (23/24 values)	GD1 average	GD2 average	Direct comparison with RIIO-2				Policy impacts in RIIO-3			
			Maintaining core services	Proposed enhancements	Change in finance terms	GD3 Average bill impact	Faster investment recovery	Semi-nominal WACC impact	Disconnections	GD3 average bill impact
Scotland	**£176**	**£146**	£12	£4	£8	**£170**	£31	£8	£15	**£225**
Southern	**£187**	**£152**	£19	£3	£8	**£182**	£35	£9	£21	**£247**
SGN	**£184**	**£150**	**£17**	**£4**	**£8**	**£178**	**£34**	**£9**	**£19**	**£240**

Source: SGN
Bill impact for domestic customers excl. the National Gas NTS Exit charge which is outside of GDN control. Further explanation of calculation of bill movement can be found within the Cost Assessment and Benchmarking appendix.
NB: Rows may not sum due to rounding differences

Under the 'Direct Comparison with RIIO-2' columns we compare the bills in GD2 and GD3. This shows:

- That maintaining core services will increase the bill by approximately £17 per year, per customer in GD3. This is due to the increased costs and workload requirements identified above;
- The specific enhancements supported by our customers and stakeholders include proposals for biomethane, reduced methane emissions and environmental improvements. They increase the average bill by £4 per year per customer; and
- Changes to finance terms including tax, licence fees, debt costs and interest rates and market return expectations since GD2, increase costs by £8 per year per customer. These are discussed further in Chapter 10.

This results in an average cost per customer of £178 per year compared with the average bill of £150 per year in during GD2 but remaining below the GD1 bill average bill of £184.

The second set of figures set out the policy impacts presented in the SSMD, which assume that we follow the FES Holistic Transition pathway to net zero. This will have the following impacts:

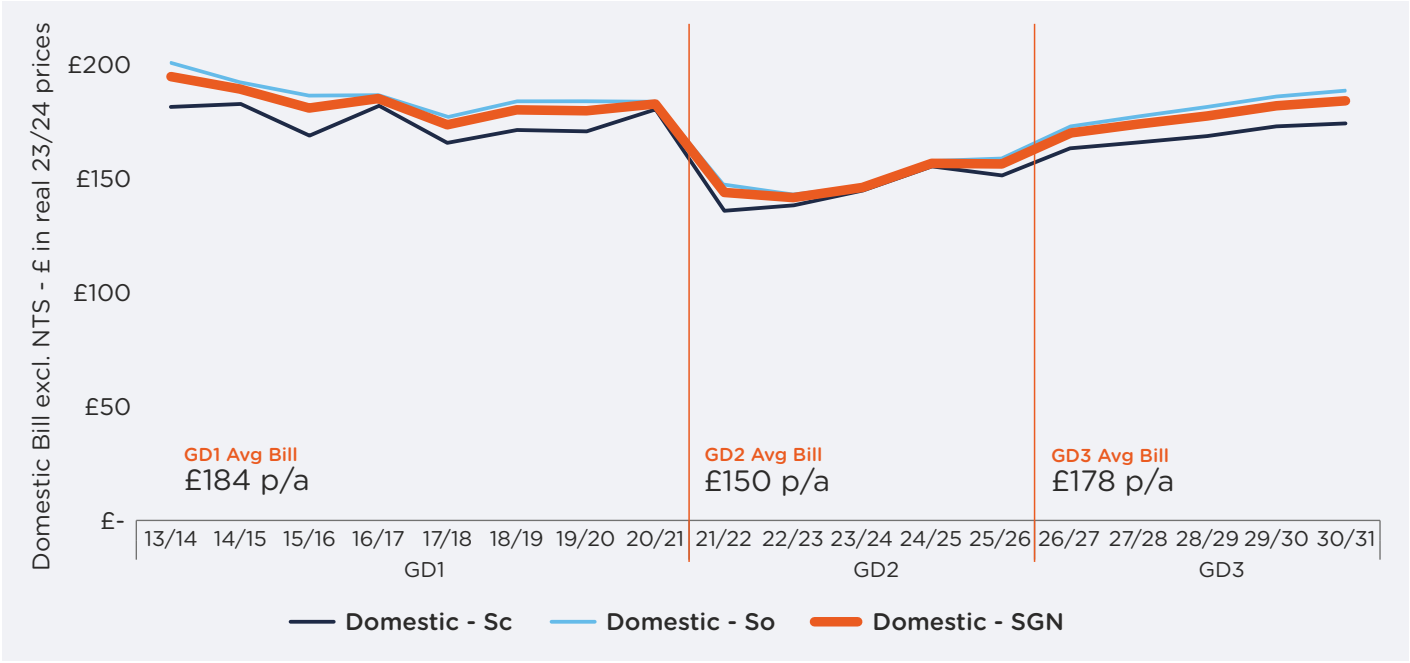
- An extra £34 will be added to customer bills so investment in existing and future infrastructure is recovered over a shorter period and will be incurred by today's customers, known as accelerated depreciation. However, as we set out in Chapter 10, this does not resolve the cost recovery problem, so we have identified an alternative approach to address this issue;
- An extra £9 due to the introduction of a semi-nominal weighted average cost of capital (WACC), set out in the SSMD, which reduces the extent to which inflation is added to the RAV and recovered over the long-term, and increases the extent to which it is recovered from current bills; and
- An extra £19 per year to recover the cost of customers disconnecting from the network, which assumes significant numbers of customers will move to other sources of heat as forecast by the FES Holistic Transition pathway, although we currently see no evidence that would support this forecast.

Combined, these will result in a bill share of £240 per year, £62 more than our direct comparison.

9.2.2 Longer-term bill evolution

The GD2 bill is the most recent charge that customers will be experiencing, but we consider it is important to take a longer-term view of our proportion of the bill evolution, as shown in the figure below. When comparing with our GD1 average bill, we are showing a lower bill burden to customers in real CPIH-adjusted terms.

Figure 9b: Long-term SGN domestic bill evolution



Source: SGN

The figure above shows our bill dropped within the GD2 period due to an overly challenging allowance settlement position, which has caused an imbalance of risk within the price control. When considering all networks' sector performance, allowances are not sufficient, even after adjusting for RPEs, to deliver the required workloads, with the sector needing to spend around 5% more than the allowances awarded.

Our plan ensures the customer bill, on a like-for-like policy position, remains static across an 18-year timeline. We are confident this long-term stability offers value to customers and ensures affordability.

9.3 GD3 cost breakdown

The section below lists our main expenditure areas for Scotland and Southern against the GD2 five-year average and GD2 three-year average, along with a brief narrative. An explanation of the main changes are provided in Chapter 5 and the Cost Assessment and Benchmarking appendix, with detailed explanation within the supporting data template commentaries.

Table 9b: Network Opex

£m	GD2 5 year avg.	GD2 last 3 year avg.	26/27	27/28	28/29	29/30	30/31	GD3 avg.
Scotland	**50.3**	**54.0**	61.7	61.7	61.1	61.2	61.1	**61.4**
Southern	**102.8**	**116.6**	114.7	110.1	110.0	106.9	104.3	**109.2**
SGN	**153.1**	**170.6**	**176.4**	**171.7**	**171.1**	**168.1**	**165.4**	**170.6**

Source: SGN

Our direct operating costs consist of network-related expenditure to manage and react to events on our network, essential to keep our network and customers safe. This includes responding to emergencies, carrying out repairs, ongoing maintenance, the operational cost of the SIUs and other direct activities. Our direct operating costs are primarily determined by labour costs, both in terms of wages and the number of employees (or contractors) needed to deliver the work. These costs have increased over GD2, and current prices show that the last three years of GD2 are going to be 11% higher than the average GD2 cost. As we progress through GD3, we anticipate those costs will be maintained.

Table 9c: Network Capex

£m	GD2 5 year avg.	GD2 last 3 year avg.	26/27	27/28	28/29	29/30	30/31	GD3 avg.
Scotland	**49.1**	**57.4**	43.1	48.2	58.6	47.7	37.6	**47.0**
Southern	**45.9**	**47.3**	60.0	65.6	69.9	65.6	60.0	**64.2**
SGN	**95.0**	**104.7**	**103.1**	**113.8**	**128.5**	**113.4**	**97.6**	**111.3**

Source: SGN

Our network Capex costs cover the investment projects that we are undertaking to repair, replace and rebuild our existing our asset base, which includes LTS assets, governors and SIUs. Current prices show that in the last three years of GD2, these costs will be approximately 10% higher than the average cost over the five-year period, and this will continue into GD3.

Table 9d: Network Repex

£m	GD2 5 year avg.	GD2 last 3 year avg.	26/27	27/28	28/29	29/30	30/31	GD3 avg.
Scotland	**72.7**	**76.4**	87.5	89.2	84.8	83.6	83.3	**85.7**
Southern	**223.9**	**249.9**	323.9	321.1	322.6	317.3	317.0	**320.4**
SGN	**296.6**	**326.4**	**411.4**	**410.3**	**407.4**	**400.9**	**400.3**	**406.1**

Source: SGN

The major component of expenditure in GD3 is the Repex programme. As we have described earlier, there is a significant difference in the delivery costs across the country. In GD2, current costs show that the last three years will be approximately 5% higher in Scotland than the five-year average, while in Southern they are 12% higher. As set out above, costs will continue to increase in GD3 due to complexity, reduced productivity and the cost of securing labour. In addition, we have identified areas of additional workload that will need to be carried out in GD3. This increases costs compared with the last five years of GD2 by 28% in Southern and the 12% in Scotland.

Table 9e: Non-network Opex

£m	GD2 5 year avg.	GD2 last 3 year avg.	26/27	27/28	28/29	29/30	30/31	GD3 avg.
Scotland	**43.5**	**49.2**	47.8	49.8	52.3	53.3	50.0	**50.6**
Southern	**93.8**	**109.4**	94.3	96.6	99.2	100.9	96.0	**97.4**
SGN	**137.3**	**158.5**	**142.1**	**146.4**	**151.5**	**154.2**	**146.0**	**148.0**

Source: SGN

Non-network operating costs include business support costs, training and apprenticeships, land remediation and other work management costs. These costs are higher in the later years of GD3 due to the higher costs associated with cyber, IT, data and digitalisation operating costs. These factors are driving costs into GD3.

Table 9f: Non-network Capex

£m	GD2 5 year avg.	GD2 last 3 year avg.	26/27	27/28	28/29	29/30	30/31	GD3 avg.
Scotland	**22.9**	**30.1**	29.8	31.4	25.4	15.9	16.4	**23.8**
Southern	**34.5**	**39.6**	77.4	56.3	59.2	30.8	23.6	**49.4**
SGN	**57.4**	**69.7**	**107.1**	**87.7**	**84.6**	**46.6**	**40.0**	**73.2**

Source: SGN

The final cost category is non-network Capex, which includes IT, cyber, data and digitalisation and vehicles. The ongoing capital investment peaks in the first two years of GD3 and then tapers down towards the end of GD3.

Chapter 10: Financing our plan

In this chapter we set out the requirements for maintaining a financeable and investable network given the uncertainty in future customer numbers. It highlights that:

1. **The increased costs for debt and equity investors due to uncertainty around the future of gas must be recognised by Ofgem with a sector wide approach no longer appropriate.**
2. **Accelerated depreciation on its own is insufficient to provide confidence in cost recovery (RAV and wider operating costs), and our investors need assurance now that all efficient costs will be recoverable. We propose an alternative approach linked to customer behaviour.**
3. **Ofgem must move to a cost of debt mechanism that recognises changes in gas premiums, realised in GD3 that are not adequately captured in the existing utilities' cost of debt index.**
4. **Ofgem needs to change its cost of equity assumptions to address the future of gas risk, market calibration and methodological issues to ensure a sustainable, financeable and investable business.**
5. **The regulatory model must be reformed to be financeable and investable with the prospect of declining customer numbers. The principles of reform need to be established as priority.**

10.1 Overview and context

The approach to the key financial elements of the price control including depreciation, cost of capital and financeability need to be considered in the context of government policy on the transition to net zero and the potential migration of customers away from the gas network.

Ongoing levels of investment and operating costs are going to remain similar to today, in order to maintain safety, until the last customer is disconnected. Maintaining the financeability and investability of the gas networks during this period will be a crucial element of any transition. This chapter supported by SGN-GD3-SD-09: Finance Annex, sets out in more detail:

- Investability, financeability and affordability analysis based on Ofgem's current working assumptions for GD3 and the longer term through 2050;
- Concerns on the above criteria evidenced by bill analysis, financeability testing, investability cross-checks;
- Policy considerations for Ofgem and wider government which we consider will provide a more optimal outcome for stakeholders in the longer term, giving flexibility and optionality to manage uncertainty; and
- Why wider framework changes need to be implemented now to provide a sustainable and longer-term financeable and investable outlook.

In Ofgem's discharge of both its 'net zero' and 'economic growth' duties, it needs to secure the strength and optionality in the gas networks. A financeable and investable gas network is vital for both.

10.1.1 Financeability and investability

The forecast reduced utilisation of the gas assets because of policy ambition is a unique situation that changes the risk profile from GD2. There is a wide variation in the latest FES scenarios between the holistic and counterfactual scenarios in the 2024 publication, and significant variations occur across years. Assessing financeability in this price control given the uncertainty requires careful attention to be paid to the potential impacts over a longer-term that takes into consideration the level of bills, and the financeability and investability of the sector.

Two important principles need to be considered and underpin our financeability assessment:

- Recovery of RAV: Confidence in Great Britain's regulatory regime is founded on the recovery of RAV. If RAV and ongoing cost recoverability is undermined, or if there is any suggestion that ongoing investments may not be recoverable, it would have a very significant impact on further investment in this and other regulated networks, which also use the RAV as the basis of investment. This would not be in consumers' interests; and
- Longer-term financeable framework: In considering its financeability assessment, Ofgem needs to ensure that the underlying framework and longer-term arrangements meet its duty to have regard that licensees are both financeable and investable, and meet its duties to current and future customers. Failure to do so would have a significant impact on investor confidence and affordability, rendering the GD3 plan unfinanceable – regardless of the short-term credit metrics during the GD3 period. The current focus on credit metrics appears less appropriate in the longer term.

It is important that regulatory and government policies provide a sustainable framework to deal with the cost recovery risk that exists across different customers switching pathways. Dealing with cost recovery risk exposure is necessary if gas distribution is going to remain attractive to existing and new investors. If left unaddressed it will cause material affordability issues in the future and increases risk and financeability concerns for investors today.

In a scenario where there is expected to be a substantial migration of customers away from the gas network, there is an affordability issue that creates a cost recovery concern. Investors need to have assurance prior to GD3, that all costs will be recoverable.

In a scenario where RAV declines rapidly due to accelerated depreciation, and the network becomes asset light, the loss of the equity buffer, relative to the level of Totex, exposes the company to greater financeability risk. This requires a change in the regulatory model the principles need to be established prior to GD3.

These mechanisms are also necessary to reduce the extent to which additional finance costs are passed on to consumers. Currently we are seeing an increased perception of risk that investors and debt issuers attach to the sector, which is impacting the pricing and availability of debt capital, including the length of lending terms.

The financeability assessment in GD3 must recognise that the markets are already factoring in higher risk to gas networks. [redacted]

10.2 Our approach to financeability

The financeability assessment needs to provide meaningful information on the licensee's ability to raise debt financing on efficient terms and its link to equity investability. The base case is consistent with Ofgem's working assumptions, however, given the significant uncertainty surrounding the future of the gas networks and significant macro-economic uncertainty, we have enhanced and supplemented the financeability assessment set out by Ofgem in its guidance as follows:

- Considering the long term by providing insight into major points of risk exposure, consistent with Ofgem's financeability duty;
- A more rigorous risk assessment, developing more robust downside scenarios;
- Anticipating how credit agency views may evolve in GD3 and over the longer term, particularly qualitive assessments around regulatory stability; and
- Focusing on equity financeability (investability), assessing whether equity returns proposed by Ofgem are competitive when compared with the other opportunities that exist in the wider capital market.

We have additionally reviewed the appropriateness of notional company working assumptions. These assumptions are set out in more detail in SGN-GD3-SD-09: Finance Annex.

We have adopted a consumer-focused approach to financeability, and assessed our plan against the following principles:

- Affordability – the cost and timing of the energy transition is a societal challenge and should be approached in that way. We need to avoid unnecessary cost increases today, whilst ensuring that those unable to migrate away from the network (often the most vulnerable and least well off) should not be left shouldering an unaffordable cost burden;
- Investability – it is important that the regulatory framework remains stable and transparent and provides a cost of capital that provides confidence for networks to attract and retain capital in an efficient manner, taking account of relevant cross-checks and stakeholder evidence; and
- Financeability – debt and equity financeability needs to remain strong and calibrated both in GD3 and over the longer term to ensure we can maintain a safe and reliable network and play a key role in the net zero transition.

Specific areas where we believe our approach to financeability is designed to operate in the consumer interest are set out in the Finance Annex.

10.2.1 Credit metrics targets

We consider that both qualitative and quantitative measures need to be assessed when assessing debt financeability. Given the current uncertainty set out in this plan, it is our view that a rating comfortably within the BBB+/Baa1 range with downside stress tests provides sufficient headroom against sub-investment grade thresholds. As set out in the Finance Annex, ratings lower than BBB+ would increase the cost of debt and would not be in consumer interests.

It is important to recognise there are limitations beyond the company's control that impact the financeability analysis presented, including:

- The implications of the 2026 heat policy decision, which could create a shift in the licensees' risk profile and precipitate a range of financeability issues regarding financing costs, customer numbers and investor appetite;
- The implications of Ofgem's policy changes on credit rating agency thresholds, as we are not aware of any updated guidance on whether credit rating agencies will update their thresholds considering SSMD policy changes;
- The uncertainty associated with future regulatory policy (eg accelerated depreciation and wider cost recovery); and
- The assumption that our Totex/associated outputs will be fully funded, if it isn't, we will need to carefully review the draft determination to understand whether the risk profile changes.

At present, company-specific mitigations are limited as most of the above uncertainties will be driven by regulatory and government policy. Therefore, as set out in the Board assurance, any assessment of financeability is qualified by how these external factors are resolved.

10.3 Financeability assessment – Ofgem's working assumptions

In this section we present the results of our GD3 and longer-term financeability assessment using Ofgem's working assumptions for the notional company benchmark (Ofgem's expectation of a representative regulated company) and our actual company. We have presented our assessment of GD3 financeability in the table below. This compares forecast performance against key rating thresholds that are currently in place, and as a measure of prudence, potential adjusted thresholds recognising that these may need to increase to incorporate Ofgem's policy changes. The base case results shown in table 10a below. Further analysis can be found in SGN-GD3-SD-09: Finance Annex. The colours used in the table represent performance against credit rating thresholds. Green is 'acceptable', amber is 'one notch below' and red is 'significantly missing targets'.

Table 10a: Base Case - notional and actual company financeability under Ofgem's working assumptions

		BBB+ / Baa1 range	Current Thresholds				BBB+ / Baa1 range	Adjusted Thresholds			
			Notional Company		Actual Company			Notional Company		Actual Company	
			Sco	So	Sco	So		Sco	So	Sco	So
Credit Metrics											
Fitch	Cash PMICR	1.5x - 1.7x	1.77x	1.77x	1.84x	1.84x	1.8x - 2.0x	1.77x	1.77x	1.84x	1.84x
	Nominal PMICR	1.8x - 2.0x	1.94x	1.94x	1.88x	1.91x	1.8x - 2.0x	1.94x	1.94x	1.88x	1.91x
Moody's	AICR	1.4x - 1.6x	1.77x	1.77x	1.73x	1.66x	1.7x - 1.9x	1.77x	1.77x	1.73x	1.66x
S&P	FFO/Debt	9% - 12%	18.1%	17.8%	15.5%	14.8%	15% - 18%	18.1%	17.8%	15.5%	14.8%
Gearing		75% - 68%	60.0%	60.0%	66.1%	67.8%	75% - 68%	60.0%	60.0%	66.1%	67.8%
Liquidity	Dividend Yield		3%	3%	4%	3%		3%	3%	4%	3%
	Return of Capital		5%	3%	3%	2%		5%	3%	3%	2%
Customer	**Bills (post policy)**				218	235				218	235
	% change to GD2				48%	54%				48%	54%

Source: SGN analysis based on Ofgem Business Plan Financial Model (BPFM)
Please note the BPFM does not accurately reflect the Fitch PMICRs calculation for the actual company, and has been adjusted accordingly. Further details in Finance Annex.

Under current rating thresholds, credit metrics currently show headroom against the mid BBB+/Baa1 threshold. However, as we evidence later, dividend yields (excluding accelerated RAV returns from SSMD policy changes) are significantly below an appropriate cost of equity and benchmarks of equivalent gas utilities in Europe.

Taking a more prudent view of rating thresholds in GD3, the notional company would be marginally below Fitch's BBB+ cash PMICR threshold and in the bottom half of Moody's Baa1 AICR threshold. Whilst the majority of Southern' s actual company metrics are BBB+, it is marginally below the AICR Baa1 threshold, leaving no margin for downside risk.

In addition to the base case analysis above, we have also carried out two additional sensitivities to the notional company base case:

- Overspend of totex allowances – GD2 Totex forecasts indicate the sector will overspend Totex allowances by 5%. Assuming this is repeated in GD3, rather than assuming that expenditure matches allowances, interest coverage ratios would be reduced by 0.05x; and
- Underperformance against the debt index – Based on the analysis presented in the Finance Annex, we have assessed that actual interest risks being at least 30bps higher than the current index in GD3. Applying this to GD3, rather than the assumption that actual interest equals allowed interest, reduces interest coverage ratio being 0.06x.

These two sensitivities lead to a reduction in the notional company cash PMICR from 1.77x to 1.66x. This is in the bottom half of Fitch's BBB range (based on a ratio being adjusted for Ofgem's policy changes). This emphasises the importance of a robust cost assessment process and a debt-funding mechanism that funds gas premiums driven by factors outside the company's control.

10.3.1 GD3 financeability assessment – stress tests

As per Ofgem's guidance, we have run Ofgem's stress test (including the RORE test on ODIs which are not material for GDNs). These stress tests can be found in the Finance Annex, with summary detail set out in the table below. Ofgem guidelines recognise additional stress tests can be run. We have consequently increased Southern's downside Totex stress test to 15%. We have also carried out an additional sensitivity on the cost of debt allowances not being sufficient (e.g. not reflecting the gas risk premium).

Table 10b: Stress tests – notional and actual company financeability

	Downgrade thresholds		Base case		Stress tests notional – actual			Downside	
	BBB+	Sub IG	Notional (60% Gearing)	Actual (65.7% Gearing)	Totex allowances reduced - 10% Scotland - 15% Southern	Cost of debt allowances reduced 30bps	Macro 2% lower interest / Inflation	Notional (60% Gearing)	Actual (65.7% Gearing)
Scotland									
Fitch Cash PMICR	1.80x	1.40x	1.77x	1.84x	(0.10x) - (0.10x)	(0.07x) - (0.07x)	(0.02x) - (0.04x)	1.59x	1.64x
Nominal PMICR	1.80x	1.40x	1.94x	1.88x	(0.09x) - (0.08x)	(0.06x) - (0.06x)	(0.20x) - (0.17x)	1.59x	1.57x
Moody's AICR	1.70x	1.30x	1.77x	1.73x	(0.10x) - (0.10x)	(0.07x) - (0.07x)	(0.02x) - (0.04x)	1.59x	1.52x
S&P FFO/Debt	15%	9%	18.1%	15.5%	(0.4%) - (0.3%)	(0.3%) - (0.3%)	(0.1%) - 0.6%	17.4%	15.5%
Dividend Yield exc. return of capital			3.0%	3.6%	(1.3%) - (2.0%)	(0.4%) - (0.4%)	(1.4%) - (1.4%)	(0.1%)	(0.3%)
Southern									
Fitch Cash PMICR	1.80x	1.40x	1.77x	1.84x	(0.12x) - (0.12x)	(0.07x) - (0.06x)	(0.04x) - (0.05x)	1.55x	1.60x
Nominal PMICR	1.80x	1.40x	1.94x	1.91x	(0.11x) - (0.10x)	(0.06x) - (0.06x)	(0.22x) - (0.19x)	1.55x	1.57x
Moody's AICR	1.70x	1.30x	1.77x	1.66x	(0.12x) - (0.12x)	(0.07x) - (0.06x)	(0.04x) - (0.05x)	1.55x	1.42x
S&P FFO/Debt	15%	9%	17.8%	14.8%	(0.4%) - (0.4%)	(0.3%) - (0.3%)	(0.1%) - 0.5%	17.0%	14.7%
Dividend Yield exc. return of capital			3.0%	3.1%	(2.0%) - (2.4%)	(0.4%) - (0.4%)	(1.3%) - (1.4%)	(0.7%)	(1.2%)

Source: SGN analysis based on Ofgem's BPFM.
Please note the BPFM does not accurately reflect the Fitch PMICRs calculation for the actual company, and has been adjusted accordingly - further details in Finance Annex. Downgrade thresholds are on an adjusted basis.

The results of this stress test are that ICR ratios reduce by circa 0.3x in both networks for the notional and actual company. On the more prudent rating thresholds, the networks could absorb these changes for both the notional and actual company but would be BBB-/Baa3, which is close to a licence breach and provides little margin for these risks increasing further.

We have carefully examined potential company, regulatory, and government mitigations to downside risk in detail in SGN-GD3-SD-09: Finance Annex, which are summarised below:

- Totex underperformance – mitigations are limited as our submitted plan is aligned with the Holistic Transition pathway and only includes necessary safety-related expenditure that is efficiently delivered. Therefore, as the risk of underfunding relates to market-driven factors (such as labour and Repex complexity), it is essential that these are appropriately reflected in the cost assessment and relevant cost indices;
- Cost of debt – the stress test reflects investor sentiment on gas risk. This can only be addressed through policy action to provide investors with assurance on cost recovery and an allowance that reflects the growing gas premium;
- Interest Rates – the impact of low interest rates on cost of equity indexation cannot be mitigated by the company; and
- Gearing – current levels of circa 65% are consistent with BBB+/Baa1 thresholds. Reducing gearing further would directly impact our underlying dividend yield, which is already below the appropriate level for cost of equity and would be insufficient to attract investment.

10.3.2 Longer-term financeability assessment

In the longer term, interest coverage ratios (ICRs) decline over time, falling below adjusted thresholds considered commensurate with a BBB+ / Baa1 rating today. This is driven by the cost of debt rising over time as pre-GD3 debt is refinanced, whereas the cost of equity has been held constant, consequently compressing the cost of equity spread over cost of debt. The table below shows the key credit metrics and financial metrics for the notional company for each of the five-year price controls out to 2051.

Table 10c: Long-term credit metrics for the notional company (60% gearing)

		Downgrade thresholds		GD3 ('26-31)	GD4 ('31-36)	GD5 ('36-41)	GD6 ('41-46)	GD7 (46-51)
		BBB+	Sub IG					
Scotland								
Fitch	Cash PMICR	1.80x	1.40x	1.77x	1.62x	1.59x	1.58x	1.54x
	Nominal PMICR	1.80x	1.40x	1.94x	1.79x	1.76x	1.76x	1.75x
Moody's	AICR	1.70x	1.30x	1.77x	1.62x	1.59x	1.58x	1.54x
S&P	FFO/Debt			18%	23%	32%	55%	207%
	RAV £m			2455	2235	1707	1022	290
Southern								
Fitch	Cash PMICR	1.80x	1.40x	1.77x	1.64x	1.56x	1.56x	1.52x
	Nominal PMICR	1.80x	1.40x	1.94x	1.81x	1.73x	1.73x	1.73x
Moody's	AICR	1.70x	1.30x	1.77x	1.64x	1.56x	1.56x	1.52x
S&P	FFO/Debt	15%	9%	18%	23%	32%	55%	196%
	RAV £m			5590	5189	3717	2068	582
Scotland and Southern (Actual company) Key Metrics								
Totex: RAV (Sc / So)				13% / 13%	13% / 11%	17% / 14%	29% / 23%	107% / 89%
Dividend Yield (Avg Scot & So)				3%	3%	3%	3%	3%
Average Customer Bills (£ / Cust)				230	283	406	840	4294

Source: SGN analysis based on Ofgem's BPFM.
Please note Downgrade thresholds are on an adjusted basis.

The trend in ICRs highlights the need to ensure, over the longer term, that the cost of equity is appropriately calibrated relative to the cost of debt, as illustrated by the weakening ICRs. Without a reasonable spread of the cost of equity over cost of debt, the company may not be able to retain and attract equity and this in turn increases risk to debt investors. This puts the company at risk of a credit rating downgrade, exacerbating the issue, as credit spreads would then rise.

More broadly, the current suite of credit metrics (and an approach to financeability which places significant weight on credit metrics) appears less appropriate in the longer term. As set out in the

accelerated depreciation section below, in a scenario where RAV declines rapidly due to accelerated depreciation and the network becomes 'asset-light', the loss of the equity risk buffer, relative to the level of Totex, exposes the company to greater financeability risk. This requires a change in regulatory model to provide alternative compensation to cover operating risk. It may also be appropriate to consider alternative metrics, for example credit metrics more aligned to a limited-life asset than an open-ended RAV. A greater focus on equity financeability will be required in such scenarios in view of the reducing role of RAV-driven debt financing.

In summary, the credit metrics for the notional company and the actual company may appear acceptable in the short term (based on fully funding of our Totex plan), but there are many uncertainties that make longer term financeability – and consequentially short-term financeability – much more concerning. As set out in the Finance Annex, wider-reaching policy changes and alternative cost of capital assumptions set out in this chapter can partially mitigate the risk that this creates for both debt and equity financeability.

10.4 SGN's alternative working assumptions

We have carefully reviewed Ofgem's working assumptions together with the SSMD's policy changes and have presented the results, as required by Ofgem. As set out earlier, we do not consider the assumption on accelerated depreciation adequately deals with the stakeholder risks, and we propose an alternative mechanism that will need to be implemented in tandem with wider structural framework changes that will need government intervention.

On the cost of capital, we consider Ofgem's proposed cost of equity will not provide the investability needed to retain and attract equity to support the longer-term Totex and vital contribution the gas network will play in delivering net zero in GD3 and beyond. Our proposal provides a more investable network, delivers an acceptable dividend yield in line with benchmarks and protects the longer-term consumer interest. We also set out our recommendations for how the cost of debt framework needs to adapt to the growing uncertainty in gas, which is impacting on costs, tenors and, more generally, capacity.

Ofgem's proposed approach to dealing with the transition to net zero will have significant longer-term ramifications for the financeability and investability of the business and, we consider run counter to its principal objective: to protect current and future customers. Ofgem's own indicative analysis in the SSMD of the impact of depreciation charges on customer bills using current policy, indicates bills will increase to unacceptable levels as customers transition off the gas network. Action needs to be taken in GD3 across government to establish alternative solutions that allow Ofgem to better balance its duties to current and future consumers, ensuring intergenerational equity, but critically to reduce the perception of asset-stranding risk to avoid unnecessarily increasing bills for consumers today when the pathway to net zero remains unclear.

Ofgem rightly acknowledges there is uncertainty around consumer behaviour and government policy[18] and suggests that it will continue to work with government to consider potential alternative approaches. In relation to accelerated depreciation, Ofgem requested that licensees apply 'option two' with an acceleration factor of one (this is one of four options set out in the SSMD) in GD3 Business Plan submissions. We have used option two as requested and provided an alternative calibration option that more effectively delivers Ofgem's objectives, set out below. We assess both options using the Holistic Transition and the Counterfactual pathways (as set out in Chapter 5) to assess the impact on customer bills for different accelerated depreciation options.

Ofgem analysis in the SSMD only included the direct impact of accelerated depreciation, however, this is an error as it artificially constrains the true impact. We have extended that analysis to look at the full customer bill impact (including Totex/Return on RAV) as this will be the most realistic outcome, and therefore most informative for making policy decisions.

10.4.1 Ofgem approach to accelerated depreciation

The table overleaf traces – for each of the price future price control periods – the impact of semi-nominal WACC and accelerated depreciation on customer bills for both Scotland and Southern under the Holistic Transition and Counterfactual pathways. It shows the semi-nominal WACC will increase bills in GD3 and GD4 and then reduce bills in GD5. In contrast, accelerated depreciation increases bills out to GD7, after which it has a negative impact. The impact under the Counterfactual scenario is muted due to higher customer numbers.

18 RIIO-3 Sector Specific Methodology Decision – Overview Document, July 2024

However, irrespective of the policy, the main determinant of affordability is the number of customers on the network. As we need to maintain safety, to meet our licence and statutory obligations regardless of the number of people connected to the network, Totex expenditure will not decline at the same pace as customer numbers. This creates real concerns around the issue of affordability. Under the Holistic Transition pathway this creates unsustainable consumer charges in GD5. We do not expect this to eventuate under a realistic Counterfactual scenario.

Table 10d: Long term domestic customer bill forecasts (23/24 prices)

		Historical						
		GD1 ('13-21)	GD2 ('21-26)	GD3 ('26-31)	GD4 ('31-36)	GD5 ('36-41)	GD6 ('41-46)	GD7 (46-51)
Holistic	Customer numbers (millions)		6.0	5.7	4.8	3.0	1.2	0.2
Counterfactual	Customer numbers (millions)		6.0	6.0	6.0	5.6	4.6	3.5
Scotland								
Holistic Profile	Domestic Bill – Pre policy (£/yr)	175	147	177	227	358	831	5,210
	Impact of semi-nominal WACC		0	9	5	(2)	(19)	(185)
	Impact of accelerated depreciation		0	32	36	43	61	(392)
	Domestic Bill – Post Policy (£/yr)	**175**	**147**	**218**	**268**	**400**	**872**	**4,633**
Counterfactual	Domestic Bill – Pre policy (£/yr)	175	147	170	187	215	263	312
	Impact of semi-nominal WACC		0	8	4	1	(3)	(9)
	Impact of accelerated depreciation		0	31	33	41	47	(58)
	Domestic Bill – Post Policy (£/yr)	**175**	**147**	**209**	**225**	**257**	**308**	**245**
Southern								
Holistic Profile	Domestic Bill – Pre policy (£/yr)	178	153	190	240	369	822	4,991
	Impact of semi-nominal WACC		0	9	6	(2)	(23)	(216)
	Impact of accelerated depreciation		0	36	43	41	26	(631)
	Domestic Bill – Post Policy (£/yr)	**178**	**153**	**235**	**289**	**408**	**825**	**4,143**
Counterfactual	Domestic Bill – Pre-policy (£/yr)	178	153	183	201	227	275	350
	Impact of semi-nominal WACC		0	9	5	1	(3)	(8)
	Impact of accelerated depreciation		0	34	41	45	52	16
	Domestic Bill – Post-Policy (£/yr)	**178**	**153**	**226**	**247**	**273**	**324**	**358**

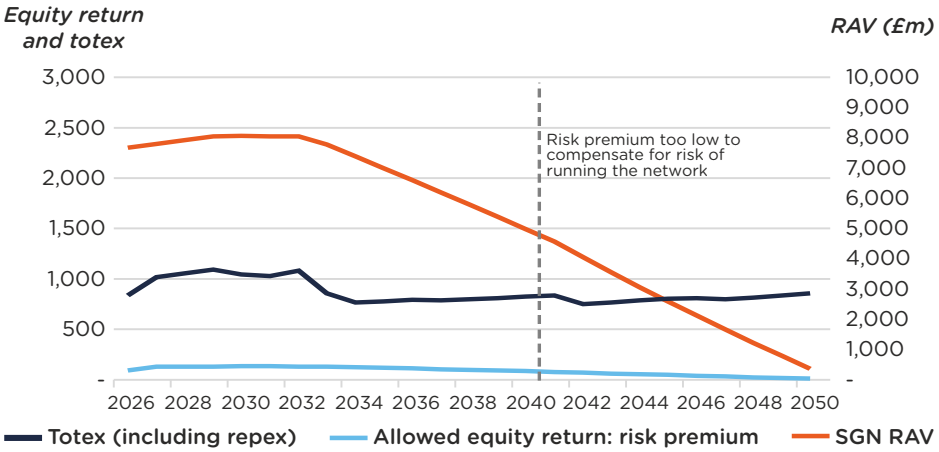
Source: SGN analysis

In the Finance Annex, we have assessed the other options set out in the SSMD under the Holistic Transition pathway. None of the accelerated depreciation options solve or even materially mitigate the adverse impact on bills in the medium term and therefore fail to have the stated effect of the policy which underpins its introduction. This analysis illustrates that the risk of unaffordable customers' bills is not a function of the choice of depreciation policy, but rather the consequence of low customer numbers on the gas network and ongoing investment necessary to maintain safety. This issue cannot be solved or materially mitigated, through changes in depreciation policy, without other supporting policy changes.

One of the objectives of the introduction of accelerated depreciation is to provide confidence of RAV recovery and avoid undermining investment in the sector. However, it is wider cost recovery during the 2040s that renders RAV recovery an issue, as cost recovery is more significant to bill affordability. With an increasing bill profile, we anticipate that those who are able to migrate (both financially and with the right property characteristics) will do so, leaving the burden of unaffordable bills on those least able to migrate and who are likely to be the most vulnerable. Without an alternative approach to cost recovery, this will have significant welfare impacts.

The figure overleaf shows the impact of accelerated depreciation on the RAV and highlights a significantly lower RAV by GD5.

Figure 10a: RAV, equity returns and totex requirements, £m (nominal)



Source: SGN

A depleted RAV relative to overall Totex will undermine the basis on which investment has taken place since privatisation and introduces a number of significant impacts that need to be addressed. These include:

- Insufficient compensation for risk – with a declining RAV the absolute Totex risk increases in proportion to the remaining equity. This will reduce the value of the equity return to a point where it is not sufficient to compensate for the risks involved in running the network, which will be broadly the same as today, even with fewer customers;
- Inadequate equity return buffer – for GD3, Ofgem asked for a 10% Totex overspend sensitivity test. This suggests that an equity return buffer of at least 10% of Totex should be maintained to be able to accommodate Totex variations. As shown in the analysis in Figure 10a above, the level of RAV would fall below this level by the end of GD5, which would require an additional return, through a new regulatory mechanism, to replace the erosion of the equity return buffer. This is an additional cost that is only incurred by customers as a consequence of accelerated depreciation; and
- Inefficient debt concentration – the debt market analysis report [redacted] showed that for gas distribution companies, the tenor of new debt is shortening relative to other Great Britain network companies and cost of debt is increasing relative to the tenor-adjusted iBoxx Utilities index. As regulators signal the point at which the RAV will reduce to zero, debt providers will shorten the tenor further, which will increase concentration refinancing risk to a point where the nature of financing will need to change from fixed-period debt to a form of annual amortising debt, which will be more expensive to fund.

Without addressing these and other wider issues it is very challenging for investors to have confidence that the regulatory framework will support their investment.

10.4.2 SGN's alternative approach to accelerated depreciation

The previous pages have highlighted the numerous issues that will arise from the introduction of accelerated depreciation policy aligned with the holistic pathway. However, Ofgem will be acutely aware that the current evidence of customers uptake of alternative forms of heat are not consistent with this pathway. This provides evidence that employing a singular future pathway or scenario to plan key policies such as accelerated depreciation in GD3 is subject to significant uncertainty. Given the financial implications of the policy, the impact on investor perceptions and the level of uncertainty involved, Ofgem's objectives would be better served by means of a flexible reopener or trigger mechanism that reflects what is actually being experienced as customer behaviour continues to evolve.

We propose an alternative to the accelerated depreciation policy position that is aligned with Ofgem's option-two approach, but proposes to provide a continual calibration of the acceleration factor informed by evidence of customer disconnections. Depreciation policy would only be accelerated when customer disconnections rise above a point that risks the RAV not being fully recovered. The rate of depreciation can then be mechanistically determined by customer behaviour.

This calibration enables an agile approach to determining the level of the acceleration factor where the accelerated depreciation factor is determined by the observed rate of customer migration to alternative heating options in a given year. The observed customer migration number determines the rate of deprecation according to the date at which a full migration would be expected to occur, assuming that the

migration rate is maintained into the future. The acceleration factor should be set at the rate necessary to fully recover the RAV by that date with a minimum depreciation factor set equal to the existing policy.

The benefits of this calibration proposal are that it provides a mechanistic approach to adjust accelerated depreciation, and accelerated depreciation would not be reflected in customer bills until such time that the evidence indicates that transition will occur faster than that implied by current depreciation policy. Bills would therefore not increase in GD3 unless evidence supported the need for accelerated depreciation, deferring the need for a £35 (18%) increase in GD3 bills.

Utilising the calibration approach set out above reduces the risk of introducing accelerated depreciation before it is required, offering a more precise way to calibrate the acceleration factor. This has the benefit of transparency and provides a mechanistic approach to accelerated depreciation calibration. In the Finance Appendix we have calculated the present value (PV) of the depreciation charge using a 3.5% social discount rate used for government policy. If the Holistic Transition pathway was to transpire, the present cost (PC) of the depreciation charges included in bills to 2050 will be £659m lower than under Ofgem's accelerated deprecation scenario. Under the Counterfactual pathway, additional accelerated depreciation is not triggered and the PC of the calibrated approach is £3.3bn lower (£2.8bn of depreciation charge and £0.5bn of Totex risk funding). This shows that for the customers on SGN's networks there is a significant value benefit associated with a calibrated approach.

The alternative calibration mechanism has clear customer benefits, and if the Counterfactual pathway arises it delays the need for clarity on an alternative regulatory structure. Accelerated depreciation on its own does not and cannot provide the answer to the cost recovery and investability issue if there is a rapid decline in customer numbers. Investors need assurance prior to the start of GD3 that costs will be fully recoverable and that process has been established between Ofgem, government and industry to develop a mechanism that resolves that cost-recovery issue. We consider costs should be shared across all energy customers rather than those least able to migrate away. It is important to note that the figures presented above do not include the cost of safely disconnecting customers from the gas network or de-energising and then decommissioning the gas network. As set out in Chapter 9, the cost of safely disconnecting properties could be approximately £10bn, which would have to be absorbed by an ever-decreasing number of customers. Once the network is closed, it would need to be safely de-energised and decommissioned, which will incur costs, with no customers connected to contribute to them.

10.4.3 Cost of equity

The capital markets and macroeconomic context we are currently facing are markedly different from those when the GD2 price control was determined. It is therefore critical that the regulatory allowance enables companies to offer investors returns that are attractive and provide reliable access to sufficient capital.

We have reviewed the methodology in the SSMD and identified a number of areas where the conclusion is markedly different when based on correct evidence.

1. **RIIO-3 CAPM parameters** (SGN-GD3-ECR-12: Oxera - RIIO-3 Cost of Equity - CAPM Parameters) sets out the cost of equity parameters that are applicable to all energy networks, before the consideration of sector-specific forward-looking risks. It reviews the methodology choices made by Ofgem in the SSMD and recommends (i) accounting for the convenience premium embedded in government bonds when estimating the risk-free rate (RFR), (ii) corrections to the calculation of ex-ante total market returns, including how historical inflation is reflected, (iii) putting little if any weight on ex-ante approaches when setting the TMR, (iv) recognising the relationship between TMR / gilt yields, and (v) including Pennon in the sample of water companies considered in the beta estimation.
2. **Cost of equity for GD3** (SGN-GD3-ECR-13: Oxera - Cost of Equity for RIIO-GD3). This report builds on the RIIO-3 CAPM Parameters report by looking at the evidence on forward-looking gas-specific risks, and demonstrates these risks are inadequately captured by water networks and are not fully reflected within National Grid beta estimates, as they divested gas assets from 2017 to 2023. Therefore, it is appropriate to assess further evidence to inform a gas-specific asset beta range and this evidence shows the need for a higher beta range of 0.40-0.44 based on long-term European and US gas networks beta, and European regulatory precedents. However, the report recognises that Ofgem will likely attribute some weight to non-gas UK evidence as per Ofgem's SSMD sample, and therefore concludes a wider asset beta range of 0.38-0.44 is appropriate for RIIO-GD3. The report also sets out how the resultant proposed GDN cost of equity range is supported by analysis of relative equity and debt premiums, and discusses how asymmetric risks may need to be accounted for in the cost of equity allowance.
3. **European beta comparators** (SGN-GD3-ECR-14: Oxera - Review of the regulatory regimes and business mixes for relevant European comparators to strengthen the use of European beta data). This

presents information on the regulatory regimes and business mixes of the five additional listed comparators identified by Ofgem. The assessment concludes that the regulatory regimes and business mixes of the five companies are sufficiently similar and thus improve Ofgem's asset beta comparator sample.

4. **Cost of equity cross-check** (SGN-GD3-ECR-15: Frontier Economics - Updated Cost of Equity Cross-Check Evidence), provides updates for a range of cross-checks that test the adequacy of the allowed cost of equity by referencing hybrid bonds, infrastructure funds, market-to-asset ratios and a range of other tests. Frontier Economics' overall finding is that the cost of equity proposed in Ofgem's SSMD CAPM range is too low and will not satisfy its equity investability objective. On TMR, Frontier Economics conclude Ofgem's range and point estimate is insufficient, and based on recent market conditions the range should be 7-7.5% with a point estimate towards the top of that range.

   We are proposing a cost of equity range of 6.0% to 7.4%. Given the asymmetric risks facing the GDNs and the strong evidence of cross-checks including TMR, amongst other important factors, the 6.7% midpoint is considered a minimum requirement of the allowed cost of equity. Dependent on how the draft determination addresses the asymmetric risks set out in this chapter (including consideration of the wider policy issues recommended in this plan), the top end of our range is still very plausible and we reserve our right to increase this midpoint. The midpoint is 1.3% higher than Ofgem's cost of capital midpoint and 0.3% above the upper end of its range. The table below provides a summary of the differences.

Table 10e: Alternative cost of equity proposal

	Ofgem (SSMD) midpoint	Oxera (evidence)		Implied cost of equity midpoint
		Low	High	
Risk-free rate (RFR)	1.18%	1.54%	1.54%	
Debt beta	0.075	0.075	0.075	
Asset beta	0.35	0.38	0.44	
Notional gearing	60%	60%	60%	
Equity beta	0.76	0.83	0.99	
TMR	6.75%	7.00%	7.50%	
Cost of equity	**5.43%**	**6.0%**	**7.4%**	**6.7%**

Source: Ofgem, Oxera and SGN analysis

10.4.4 Cost of debt

The debt investor survey [redacted] undertaken for the GDNs demonstrated that most debt investors required a gas-specific risk premium of [redacted] basis points (bps) or more for allocating capital to the GDNs when compared with other UK regulated utilities with the same tenor and credit rating.

This sentiment was supported by an analysis of the public debt market [redacted] that demonstrated a discernible difference between the relative cost of debt faced by gas and electricity networks (controlled for tenor and rating). The difference between secondary market G-spreads on BBB public bonds issued by GDNs amounted to circa 30 bps in late 2023 to early 2024 (for A bonds the spread was higher, circa 55 bps).

This is common for all GDNs and therefore would also be an objective feature of a notional company. Moreover, as the investor perception of stranding risk is outside of the GDNs' control, the increase in the cost of debt (or the associated risk premium) should be reimbursed via customer bills.

We encourage Ofgem to remain open to exploring alternative ways of addressing the issue of gas-specific premium on the cost of debt. Our recommendation is that Ofgem sets an ex-ante allowance for the GDNs that incorporates an estimated cost of debt premium for new debt (including refinancing) vs. allowance to the electricity sector (e.g. an uplift versus a given iBoxx A/BBB Utilities index). We estimate that this is likely to be 30 to 50bps, based on analysis completed to date, but this should be updated closer to final determination.

At the end of the price control period, we would support an end-of-period reconciliation mechanism (a true-up) that corrects for the actual risk premium experienced in GD3 by comparing the difference in the iBoxx Utilities spreads on public bonds issued by gas and electricity networks during GD3. For example, by taking a spread to iBoxx Utilities A/BBB index for electricity issuance over GD3 and comparing it with the spread for GDN issuance.

When completing this analysis, the following factors need to be taken into account:

- Allowances should also incorporate average cost of embedded debt for the sector, recognising the fact that new issuance is becoming increasingly more expensive during GD2 due to the stranding risk;
- Cadent's cost of embedded debt should be adjusted upwards to remove the benefits associated with the legacy debt raised by National Grid when Cadent was sold;
- The end of period true-up should eliminate the full impact of the asset stranding / cost recovery risk on the financing cost, so that shareholders are not exposed to value erosion. The risk premium should be isolated from all other factors impacting the outturn cost of debt and trued up; and
- The ex-ante allowance is required to help financeability by ensuring cash flows service the more expensive debt.

Notwithstanding the above, we also propose that the use of the iBoxx Utilities index more generally for the gas sector should be reviewed to ensure the index better matches the gas sector costs.

Regarding additional borrowing costs (ABCs), Ofgem has incorporated a working assumption of 25bps in its cost of debt allowance. We submitted a report by NERA (SGN-GD3-ECR-07: NERA - Additional Cost of Borrowing), as part of our SSMC response recommending ABCs of 67bps with a small company uplift of 14bps. We have carefully reviewed these costs in compiling our Business Plan and are proposing a central case of 48bps (upper end 58bps) with a small company premium for Scotland of 12bps. This is set out in the table below.

Table 10f: SGN's alternative additional borrowing cost proposal

	Ofgem (SSMD)	NERA	SGN Review		
	Midpoint		Low	High (*)	Central
Transaction costs	6 bps	8.5bps	6 bps	8.5 bps	7.5 bps
Liquidity / RCF	4 bps	13 bps	7.5 bps	13 bps	9.5 bps
Cost of carry	10 bps	19 bps	12 bps	19 bps	14 bps
RPI / CPIH convergence / premium	5 bps	21 bps	12 bps	12 bps	12 bps
New issue premium	0 bps	5 bps	5 bps	5 bps	5 bps
Total (Exc. small co premium)	**25 bps**	**67 bps**	**43 bps**	**58 bps**	**48 bps**
Small company premium	6 bps	14 bps	10 bps	14 bps	12 bps
Total (Inc. small co premium)	**31 bps**	**81 bps**	**53 bps**	**72 bps**	**60 bps**

Note (*): High end of SGN range primarily driven by the impact of shorter tenors in the future reducing amortising periods
Source: SGN analysis and NERA Report

We have acknowledged that, at present, the latest evidence on CPI premiums may not be as high as set out earlier in the year, however, we do consider the costs that are likely to be incurred in GD3 for RPI/CPI convergence also need to be considered.

It should also be noted that the high end of our range is based on a sensitivity on more stringent financial liquidity requirements that may occur based on the final GD3 determination and other government policy developments, and we reserve our right to keep this under review.

10.4.5 Notional dividend assumption

In the light of the evidence, Ofgem's dividend yield assumption of 3% is significantly too low. The Oxera analysis (SGN-GD3-ECR-16: Oxera – Gas distribution networks' dividends in RIIO-GD3) benchmarking European gas networks identifies that a dividend yield ranging between 5% and 7% is more reflective of a business with no significant capital growth. This dividend yield is before the consideration of the return of capital due mainly to Ofgem's working assumption of accelerating depreciation to achieve a RAV of zero in 2050, and also a semi-nominal WACC. It is important that Ofgem introduces the additional notional return of capital dividend assumption, on top of the dividend yield, to maintain the notional capital structure.

These alternative proposals are supported with additional analysis and evidence in SGN-GD3-SD-09: Finance Annex.

10.4.6 Other finance issues

Other finance issues that need to be accounted for appropriately that are set out in the Finance Annex include;

- **Capitalisation rates** - We consider that natural capitalisation rates should be used to set ex-ante allowances, in line with accounting standards, and throughout GD3 an outturn capitalisation rate should be adopted. This should avoid significant forecast cashflow and credit-rating impacts;
- **Sharing factors** - The calibration of sharing factors should be cognisant of the less controllable risks facing companies in the GD3 Totex allowances. In GD2, gas networks, particularly in the south of England, have been exposed to labour-cost pressures that were not sufficiently provided for in allowances or RPEs;
- **Tax** - It is important that methodologies and definitions used to calculate tax and tax adjustments are consistent with other areas of the price control and achieve their desired outcomes accurately;
- **Pensions** - We acknowledge that future pension policy may be subject to a consultation following the 'Call for Input' earlier in 2024. We have no further issues to raise in this Business Plan submission; and
- **Return adjustment mechanisms** - In principle, we support the protections given to both companies and consumers in the GD2 mechanism, but calibration is needed as part of the draft determination.

Thanks from our team

Thank you for reading our RIIO-GD3 Business Plan, which we submitted to Ofgem on 11 December 2024. Our plan has been shaped by customers and stakeholders and we are grateful to all those that have participated in the process to date. This includes our Independent Stakeholder Group (ISG), which has scrutinised and challenged our decision-making. We will continue to engage with our ISG, customers and stakeholders through the price control determination process, which is due to conclude in winter 2025. Further information about next steps and updates on the determination process is available on our website: sgn.co.uk

Supporting documents

Strategy documents and supporting annexes

The following documents support our GD3 Business Plan submission.

Document reference number	Document title
SGN-GD3-SD-01	Environmental Action Plan (EAP)
SGN-GD3-SD-02	Climate Resilience Strategy
SGN-GD3-SD-03	Workforce and Supply Chain Resilience Strategy
SGN-GD3-SD-04	Statement from Independent Stakeholder Group Chair
SGN-GD3-SD-05	Innovation Strategy
SGN-GD3-SD-06	Network Asset Management Strategy
SGN-GD3-SD-07	IT and Telecoms Strategy
SGN-GD3-SD-08	Cost Assessment and Benchmarking
SGN-GD3-SD-09	Finance Annex
SGN-GD3-SD-10	Vulnerability Strategy
SGN-GD3-SD-11	Strategic Independent Undertakings (SIU) Strategy
SGN-GD3-SD-12	Stakeholder Engagement and Decision Log
SGN-GD3-SD-13	Strategic Summary
SGN-GD3-SD-14	Draft Joint-GDN Vulnerability Strategy
SGN-GD3-SD-16	Digitalisation Strategy and Action Plan (published March 2024)
SGN-GD3-SD-17	Board Assurance Statement

Investment Decision Packs

Our Investment Decision Packs consist of an Engineering Justification Paper (EJP) and, where required, a Cost-Benefit Analysis (CBA).

EJP reference number	EJP title	Plan area	Network	CBA document reference number
SGN-GD3-EJP-DST-001	Advanced Methane Detection	Distribution <7bar	Scotland	SGN-GD3-CBA-DST-SCO-001
			Southern	SGN-GD3-CBA-DST-SOU-001
SGN-GD3-EJP-SIU-001	SIU Bio CNG	E&I	Scotland	SGN-GD3-CBA-SIU-001
SGN-GD3-EJP-RPX-001	Bulk Services (excluding other services)	Repex	Scotland	SGN-GD3-CBA-RPX-SCO-001
			Southern	SGN-GD3-CBA-RPX-SOU-001
SGN-GD3-EJP-RPX-002	Cams Hall	Repex	Southern	SGN-GD3-CBA-RPX-SOU-002
SGN-GD3-EJP-G&I-001	Cathodic Protection	<7bar Governor and Integrity	Both	Not Applicable (n/a)
SGN-GD3-EJP-LTS-001	Compliance	LTS	Both	n/a
SGN-GD3-EJP-LTS-002	Full Site Rebuilds	LTS	Scotland	SGN-GD3-CBA-LTS-SCO-002
			Southern	SGN-GD3-CBA-LTS-SOU-002
SGN-GD3-EJP-E&I-002	Functional Safety	E&I	Southern	SGN-GD3-CBA-E&I-SOU-002
SGN-GD3-EJP-LTS-003	Glen Mavis	LTS	Scotland	SGN-GD3-CBA-LTS-SCO-003
SGN-GD3-EJP-G&I-002	Governors Other	<7bar Governor and Integrity	Scotland	SGN-GD3-CBA-G&I-SCO-002
			Southern	SGN-GD3-CBA-G&I-SOU-002
SGN-GD3-EJP-G&I-003	Network Integrity	<7bar Governor and Integrity	Both	n/a
SGN-GD3-EJP-LTS-004	Isle of Grain	LTS	Southern	SGN-GD3-CBA-LTS-SOU-004
SGN-GD3-EJP-E&I-003	Local Gas Treatment (LGT)	E&I	Scotland	SGN-GD3-CBA-E&I-SCO-003
			Southern	SGN-GD3-CBA-E&I-SOU-003
SGN-GD3-EJP-E&I-004	Metering	E&I	Scotland	SGN-GD3-CBA-E&I-SCO-004
			Southern	SGN-GD3-CBA-E&I-SOU-004
SGN-GD3-EJP-DST-004	MOBs-Risers	Distribution <7bar	Scotland	SGN-GD3-CBA-DST-SCO-004
			Southern	SGN-GD3-CBA-DST-SOU-004
SGN-GD3-EJP-DST-002	Steel Services Operating above 75mb	Distribution <7bar	Scotland	SGN-GD3-CBA-DST-SCO-002
			Southern	SGN-GD3-CBA-DST-SOU-002
SGN-GD3-EJP-G&I-004	High Capacity Governors	<7bar Governor and Integrity	Scotland	SGN-GD3-CBA-G&I-SCO-004
			Southern	SGN-GD3-CBA-G&I-SOU-004
SGN-GD3-EJP-RPX-003	Other Mains and Services	Repex	Scotland	SGN-GD3-CBA-RPX-SCO-003
			Southern	SGN-GD3-CBA-RPX-SOU-003
SGN-GD3-EJP-DST-003	Overbuilds	Distribution <7bar	Both	n/a

EJP reference number	EJP title	Plan area	Network	CBA document reference number
SGN-GD3-EJP-LTS-006	Pipelines	LTS	Both	n/a
SGN-GD3-EJP-LTS-007	Pre Heating	LTS	Scotland	SGN-GD3-CBA-LTS-SCO-007
			Southern	SGN-GD3-CBA-LTS-SOU-007
SGN-GD3-EJP-LTS-008	Pressure Control	LTS	Scotland	SGN-GD3-CBA-LTS-SCO-008
SGN-GD3-EJP-DST-010	Pressure Management	Distribution <7bar	Both	n/a
SGN-GD3-EJP-G&I-005	R6 Governors	<7bar Governor and Integrity	Scotland	SGN-GD3-CBA-G&I-SCO-005
			Southern	SGN-GD3-CBA-G&I-SOU-005
SGN-GD3-EJP-DST-005	Reinforcement General	Distribution <7bar	Both	NA
SGN-GD3-EJP-DST-009	Remote Pressure Management	Distribution <7bar	Southern	SGN-GD3-CBA-DST-SOU-009
SGN-GD3-EJP-DST-008	River and Coastal Erosion	Distribution <7bar	Southern	n/a
SGN-GD3-EJP-RPX-004	South London Main	Repex	Southern	SGN-GD3-CBA-RPX-SOU-004
SGN-GD3-EJP-RPX-005	Tier 1 Mains and Services	Repex	Scotland	SGN-GD3-CBA-RPX-SCO-005
			Southern	SGN-GD3-CBA-RPX-SOU-005
SGN-GD3-EJP-LTS-009	Welling PRS	LTS	Both	SGN-GD3-CBA-LTS-SOU-009
SGN-GD3-EJP-DST-006	Intelligent Gas Grid (IGG)	Distribution <7bar	Both	n/a
SGN-GD3-EJP-DST-007	Digital Platform Leakage Analytics (DPLA)	Distribution <7bar	Both	n/a
SGN-GD3-EJP-PRO-001	Property Projects	Property	Both	SGN-GD3-CBA-PRO-001
SGN-GD3-EJP-PRO-002	Property Security	Property	Both	SGN-GD3-CBA-PRO-002
SGN-GD3-EJP-PRO-003	Property Management	Property	Both	SGN-GD3-CBA-PRO-003
SGN-GD3-EJP-IT-FieldSvcRepl-001	Field Service Replacement	IT - Core IT	Both	SGN-GD3-CBA-IT-FieldSvcRepl-001
SGN-GD3-EJP-IT-EntAssetMgmt-002	Enterprise Asset Management (EAM)	IT - Core IT	Both	SGN-GD3-CBA-IT-EntAssetMgmt-002
SGN-GD3-EJP-IT-EntResPlan-003	Enterprise Resource Planning (ERP)	IT - Core IT	Both	SGN-GD3-CBA-IT-EntResPlan-003
SGN-GD3-EJP-IT-SpecApps-004	Specialist Applications	IT - Core IT	Both	SGN-GD3-CBA-IT-SpecApps-004
SGN-GD3-EJP-IT-IntegrServices-005	Integration Services	IT - Core IT	Both	SGN-GD3-CBA-IT-IntegrServices-005
SGN-GD3-EJP-IT-HardwareDevs-006	Hardware Devices	IT - Core IT	Both	SGN-GD3-CBA-IT-HardwareDevs-006
SGN-GD3-EJP-IT-SoftPlatforms-007	Software Platforms	IT - Core IT	Both	SGN-GD3-CBA-IT-SoftPlatforms-007
SGN-GD3-EJP-IT-DataTelRefresh-008	Data and Telecoms Refresh	IT - Core IT	Both	SGN-GD3-CBA-IT-DataTelRefresh-008
SGN-GD3-EJP-IT-MandITSysChg-009	Mandatory IT System Change	IT - Core IT	Both	SGN-GD3-CBA-IT-MandITSysChg-009
SGN-GD3-EJP-IT-LearnCompMgmt-010	Learning and Competency Management	IT - Core IT	Both	SGN-GD3-CBA-IT-LearnCompMgmt-010
SGN-GD3-EJP-IT-Xoserve-011	Xoserve	IT - Core IT	Both	SGN-GD3-CBA-IT-Xoserve-011
SGN-GD3-EJP-IT-CustStakehold-012	Customer and Stakeholder	IT - Core IT	Both	SGN-GD3-CBA-IT-CustStakehold-012
SGN-GD3-EJP-Data-CatMasterData-001	Catalogue and Master Data Management	IT - Data and Digitalisation	Both	SGN-GD3-CBA-Data-CatMasterData-001
SGN-GD3-EJP-Data-DataGovern-002	Data Governance	IT - Data and Digitalisation	Both	SGN-GD3-CBA-Data-DataGovern-002
SGN-GD3-EJP-Data-RecApprentDL-003	Recruitment Apprenticeships and Data Literacy	IT - Data and Digitalisation	Both	SGN-GD3-CBA-Data-RecApprentDL-003
SGN-GD3-EJP-Data-DataPlatModel-004	Data Platform and Operating Model	IT - Data and Digitalisation	Both	SGN-GD3-CBA-Data-DataPlatModel-004
SGN-GD3-EJP-Data-BusAnalyticsExp-005	Business Analytics and Exploration	IT - Data and Digitalisation	Both	SGN-GD3-CBA-Data-BusAnalyticsExp-005
SGN-GD3-EJP-FLE-001	Fleet	Fleet	Both	SGN-GD3-CBA-FLE-001