



# Securing Britain's Energy, unlocking a net zero future

**Welcome to our RIIO-GT3 Business  
Plan Submission for 2026-2031**

Through our plan and 12 bold commitments we  
will deliver secure and resilient energy supplies  
for our customers, consumers and stakeholders

## Message from our CEO

# Securing Britain's energy, unlocking a net zero future.

I have been privileged to be part of the gas industry for the past 45 years.

**Jon Butterworth**  
Chief Executive Officer,  
National Gas Transmission



In that time, I have seen a tremendous amount of change in the industry and in the energy sector, as a whole, but never has there been the pace and scale of transformation that we are seeing today.

Now more than ever, we must decarbonise the energy systems of today, to ensure that generations to come can prosper from clean, affordable and secure energy in the future.

At National Gas, we stand ready and willing to lead this energy revolution for all consumers.

**Our transmission network is the backbone of the nation's energy supply. Natural gas provides 36 percent of our annual energy needs.**

We ensure half a million businesses, over 30 power stations and over 23 million homes can access the energy they need, when they need it.

Each year, we transport three times more energy than the electricity transmission system (1018 TWh vs 320 TWh in 2022), at just under a tenth of the cost (less than £10 per domestic consumer, per annum).

Around 99 percent of methane used in the country goes through our network.

National Gas is classified as an Operator of Essential Service due to its criticality across power, industry and heating, and the economy in the event of a significant gas supply failure.

**Our National Transmission System is a national asset like no other.**

But our network must be ready to serve not only the nation's current needs but also its future energy needs.

As we look ahead, our network will be key to the deployment of innovative technologies such as hydrogen and carbon capture, both of which will be integral to the decarbonation of power by 2030 and net zero by 2050.

Our ambitious RIIO-GT3 plan reflects the vital role we play and will continue to play at the heart of energy security for many decades to come.



St Fergus Gas Terminal provides up to 50 percent of the country's natural gas each year

## An ageing network requiring investment

Whilst our name is new, the network that we own and operate is not. It was predominantly built between the late 1960s and 1970s. It is ageing. The 8,000km of high-pressure pipes and over 60 gas compressors, running across the length and breadth of Britain, require targeted investment and, in some areas, replacement.

Whilst annual gas demand is projected to decline over the coming decades, peak demand (the level of demand our network must have the capability to meet) is expected to decline at a much slower rate. Demand volatility, particularly related to gas-fired generation, is expected to increase as set out in the recent advice from the National Energy System Operator (NESO) on achieving Clean Power by 2030.

**Our flexible network serves gas-fired power stations across the nation; working seamlessly with intermittent renewables to deliver energy security. In 2023 alone, without gas generation, there would have been the equivalent of 199 days where Britain's power supply would not have met demand.**

The investments in our plan are crucial to ensuring the continued availability and reliability of our national network, safeguarding the social and economic prosperity of our country, and maintaining world-class safety performance. We must make sure our assets stay fit for purpose and that we replace obsolescence whilst protecting the network from the dark forces that try to penetrate our systems.

There is no gold plating in this plan.

We must also be resilient to a growing, global threat of cyber-attacks and alive to the emerging impacts of climate change, such as increased flooding risk.

If recent global events have taught us anything, it has been to remind us how critical the security of our energy supply is, and how integral energy diversity is to energy security. Prudent, targeted investment is required to ensure our network remains able to deliver secure, reliable, and safe energy, where and when it is needed, now and into the future.

Our plan meets all these challenges head on.

## What our plan will deliver

As we move towards net zero, we are ready to lead the delivery of the energy transition, with the extraordinary level of flexibility of our system becoming more critical than ever.

### Our plan will deliver a network that:

- Maintains world-class levels of safety, protecting our employees and the public alike from harm.
- Has a peak demand capability to meet our 1 in 20 obligation (currently 474mcm/d, or 5124GWh/d), ensuring we can safely and securely deliver energy, no matter what the weather.
- Provides essential resilience to increasingly intermittent renewable power generation.
- Minimises the impact of our operations on the environment by reducing emissions and meeting our obligations under the Medium Combustion Plant Directive.
- Complies with NIS2 and the Enhanced Profile of the Cyber Assessment Framework underpinned by enhanced cyber preparedness against an increasing range of threat actors.
- Meets all legislative requirements and stabilises risk through prioritised and efficient (i.e. not at any cost) asset health investments.
- Affords sufficient flexibility and capability to meet the increasingly volatile needs of our customers, driven by global and local markets.
- Enables efficient cross-border trade, ensuring consumers can access secure, affordable energy.

As we look towards 2030, it is clear that our network must be ready to respond reliably to the potential loss of power generation from a fivefold increase in renewable power when compared to today. This may require investment not detailed in this plan due to the timing of NESO's Clean Power 2030 advice to Government. We will address any impact of this advice on our plan through an uncertainty mechanism (UM).

## Message from our CEO

### What our customers will see

I am proud to stand behind the 12 bold commitments that we are making to our stakeholders, alongside comprehensive price control deliverables (PCDs) and ten output delivery incentives (ODIs), all designed to achieve four primary outcomes:



#### Safety

We will continue to deliver world-class standards of safety underpinned by **a strong “safe every day” culture** that strives to ensure our employees, supply chain and members of the public remain free from harm.



#### Resilience

We will continue to deliver **leading levels of network reliability**, safeguarding Britain’s energy security whilst enabling the transition to a net zero energy system. We have worked hard to ensure we are only proposing investments that we are certain are needed now, and that the costs to deliver those investments are efficient.



#### Security

We will ensure our IT systems and infrastructure **remain resilient to the emerging threats** facing them, and the future demands placed upon them. As an Operator of Essential Services and Britain’s primary energy system, our proposed investments will enable us to build on our strong foundations, unlocking the pace at which we can achieve Cyber Assessment Framework enhanced status.



#### Affordability

We will achieve all of this and keep our portion of the average domestic customer bill to **an absolute minimum**, around the current average level of three pence per day.

These outcomes align directly with Ofgem’s four key regulatory outcomes, specifically secure and resilient supplies; infrastructure fit for a low-cost transition to net zero; high quality of service from regulated firms, and system efficiency and long-term value for money.



**No matter the weather, our compressors keep energy moving**

## How we will deliver

We embed our core values of simplicity, ownership, and progress into everything we do. We have transformed into an agile, performance-focused, and innovative organisation, that is fit for the future.

**We have already embedded £261m of efficiency savings into our plan, thanks to our experience of delivery over recent years. We have also constrained our plan as a direct result of our deliverability review, with £172m of investments being deferred from RIIO-GT3 to RIIO-GT4.**

Without these efficiencies and constraints, required investment in RIIO-GT3 would have been £5.7 billion, which would have resulted in increased bills at a time when the cost of living continues to have a profound impact on families across the country.

By embedding a performance-focused culture, we will deliver our plan commitments with a budget of £5.3 billion and keep our share of consumer bills broadly flat.

Execution of our plan is pivotal to delivering for all our stakeholders. As a leadership team, this has been our primary focus for the last two

years; building our supply chain depth to ensure we have the necessary relationships, capacity, capabilities, and senior commitment to execute our plan.

As we have become a stand-alone business, we have seized the opportunity to transform how we deliver our investment, moving our relationships far closer to all front-line operations. Our partners have been involved from the very outset in the development, design and cost estimating of our plan.

Our deep partner relationships, some spanning more than 30 years, have helped to secure the commitment and resources of these organisations to deliver this plan. They are already scaling up with welders, craftspeople, apprentices, and equipment in anticipation of the workload. We have set out new ways of working that have brought our supply chain shoulder to shoulder with us with a certainty and commitment that did not exist before.

**We have the support and backing of our partners to deliver our plan<sup>1</sup>**, and the impact of this is already clear from the significant increase in investment in current and coming years.

## How we have built our plan

I am proud that our plan has been created with our stakeholders. Our largest ever stakeholder consultation process with the broadest range of representatives has delivered unprecedented levels of challenge and collaboration, and our plan is far stronger as a result.

**Through that engagement, we have identified a set of bold, well-justified proposals to serve our customers and consumers today and into the future.**

We have also delivered complete transparency during our planning process, maximising opportunities for stakeholders to have their say. This included our Independent Stakeholder Group (ISG) challenging us to demonstrate how we have effectively engaged with stakeholders and incorporate their feedback into our business plan, including our incentive proposals.

This has resulted in an ambitious, deliverable, and efficient plan underpinned by stretching targets and bold outcomes befitting of our

critical role in Britain's energy system. We have worked with Government, our regulator Ofgem and NESO to develop a plan which delivers a network with the capability that our customers require, whilst ensuring an appropriate level of network risk, and maintaining sensible levels of network resilience.

Our plan directly reflects the aspirational and changing priorities of the consumers, customers and stakeholders we serve. It has been challenged for accuracy, ambition, efficiency, and customer interest, and is strongly supported by our Board of Directors. I look forward to continuing to work in partnership with all our stakeholders to ensure Britain's energy needs continue to be met today, and to play a leading role in delivering our country's energy system of the future.

**Having a natural monopoly is a privilege** and we will deliver our plan with the trust, transparency and honesty that we have built up over many years with our stakeholders.

**We are already moving towards a low carbon energy system of the future, and you can be confident that through this plan we will continue to secure Britain's energy today, whilst unlocking a net zero future.**

<sup>1</sup> See our Supply Chain commitment underpinning our plans on page 13.

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## A note on navigating our business plan

This document is our main Business Plan document. It sets out the strategic importance of the gas transmission system; how we have approached the development of our plan, how we run the business and the investments we are committing to deliver. This document is structured in the following sections:



### Foreword

Message from our CEO setting out the importance of the gas transmission network, how the plan secures Britain's energy and unlocks a net zero future.



### 1. Introduction to our plan

Sets out what stakeholders need, the business plan commitments for RIIO-GT3, what the changes are from RIIO-T2 and what this means for stakeholders and the impact to bills, as well as our readiness to deliver.



### 2. Stakeholder-led business plan

This chapter sets out the approach we have taken to stakeholder engagement and the insights we have gained regarding customers' priorities and their support for our plan.



### 3. Delivering Britain's energy needs

For each of the four regulatory outcomes, we set out the business plan commitments and explain **what** we will deliver for consumers and network users and the value the business plan will deliver. Our 12 commitments are underpinned by the business plan investments, which we will deliver through our strategies and capabilities, which we set out in delivering our plan.



### 4. Delivering our plan

This chapter sets out the macro context that we are operating within and reflects on our historical performance and the lessons learnt, which has shaped our thinking for **how** we will deliver. We set out the steps we will take with our workforce and capability, the changes we have made to the way we work with our supply chain. This chapter then steps through our core activity areas (Asset Management, Safety and Security, IT and Digitalisation). We also set out the no-regret activities we are proposing to deliver a network fit for the future. Finally, we discuss how the plan provides value for money for stakeholders and share the insights from our engagement strategy.



### 5. Financing our plan

This chapter sets out our proposed financial package.

At the end of this document, we have included a list of documents that provide further detail and evidence to support the investments.

# 1 Introducing our RIIO-GT3 Business Plan for 2026-2031



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## Who we are

We are National Gas Transmission. We are proud to own and operate the country's high-pressure natural gas transmission system, an important part of Britain's Critical National Infrastructure (CNI). The National Transmission System (NTS) is the motorway network for gas with nearly 8,000km of high-pressure pipeline running from Scotland to Devon. **We are pivotal to energy security**, making sure gas is reliably delivered from a variety of sources.

Gas from the UK continental shelf and Norwegian offshore gas fields enters via pipelines on the East Coast. Liquefied natural gas (LNG) arrives by boat at terminals in South Wales and South East England while European gas travels through undersea interconnector pipelines.

**We transport large quantities of gas, about 79 billion cubic metres (870 TWh) every year on average.**

This is about three times the energy transported through the country's power networks at just under a tenth of the cost (around £10 per domestic consumer, per annum).

Natural gas is the largest primary source of energy in the UK, meeting 36 percent of our annual energy needs. From our National Control Centre (NCC), we control the flow of gas, making sure it is moved safely and efficiently to where it is needed.

We transport gas to more than half a million businesses, 23 million homes and more than 30 power stations.

When demand is high or supply from wind and solar power is low, gas-fired power generators are needed to support the electricity system. These gas-fired power stations are directly supplied by our transmission system. The electricity from these gas-fired power stations provides flexible and secure generation, to complement renewable power production.

**In 2023, without gas generation there would have been the equivalent of 199 days when Britain's power supply would not have met demand.**

The transmission system is the only gas network in Britain with compression. We operate more than 60 compressors at over 21 compressor stations across the country. Our compressors are mostly made from industrial versions of jet engines. They increase the pressure of gas to help us transport it to every part of the country.

By delivering our 'three-molecule' (methane, hydrogen and carbon) strategy, we provide a critical part of the country's energy needs today while taking a leading role in enabling Britain to deliver its net zero commitments. We are not only maintaining and improving the existing methane network, but are also building our capability for hydrogen and carbon capture and storage.



## Understanding what our stakeholders<sup>2</sup> expect

1.1 In developing our plan, we have undertaken an extensive programme of engagement with consumers, our customers and stakeholders. **We have maintained our Independent Stakeholder Group (ISG)<sup>3</sup>** throughout the current RIIO-T2 price control period to hold us to account for our performance and stakeholder engagement activities. We have talked to consumers, our customers and stakeholders to ensure that they each understand the vital role we play in supplying energy to meet the country's needs. In return, they have told us that, wherever we can, we must strive to deliver value for money.

### Our consumers are:

Homes and businesses, consumer representatives (e.g. Citizens Advice).

### Our customers are:

Shippers, directly connected industrial consumers/power stations, gas distribution networks (GDNs).

### Our stakeholders are:

Other networks, trade bodies, construction partners, service providers, Ofgem, NESO, Westminster, devolved government, government departments, local communities.

1.2 In addition to engaging consumers, our customers and stakeholders, we have commissioned analysis on societal, technological, market and policy developments to enable us to better understand emerging issues and trends. The richness of this engagement has led us to identify three consumer priorities, which we have then aligned to Ofgem's four regulatory outcomes.

Ofgem RIIO-GT3 regulatory outcomes	National Gas Transmission consumer priorities
Secure and resilient supplies.	I want the network to operate safely, reliably, and efficiently, as a foundational standard of service.
Infrastructure fit for a low-cost transition to net zero.	I want the drive to net zero to be at the core of National Gas Transmission's initiatives.
System efficiency and long-term value for money.	I want an accurate and affordable bill.
High quality of service from regulated firms.	

1.3 We have worked hard to ensure that Government, Ofgem and NESO have a clear, shared understanding of the challenges the gas transmission network will face into the future. This common understanding is important, as the country becomes more dependent on gas for its energy security as a result of a higher reliance on intermittent renewable sources of energy. Noting the clear need for a resilient network, we co-created new resilience standards, which included changes and improvements to our Transmission Planning Code and agreed to stabilise network risk at levels seen at the start of the RIIO-T2 period, all of which have been tested and agreed through our extensive engagement.

1.4 Where consumers, our customers and stakeholders have expressed differing views, we have had to strike a balance, considering what trade-offs are acceptable, what this means for us, and what we can and should deliver.

### Key facts



**>1,800**  
employees



**c. 8,000**  
kilometres  
of pipeline



**>60**  
compressors across  
21 compressor sites



**>500**  
above-ground  
installations

<sup>2</sup> For the purposes of this document Stakeholders should be considered to cover all stakeholder, customer and consumer groups.

<sup>3</sup> Formally called the User Group under Ofgem's RIIO-T2 Business Plan Guidance.

# 1. Introducing our R10-GT3 business plan for 2026-2031

## The 12 ways we will deliver by 2031

- 1.5 We have identified our 12 key commitments to demonstrate how our plan will deliver value and go beyond our business-as-usual activities. We have aligned each commitment to one of the Ofgem regulatory outcomes<sup>4</sup> to demonstrate where our commitment will add value. Our commitments have been informed and shaped by the engagement we have undertaken. For example, insights from our engagement confirmed that both consumers and network users ranked 'secure and resilient supplies' as their main priority. This is the area on which we are focusing approximately 60 percent of our investment in our plan (see paragraph 3.5).
- 1.6 Our commitments build on activities that we included in our R10-T2 business plan. We have proposed more stretching targets where commitments have been carried forward to reflect the lessons we have learned in recent years and our ambition to deliver more. We have proposed the delivery of new commitments for R10-GT3 in targeted instances where we have clearly identified we can create additional consumer value.
- 1.7 Further detail underpinning each commitment is detailed in chapter 3, 'Delivering Britain's energy needs.' The commitments set out the stakeholder engagement undertaken to deliver them, what we will deliver, how we will deliver it, and who we will collaborate with. This section also includes information about the commitment type Output Delivery Incentive (ODI), Licence Obligation (LO), Price Control Deliverable (PCD), Consumer Outcomes (CO), deliverables and the value we will deliver to consumers. Further detail about ODIs is included in chapter 3 'Delivering Britain's energy needs'.

### Secure and resilient supplies



Meeting our critical obligations every hour of every day



Ensuring world-class safety levels for our workforce and the public



Delivering a resilient network fit for the future



Ensuring our network is resilient to climate change



Keeping our critical systems secure



Transforming our activities through IT and data

### Infrastructure fit for low-cost transition to net zero



Leading the energy transition to clean power and net zero



Caring for our environment and our communities



Investing in our people and capability for the future

### High quality of service from regulated firms



Drive relentless performance and service



Operating the system safely, reliably and efficiently



Innovating now and for future generations

### System efficiency and long-term value for money

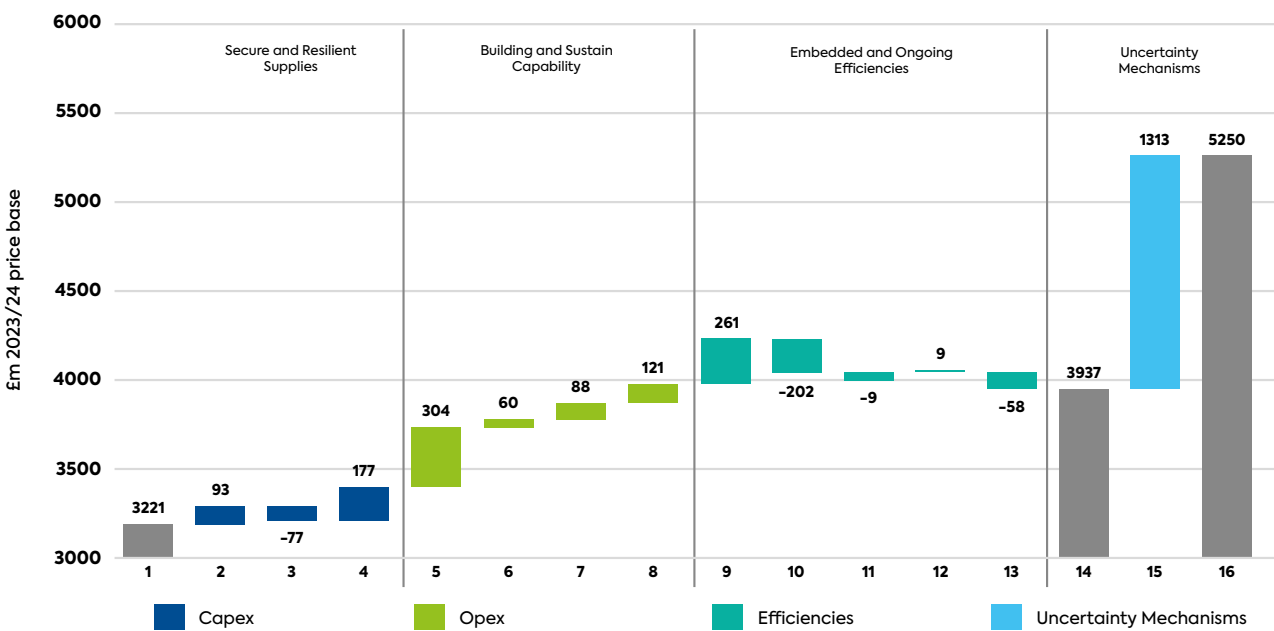
Considered through our efficient costs and better data and technology

<sup>4</sup> Commitments aligned to Secure and resilient supplies, Infrastructure fit for low-cost transition to net zero, and High quality of service from regulated firms.

## What does this mean for investment and bills?

- 1.8 **We plan to invest £5.3 billion<sup>5</sup> across the five-year price control period.** Of this investment we have proposed £3.94 billion to be funded through baseline allowances with the remaining funded through uncertainty mechanisms (UMs). By using UMs we will ensure customers only pay for the remaining £1.31 billion<sup>6</sup> when we have established both a clear need for the investments and certainty over the efficient costs of delivery.
- 1.9 The £5.3 billion investment will enable us to deliver our commitments, tackle the growing challenges facing the energy sector, and achieve the outcomes that consumers, our customers, and stakeholders need.
- 1.10 In terms of baseline allowances, this represents a 22 percent increase in overall expenditure of £0.72 billion from RIIO-T2. Based on our best view of supply and demand for RIIO-GT3<sup>7</sup> and an estimated £0.43 billion of UMs being agreed prior to the start of RIIO-GT3, the impact of this increase will result in an additional £1.34 on the average gas bill, taking our share of the gas bill to £9.89 per annum. This means our proportion of the average annual dual fuel bill (noting that an annual dual fuel bill is £1,738) is 0.57 percent. We have broken down the drivers of this increase in the chart below.

### RIIO-T2 to RIIO-GT3 totex comparison



#### Key

- 1 RIIO-T2 Totex
- 2 Asset – Health and Resilience
- 3 Security – Cyber and Physical
- 4 IT – System Health and new capability
- 5 Network Health, Security and Resilience
- 6 Support investment plan growth<sup>8</sup>
- 7 Additional legislation and government policy
- 8 Skills and capabilities
- 9 Without Embedded Efficiencies
- 10 Capex related Embedded Efficiencies
- 11 Opex related Embedded Efficiencies
- 12 Gov. Budget – National Insurance impact on Capex
- 13 Ongoing Efficiencies
- 14 Baseline Totex plan
- 15 Current view of uncertainty mechanisms
- 16 Best view Totex plan

**£9.89**  
 Cost of this plan on the average annual domestic bill  
 Less than three pence per day

<sup>5</sup> All figures in 2023/24 price base unless otherwise stated.

<sup>6</sup> £1.3 billion – value of £0.43 billion subject to reopener UM decisions in the last year of RIIO-T2 with remaining £0.88 billion of UMs to be assessed in RIIO-GT3.

<sup>7</sup> NESO 2024 Future Energy Scenario 2024 – Counterfactual.

<sup>8</sup> Includes costs driven by the need to support increased investment, increased complexity and new demands as set out in our Cost Assessment and Benchmarking Approach\_RIIO\_GT3.

# 1. Introducing our RIIO-GT3 business plan for 2026-2031

## What does this mean for investment and bills?

- 1.11 Our plan has been developed using the FES2024 Future Energy Scenarios<sup>9</sup> (FES published by NESO) and is consistent with Ofgem's business plan requirements for gas transmission.
- 1.12 Our plan addresses the increasing volatility in demands placed on our network. That turbulence is being driven by a range of factors, from geopolitical events, such as the ongoing conflict in Ukraine and rising tensions in the Middle East, to the unprecedented, rapid deployment of intermittent renewables placing new and different demands on our system.
- 1.13 NESO, as part of its Clean Power 2030 advice<sup>10</sup>, has stated that it "anticipates that most existing gas generators will need to remain on the system, with new power stations potentially required to replace retiring ones" to maintain security of supply as back-up for intermittent renewables post 2030. In addition, NESO has indicated that our upstream gas network needs to be prepared for larger swings in gas flows at shorter notice, which may require additional investment beyond our current proposals.
- 1.14 Our Cost Assessment and Benchmarking Approach<sup>11</sup> details our investment and expenditure plans for the 5 years of RIIO-GT3. The key investment drivers are summarised below.

### Secure and resilient supplies

- 1.15 To support the increasing demands on our network now and in the future, our plan reflects the cost of maintaining the health of our network as our assets age. In order to maintain our ageing assets, we will need to increase investment, which will in turn enable us to protect our existing network capability and meet current and future supply and demand requirements.
- 1.16 **The investment set out in our plan is not simply ambitious but necessary** to ensure that we can safely, and responsibly meet the challenges ahead, stabilising the level of risk across the network to a level akin to the beginning of RIIO-T2. We plan to meet this risk level by 2032<sup>12</sup>, with the majority of the stabilisation achieved in RIIO-GT3. We expect to invest £2.58 billion in our asset management plan<sup>13</sup> compared to £1.6 billion in RIIO-T2.
- 1.17 We need to tackle the growing risk profile by targeting stable risk through prioritised and efficient (i.e. not at any cost) asset health investments. Without investment, our asset risk would be set to increase by over 25 percent, resulting in more unplanned interruptions to manage potential risks. This could then impact both our planned outages, which are necessary to maintain the network, and the capability we need to meet consumers' and our customers' supply and demand requirements. The consequences would be unplanned supply interruptions to consumers and customers and pose a greater risk to energy security should we not achieve stable risk. Interruptions of this nature can cause serious damage to physical assets and have commercial consequences for our directly connected industrial and power station customers. In addition, should an unplanned outage occur during a period of peak demand, supplies to domestic consumers could also be impacted, meaning no heating and lighting when consumer needs for energy will be at their greatest.
- 1.18 In terms of the security for our assets, we have 167 sites designated as Critical National Infrastructure (CNI). These sites, like any part of our country's infrastructure, are a potential target for a multitude of security threats, which are increasing in sophistication and persistence. Our plan reflects this risk and includes a material increase in the costs of meeting our legal obligations in respect of the necessary cyber and physical security required to protect our systems and sites. Our plan will deliver, as effectively and efficiently as possible the necessary enhanced tightening of security mandated by Government.

### Building and sustaining capability

- 1.19 **Our plan embraces digitisation and the power of technology to enhance operational efficiency, optimise asset management, and to enable real-time monitoring of our network infrastructure.** We will invest in our information technology assets and our National Control Centre, to ensure they remain fit for purpose, and to help us streamline and improve our processes for our stakeholders, supply chain and customers.

<sup>9</sup> Future Energy Scenarios (FES) | National Energy System Operator.

<sup>10</sup> <https://www.neso.energy/document/346651/download> - Section 3.2 Security of Supply

<sup>11</sup> NGT\_A12\_Cost Assessment and Benchmarking Approach\_RIIO\_GT3

<sup>12</sup> Risk levels agreed with the Government Department for Energy Security and Ofgem.

<sup>13</sup> NGT\_A01\_Asset Management Plan (AMP)\_RIIO\_GT3

- 1.20 To efficiently deliver this plan, we need to build the skills, capacity and capabilities across our support functions. We plan to bring in new talent to address the challenges posed by an ageing workforce and to better represent the communities we work in. We will achieve this through new year-on-year training, apprenticeships and graduate placements.
- 1.21 For RIIO-GT3, we expect to invest £1.41 billion of controllable opex<sup>14</sup>, compared to £1.01 billion in RIIO-T2. The proportion of controllable opex is now lower in RIIO-GT3 than in RIIO-T2 as it reduces from 31% of Totex in RIIO-T2 to 27% in RIIO-GT3.

### Embedded and ongoing efficiencies

- 1.22 We have tested our proposals with consumers through our stakeholder engagement strategy<sup>15</sup>. They have told us that they are willing to pay more on their gas bills to ensure we deliver a resilient network. That said, we are looking to minimise the impact, wherever possible. We have included £261m (£52m per annum) of embedded efficiencies. Our plan is £5.3 billion rather than £5.56 billion. We are also committing to ongoing efficiencies of an additional £49m<sup>16</sup>.
- 1.23 The table below provides a summary of our forecast total expenditure (Totex) for RIIO-GT3, compared to RIIO-T2 and RIIO-T1.

Ofgem Cost Category (£bn)	RIIO-T1 (Adjusted to 5 years)	RIIO-T2 latest forecast	RIIO-GT3 Proposed baseline	RIIO-GT3 Best View of Uncertainty Mechanisms	RIIO-GT3 Total	RIIO-T2 to RIIO-GT3 Difference
Load related capex	0.02	0.01	-	-	-	(0.01)
Non-load related capex*	0.88	1.15	1.33	1.14	2.47	1.32
Non-op capex	0.33	0.29	0.51	0.17	0.68	0.39
Other costs (Cyber, PSUP Capex, Net Zero)*	0.13	0.77	0.74	-	0.74	(0.02)
Network operating costs (net direct)*	0.49	0.41	0.51	-	0.51	0.10
Indirect costs (net CAI,BSC, Quarry & Loss, Pension Admin)	0.59	0.59	0.89	-	0.89	0.30
Real Price Effects				-	<b>0</b>	-
<b>Totex</b>	2.43	3.22	<b>3.99</b>	<b>1.31</b>	<b>5.30</b>	<b>2.08</b>
Ongoing Efficiencies	-	-	<b>(0.05)</b>	-	<b>(0.05)</b>	<b>(0.05)</b>
<b>Post Ongoing Efficiencies</b>	<b>2.43</b>	<b>3.22</b>	<b>3.94</b>	<b>1.31</b>	<b>5.25</b>	<b>2.03</b>

\* RIIO-GT3 includes £0.57bn in Non-load related capex and £0.02bn in Network Operating costs that were previously classified in Other costs (Cyber) in RIIO-T2. Moved from Cyber in RIIO-GT3 as instructed by Ofgem. Best view of uncertainty mechanisms includes costs to be agreed within RIIO-T2 regulatory period.

**Note:** We have not included expenditure on addressing single points of failure, as costs are too uncertain at this stage.

**Note:** Numbers in this table are rounded to two decimal places.

### Ready to deliver

- 1.24 Delivery of this ambitious investment programme is critical if we are to maintain security of supply for the country.
- 1.25 **We have increased our internal and external capability to make sure we can deliver our commitments** in this current price control period. Our leadership team is focused to ensure we are prepared and have the supply chain depth of relationship, strength and commitment to execute all our projects.
- 1.26 Now we are a stand-alone business, we have taken the opportunity to transform our investment delivery approach and move our relationships far closer to our frontline operations.

<sup>14</sup> See NGT\_A12\_Cost Assessment and Benchmarking Approach\_RIIO\_GT3 for controllable opex definition.

<sup>15</sup> See NGT\_A16\_Stakeholder Engagement and Decision Log\_RIIO\_GT3 for more detail.

<sup>16</sup> Net of the Government Budget National Insurance impact on our Capex.

# 1. Introducing our RIO-GT3 business plan for 2026-2031

- 1.27 All our major supply chain partners have been involved from the very outset in the detailed development, design and cost estimating of our plan. We have built relationships so that our supply chain partners are part of the team, with the effect that we are coalesced around one goal. That is to ensure that the transmission system is kept well-maintained and modernised to a standard that will deliver for consumers.
- 1.28 The strength of our contracting approach, coupled with the depth of our partner relationships, has helped us to secure the commitment, resources and leadership of our supply chain partners to ensure delivery of this plan. Our partners are already scaling up with the skills, people and equipment required in readiness to meet the workload. Our supply chain partners are on the journey with us and we have their backing and support to deliver our plan.

## Support for our plan

### Board Support of our RIO-GT3 Business Plan



**Dr Phil Nolan**  
Chair and Sufficiently Independent Director

“As a Board we fully support the submission of our RIO-GT3 business plan. My fellow Directors and I are confident that the plan is accurate, ambitious, efficient and affordable and in the customer interest. We believe it will deliver value to our customers, consumers and stakeholders whilst ensuring continued security of gas supply.

Our network is the backbone of the nation’s energy supply, and our plan ensures it will continue to serve the country’s needs for a long time whilst enabling the transition to a net zero energy system.”

### Supply Chain commitment underpinning our plans

We, members of National Gas’s supply chain, are committed to the missions of keeping customer bills affordable, security of supply and decarbonisation, and as a result are publicly supporting the delivery of National Gas’ RIO-GT3 Business Plan. We stand side-by-side with National Gas to ensure a resilient and secure network today and tomorrow, supporting our country to prosper as we enter the next phase of the decarbonisation journey.

 <b>Alessandro Melani</b> Sales Leader, Europe 	 <b>Darren Clement</b> Vice President Engineering 	 <b>P Vamadevan</b> Director, DNV Services UK Ltd 	 <b>Ian D Fern</b> CEO Ferns Group 
 <b>Breandan Flynn</b> CEO 	 <b>Joanna Anderson Short</b> Commercial Director 	 <b>Donnie Whyte</b> Managing Director 	 <b>John Murphy</b> CEO 
 <b>Kevin Fowle</b> CEO, Network Plus 	 <b>Matt Allen</b> Managing Director, nZero 	 <b>P. Casson</b> Director, ROSEN Europe 	 <b>Darren Davidson</b> Vice President, Siemens Energy 
 <b>Henrik Nielsen</b> Managing Director, Solar Turbines 	 <b>Neil Armstrong</b> Group CEO & Chairman 	 <b>German Carmona</b> Global President of Digital Consulting 	 <b>S. Hagihara</b> President 

## 2 Stakeholder-led Business Plan



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<b>Feedback by regulatory outcomes</b>	<b>17</b>

- 2.1 Our plan has been developed to meet stakeholders' needs and deliver what is important to them. We have evolved our stakeholder engagement strategy since RIIO-T2, which has enabled us to collaborate within a complex stakeholder landscape to shape our plan. Further information on our stakeholder engagement activities is set out in our Stakeholder Engagement and Decision Log<sup>17</sup>.
- 2.2 A key stakeholder requirement central to our plan is that network risk is managed at an appropriate level, as set out in the Transmission Planning Code. To achieve this, our business plan Totex will increase by 63 percent compared to RIIO-T2. We have carefully assessed the deliverability options for delivering the plan to keep costs acceptable to our stakeholders. Further information is set out in chapter 4 on the confidence in our plan.

### Delivering sustainable value for customers and stakeholders

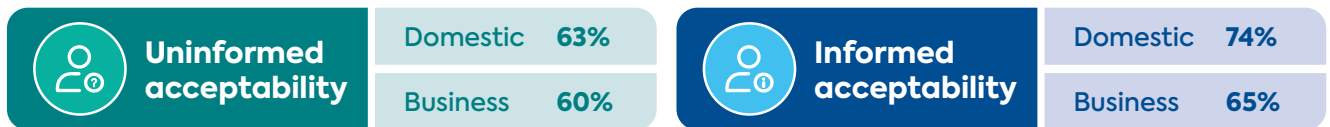
- 2.3 We know that it is vital we work closely with the industry, domestic and non-domestic consumers to balance our cost-focused efforts for providing a reliable service that is fit for the future. We keep our impact on bills low, as natural gas is the current low-cost heating solution for vulnerable consumers and fuel for many non-domestic consumers. In a time of rising energy bills, it is vital that we play our part in keeping our costs down for all consumers, especially those who are in fuel poverty.
- 2.4 We have a robust and tailored stakeholder engagement strategy, and follow the AA1000 Stakeholder Engagement Standard. We leverage a variety of channels to cultivate productive dialogue with our customers and stakeholders. Since publishing our Stakeholder Engagement Strategy as part of our RIIO-T2 business plan, we have engaged with our stakeholders through various forums. These include the Gas Operation Forum, the Gas Data Portal User Community, customer workshops, surveys and consultations, and meetings with regulators and government bodies.

<sup>17</sup> NGT\_A16\_Stakeholder Engagement and Decision Log\_RIIO\_GT3

## 2. Stakeholder-led Business Plan

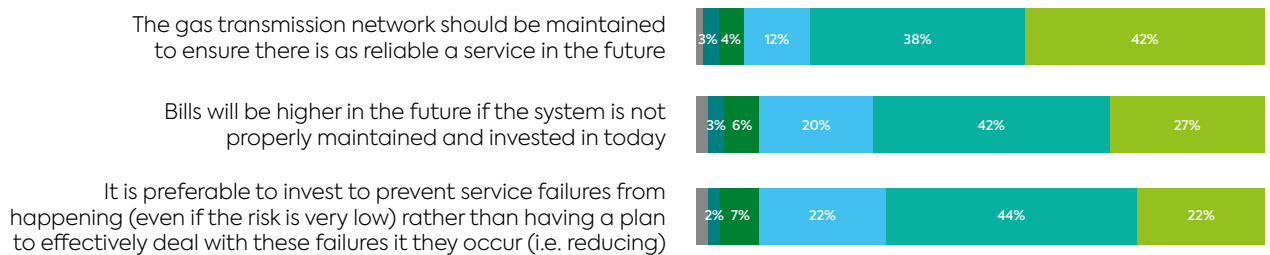
### Listening to our consumers, customers, and stakeholders

- 2.5 We used an independent consultancy, Explain, to carry out an engagement programme to test the acceptability and affordability of our business plan. They surveyed 2,000 domestic end-consumers and 500 business end-consumers across a statistically representative sample of the UK's population (based on geography, age, gender, income) and businesses (based on industry and size). The survey focused on informing gas consumers about our plan, its impact on bills and measuring whether they found the plan acceptable.
- 2.6 Acceptability of the proposed plan was high, particularly amongst domestic end-consumers, even when they were not presented with detail of the investments proposed as part of the plan (i.e. uninformed acceptability).
- 2.7 Acceptability increased when respondents were given further detail related to the plan (i.e. informed acceptability). This included proposed investment aligned to three of the four regulatory priorities set out by Ofgem; infrastructure fit for a low-cost transition to net zero, high quality of service from regulated firms, and secure and resilient supplies<sup>18</sup>.

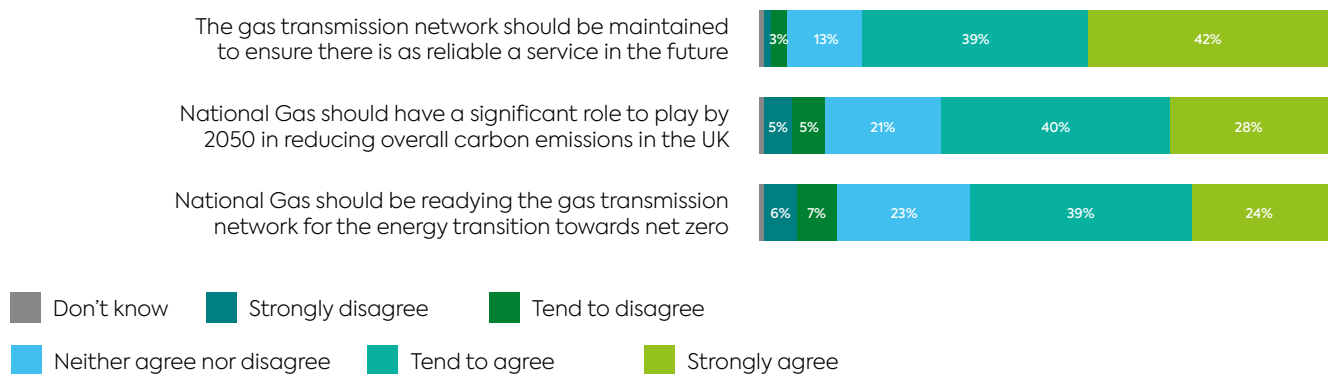


- 2.8 Of those that found the business plan acceptable, the following themes were identified as the top three reasons, across businesses and domestic consumers. There is clear and compelling support for maintaining the network to provide a reliable service, recognising that lack of investment today will lead to problems in the future. Also, stakeholders told us that we should have a significant role to play in reducing carbon emission and also preparing the network for the transition to net zero.

#### Areas that matter most to business users (N=500)



#### Areas that matter most to domestic users (N=2000)



Don't know
  Strongly disagree
  Tend to disagree
  Neither agree nor disagree
  Tend to agree
  Strongly agree

<sup>18</sup> Further information can be found in NGT\_C12 Explain End Consumer Acceptability Research



## Feedback by regulatory outcomes

- 2.9 Both domestic and business end-consumers ranked 'secure and resilient supplies' first of the regulatory outcomes in terms of priority. However, when testing why end-consumers found the plan acceptable, this was not identified as a key reason, while affordability, meeting future needs or addressing new challenges were listed as top factors.
- 2.10 In qualitative research undertaken before the acceptability survey, it was noted that secure and resilient supplies were something that end-consumers took for granted, with very few having experienced a gas interruption in their homes. It was also clear that reliability is still incredibly important, with end-consumers unwilling to accept lower levels of service, even in exchange for cost savings.
- 2.11 The importance of investment across the three regulatory outcomes was highlighted by the fact that an increase in investment in all three areas would make the plan more acceptable for end-consumers.

## Conclusion

- 2.12 Overall, the results from the acceptability testing survey indicate that the majority of end-consumers were supportive of an increase in bill if required. Our proposal is within the acceptable range tested with end-consumers.



One of the many directly connected gas-fired power stations required to maintain energy security now and back up intermittent renewables post 2030

# 3 Delivering Britain's energy needs



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## Introduction

- 3.1 This section sets out what we will deliver as part of our plan, in line with the four regulatory outcomes identified by Ofgem. It provides more detail on each of our 12 commitments, covering an overview of each commitment, what and how we will deliver, collaboration, stakeholder engagement and consumer value and additionality.

## Our purpose

- 3.2 While we know that natural gas will play an important role during the energy transition, uncertainty remains around the pace of change, as well as the combination of technologies and behavioural changes that will define which 'pathway' the country takes. Our plan must therefore ensure that the gas transmission system meets the needs of consumers, our customers and stakeholders in the short and medium-term, that it meets our security of supply obligations, and that we retain the option for it to continue to play a critical role in facilitating net zero out to 2050.
- 3.3 We have therefore developed our plan prudently, against the Future Energy Scenario (FES) where gas remains a prominent fuel during the transition to net zero and for some time beyond. In doing so, we will ensure that the overall energy system, and therefore the supply to consumers and customers, is secure and resilient. We have consulted with NESO on this approach, which safeguards the country's energy security in the event that the more ambitious FES are not realised. **The planning scenario we have used is compliant with the Ofgem guidance for our December submission.**
- 3.4 Our purpose is to lead a clean energy future for everyone. For each of Ofgem's regulatory outcomes we have supporting commitments that we will deliver on for consumers and on which consumers will be able to hold us to account.

**Our purpose**

Why are we here

Leading a clean energy future for everyone

**Our values**

How we work

Progress

Simplicity

Ownership



Shape the energy markets of the future



Drive positive environmental and community impact



Deliver sustainable value for customers and stakeholders



Invest in our people, grow our capability, and value everyone's contribution



Operate safely, reliably and flexibly

**Our priorities**

Where we will focus our efforts

**Our investments**

Where we will focus investment

Asset Management Plan

Security Investments

IT, Data and Digital

Run the Business

**Our investment**

3.5 Our plan sets out £5.3 billion of investment. We have mapped this investment against Ofgem's four regulatory outcomes, as shown below.

Regulatory Outcomes	Associated Totex £bn		Total
	Proposed baseline	Uncertainty mechanism	
Secure and resilient supplies	2.46	0.77	3.22
Infrastructure fit for a low-cost transition to net zero	0.01	0.38	0.39
High quality of service from regulated firms	0.18	0	0.18
System efficiency and long-term value for money	1.34	0.17	1.51
<b>Total</b>	<b>3.99</b>	<b>1.32</b>	<b>5.30</b>

Note: Numbers in this table are rounded to two decimal places.

3.6 In each of the subsequent sections, we set out for each of these regulatory outcomes, our plan commitments and explain what we will deliver for consumers and network users and the value the business plan will deliver.

### 3. Delivering to meet Britain's energy needs

#### Secure and resilient supplies

- 3.7 Ensuring secure, resilient, and reliable supplies of energy is at the heart of what we do.
- 3.8 We know that for consumers, a resilient and reliable supply is essential. Whether that supply is for heating, for electricity generation or for the operation of industrial processes, being able to flow gas without restriction is a fundamental requirement. Consumers of large amounts of gas have told us that continuity of gas supply is essential to avoid detrimental impacts on their business processes, finances and reputations. Our industrial consumers have indicated that a loss of gas supply could cause irreparable damage to their facilities, risk potential closure and loss of employment. The Electricity Distribution Networks have told us that without gas-generated power their ability to protect vulnerable customers and consumers would be put at risk.
- 3.9 Maintaining security of supply is critical, now more than ever. The world around us is evolving, which in turn driving uncertainty. From a greater reliance on intermittent renewables to the impact of geopolitical events, and the rising threat of malicious attackers attempting to compromise the security of systems, we must ensure our network, services and systems remain robust and capable of delivering for all those who rely on us for their energy supplies.
- 3.10 To deliver against this regulatory outcome, we have identified the following six commitments:



- 3.11 The investments required to continue to operate a resilient, reliable, and safe network, which secures the country's energy needs, are set out in the table below.

Secure and resilient supplies – cost category	Associated Totex £bn		
	Proposed baseline	Uncertainty mechanism	Total
Asset Health	1.14	0.47	1.61
Resilience	0.73	-	0.73
TO Direct Opex	0.34	-	0.34
Non-Op Capex – Vehicles/STPEM	0.06	-	0.06
Other Non-Load – Maintainability/Decommissioning/Network Capability/Security of Supply	0.18	0.30	0.48
<b>Total</b>	<b>2.45</b>	<b>0.77</b>	<b>3.22</b>

**Note:** Numbers in this table are rounded to two decimal places. See section 7, page 100 for mapping to Business Plan Data Tables.

#### Meeting our critical obligations every hour of every day

- 3.12 Gas is essential to the functioning of our country today and will remain an essential part of our fuel mix into the future.
- 3.13 The FES published by NESO suggest that annual natural gas demand is expected to gradually decline over the coming decades. However, peak demand is expected to remain high during the transition to net zero to provide back-up electricity generation to support and enable our growing use of renewable energy. Peak demand is projected to remain at 83 percent to 108 percent of current levels during 2026-2031.
- 3.14 One of our primary licence obligations is to ensure that our network has sufficient capability to meet this peak demand, to enable the continuous supply of electricity. Therefore, we must invest to make sure our network has the capability it requires to meet this critical obligation.
- 3.15 With the reduction in North Sea oil and gas production, we are now more reliant on the need to import gas from a more diverse range of sources. The way in which the network is used by customers has also changed significantly, with increasingly volatile and geographically dispersed supply and demand changing the way we need to operate our network. To manage these external factors, the gas system must have the capability and flexibility to transport gas to where it is needed, regardless of where it arrives from. Our system will need to adapt to ensure that in face of these increasingly unpredictable energy requirements, security of supply is guaranteed.



## Meeting our critical obligations every hour of every day



Secure and resilient supplies



Infrastructure fit for a low-cost transition to net zero



High quality of service from regulated firms



System efficiency and long-term value for money

### Our commitments

- We will continue to deliver all of our critical activities to a high standard, so that our customers have gas where and when they need it, at an efficient cost. [CO]
- We will continue to comply with all of our Licence Obligations and all applicable legislation, standards and guidance. [LO]
- We will deliver on all of our Price Control Deliverables and drive better performance through our Output Delivery Incentives (ODIs). [PCDs/ODIs]
- We will take a partnering approach across the energy sector to deliver value for society across innovation, policy reform, our supply chain and delivery of net zero. [CO]

### How we will deliver

- We will report to our regulator each year on our performance, setting out how we are delivering against our Price Control Deliverables and obligations.
- We will review our existing ways of working to leverage digital technologies to bring about greater transparency. One example of this will be through our asset management system.
- We will continue to maintain compliance with all applicable legislation, standards and guidance. This includes the requirements set out in primary and secondary legislation e.g. Gas Act, Pressure Systems Safety Regulations, Pipeline Safety Regulations, Dangerous Substances and Explosive Atmospheres Regulations, Gas Safety (Management) Regulations, Electricity at Work Regulations, Gas (Calculation of Thermal Energy) Regulations, Control of Major Accident Hazards, Industrial Emissions Directive, Health and Safety Executive guidance etc, by carrying out required inspections and subsequent mitigating interventions on our assets and systems.

### Collaboration

- We will continue to engage with stakeholders and our customers to understand their needs, and engage with the regulator, Ofgem, to develop the regulatory framework to ensure these needs are met. An example of this is around facilitating biomethane connections to the network.

### Stakeholder engagement

- The driver for this commitment is legislative and independent of stakeholder views. Nonetheless, we acknowledge the driver behind much of this legislation stems from protecting the interests of consumers.
- Stakeholders have fed back that they welcome a specific commitment on biomethane and agree that we have the opportunity and influence to simplify and standardise biomethane connections onto the National Transmission System (NTS).

### Consumer value and additionality

- Gas market trends are expected to continue to be volatile, and so ensuring compliance against this challenging landscape is paramount and demonstrates value. While critical, we consider these activities to be business-as-usual: our drive to ensure safe and resilient supplies will be an insurance policy in the light of the increasing rate of change across the energy landscape as the energy economy looks to decarbonise. Furthermore, we aim to go beyond compliance by working to evolve legislation where necessary to facilitate delivery of solutions to energy system challenges.

### Guide to our plan

- Safety compliance is central to our plan and reflected throughout the Investment Decision Packs (IDPs). See Section 7 Document Library.

### 3. Delivering to meet Britain's energy needs

#### Secure and resilient supplies

##### Ensuring world-class safety levels for our workforce and the public

- 3.16 Our ambition is to be 'safe every day', by embedding a proactive safety culture. Our firm commitment is never to compromise on the safety of our people, our customers, the public and our assets. We will run our network to the highest safety standards by maintaining the health of our assets, whilst applying robust controls to manage workplace hazards and complying with all relevant legislation.
- 3.17 By managing the integrity of our assets, operating systems, and processes, and applying good design principles, engineering, and operating practices, we work to prevent major incidents such as fires, explosions, and the release of hazardous substances. By engaging with landowners and occupiers (grantors) we make sure that the public understands the risks of our work and how we operate to protect them. We designate safe operating distances where we are undertaking work and explain how we can help keep everyone safe.
- 3.18 Our relentless pursuit of world-leading safety standards means that we expect everyone to act safely. We encourage open and honest conversations where there are concerns, and require swift reporting when incidents happen.
- 3.19 We understand that the work environment can at times be demanding and stressful, with adverse impacts on both the physical and mental wellbeing of our staff. We support our staff with health and wellbeing service provisions, as well as by delivering proactive wellbeing initiatives.



Maintaining our network and keeping everyone safe every day



## Ensuring world-class safety levels for our workforce and the public



### Our commitments

- We will continue to deliver full safety legislative compliance, whilst maintaining and enhancing our safety maturity from a calculative score of 6.87 in RIIO-T2 to a proactive score of greater than 7 in RIIO-GT3 (aligned to the Hudson Safety Culture Model). [CO]
- We will continue to protect the public from harm and aim to maintain zero public safety injuries throughout RIIO-GT3, for example through ensuring safe operating distances are maintained. [CO/PCD]
- We will continue to foster our world-class safety culture to ensure our supply chain, contractors and temporary workforce are safe every day in the provision of our services and held to the highest standards of safety through our supplier Code of Conduct. [CO]

### How we will deliver

- We will drive for the highest level of safety maturity. We will continue to embed our ambition to be 'safe every day', supporting health and wellbeing, and demonstrating safe behaviours.
- We will invest in our Incident Management System (IMS), to ensure our Safety Incident Management and SHE-related IT systems remain up to date and capable of supporting our commitment.
- We will continue to support health and wellbeing through related service provisions and proactive wellbeing initiatives to support health, both physical and mental.
- We will ensure a safety barrier between our assets and operations and members of the public by conducting works at a further 20 sites, including installation of security fences, gates and cameras.
- We will continue to work with landowners/tenants where pipelines cross their property, confirming we have up to date contact details and issuing safety guidance. We will continue our cycle of inspections on marker posts to ensure pipelines are easily identifiable. We are also exploring the viability of smart marker posts through innovation to deliver efficiency in this process.
- We will periodically review our supplier Code of Conduct to ensure it remains up to date and reflects our safety culture.

### Collaboration

- We will ensure collaboration on safety at every stage of our operations, with our supply chain and contractors, employees and competent authorities. Where incidents occur, we will share lessons learned and recommendations.

### Stakeholder engagement

- Stakeholders have a strong appreciation for our emphasis on safety and resilience and expect that we are held to a high standard in this regard, given the level of regulation from Ofgem and the Health and Safety Executive (HSE).
- As per our RIIO-GT3 Customer and Stakeholder Priorities, our stakeholders have fed back that safety is an aspect of network operation that is seen as foundational. When asked what a "customer-centric" gas network meant to them, "safe" was the third most common answer received (after only "affordable" and "reliable").

### Consumer value and additionality

- Our culture of safety ensures workplace incidents are minimised. We will deliver our works in a timely manner, ultimately keeping costs down for consumers.
- We are always seeking to improve our safety culture, processes and training. Maintaining our world-class safety record remains a key priority and represents a step up in ambition given the increased volumes of work to be delivered.

### Guide to our plan

- NGT3-CRBP-E1-01-015-Physical Security of NIS. Safety compliance is central to our plan and reflected throughout the Investment Decision Packs (IDPs). See Section 7 Document Library

### 3. Delivering to meet Britain's energy needs



World-class engineering capabilities in action

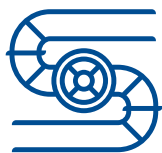
#### Secure and resilient supplies

##### Delivering a resilient network fit for the future

- 3.20 A resilient, flexible gas network is integral both to managing the impacts of unforeseen events and meeting our statutory obligations<sup>19</sup>. It is also crucial to protecting the interests of existing and future consumers.
- 3.21 In recent years, the way in which our customers use the network has changed. Our customers require an increasingly adaptable, yet still resilient network. With new demands being placed on the network, the level of inherent risk is increasing, and with it, the likely rate and duration of asset failures.
- 3.22 A significant proportion of our assets are reaching, or have reached, the end of their design life. This can lead to an increase in defects. Some systems face becoming obsolete and the overall asset base is ageing. Managing, maintaining, and investing in our asset infrastructure is imperative if we are to continue to deliver a reliable and affordable gas supply for consumers and our customers. Only by maintaining asset integrity and stabilising the level of risk across the network, will we be able to provide a system that is fit for purpose now and that retains optionality for the future to avoid the risk of stranded assets as we transition to net zero.
- 3.23 We remain committed to meeting the resilience standards agreed with Ofgem and the Department for Energy Security and Net Zero (DESNZ) following the Resilience Summit (2023). In terms of network resilience, we are managing the level of risk across the network. This includes striving to eliminate areas of high risk and reviewing our risk tolerance for pipelines with a single point of failure.
- 3.24 Stakeholders have challenged us to ensure our asset health plans are built on robust analysis, and are efficient and affordable for consumers. We have used improved decision support tools and monetised risk modelling to assess the right level of prioritised investment in these assets.

<sup>19</sup> The Gas Act: we 'shall develop and maintain an efficient and economic pipe-line system' to meet expected demand including during peak demand events.





## Delivering a resilient network fit for the future



Secure and resilient supplies



Infrastructure fit for a low-cost transition to net zero



High quality of service from regulated firms



System efficiency and long-term value for money

### Our commitments

- We will invest in our assets to maintain our network risk at the level seen at the start of RIIO-T2 by 2032, removing more risk than during any other price control. [CO/PCD]
- We will do this efficiently, delivering 79 percent more long-term risk removed at our sites, which is an increase of £89m compared to RIIO-T2. [CO]
- We will meet even more stringent resilience requirements (that are enshrined in the Transmission Planning Code) and have agreed with government a set of recommendations in the face of increasingly volatile gas flows. [LO]

### How we will deliver

- Our Asset Management Plan (AMP) provides a long-term optimised plan to manage network risk and performance, aligned to our business priorities and asset management strategies.
- We will use our single value framework within our Ofgem-approved Network Asset Risk Metrics (NARMS) methodology to evaluate the benefits of investments from the AMP and use the predictive analytics module to select the right mix of strategic investments, ensuring our portfolio returns risk levels consistent with the start of RIIO-T2. This will deliver robust asset investment decisions based on the value delivered to customers.

### Collaboration

- In accessing our network to deliver asset interventions we will collaborate with our stakeholders to ensure disruption is minimised, contributing to efficiency in wider industry.
- We have engaged across the supply chain to ensure our suppliers have the capability to support the volumes and phasing of works in our plan.

### Stakeholder engagement

- Where stakeholders have been able to determine which area should be the priority for our planning, resilience has been the most cited primary objective. Resilience is imperative to ensure continued service delivery, to mitigate periods of high demand on the network, and to ensure that we remain a reliable strategic partner to industry.
- In addition to their crucial role in the net zero transition, our industrial customers fed back that diversifying energy sources and infrastructure, and reacting to market demands for alternative fuels (e.g. adaptation to biomethane and hydrogen), will play a significant role in bolstering our resilience.
- A minority of stakeholders felt that because we already deliver a high-quality, resilient service, any further strengthening of our resilience would need to be robustly justified in our plan. We have responded to this feedback by explaining the growing resilience challenges we are facing, and how we are addressing them. Our proposed network resilience recommendations have been shared with government, Ofgem and NESO to ensure they are supportive of the need for a resilient network and our recommendations.

### Consumer value and additionality

- A resilient and reliable supply of gas is essential for our customers and consumers, whether it's for providing heating or hot water, electricity generation or for operating industrial processes.
- We plan to undertake significantly more work in RIIO-GT3 to ensure this critical supply is maintained, in the face of the increasing challenges posed by increasingly volatile gas flows and an ageing asset base.
- Despite these challenges, we will carry out the investment needed in a more cost-efficient way and remove a greater level of risk compared to RIIO-T2 at our sites.

### Guide to our plan

- NGT\_A01\_Asset Management Plan (AMP)\_RIIO\_GT3

## 3. Delivering to meet Britain's energy needs

### Secure and resilient supplies

#### Ensuring our network is resilient to climate change

- 3.25 We are aware of the risks a changing climate poses not only to our network and our assets but also to the security of supply.
- 3.26 Significant effort is required to ensure that we are resilient to these climate impacts and that, in turn, we minimise the effects for consumers and our customers. In the long term, proactively adapting to the effects of climate change will require us to adjust our own operations and build resilient infrastructure and contingency plans to mitigate the risks associated with changing weather patterns.
- 3.27 Our Climate Resilience Strategy (CRS) outlines our balanced approach to tackling these challenges through a mix of reactive and proactive actions within RIIO-GT3 and beyond. The investment addressing climate resilience and associated Engineering Justification Papers (EJPs) can be found in the CRS (value £41.63m). Where our asset capabilities have been tested by climate change, and we have evidence of the impacts on our operations, we have proposed Climate Change Adaptation (CCA) driven investments in physical asset enhancements and protection.
- 3.28 We have developed and assessed investment plans against the eight climate hazards we are proposing within our Adaptation Reporting Power (ARP4) submission to the Department for Environment, Food and Rural Affairs (Defra), in collaboration with the Energy Networks Association (ENA).
- 3.29 In our plan, we have included provision for climate change impact studies across our critical sites, aiming at site-specific quantification of risks posed by the hazards of flooding and temperature extremes. These studies will be more bespoke and exhaustive than RIIO-T2 and are in addition to our planned site-specific climate risk assessments.
- 3.30 With improved insights into the potential impacts of climate change on the resilience of our network, we will be able to take a fundamental step towards building a data-driven, evidence-based approach to undertaking climate adaptation and enabling a climate resilient energy network. These insights and evidence will enable us to build targeted, efficient, and well-justified proactive responses.
- 3.31 We are committed to working closely with our stakeholders, especially with the Ofgem-supported ENA Climate Change Resilience Working Group (CCRWG). We will work collaboratively to undertake scenario planning to identify the possible risks and impacts of climate change, using the UK Climate Projections (UKCP) and FES adaptation pathways. This work will allow us to plan for current and future investment decision points across the asset lifecycle.



**Ensuring our critical assets are available and reliable no matter what the weather**



## Ensuring our network is resilient to climate change



### Our commitments

- We will protect our assets from adverse impacts from climate change both reactively and proactively.
- We will carry out temporary flood risk mitigation at 12 sites where our asset capabilities have been tested and we have evidence of these effects on our operations. [PCD]
- We will deepen our understanding of the impact of climate hazards on our assets by carrying out 58 targeted surveys, an equivalent of 11 percent of our sites. [PCD]

### How we will deliver

- Our approach towards adapting to the impacts of climate change and our plan for future resilience is captured within our CRS, which outlines a balanced approach with a mix of reactive and proactive actions within RIIO-GT3 and beyond.
- During RIIO-GT3, we aim to gather better data-driven insights into the potential impacts of climate change on our network resilience through surveys and studies, enabling us to implement targeted, efficient, and well-justified proactive responses.
- Our proposed investment plans have been developed and assessed against the eight climate hazards we put forward within our ARP4 submission to Defra.
- As a result of engagement (taking guidance from Electricity North West Limited's initiatives in response to flooding) we will be increasing our focus on an initiative to review and update our policies, procedures, engineering standards, etc.

### Collaboration

- We will work closely with our stakeholders, especially with the Ofgem-supported ENA Climate Change Resilience Working Group (CCRWG), in undertaking scenario planning to identify the possible risks and impacts of climate change.

### Stakeholder engagement

- We have consulted on our CRS with distribution networks, Ofgem, DESNZ, academia and asset management experts. Based on their feedback, we will aspire to benchmark our plans against international operators who may face climate hazards sooner. Stakeholders also supported our plans to examine links with other systems, like telecoms and site access during flooding.
- Stakeholders agreed with dividing investments into "act" and "respond" categories and emphasised the need for more data. Gas networks typically face fewer faults and have less fault data than electricity networks, with gaps in climate-related data. We plan to address these issues through studies in RIIO-GT3 and digital mapping projects.

### Consumer value and additionality

- Proactively managing climate risks reduces the likelihood of unplanned outages caused by climate-related events, thereby contributing to a secure and resilient supply for consumers.
- In RIIO-T2, we focused on responding to climate risks. For RIIO-GT3, our aim is to go further by proactively expanding our understanding of potential hazards through comprehensive surveys, enabling us to identify and mitigate threats before they materialise and thereby reduce costs.
- By working with our stakeholders and collaborating with competent authorities, academia and other sectors, we can share and receive knowledge and best practice on climate change adaptation, ultimately reducing costs for consumers.

### Guide to our plan

- NGT\_A06\_Climate Resilience Strategy\_RIIO\_GT3
- NGT\_A01\_Asset Management Plan (AMP)\_RIIO\_GT3

### 3. Delivering to meet Britain's energy needs



**Critical asset health investment for continued availability and reliability of our national network**

#### Secure and resilient supplies

##### Keeping our critical systems secure

- 3.32 Our network is Critical National Infrastructure. It is a target for malicious actors and cyber-attacks. Cyber-compliance is, therefore, essential to ensuring the integrity of the gas supply network and reducing the risk of a nationwide gas supply emergency.
- 3.33 Our systems must be protected from malicious and evolving threats. We must stay one step ahead and keep abreast of the latest developments both in cyber security and the threats posed. Capabilities that were considered advanced 10 years ago are now more commonly available and deployable within days, not months. We must continue to assess the threat landscape and deliver controls ahead of adversaries. Where we act, we must do so swiftly and confidently to tackle emerging threats.
- 3.34 We comply with the Network and Information System (NIS) Regulation 10 objective to 'take appropriate and proportionate security measures to manage risks to their network and information systems'. This includes compliance with the Competent Authority's designated framework, the Cyber Assessment Framework (CAF) and alignment with relevant external standards, in particular ISO 27001 (for Information Technology (IT)) and IEC 62443 (for Operational Technology (OT)).
- 3.35 We will achieve the CAF Enhanced Profile through a combination of strategic and tactical interventions across the IT and OT security environments.
- 3.36 Given the ever-evolving and increasing threat in respect of cyber, RIIO-GT3 investment expenditure is forecast to continue at similar rates, beyond December 2027. Our investment plan for cyber totals £590m.



## Keeping our critical systems secure



Secure and resilient supplies



Infrastructure fit for a low-cost transition to net zero



High quality of service from regulated firms



System efficiency and long-term value for money

### Our commitments

- We will attain 'Enhanced' profile on the National Cyber Security Framework (NCSC) and Cyber Assessment Framework (CAF) within the RIIO-GT3 period to manage risks posed to the security of the network and information systems on which our essential service relies, a significant step up from the 'Basic' profile we achieved in RIIO-T2. [PCD/CO]
- We will host a biannual forum for Operators of Essential Services, where we will share best practice and technical expertise, to support the wider industry in delivering security of supply and efficient costs for consumers. [CO]
- We will enhance physical security at an additional 20 of our sites through a range of means such as access, barriers and detection controls. [PCD]

### How we will deliver

- We will undertake a number of security investment works, via 14 Price Control Deliverable (PCD) areas covering 50 specific PCDs. These investments make up a risk-based, long-term programme to strategically replace and upgrade our key operational technology used for the safety and control of critical NIS systems, ensuring the security and resilience of critical assets.
- We have demonstrated deliverability in our documented assurance processes as part of the Cyber Resilience Business plan. We will monitor delivery through our governance process including Capex Delivery Boards and Gas Security Boards.
- In line with Critical National Infrastructure (CNI) policy, we will ensure our sites are secure and protected from external physical threats. Where possible, we will eliminate the physical security risks to our sites by removing visible assets. We will embrace new technologies to deliver targeted solutions and maintain essential physical security for our infrastructure.

### Collaboration

- We will actively seek collaboration with other networks and essential service providers through our biannual forums, scheduled for Q1 and Q2 each year throughout RIIO-GT3, where we will share best practice and knowledge to achieve cost savings for consumers.

### Stakeholder engagement

- We have engaged extensively with DESNZ to develop our physical security commitments.
- Ofgem, as the competent authority, has endorsed this approach and set the targets.

### Consumer value and additionality

- Our commitments will ensure uninterrupted supplies for our customers at the lowest cost possible.
- Having met the National Cyber Security Centre's 'Basic' profile, this is now business-as-usual. We will meet an 'Enhanced' security profile expected to be delivered during RIIO-GT3 – a significant step up from our achievement in RIIO-T2.
- Sharing information and best practice between networks goes beyond standard operations, delivering substantial added value through enhanced security and cost efficiencies. As the host of this forum, National Gas plays a key role in driving these benefits.

### Guide to our plan

- For security purposes our suite of Cyber documents is not publicly available.

## 3. Delivering to meet Britain's energy needs

### Secure and resilient supplies

#### Transforming our activities through IT and data

- 3.37 Our Information Technology (IT) systems are integral to keeping the country's gas network running safely and securely.
- 3.38 We embrace digitisation and technology to enhance operational efficiency, optimise asset management, and enable real-time monitoring of our network. Our IT portfolio delivers the systems that gather, store and process essential information to run our business, make decisions, and comply with legislation.
- 3.39 The drive towards net zero and a single energy system has begun to trigger new requirements. From NESO's requirements through to interoperability with all energy participants, these developments will involve new and expanded data-sharing capabilities. We expect that the focus on net zero will result in changing customer needs and expectations, especially as new entrants appear in the emerging energy industry model. Having agility in our architectures and systems will play a key part in our ability to meet the evolving needs and expectations of our customers.
- 3.40 The technological world does not stand still. We must keep pace with the development of new technologies, especially where they can help us deliver safely, innovatively, and effectively. Implementing new technologies, such as wearable devices and laser imaging to drive data improvements and support our digitalisation strategy, will be game-changing. By keeping abreast of the advancements in Artificial Intelligence (AI) and Machine Learning (ML), we will be able to understand how they could be applied to our work to help achieve outcomes that benefit our customers.
- 3.41 To deliver this ambitious plan, we anticipate a need for investment in our technology of £498m over R110-GT3. This represents a real terms increase of £44.6m per year, relative to R110-T2.



Using IT to unlock value for customers



## Transforming our activities through IT and data



Secure and resilient supplies



Infrastructure fit for a low-cost transition to net zero



High quality of service from regulated firms



System efficiency and long-term value for money

### Our commitments

- We will continue to maintain our IT assets to ensure that they are evergreen, secure, safe and resilient, and continue to enable all our business activities. [CO]
- We will aim to reduce our number of systems out of support to zero, meaning during RIIO-GT3, and for the first time, we will have no systems out of support. [CO]
- We will continue to mature our capability around Ofgem's Data Best Practice Guidelines and embed through our IT activities. [CO]

### How we will deliver

- We anticipate 89 investments in our IT and technology over RIIO-GT3 and have identified three key drivers: digitalisation and smarter analytics, enhancing business capability, and IT system asset health and compliance.
- Our plan has been challenged against rigorous assurance processes on scope, volume, and on cost through benchmarking against global comparators. Deliverability has been assessed, considering the capacity of both IT delivery teams and business teams to support IT delivery projects. This assurance shows that our plan is efficient and deliverable.
- The scope for IT enablers is built from requirements defined by the business functions – our business units have identified what capability changes they need to deliver key outcomes. These business units and IT specialists will continue to work together over RIIO-GT3, as set out in our IT strategy paper, to ensure IT investments support our business capabilities.

### Collaboration

- We will engage with the Gas Data and Digitalisation Group on areas such as interoperability, data cataloguing, and data sharing infrastructure as and when appropriate and practical to do so.
- Our portfolio of IT investments has been benchmarked by Gartner to confirm the investment is efficient and delivers value.

### Stakeholder engagement

- Our customers and stakeholders fed back that, primarily, they expect our IT systems during RIIO-GT3 to be reliable, resilient, safe and secure. These stakeholders agreed that keeping systems healthy and compliant should be the most important outcome to deliver against, and 89 percent felt that our IT plan reflected the needs of their organisation and the industry.

### Consumer value and additionality

- Our IT underpins our processes and activities, enabling us to deliver our services and ensure secure and resilient supplies for consumers. The planned portfolio represents the best balance of protecting our current systems, adding new capabilities to respond to business needs for more data and smarter tools, and using technology in innovative ways to deliver benefits.
- Our IT plan delivers value to consumers and stakeholders and will support innovation and decarbonisation. It will maintain systems to be secure and resilient and support smarter decisions to enable delivery of the AMP and manage NTS risk. It will also improve service through better data provision and interoperability, and progress digitalisation for the company and the industry.

### Guide to our plan

- NNGT\_A11\_IT and Telecoms Strategy\_RIIO\_GT3
- IT Investment Papers. See Section 7 Document Library.

### 3. Delivering to meet Britain's energy needs

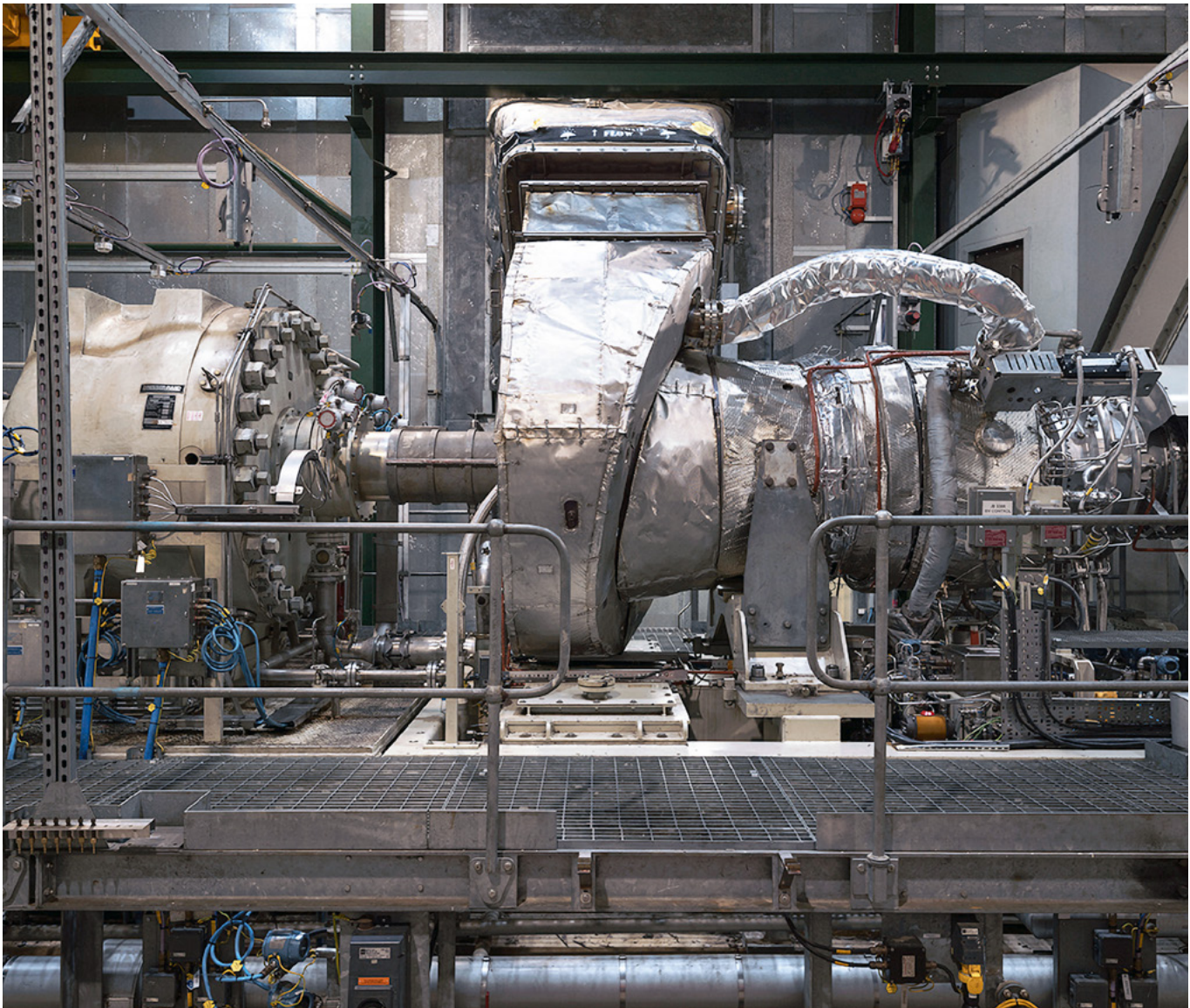
#### Infrastructure fit for a low-cost transition to net zero

- 3.42 We are committed to achieving net zero and know that our stakeholders want us to play a leading role in the energy transition.
- 3.43 The extraordinary level of flexibility of our system will become more critical than ever, as we move towards net zero. Our gas system will be the insurance policy the country needs to invest in to safeguard energy security, not just to today but during the transition and beyond.
- 3.44 The Government has an ambition for the country to be a clean energy superpower and, through Mission Control, it is focusing on accelerating the transition to Clean Power by 2030. Unlocking our network to deliver clean power will be pivotal to achieving this ambition, with our role being to drive Britain's move to a decarbonised power system by 2030.
- 3.45 Through targeted interventions, such as enabling transmission blending of hydrogen, the cost-effective repurposing to hydrogen, and the acceleration of biomethane connections, we may adapt the network so it can continue to be the platform for a range of gases. Enabling the effective transportation of hydrogen allows us to support the development of renewable sources of energy, including wind and solar power.
- 3.46 We can take low-regrets actions now, which will have significant benefits for current and future gas customers and wider society by avoiding potential asset stranding.



The 'Hidden Hero' - the Humber Pipeline Tunnel enabling a crucial feeder pipe to supply up to 20 percent of annual gas supplies to the South of England





**Rugby compressor unit – ensuring gas gets to where it is needed**

3.47 To deliver against this regulatory outcome, we have identified the following three commitments:

**Infrastructure fit for low-cost transition to net zero £0.39bn**

**Leading the energy transition to clean power and net zero**

**Caring for our environment and our communities**

**Investing in our people and capability for the future**

3.48 The investments required to ensure our infrastructure is fit for a low-cost transition to net zero are set out in the table below.

Infrastructure fit for a low-cost transition to net zero - cost category	Associated Totex £bn		
	Proposed baseline	Uncertainty mechanism	Total
Other Non-Load – Climate Change Adaptation	0.00	0.15	0.16
Other Non-Load – Compressor Emissions	-	0.22	0.22
Other – net zero	0.01	-	0.01
<b>Total</b>	<b>0.01</b>	<b>0.38</b>	<b>0.39</b>

**Note:** Numbers in this table are rounded to two decimal places. See section 7, page 100 for mapping to Business Plan Data Tables.

## 3. Delivering to meet Britain's energy needs

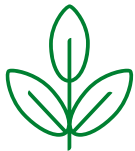
### Infrastructure fit for a low-cost transition to net zero

#### Leading the energy transition to clean power and net zero

- 3.49 Decarbonisation is one of the most pressing challenges we face as a country.
- 3.50 Our gas network will be a critical enabler of a sustainable, carbon-free energy system that is affordable and does not compromise security of supply. We will support the push to Clean Power by 2030, including responding to system changes or requirements of our network directed by NESO.
- 3.51 As we lead the way in respect of network decarbonisation, we will deliver strategic investment to ensure our compressor fleet has the capability, resilience, operability, and availability to meet our licence obligations and consumers' needs.
- 3.52 Our system, with its inherent flexibility, is integral to achieving the secure, affordable transition to net zero. We believe that green gases have an important role to play in achieving a cleaner energy future and we will facilitate, where we can, an increased number of biomethane and/or green gas connections onto the network.
- 3.53 We will deliver on our hydrogen ambition to support net zero by 2050, through 'Project Union.' This pioneering project will create a 100 percent hydrogen transportation network, connecting hydrogen production and storage with end users. Early preparatory works relating to the development of hydrogen infrastructure and the repurposing of natural gas assets will enable our hydrogen ambition.



**FutureGrid - a world leading facility helping to future-proof our network**



## Leading the energy transition to clean power and net zero



### Our commitments

- We will collaborate with NESO and help to deliver its requirements in a timely manner to support wider energy system objectives, including Clean Power 2030. [CO]
- We will continue to underpin the electricity network, enabling dispatchable generation to ensure a reliable supply of electricity when the wind doesn't blow and the sun doesn't shine. [CO]
- We will reduce the time and cost to connect for smaller flow biomethane and green gas customers from three years to less than 18 months where possible. [CO]
- In line with government's strategic directions, we will deliver options to integrate hydrogen-ready assets where it is cost-efficient and safe to do so. [CO]

### How we will deliver

- We are proactively addressing the issues which impede on the timelines for biomethane and green gas connections, from introducing standardised green gas connection designs, to procuring long lead items to manage stock levels, ensuring we can be agile to demands. We are seeking changes where necessary to the regulatory framework to accelerate green gas connection processes.
- Our compressor fleet strategy for RIIO-GT3 will help address the growing volatility driven by the increasing integration of renewable generation. We will consider a range of options, including innovative modifications to increase capability, decommissioning, purchase of strategic spares, performance testing, innovative emissions abatement technology and site reconfiguration.
- When replacing natural gas assets, we will consider upgrades to hydrogen-ready assets where the cost is similar, to support production and storage investments and decarbonise hard-to-electrify transport and industrial sectors.
- We will develop a clean power roadmap for gas transmission alongside NESO and the wider energy system by 2030, and work with government to develop the Hydrogen and Transportation Business Model (HTBM) by 2026.
- We will be ready to respond to new requirements specified by NESO to enhance our capability through the energy transition.

### Collaboration

- We will use collaboration as a key tool to develop regulatory frameworks that support the transition to net zero with the wider energy system, for example through our participation in the Future of Gas Steering Group where we drive market framework changes to deliver net zero.

### Stakeholder engagement

- As part of our customer engagement programme for RIIO-GT3, our customers have emphasised that the drive to net zero should be core to all our initiatives, identifying decarbonisation of the power system and heating as critical enablers on the path to net zero.
- Our customers and stakeholders have repeatedly highlighted that we have a major role to play in leading the net zero transition in a positive way, and that we should leverage our position in the industry as much as possible to do so.
- Through deliberative focus group sessions, most end-consumers involved considered achieving net zero a priority for protecting the planet and future generations. The majority also felt comfortable paying slightly more on their current gas bills to enable net zero by 2050, and argued that greater action was needed in the short term to ensure we reach this goal.
- Our customers and stakeholders have expressed support for our ambitions for low and no-regrets investments in hydrogen readiness (e.g. considering hydrogen-ready gas components when replacing assets like-for-like), and development of our gas system operation capabilities to prepare to transport greater volumes of biomethane and/or hydrogen on the network.

### Consumer value and additionality

- We are aligned to government objectives regarding net zero by 2050.
- Our plan will help reduce carbon emissions and offer flexible and reliable network solutions, supporting the path to net zero at the lowest cost possible for our customers.

### Guide to our plan

- NGT\_A10\_System Operator Annex\_RIIO\_GT3

## 3. Delivering to meet Britain's energy needs

### Infrastructure fit for a low-cost transition to net zero

#### Caring for our environment and our communities

- 3.54 Sustainability and community are at the core of our business. Through our Environmental, Social and Governance (ESG) Strategy we have identified and committed to activities where we can achieve lasting, positive environmental and societal impact.
- 3.55 Our network spans the length and breadth of the country. We interact with and impact on a wide range of natural environments and communities. We must be a responsible asset owner, making sure that the interactions we have with communities and the impact we have on the natural environment are positive.
- 3.56 We set out to ensure that works conducted on our assets are focused on delivering secure and resilient supplies of gas for the benefit of consumers in a way which is efficient and considerate of the environment. Where an asset is no longer required, we will aim to decommission the site to reduce the risk of a detrimental impact on the environment. We will recycle or repurpose redundant assets on the transmission system.
- 3.57 Through our Environmental Action Plan (EAP), we aim to reduce the wider impact of our network activities, keeping stakeholders at the heart of our decision making. In particular, we focus on the measures we can take to reduce our emissions and work with our supply chain to better understand and reduce our Scope 3 emissions.
- 3.58 Where our work impacts local people, we strive to minimise disruption to, as far as possible, allow people to live and work unaffected by our activities. When disruption occurs, we give back to communities through our community grant scheme.
- 3.59 We have a proud history and tradition of giving back to our communities. We partner with others to help our communities, from fundraising for our corporate charity partner (Barnardo's) to delivering our 'Tackling Loneliness' initiative and supporting charitable and community organisations close to our sites. Maximising our national footprint, we look to create extended educational opportunities for young people in areas local to our activities. By reaching out to these young people aged 11-18 to encourage them to consider a STEM (Science, Technology, Engineering and Maths) career, we can achieve the dual objectives of delivering social benefit and helping to address the future needs of the energy sector.



### Delivering for the communities we serve and in which we operate



## Caring for our environment and our communities



### Our commitments

- We will deliver on the 18 commitments outlined in our five-year Environmental Action Plan (EAP) to decarbonise our network and reduce the environmental impact of our activities, continually stretching us to improve our environmental performance. These commitments will deliver a 21 percent reduction in our Scope 1 and 2 emissions from FY2022/23 baseline by the end of RIIO-GT3. [LO/CO]
- We will provide community grants of up to £10,000 in areas affected by our operations, and £20,000 in areas affected by our construction projects, for projects delivering social, economic and environmental benefits. [CO]
- We will provide educational initiatives to at least 900 young people in areas local to our activities, to encourage young people into STEM (Science, Technology, Engineering and Mathematics) roles. [CO]
- We will right-size and structure our market intelligence and engagements to help remove barriers to entry for Small and Medium Enterprises (SMEs), leveraging the legislative changes embedded in the 2023 Procurement Act. [CO]
- We will implement 28 day payment terms across our contracts, meeting the requirements for undisputed invoices required by the Procurement Act and PPC. [CO]

### How we will deliver

- Commitments in our EAP are assigned to one of five areas: climate, circular economy, nature, supply chain or stakeholder engagement, and have been determined by reviewing our environmental aspects and impacts against an accredited audit process to identify where we should focus our efforts. Each EAP commitment has an associated measurable metric, against which we will report on progress in our Annual Environmental Report (AER).
- Our social and educational activities will be delivered in line with the National Gas social impact strategy<sup>20</sup> and framework, with activities delivered in three of the five social impact framework pillars – ‘Charitable Giving’, ‘Community Engagement’, and ‘Future Skills and Education’. Delivery risks are considered within this framework and activities are reviewed on a bi-monthly basis. We will also report on utilisation of the fund via our Annual Report and Accounts.
- In line with our Workforce and Supply Chain Resilience Strategy, we will improve our engagement and procurement strategies to remove barriers to entry for SMEs, raising awareness on the types of goods and services they could provide, reducing the administrative burden and levelling the playing field to allow them to compete with larger businesses.

### Collaboration

- Our community grants drive collaboration between National Gas Transmission and communities effected by our works.
- Our EAP commitments around ‘supply chain’ demonstrate how we will work with our collaborators to reduce emissions.

### Stakeholder engagement

- We held a roundtable session with various external stakeholders to seek agreement on both the scope of our commitments and how we could make each as stretching as possible. We have summarised feedback received on each of our commitments in Annex A of our EAP.

### Consumer value and additionality

- By setting a baseline of FY2022/23, we are ensuring our emissions reductions targets exceed what we have done so far in RIIO-T2.
- We will minimise disruption to local communities and focus on social, economic and environmental benefits delivered by charities and community groups that meet local needs.
- Building on our RIIO-T2 performance, we will improve our environmental performance during RIIO-GT3, aligning to anticipated future legislative requirements, such as mandatory reporting for the Task Force for Nature-Related Financial Disclosure (TNFD). Our RIIO-GT3 EAP commitments are aligned to driving down the impacts from significant activity areas whilst ensuring we maintain consumer value.

### Guide to our plan

- NGT\_A03\_Environmental Action Plan\_RIIO\_GT3
- NGT\_A13\_Workforce and Supply Chain Resilience Strategy\_RIIO\_GT3

<sup>20</sup> National Gas Social Impact (<https://www.nationalgas.com/responsibility/social>)

### 3. Delivering to meet Britain's energy needs



**Building a highly-skilled workforce for today and enhanced capabilities for the future**

#### Infrastructure fit for a low-cost transition to net zero

##### Investing in our people and capability for the future

- 3.60 Our people are the 'energy behind the change,' and our ambitions for them have never been more important. We need to ensure our workforce is flexible, resilient and highly-skilled and ready and able to deliver our plan.
- 3.61 There is significant competition in the employment market. The battle for talent and securing the skills vital to our success is fierce. The country's engineering workforce is ageing, with around 20 percent due to retire by 2026, and we need more STEM (Science, Technology, Engineering and Maths) skilled students to move into relevant disciplines post-education. We are taking steps not only to build the talent pipeline for the future but also to compete for the resources we need to deliver today.
- 3.62 Critical to our success now and in the future is our focus on building capability and capacity in our teams. We are supporting our people to enable them to develop, building both their skills and capabilities. To ensure our continued professional integrity, we continuously monitor technical capabilities and provide technical training to our employees to maintain safe, technically compliant operational practices. We have moved technical training management to sit with the operational area of the business, moving closer to the point of need and ensuring that planning and delivery supports, rather than disrupts, operational delivery.
- 3.63 Through our early careers programme, we welcomed 120 graduates and apprentices into the business in FY24 and FY25. These young people are the future of our organisation and our sector. By nurturing their talent, enthusiasm and appetite for learning, we will develop them and grow our capability and capacity across our operational and corporate functions. Undertaking robust strategic workforce planning has enabled us to determine the people and capability requirements we will need to deliver the ambitions set out in our plan.



## Investing in our people and capability for the future



### Our commitments

- We will ensure we have a workforce with the right capabilities, both technical and leadership, to deliver on our obligations. [CO]
- We will create a purpose-driven and results-focused culture founded on care and inclusion which attracts, retains and engages a workforce fit for the future. [CO]
- We will provide up to 60 apprenticeship and graduate places on entry-level talent programmes annually, encouraging young people into our organisation and providing training to ensure they have the skills needed to lead and deliver the energy transition. [CO]
- We will invest to train our workforce, to ensure they have the skills needed to lead and deliver the energy transition. [CO]

### How we will deliver

- Our Strategic Workforce Planning (SWP) process confirmed the scale of the challenge is significant: to enable us to close out strongly RIIO-T2 and hit the ground running in RIIO-GT3, we are forecasting organisational growth from a baseline of 2,008 employees at the end of FY24 to 3,061 by the end of the RIIO-GT3 period.
- We will continue to develop our Employee Value Proposition (EVP) – a clear and honest statement of what employees should expect from us in exchange for their effort and loyalty, ensuring we are in a good place to work today and into the future. This EVP covers five pillars – Purpose, Growth, Care, Flexibility and Inclusion.
- We will invest in our people systems to improve recruitment processes, attracting skilled hires and improving training processes.

### Collaboration

- In training our people, we will work with gas distribution networks (and to a lesser extent electricity networks) to share knowledge and skills. We work with a wide range of training providers and bodies such as EU Skills and Skills England to review standards, training and routes of entry to the industry.

### Stakeholder engagement

- Our customers and stakeholders have attested to the shortfalls in skilled resource across electrical, instrumentational, cyber and mechanical disciplines, and gaps needing to be addressed in standards, entry pathways and training provision.
- Our customers and stakeholders have supported continuation of our efforts, and closer collaboration with other industry bodies, to train and upskill new talent, given the overlap in challenges faced and the pool of potential talent available.

### Consumer value and additionality

- Ensuring we have the correct personnel within our organisation enables us to deliver our obligations, including delivering safe and resilient supplies and having the skills and knowledge to help guide the transition to net zero.
- By bringing in new talent and providing training we are safeguarding for the future, ensuring we are resourced into the future and our workforce represents the communities we serve. Diversity, Equality and Inclusion (DEI) is discussed in more detail in our Workforce and Supply Chain Resilience Strategy.
- By training our own personnel, we deliver cost savings by ensuring we have capabilities in-house to conduct activities we may otherwise have to go out to the market for.

### Guide to our plan

- NGT\_A13\_Workforce and Supply Chain Resilience Strategy\_RIIO-GT3

## 3. Delivering to meet Britain's energy needs

### High quality of service from regulated firms

- 3.64 It is befitting of our essential role in securing Britain's energy that our plan is ambitious and underpinned by stretching targets and bold outcomes, while providing significant value to consumers.
- 3.65 The role financial and reputational incentives play in improving our performance on specific activities have been advocated for by consumers, our customers and stakeholders.
- 3.66 We have an important role in providing protection and support to consumers, particularly those most at risk during outages. We will proactively identify consumers in vulnerable situations and take measures to address vulnerability when responding to emergencies. We also work to provide support, where best placed, to help those in fuel poverty and to those most at risk of being left behind in the transition to net zero.
- 3.67 Delivering a high quality of service to our customers is what drives us to ensure we are providing an uninterrupted supply of gas to heat homes, enable the operation of industrial processes and contribute to the generation of electricity.
- 3.68 We will deliver against this regulatory outcome by taking proactive steps to address the following priority areas:



#### Vulnerability

We will continue to provide targeted support for vulnerable customers when outages occur. Indirectly, we support all customers of GDNs and DNOs by ensuring that there is sufficient power when renewable power is not available.



#### Innovation

During R110-GT3 there will be continued focus across our business on innovation. We will continue to collaborate and share best practice across the industry worldwide.



#### Competition

We will be transparent in what we do, enabling competition and fostering innovation by sharing our data openly wherever possible. We have followed Ofgem's guidance in relation to early and late competition.



#### Outputs, incentives and uncertainty mechanisms

Outputs can be delivered in many different ways. This section focuses on those outputs, and additionally our proposal for how we should be incentivised to go above and beyond. See our proposed ODIs in the System Efficiency Section of this plan.



#### Bespoke outputs

As a sector of one, most of our activities and associated costs are bespoke. Our plan only includes work that is required to be delivered in R110-GT3.



3.69 To deliver against this regulatory outcome, we have identified the following three commitments:

### High quality of service from regulated firms £0.18bn

**Drive relentless performance and service**

**Operating the system safely, reliably and efficiently**

**Innovating now and for future generations**

3.70 The breakdown of costs associated with achieving this regulatory outcome is set out below. The costs categories are set by Ofgem.

High quality of service from regulated firms – cost category	Associated Totex £bn		
	Proposed baseline	Uncertainty mechanism	Total
SO Direct Opex	0.18	–	0.18
<b>Total</b>	<b>0.18</b>	<b>–</b>	<b>0.18</b>

**Note:** Numbers in this table are rounded to two decimal places. See section 7, page 100 for mapping to Business Plan Data Tables.



Investing in new assets to deliver a high quality service

### 3. Delivering to meet Britain's energy needs

#### High quality of service from regulated firms

##### Drive relentless performance and service

- 3.71 Through our engagement with consumers, our customers, and stakeholders, we have an understanding of what is important to them and what their priorities are when it comes to energy.
- 3.72 Above all, our network must provide a reliable, uninterrupted and safe supply of gas for all those that use it. When our customers need to connect to the network, they need to be confident that they can take gas on and off, as they require, at a time that is convenient to them. They want to know that the supply will be uninterrupted and that we will keep the impact of maintenance to a minimum.
- 3.73 But consumers, our customers, and stakeholders also recognise the challenges we face. They have told us that we should be incentivised and so rewarded for the risk and associated actions that we take and which go above business-as-usual. They have told us that they consider our new incentive ideas to be reasonable.
- 3.74 Our customers also want us to deliver a network that provides security and ease of access to supply today, and which is fit and ready to enable the transition to net zero.
- 3.75 We have set out an ambitious package of Output Delivery Incentives (ODIs) to minimise our environmental impact and keep Shrinkage costs as low as possible. These have been developed to reflect feedback from stakeholders as a result of our engagement.



#### Meeting consumers energy needs



## Drive relentless performance and service



### Our commitments

- We will continue to drive improvements to meet stretching targets set for our performance incentives. [ODI]
- We are proposing new incentives on NTS Shrinkage and Greenhouse Gas Emissions, to reduce our impact on customer bills and on the environment. [ODI]

### How we will deliver

- We will retain the current RIIO-T2 incentives in agreement with Ofgem, covering Customer Satisfaction, Demand Forecasting (D-1), Maintenance, Capacity Constraint Management, Greenhouse Gas Compressor Emissions and Residual Balancing as set out in Ofgem's framework decision.
- To continue to drive improvement, we are proposing tougher standards or targets in the following areas: Greenhouse Gas Compressor Emissions, Customer Satisfaction and the Maintenance incentive. In addition, Demand Forecasting (D-1) and Capacity Constraint Management are more stringent, when you consider the change in the operating environment we now face and adjustments to the scheme design.

### Collaboration

- Our incentives are developed with our stakeholders. We collaborate with the industry to understand where they think we should be incentivised to deliver excellent performance, in turn benefitting their own sectors.

### Stakeholder engagement

- We have consulted on incentive arrangements through our own stakeholder engagement and through working sessions with Ofgem to ensure they remain ambitious, reflect the changing landscape we are operating within, our unique role, and deliver the intended consumer value.
- Our stakeholders have told us that our proposed incentives drive the right behaviour and are valuable to them. They have specifically told us that they would like us to increase our focus on reducing our environmental impact.

### Consumer value and additionality

- Financial and reputational Output Delivery Incentives (ODIs) drive service improvements, either increasing our capabilities or reducing costs, both of which ultimately benefit consumers.
- We are proposing an ambitious incentive package that focuses on areas that matter the most to our customers and unlock greater value for now and into the future.
- We will deliver improvements going beyond what we delivered in RIIO-T2, through tougher targets and new incentives.

### Guide to our plan

- NGT\_A10\_System Operator Annex\_RIIO\_GT3
- Stakeholder consultation on our RIIO-GT3 incentives

## 3. Delivering to meet Britain's energy needs

### High quality of service from regulated firms

#### Operating the system safely, reliably and efficiently

- 3.76 The gas operating environment has become increasingly volatile in recent years and this trend is expected to continue. In the face of this turbulence, our role is to continue to operate the network safely, reliably and efficiently enabling the flexible and unconstrained utilisation of the network.
- 3.77 The Gas System Operator (GSO) is responsible for the physical and commercial operation of the gas transmission network, making sure that gas can be input and off-taken by our customers, where and when they need it. This represents our core, business-as-usual operational activities, the successful delivery of which is non-negotiable.
- 3.78 Operationally, there is the need to carry out a significant programme of asset investment to ensure our assets are appropriately maintained and upgraded, where necessary. Through this essential programme of asset investment, we will have to deliver an increased number of shutdowns on the network over a longer-period.
- 3.79 Commercially, we will facilitate the transformation of the energy industry by evolving natural gas market frameworks and developing future energy market strategy. By ensuring market frameworks remain fit for purpose, adaptable to our customers' needs and enable gas network use to be optimised, we will allow the market to evolve efficiently, which will ultimately benefit end-consumers.
- 3.80 Developing longer-term gas market strategy has been a key activity for the GSO within R110-T2 through facilitating the Future of Gas (FoG) Steering Group and delivering Gas Markets Projects (GMaP). While, in future, NESO will undertake this role, our unique position in the market and our expertise will mean we will continue to support these activities. Additionally, it will be vital that we continue to develop gas market strategy activities, supporting the business as it evolves and providing benefits to our customers, stakeholders and, ultimately, end-consumers.
- 3.81 As market turbulence continues and progress to net zero intensifies, future network planning will become more essential than ever. While NESO will take on this responsibility, our support in providing Strategy Planning Options Proposals will be critical. Our relationship with NESO more broadly will be important to the success of the sector. We will play our part, working with NESO in the development of new measures and to respond to commissions, information requests, project delivery and the implementation of any new emergency management processes and strategies.
- 3.82 Providing data and information to our customers and stakeholders will be increasingly important to enable them to take optimal operational decisions and judgements in a changeable operating environment. Through our business-as-usual processes, including the Gas Data Portal User Community and UNC Modification, we will work with our customers and stakeholders to understand the additional data and information they require.



**Our network will be called upon to deliver greater levels of flexibility as we transition to net zero**



## Operating the system safely, reliably and efficiently



### Our commitments

- We will ensure gas can be input and off-taken by our customers where and when they need it. [LO]
- We will provide new and additional data on capacity and balancing to the gas market and enhance our market modelling capabilities for supply, demand and power forecasting to help our customers and stakeholders make better decisions and facilitate an efficient transition to net zero. [CO]
- We will facilitate the transformation of the energy industry, supporting the development of the National Energy System Operator (NESO), and evolving gas commercial market frameworks. [CO]

### How we will deliver

- We will undertake significant commercial market reforms and invest in our core IT systems (including Gemini) which we use to communicate commercial information to and from shippers and deliver a full suite of new services required on the path to net zero.
- Our Data Strategy and Roadmap outlines how we will protect data and foster growth through effective data use, in line with Ofgem's Data Best Practices.

### Collaboration

- Our Gas Data Portal<sup>21</sup> is our public-facing information provision tool that serves market participants and is achieved through webpages and APIs. It houses over 12,000 data points, which are regularly updated and enhanced. The portal also allows for ad-hoc data requests to support new data items, which can be triaged and managed.

### Stakeholder engagement

- Our customers have asked for increased data provision so they can continue to optimise the operations of their businesses, particularly data around gas quality, maintenance, pricing and forecasting alternative gas use (both in the short and long term).
- Many customers and stakeholders have highlighted data and digitalisation as an enabler to net zero, and a prime area for technology improvement and innovation, with interoperability and cyber security as recurring themes.
- When polled, 74 percent of respondents believed we had identified the right priorities for the system operator to support a low-cost transition to net zero, and 96 percent of respondents agreed that there was a need to develop market frameworks in RIIO-GT3.

### Consumer value and additionality

- Network users and stakeholders want to get access to our data easily and unambiguously. The ability to share and collaborate as an industry will benefit UK customers as we work towards a net zero future. This will be achieved faster if data is streamlined, cleansed and formatted ready for consumption and sharing.

### Guide to our plan

- NGT\_A10\_System Operator Annex\_RIIO\_GT3
- NGT\_IJPO4\_Enabling Market Efficiency and Regulatory Changes\_RIIO-GT3

<sup>21</sup> <https://data.nationalgas.com/>

## 3. Delivering to meet Britain's energy needs

### High quality of service from regulated firms

#### Innovating now and for future generations

- 3.83 Innovation plays a key role in our work. Through innovation, we focus on increasing the efficiency of our maintenance and operational activity today, while enabling our transition to net zero in the future.
- 3.84 Our innovation programme delivers value to our customers, while developing the evidence base to enable the energy transition and driving innovations to improve our current and future work. We are committed to identifying and developing innovation opportunities and high-value solutions for our network that will ultimately drive down costs for consumers.
- 3.85 Innovation is something our stakeholders care about. We will continue to engage with all our stakeholders to ensure innovation projects are meaningful and demonstrate continuous learning and improvement. While we are in a unique position as the owner and operator of the NTS, and so able to take a leading role in the whole system energy transformation, we also want to work closely with our partners to enable innovations that make a difference.
- 3.86 To date, we have invested £6.8m on research and development across the business and developed 24 business-as-usual innovation projects. Our plan commits us to spend £10m on non-totex, shareholder-funded work under the theme of innovation alongside our ongoing business-wide research and development activities.



#### Innovating to improve how we deliver today and tomorrow



## Innovating now and for future generations



### Our commitments

- For every £1 spent on innovative projects, we will deliver £4 of value back into the business and to our customers. [CO]
- We are pledging up to £10m of shareholder funding towards innovative projects, sourced from profits of the business. [CO]

### How we will deliver

- We will continue to invest in innovation utilising all available mechanisms, such as innovation stimulus funds alongside investing in BAU innovation, ensuring we drive continuous improvements across all our activities and deliver benefits back into the business and to our customers. We will publish an Innovation Strategy (every two years) and an Innovation Annual Summary (annually) outlining our planned and ongoing activities.
- We will collaborate and partner with external experts across the supply chain, academia, government and other sectors to complete research or demonstration projects in the most effective ways, taking into consideration expertise, deliverability, quality of outputs and cost.
- We will build on our approach to project bidding and selection processes developed in RIIO-T2, to ensure value for money, focusing on projects that reduce energy transition costs and increase consumer value.
- We will continue to use and improve our Innovation Measurement Framework (IMF) to track, document and communicate on the consumer value created from our innovation projects in RIIO-GT3.

### Collaboration

- Within RIIO-T2 to date we have worked with 84 direct project partners across NIA, SIF and BAU projects with 100s of other stakeholders engaged; we aim to exceed this in RIIO-GT3.

### Stakeholder engagement

- To guide our strategy, we expanded our innovation stakeholder and collaborator group, incorporating more subject matter experts (SMEs), start-ups, Original Equipment Manufacturers (OEMs), and academic institutions.
- Leading up to business plan submission, our Innovation team has actively participated in our “Summer of Engagement” sessions, which included public focus groups. We also held coalition meetings with academic partners and hosted two interactive webinars with our innovator communities. During these events, we presented our proposals, introduced key focus areas, and gathered valuable feedback.
- A significant majority (71 percent) of respondents supported our investments in innovation. Consumers expressed a desire for greater transparency in innovation investments and their resulting benefits. In response, we have incorporated their feedback, ensuring our innovation approach remains flexible and aligned with relevant investment areas for the RIIO-GT3 period.

### Consumer value and additionality

- Innovation has always been important for our consumers in the continuous drive to reduce costs for our operations. This will be no different for RIIO-GT3, as we look to complete more efficiency and cost-saving projects alongside the work to deliver our energy transition, building on the evidence base from RIIO-T2 in areas such as hydrogen and carbon transportation.
- By pledging up to £10m of funding outside our totex allowance to innovation projects, we are going above and beyond business-as-usual innovation to deliver enhanced benefits on behalf of consumers.
- In RIIO-T2, we have successfully delivered £170m of benefits from the £34m of RIIO-T1 innovation incentive funding. We expect to go beyond this in RIIO-GT3.
- We will maintain a 4:1 ratio on value delivered through innovation projects, stretching our performance further in RIIO-GT3 by increasing our NIA funding to £40m, up from £25m in RIIO-T2.

### Guide to our plan

- NGT\_A04\_Innovation Strategy\_RIIO-GT3

## 3. Delivering to meet Britain's energy needs

### System efficiency and long-term value for money

- 3.87 Our plan has been tested and shaped by our stakeholders to ensure it meets their needs for today and tomorrow.
- 3.88 We have focused on what is important to stakeholders and made sure we are only proposing investments that are needed and the costs to deliver them are efficient. As a sector of one, our costs are split between comparable and bespoke.
- 3.89 For comparable costs, the benchmarking of our support functions shows significant efficiency in this area; that is we will deliver more for each pound we spend.
- 3.90 For bespoke costs, we have applied rigorous standards to ensure we have good cost confidence. Further information on how we have financed our plan is set out in Section 5: Financing our plan.
- 3.91 This section of our business plan focuses on how we will leverage data and technology across our business to improve how we operate and improve our processes and services to our customers. We include how we have confidence in our costs proposed in the plan and set out the specific Price Control Deliverables, Output Delivery Incentives and uncertainties (uncertainty mechanisms) for RIIO-GT3.

### System efficiency and long-term value for money £1.51bn

Considered through our;

1. Better data and technology

2. Efficiency and benchmarking

3. Confidence in our costs

4. Price Control Deliverables (PCDs)

5. Output Delivery Incentives (ODIs)

6. Uncertainty Mechanisms (UMs)

7. Late and early competition

- 3.92 The breakdown of costs associated with achieving this regulatory outcome is set out below. The costs categories are set by Ofgem.

System efficiency and long-term value for money – cost items	Associated Totex £bn		
	Proposed baseline	Uncertainty mechanism	Total
Non-op capex – IT and telecoms	0.41	0.04	0.45
Non-op capex – Non-op property	0.03	0.13	0.16
Business support	0.48	0.00	0.48
Closely associated indirects	0.37	0.00	0.37
Quarry and loss	0.02	-	0.02
Pension costs	0.02	-	0.02
<b>Total</b>	<b>1.34</b>	<b>0.17</b>	<b>1.51</b>

**Note:** Numbers in this table are rounded to two decimal places. See section 7, page 100 for mapping to Business Plan Data Tables.





## 1. Better data and technology

- 3.93 Digitalisation is a key enabler for the future of our business. We will continue to exploit data to make the right decisions, such as guiding our asset management strategy and supporting the real-time operation of the network across RIIO-GT3. Delivering our Digitalisation Strategy is central to realising our ambition to be at the heart of a clean, fair, and affordable energy future for everyone.
- 3.94 We have refreshed our Digitalisation Strategy objectives and focus areas so that these are not only in line with our strategy but also meet evolving stakeholder needs, including Ofgem's customer priorities. Our Digitalisation Strategy sets out the priorities that have been developed and tested with our stakeholders and explains how these have led to the identification of areas for investment.

### Data Foundation – Continue building a strong and trusted data foundation to access a wider range of data sets, particularly for regulatory reporting

- 3.95 Data drives our business. Consistent, accurate, and trusted data assets are foundational for delivering process automation, advanced analytics, and reliable data exchange with industry partners.

#### Data foundation key aspects

- 3.96 Since we became a stand-alone business, we have been migrating applications into our new National Gas domain and are taking the opportunity to cleanse some of our data. Our data foundation has three aspects:

#### Teach

Increase data literacy throughout the organisation so that data policies and key regulation are well understood, with resources upskilled to perform critical data tasks.

#### Prepare and manage

Define, classify, and catalogue data assets in line with Ofgem's Data Best Practice Guidance so that data is trusted and understood. A focus on improving data quality through simple and effective processes is key.

#### Analyse and publish

Create a curated set of data assets to drive analytics and reporting, driving value both internally and, with appropriate controls, externally.

#### Data improvements

- 3.97 In addition to our RIIO-T2 commitment to improve Operational Asset and Gas System Operator data, we are planning further work on our Construction and Capital Investments data. This work will improve efficiencies in the running of the network, while ensuring that datasets are curated in a way that is effective and meets industry standards (ISO14224, Dublin Core).

#### Data sharing

- 3.98 We share data with both internal and external stakeholders, as appropriate. It is critical that the shared data is catalogued, understood, and meets industry standards to enable ease of collaboration amongst partners.
- 3.99 Our Gas Data Portal is our public-facing information provision tool that serves market participants and is delivered through webpages and APIs. The portal houses over 12,000 data points, which are regularly updated and enhanced. The portal also allows for ad-hoc data requests to support new data items, which can be triaged and managed. The data published via our Gas Data Portal is being further standardised to meet industry standards. It will eventually allow greater flexibility in terms of integration options and greater search granularity, as well as providing a method to also link up and integrate into wider network models through increased interoperability. Internal and external users can now find and access data more easily. Data is also published via a mobile app channel, allowing users to view the latest gas supply and demand in Britain.

### 3. Delivering to meet Britain's energy needs

#### System efficiency and long-term value for money

##### Digital twin

- 3.100 Our Collaborative Visual Data Twin (CVDT) project will enable us to have enhanced visualisation of asset data. The platform will use simulation models and Machine Learning (ML) to aid decision-making. It will enable us to visualise and understand asset changes due to the effect of existing operations and future operations, for example hydrogen to enable us to be more efficient and predict future areas of concern.
- 3.101 The first-of-its-kind digital twin platform provides easy access and greater understanding of the large datasets seen in both today's gas network and the network of the future. It supports multiple capabilities for understanding assets and uncertainty, and provides training and development opportunities. With a solid foundation upon which to enable our digital twin capabilities, we will invest in the expansion of technologies, such as data analytics, artificial intelligence, and machine learning to achieve integrated, harmonised network data that enables future interoperability for a distributed energy network.
- 3.102 Our investment initiatives will focus on process optimisation, enhancing our digital platform experiences and advancing asset design. The outcomes from these investments will help prepare us for the next level of challenges and progress their maturity on various capabilities required to improve productivity and resilience, achieving standardisation that enables us to operate a harmonised gas NTS. Our investments in these areas will allow flexibility in system operations for the introduction of greener sources of energy. We will be able to achieve faster operational readiness and be data oriented.

##### Enhance decision making – continue to utilise frontier tech for building enhanced decision-making capabilities

- 3.103 Since 2023, we have focused on increasing data maturity and have adopted our first Machine Learning (ML) and Artificial Intelligence (AI) Policy. This enables the use of ML and AI within our productionised systems for business decision making. A number of prototypes and proofs-of-concept have been built and demonstrated during the development of the Data and Insights platform using classical statistics, ML and AI. We continue to work towards producing probabilistic forecasting, long-term supply and demand scenarios, and automated hydraulic modelling to enable future optimisation use cases.
- 3.104 Due to the high data maturity of the GSO, because of daily operations and regular feedback loops, a higher focus has been placed on decision making within the GSO. Key decision-making digital assets have been developed around predicting system constraints to enable both day-to-day operations and R110-GT3 business case planning, and security of supply. We have leveraged Azure ML Studio to enhance gas demand forecasting. Work is ongoing to build short-term probabilistic forecasts of supply and demand which, when combined with the automation of our hydraulic modelling tooling, will enhance risk-based decision making.
- 3.105 This will enable us to use 'what-if' analysis, with solved system starting points proposed to identify optimal solutions for decision making. For Asset Management, we can apply common outputs, exploring outage windows for maintenance, compressor running hour forecasting, and other predictive work to enhance asset maintenance and replacement decision making.

##### Efficient enterprise essentials – review infrastructure and systems for improving simplicity and efficiency

- 3.106 As we became a stand-alone business, and while separating our systems, we have taken the opportunity to set up our own greenfield infrastructure, removing technical debt and improving the user experience. Moving forwards, we will be looking to transform these systems to further improve the user experience. As the focus is on the enterprise, it brings benefits to all business areas, delivering the foundational systems to support business processes.

3.107 Our approach will empower us to leverage the full potential of modernised digital systems that are secure, up-to-date and scalable in order to carry out their functions. Ultimately, this will enable us to serve all our stakeholders better and faster.

## 2. Efficiency and benchmarking

3.108 Our plan totex is made up of bespoke and comparative costs. Given that we are a sector of one, the majority of our costs are bespoke. These have been tested for efficiency against a scope volume and cost standard. For an in-depth insight into our Business Support Costs (BSCs), four quantitative and qualitative inputs were used:

- **External benchmarking:** factors such as cost and structure were crucial in selecting cross-industry peers for comparison. To ensure an accurate comparability, a detailed review has been done on our cost and Full Time Equivalent (FTE) data.
- **RIIO analysis:** publicly available derived costs data from Ofgem's RIIO-T2 determination were analysed to gain greater insights into our current and future costs.
- **Organisation analysis:** series of interviews were conducted with stakeholders who represented the studied Business Support Costs (BSCs) units to gain an in-depth understanding of our organisation outlook (i.e. hierarchies and span of control) as well as pointing out any future changes that might occur during the next regulatory period.
- **Activity analysis:** this was undertaken to understand alignment of FTEs to high-level processes to establish each function's size and costs.

3.109 In terms of our approach to benchmarking, a range between 21-27 companies were selected for each BSC area (of which c. 50 percent were utilities). This range is consistent across all BSCs, allowing a statistically valid comparison. Additionally, other factors such as size, location and industry were key to the selection process, ensuring similarity in revenue, number of staff and total spend. Three normalisation cost drivers were used: Modern Equivalent Asset Value (MEAV), Full Time Equivalent (FTE) and Total expenditure (totex). These selected cost drivers ensure that a reasonable comparability can be achieved.

3.110 The total BSCs for RIIO-GT3 of £479m have been adjusted for inflation and reflect a slight increase when compared directly to historic RIIO-T2. This increase directly correlates to an increase in organisational size and economies of scale. Our plan has embedded £261m of efficiency savings due to our experience of delivering in RIIO-T2.

## 3. Confidence in our costs

3.111 We know the last few years have been tough for consumers, and it is important that we keep our costs as low as we can. That is why we are doing everything we can to limit the impact of our ambitious investment plans on consumer bills, while still making sure that the network remains safe, resilient, and secure.

3.112 We have worked hard to ensure that our plan is fully justified and embeds sector-leading efficiency. We are confident that our proposed investments deliver value for money for consumers, our customers and stakeholders. We have done this by:

- Applying rigorous internal and external scrutiny and challenge to our proposed costs. Across all areas of spend our plan sets out detailed justification for both:
  - the 'needs case' for each investment – explaining what we need to do for our stakeholders and why our proposed spend is the best option for delivering it; and
  - the 'stretching efficiency case' which ensures we are putting forward the most efficient and industry-leading level of cost required to deliver. This is based on clear analysis of historical outturn costs, tendered costs, and benchmarks from other sectors.
- Embedding efficiencies from past innovation. Where we have carried out successful innovation projects during RIIO-T2, we will be embedding the learnings into business-as-usual.
- Implementing a new operating model that better targets the needs of our gas customers and stakeholders. We have identified new ways of working, utilising innovative and digitalised solutions to enhance our operations.

## 3. Delivering to meet Britain's energy needs

### System efficiency and long-term value for money

#### 3. Confidence in our costs

- 3.113 We have thought carefully about which areas of spending have a high degree of certainty, and therefore should be funded through 'baseline' allowances, and which areas are less certain and should therefore be funded through 'uncertainty mechanisms', to ensure that customers and consumers do not pay for work that may not be needed. Our plan proposes that approximately 25 percent of our spending is funded through uncertainty mechanisms, so that we only receive the funding needed if the costs materialise.
- 3.114 We believe our proposals strike the right balance between affordability for consumers today whilst ensuring a sustainable and resilient network for the future.

#### Scope, volume, and cost (SVC) confidence

- 3.115 We assess the confidence in our business plan data against our scope, volume and cost data confidence framework. This ensures our investment proposals are well evidenced, based upon robust, good-quality data and can withstand high levels of external scrutiny.
- 3.116 The framework consists of three standards, which we use to guide our review of scope, volume and cost data confidence in-turn.

### Scope Volume and Costs Confidence

#### Asset Management Plan (AMP)

We perform a systematic dataset assessment. This enables confidence levels for each investment proposal to be determined, associated funding risks to be reviewed and plan positioning decisions to be made, such as baseline versus uncertainty mechanisms.

#### Information Technology (IT) Plan

We perform a systematic assessment. This enables confidence levels for each investment proposals to be determined. Risk assessing the functional benefits enables improved decision making on improved information and efficiency.

#### Full Time Employee (FTE) and Other Materials, Goods and Services (OMGS) Plan

We assess the evolving business landscape and consider improvements that will support the business to enable growth, resilience and efficiency.

- 3.117 Our assessment criteria takes into account Ofgem's expectations of best practice organisations, including the Infrastructure Planning Authority (IPA) cost estimation guidance<sup>22</sup> and HM Treasury guidance<sup>23</sup>.
- 3.118 Whilst the IPA expects companies to follow the principles of its guidance when generating cost estimates for projects and programmes, this is not always considered to be practical or cost effective. Therefore, we have justified where an alternative approach has been adopted.
- 3.119 Our standards ensure that **all investments proposed within our business plan are essential, timely and efficient**. These three principles set the desired standard of data evidence that will be used to support all investment proposals within our plan. For IT and FTE/Other Materials Goods and Services (OMGS) an additional principle applies and tests that investments are beneficial in the context of the evolving business landscape.
- 3.120 Together with Ofgem's expectations and references, these shape our data confidence standards, which we have used to baseline our data evidence and the confidence it holds.

<sup>22</sup> Cost Estimating Guidance – GOV.UK (<https://www.gov.uk/government/publications/cost-estimating-guidance>)

<sup>23</sup> The Green Book ([https://assets.publishing.service.gov.uk/media/6645c709bd01f5ed32793cbc/Green\\_Book\\_2022\\_\\_updated\\_links\\_.pdf](https://assets.publishing.service.gov.uk/media/6645c709bd01f5ed32793cbc/Green_Book_2022__updated_links_.pdf))

### Data confidence principles

3.121 Our assessment determines that we can demonstrate that an investment is:

- **Essential:** A lack of intervention would likely result in a detrimental impact upon our ability to maintain the ongoing safe, secure and reliable operation of the NTS and may prevent us from maintaining our statutory obligations.
- **Timely:** Proposed interventions are deliverable and/or the deferral of interventions into later regulatory periods would likely result in a detrimental impact upon our ability to maintain the ongoing safe, secure and reliable operation of the NTS.
- **Efficient:** Appropriate intervention options have been analysed to ensure best value and that efficient level of cost solutions have been selected in the context of anticipated asset/system life requirements.
- **Beneficial:** Proposed investments bring functional business benefits, enabling improved effectiveness and efficiency of business processes or deliver improvements that enable business growth and resilience.

3.122 Our standards apply data confidence thresholds which are designed to protect consumers and the business from uncertainty. This, in turn, presents financial risk, enabling investments to be appropriately allocated to baseline totex proposals or uncertainty mechanisms.

### Assurance to standard

3.123 An independent review of the business assessed datasets is performed against this standard. This provides internal assurances that the data used to evidence our investment proposals within our business plan is suitably robust or highlights the need for improvement actions. Our Assurance Statement<sup>24</sup> (see page 19) which sets out details of the assurance process and references to independent external reports.

## 4. Price Control Deliverables (PCDs)

3.124 For our asset health investments, we are proposing a package of PCDs to provide transparency around what we will deliver during RIIO-GT3. Ofgem's Sector Specific Methodology Decision (SSMD) sets out retention of: Network Asset Risk Metrics (NARMs), non-lead and redundant assets.

3.125 In line with Ofgem's ambition to expand the coverage of the NARM methodology, we are able to include risk benefits in our reporting across a wide range of assets, whilst still committing to volumes through specific volume-related PCDs as outlined below.



<sup>24</sup> NGT\_A14\_Assurance Statement\_RIIO\_GT3

### 3. Delivering to meet Britain's energy needs

#### System efficiency and long-term value for money

#### 4. Price Control Deliverables (PCDs)

3.126 The following PCDs cover our asset resilience investments where we propose to use a volume driver over and above a baseline level to provide ourselves flexibility in managing our investments and system access, and to protect consumers should we be unable to achieve our best view of the workload required. These mechanisms also provide us with the ability to bring work forward from the next price control should we secure further capability or capacity above our current plan view (best view), which will allow us to accelerate our ambition to achieve stabilised risk at levels seen at the start of RIIO-T2.

Ring-fenced Investment	Type	Output/ Measurement	Delivery date	Volume Driver Best View (£m)	Uncertainty Mechanism	Reporting Method	Adjustment mechanism	EJP
Valve Bypass	Evaluative	Specified number of interventions by investment code	End of RIIO-GT3	41.0	Volume Driver	PCD report Annual RRP	Ex post	Valve Bypass
Pipeline CIPs	Evaluative	Specified number of interventions by investment code	End of RIIO-GT3	25.6	Volume Driver	PCD report Annual RRP	Ex post	Pipeline CP
Re-wheels	Evaluative	Specified number of interventions by investment code	End of RIIO-GT3	12.1	Volume Driver	PCD report Annual RRP	Ex post	Network Capability: Compressor Fleet zones - 1 (Scotland), - 2 & 3 (Central), - 7 (South East)

3.127 The following table outlines our proposals for specific volume-related PCDs covering asset health, redundant assets and physical security investments to ensure consumers are protected from any non-delivery. The following relate to 'Evaluative' Price Control Deliverables.

Area	Output/ Measurement	Delivery date	EJP Value (£m)	RIIO-GT3 (£m)	Reporting Method	Adjustment mechanism	EJP
Non lead Asset Health Civils	Specified number of interventions by investment code	End of RIIO-GT3	23.3	23.3	PCD report Annual RRP	Ex post	Civils
Non lead Asset Health Electrical	Specified number of interventions by investment code	End of RIIO-GT3	74.1	73.6	PCD report Annual RRP	Ex post	Electrical Infrastructure (all 3)
Non lead Asset Health Easement Reinstatement	185km of tree clearance and 253km of scrub clearance completed	End of RIIO-GT3	21.7	21.7	PCD report Annual RRP	Ex post	Pipeline
Redundant Assets	Decommission 33 redundant assets/sites	End of RIIO-GT3	57.2	56.1	PCD report Annual RRP	Ex post	Multiple across the Site and Compressor sub-themes

3.128 The following relate to 'Mechanistic' Price Control Deliverables.

Area	Output/ Measurement	Delivery date	EJP Value (£m)	RIIO-GT3 (£m)	Reporting Method	Adjustment mechanism	EJP
Non lead Asset Health Nitrogen Sleeves	Specified number of interventions by investment code	End of RIIO-GT3	38.0	37.6	PCD report Annual RRP	Ex post	Pipeline Protection (incl. TD1)
Physical Security Upgrade Programme	Deliver 20 new PSUP solutions	End of RIIO-GT3	75.0	75.0	PCD report Annual RRP	Ex post	Physical Security of NIS - CAF E1

3.129 For our cyber security investments, we have provided Ofgem with confidential documents, which cover 50 PCDs across 14 PCD areas as outlined in our Keeping our critical systems secure commitment.

3.130 All PCDs, agreed as part of RIIO-T2 reopener Uncertainty Mechanisms (UMs), will be defined in the reopener decision document. We will ensure these are included in our commitments, once agreed with Ofgem. We will also commit to PCDs related to the outcome of any RIIO-GT3 UMs, such as a programme of Control System Replacement, and commitments to relocate and replace our control room and main office location. We will agree these with Ofgem as part of any in-period review.

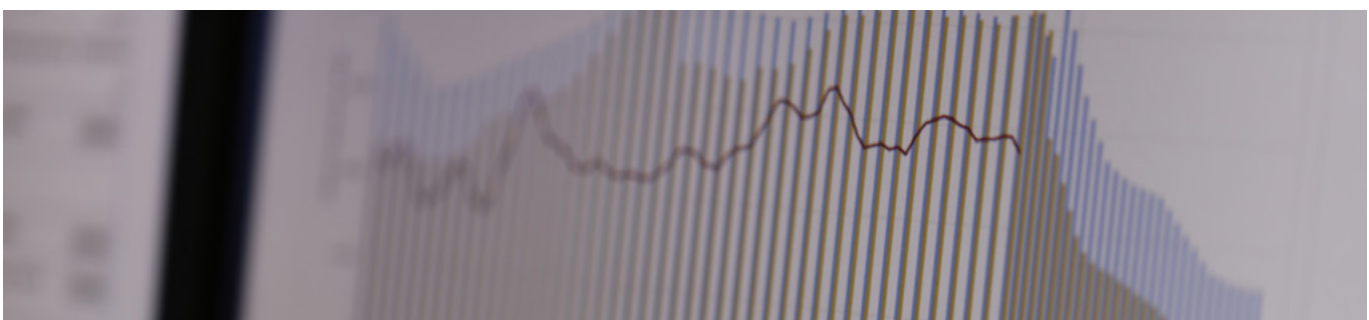
## 5. Output Delivery Incentives (ODIs)

3.131 Our incentive package set out in our plan provides an ambitious consumer value proposition. We have outlined this in our 'Drive relentless performance and service' commitment on page 43.

3.132 We have tested our current RIIO-GT3 incentive package extensively with stakeholders and our Independent Stakeholder Group (ISG). Based on the feedback received from external engagement, we are proposing to retain our current RIIO-T2 incentive package, with recalibrated performance measures to reflect the latest and changing market conditions. We are proposing a small number of new incentives which are focused on what consumers, our customers and stakeholders have told us is important to them. With the change in market conditions, we propose two new Greenhouse Gas incentives and also propose to reinstate the NTS Shrinkage incentive as a financial incentive.

3.133 Delivering good incentive performance has been challenging considering some of the volatile market conditions. Both COVID and the onset of the conflict in Ukraine have had a seismic impact on consumer behaviour. The market volatility, combined with the instability in the geopolitical environment, may well continue to throw up challenges in future. In addition, looking further into the RIIO-GT3 period, the net zero ambition is likely to mean that we will need to start operating more flexibly and accommodate commercial changes to enable the hydrogen transition. These factors have all been taken into consideration in the creation of our incentive package.

3.134 We are confident that our structured methodology and stakeholder engagement have put forward ambitious and realistic targets for our incentive package.



**Balancing supply and demand on the gas day to minimise the impact on the gas market and our customers**

### 3. Delivering to meet Britain's energy needs

#### System efficiency and long-term value for money

##### 5. Output Delivery Incentives (ODIs)

3.135 Further information on the incentive mechanisms is set out in the table below and in the System Operator Annex<sup>25</sup>.

Incentive (Excluding CSAT)	RIIO-T2 Caps, Collars and Targets (18/19 prices)	RIIO-GT3, Cap, Collar and Proposed Target (23/24 prices)	Incentive purpose
<b>Capacity Constraint Management</b>	Cap: +£5.2m Collar: -£5.2m Performance Target: £8.5m	Cap: +£7.2m Collar: -£7.2m Performance Target: £10.5m	To maximise use of network by minimising disruption to customer flows and selling additional capacity.
<b>Residual Balancing</b>	<b>Daily LPM</b> Cap: 1.5mcm/£3,200 Collar: 15mcm/£24,000 <b>Daily PPM</b> Cap: 0%/£1,200 Collar: 76%/£24,000 <b>Annual</b> Cap: £1,600,000 Collar: £2,800,000	<b>Daily LPM</b> Cap: 1.5 mcm/£6,200 Collar: 15mcm/£46,300 <b>Daily PPM</b> Cap: 0%/£2,300 Collar: 76%/£46,300 <b>Annual</b> Cap: £3,088,000 Collar: £5,404,000	To balance supply and demand on the gas day and to minimise the impact this activity has on the market.
<b>Maintenance</b>	<b>Maintenance Days to perform Remote Valve Operations (RVO)</b> Cap: +£0.0m Collar: -£0.5m (Downside only) Target: 11 days (penalty applied for exceeding 11 Maintenance Days issued) <b>Maintenance Days to perform non-Remote Valve Operations (non-RVO)</b> Cap: +£0.5m Collar: -£0.5m Target: 75% (penalty applies for each day less aligned) <b>Minimisation of changes to the agreed maintenance plan (Change Scheme)</b> Cap: +£0.0m Collar: -£0.5m Target: 7.25% of total days in the year (penalty per change day exceeding the target)	<b>Maintenance Days to perform Remote Valve Operations (RVO)</b> Cap: +£0.0m Collar: -£0.5m Target: 5 days <b>Maintenance Days to perform non-Remote Valve Operations (non-RVO)</b> Cap: +£0.75m Collar: -£1.0m Target: 85% alignment <b>Minimisation of changes to the agreed maintenance plan (Change Scheme)</b> Cap: +£0.75m Collar: -£1.0m Target: Target: 7.25% of total days in the year Propose deadband: 4% -7.25%.	To reduce the impact of our maintenance activities on customers.
<b>Demand Forecasting</b>	Cap: +£1.5m Collar: -£1.5m Target: D1: 8.35mcm Target: D2 to D5: 13.7mcm	Cap: +£1.5m Collar: -£1.5m Target: D-1: 8.83 mcm Target: D-2 to D-5: 14.48 mcm/d (Reputational)	To provide NTS demand forecasts over a range of timescales to help the industry make informed physical and commercial decisions.
<b>NTS Shrinkage</b>	Reputational	Cap: +£5.0m Collar: -£5.0m	To deliver savings to customers through efficient procurement of shrinkage energy.
<b>GHG Compressor Emissions</b>	Cap: +£1.5m Collar: -£1.5m Target Allowance: 2,897 tonnes	Cap: +£2.5m Collar: -£2.5m Target Allowance: 2,600 tonnes	To reduce the amount of natural gas vented from our compressors, thereby reducing the effect of our operational activities on the environment.

<sup>25</sup> NGT\_A10\_System Operator Annex\_RIIO\_GT3



Incentive (Excluding CSAT)	RIIO-T2 Caps, Collars and Targets	RIIO-GT3, Cap, Collar and Proposed Target	Incentive purpose
<b>GHG Pipeline Emissions</b>	New Incentive proposed for RIIO-GT3	Cap: +£1.5m Collar: -£1.5m Target: >1bar reinjection	Optimise availability, and deployment of the mobile recompression units to reinject the maximum amount of gas back into live sections of pipeline, reducing customers wholesale gas and environmental costs.
<b>GHG Fugitive Emissions</b>	New Incentive proposed for RIIO-GT3	Cap: +£1.5m Collar: -£1.5m Target: > 10% of established baseload year on year	To further reduce the emissions from the expanded fugitive methane detection and analytics programme for efficient repair.
<b>Customer Satisfaction</b>	Cap: 0.5% of base revenue Collar: -0.5% of base revenue Target: 7.8	Overall scheme cap/collar: +/- 0.3% of base revenue, split into survey areas with targets, listed below in the Customer Satisfaction Incentive proposal	Aims to deliver good customer service by replicating competitive market forces typically faced by businesses in a competitive environment.

**Customer Satisfaction (CSAT)**

3.136 The CSAT incentive aims to drive the regulated networks to deliver good customer service by replicating competitive market forces typically faced by businesses in a competitive environment. This incentivises us to focus on, and improve, our customer service as well as ensuring customer views are listened to and actioned upon.

3.137 Given we are the sole provider for most services covered by CSAT, quality of service is extremely important. In our engagement activity, customers have stated the value they place on CSAT and this is reflected in the quality and frequency of the engagements that are held. We have continually improved how we engage. This is reflected in our CSAT scores and performance.

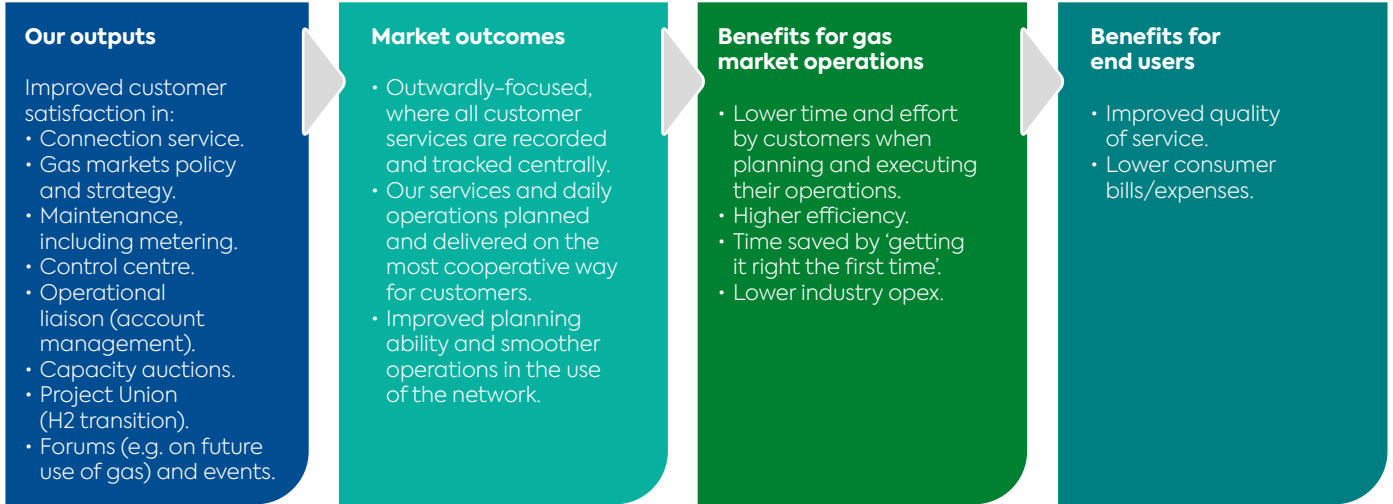


Ensuring that we deliver for stakeholders every day

### 3. Delivering to meet Britain’s energy needs

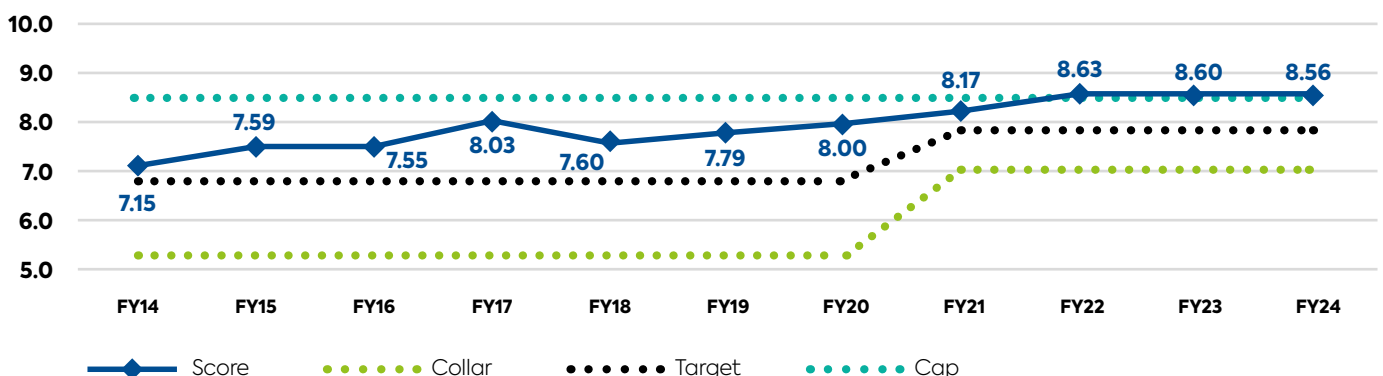
#### System efficiency and long-term value for money

#### Customer Satisfaction (CSAT)



- Improvements made resulting in increase of score in RIIO-T2**
  - Introduction of account managers and senior CSAT champions to support queries and escalate items appropriately.
  - Review of feedback items, best practices, and active escalation within our internal C&S Hub.
  - Creating a 'journey map' breaking down customers' experiences into detailed activities.
  - Identifying and allowing improvements to be made across every step of the 'journey map'.
- Improvements made following customer feedback over RIIO-T2**
  - Mandate follow-up calls for each response received (if the respondent had agreed to be contacted).
  - Provide reassurance to respondents showing the value of their feedback and how we will action it.
  - Reduce the length of the survey to simplify it and reduce the time to fill it in to increase response rates.
  - Donate £10 to charity for each completed survey.
- Further improvements identified through engagement**
  - Tracking customer feedback and surveys using dedicated processes and resources to ensure customer satisfaction with processes and swift resolution of issues.
  - Increase number of responses through streamlined surveys and more immediate response loops by integrating CSAT within systems.
  - Further escalation of feedback and setting internal targets to improve scores over the RIIO-GT3 period supported by senior leadership.
  - Evidence improvement of service in line with customer feedback through case studies as appropriate.

#### NGT’s CSAT scores out of 10, across T1 and T2



Current survey areas	New proposed survey areas	Minimum Response Threshold	Response Volume Guideline	Target scores* (Difference from RIIO-T2 Target)	Proposed Weighting
Connections Project Union Markets & Strategy	<b>1. Long-term customer activities</b>	21	30	8.2 (+0.4) Cap = 8.7 Collar = 7.7	30%
Energy Balancing Capacity Auctions	<b>2. Market facilitation</b>	16	17	8.6 (+0.8) Cap = 9.1 Collar = 8.1	30%
GNCC Maintenance Service Operational Liaison	<b>3. Day-to-day customer activities</b>	18	26	8.5 (+0.7) Cap = 9.0 Collar = 8.0	30%
Events	<b>4. Other activities &amp; events</b>	13	None**	8.4 (+0.6) Cap = 8.9 Collar = 7.9	10%

\* Average over the last five financial years

\*\* Events will be held on an ad hoc basis as communication needs arise and therefore do not have a response volume guideline but do have a minimum response threshold to ensure score is representative

3.138 We are proposing to retain the incentive and survey four separate areas. This will allow us to seek qualitative (numeric score out of 10) feedback after each significant interaction<sup>26</sup> using an independent research agency. We have received agreement from our ISG that surveying non-significant interactions could be counter-productive.

3.139 Given we have c. 200 customers and direct connects, we want to survey significant interactions to allow us to focus on improvements from meaningful feedback.

- **Survey areas:** the first three survey areas should have equally high importance, representing 30 percent of the incentive, while events represent 10 percent. This addresses our ISG's concerns about whether the incentive should include events, while customers have expressed to Ofgem that it should continue as a survey area.
- **Financial value:** we acknowledge Ofgem's decision to reduce the strength of the annual incentive. We propose this to be 0.3 percent of base revenue, given benchmarking shows that this is already below the CSAT incentive value of other networks. Our customers value the incentive, and the improvements it has delivered to date are reflected in score increases. Further benefits can be achieved if a strong value is associated with CSAT given continued increasing customer service expectations.
- **Target scores:** recalibrating the target score to the average of the last five years for each new survey area allows us to continuously strive for improvement and increases the target by a range of 0.4–0.8.
- **Cap and collar:** we acknowledge Ofgem's preferred stance of a narrower cap and collar and would propose a +/-0.5 of the target score to set an ambitious and challenging range. None of the new survey areas have achieved their proposed cap in any year, giving us space to continue to improve.
- **Minimum response threshold:** we propose to implement a minimum response threshold per survey area based on minimum volumes p.a. or 70 percent of average volumes over last five years (whichever is highest). Ending the year below this threshold will result in no reward or penalty for the survey area, ensuring scores are representative of performance and we hold ourselves to account on maintaining survey responses.
- **Response guideline:** we are proposing to implement a response guideline per survey area to give us a higher figure to aim for. This is based on the average number of responses per survey area over the last five years. Our response rates fall within the "excellent" category for FY24, according to industry benchmarks (Kantar). Engagement showed the ISG appreciated the difference between us and GDNs and how this would restrict each of these parameters. We are committed to further improving response rates.
- **Deadband:** with an already narrower cap and collar range, we do not believe a deadband would be appropriate.
- **Publication:** we commit to publish our customer satisfaction scores in RIIO-GT3 online to enhance the transparency of our scores.

<sup>26</sup> Agreed definition with ISG: A significant interaction within a survey area requires direct interaction with a customer via telephone, virtual or face-to-face meetings, or email threads (i.e., it is not simply transactional). These interactions will usually include solving of a query, the provision of information or documents, or a much lengthier ongoing interaction which requires a back and forth with the customer (e.g. a connections application). Customers are only to be surveyed every 90 days (to prevent survey fatigue) therefore meaningful or significant interactions are surveyed to give us the most valuable feedback for us to improve our services.

### 3. Delivering to meet Britain's energy needs

#### System efficiency and long-term value for money

##### 6. Uncertainty Mechanisms (UMs)

- 3.140 Our plan supports the continuation of the RIIO-T2 mechanisms as defined by Ofgem's SSMD with some proposed specific changes where current licence definitions limit our ability to manage anticipated risk or change in circumstance.
- 3.141 We have considered the application of UMs to manage the range of uncertainties across our business plan. When assessing our investments, we apply data confidence thresholds to protect consumers and the business from uncertainty which in turn presents financial risk, enabling investments to be appropriately allocated to baseline totex proposals, or UMs (refer to Scope, volume and cost confidence for further detail).
- 3.142 We are proposing the use of UMs across aspects of our plan to allow price control arrangements to respond to change. Those proposed are designed to allocate risk to whoever is best placed to manage it. We have protected end-consumers and ourselves (as the licensee) from unforecastable risk or change in circumstance, by proposing mechanisms where we have reduced cost certainty. This ensures that if the needs of our customers or consumers change, so do our allowances.
- 3.143 We have also proposed some new mechanisms or specific changes (as detailed in the table on page 61) where current licence definitions limit our ability to manage anticipated risk or change in circumstance. For each mechanism, the scope of the uncertainties are detailed within the corresponding annex to our submission, e.g. EJP, CRID, etc.
- 3.144 We are proposing UMs to help manage external drivers (for example, environmental threats, third-party encroachment) that may trigger a need to intervene; where optioneering has not concluded and the feasibility of lower cost options is unproven (for example, technology currently being assessed for operational viability), or where the full scope of work is unconfirmed.
- 3.145 The scope of the uncertainties, proposed triggers, timings and any specific changes required to the licence have been detailed within the relevant EJPs and also included in the Business Plan Data Tables. In summary, the RIIO-GT3 UM total approximately £1.3 billion of investment, with £0.6m that would be covered by new or modified mechanisms set out below.
- 3.146 For our Compressor Control Systems, Western Import Resilience Project, and Property and Control Centre move, we have confidence in our programme of works and delivery dates. Therefore, we are proposing for Ofgem to assess the scope and/or volumes as part of the RIIO-GT3 price control review. Following agreement of the scope and volumes, we would submit a cost reopener in RIIO-GT3 to confirm the changes required to baseline allowances.
- 3.147 In addition, we propose a Finance related additional borrowing costs uncertainty mechanism. We have set out the issues regarding RPI-CPIH convergence risk and early termination of debt facilities and why we consider the use of a UM to be appropriate if these risks materialise in section 4.2 of the Finance Annex.



Overseeing improvements to the network day in and day out

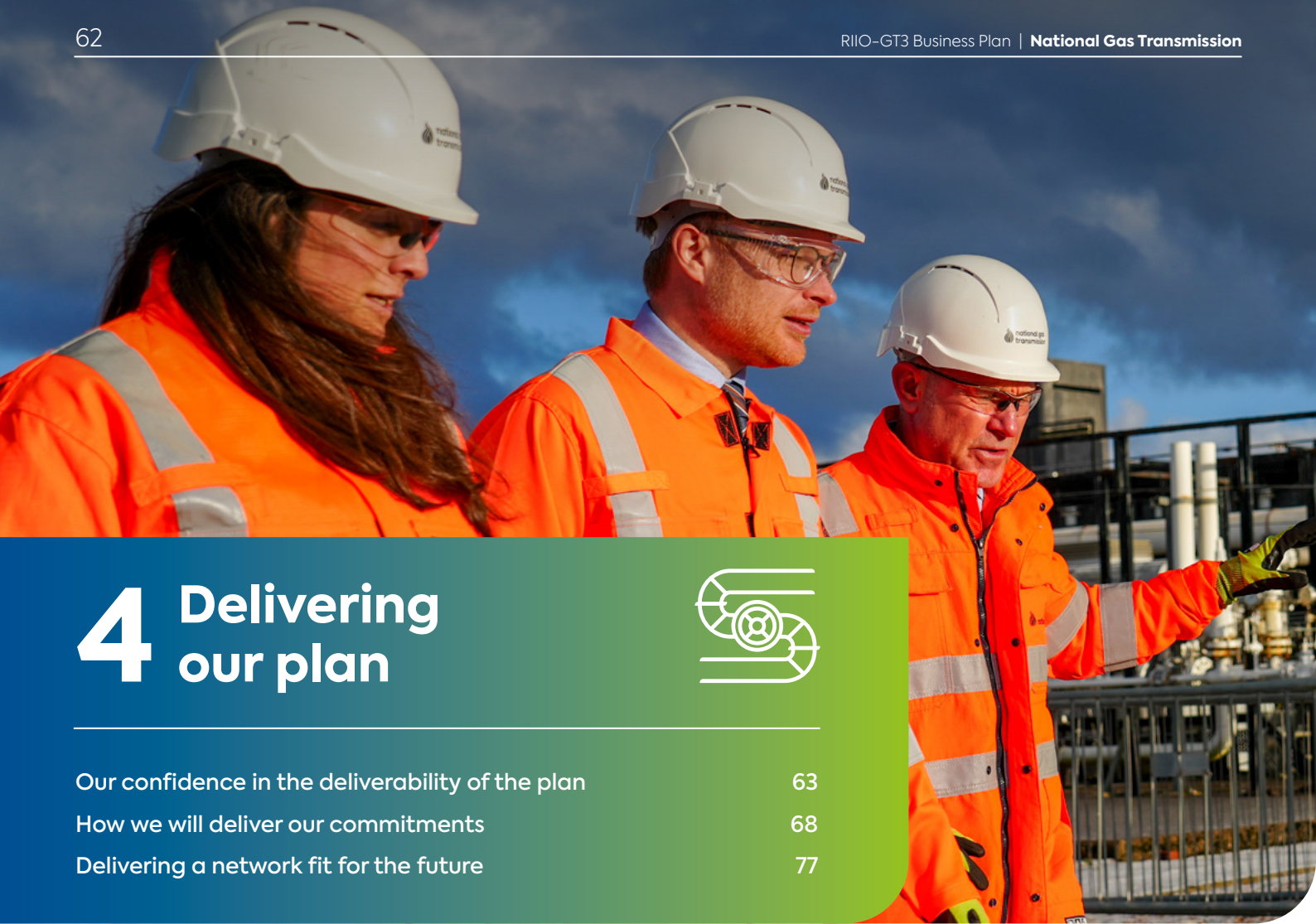
Uncertainty Mechanism	New or modification	EJP/Other	Estimated Value (£m)
Network Capability	New – Scope & cost uncertainty	NGT_EJP013_Compressor Fleet – Network Investments and Zone 1 (Scotland)_RIIO-GT3	Unknown
		NGT_EJP014_Compressor Fleet – Zones 2 and 3 (Central)_RIIO-GT3	
NGT_EJP015_Compressor Fleet – Zones 4 and 5 (South Wales and South West)_RIIO-GT3			
NGT_EJP016_Compressor Fleet – Zones 6 and 7 (East Midlands and South East)_RIIO-GT3			
	New – Cost uncertainty	NGT_EJP05_Network Capability: West Import Resilience Project_RIIO-GT3	52
Uncertain costs	Modification – Change to scope	NGT_EJP26_Pipeline Protection_RIIO-GT3	Unknown
Single Points of Failure (SPOF)	New – Scope uncertainty	NGT_A01_Asset Management Plan (AMP)_RIIO-GT3	Unknown
Gas Strategic Planning	Modification – Change to scope	To include Clean Power 2030 requirements specified by NESO	Unknown
Asset Health	Modification – Change to scope	NGT_EJP31_St Fergus: Site Assets_RIIO-GT3	Unknown
	Modification – Cost uncertainty	NGT_EJP07_Control Systems_RIIO-GT3	449
		NGT_EJP06_Gas Quality, Metering and Telemetry_RIIO-GT3	7
Property and Control Centre	New – Scope & cost uncertainty	NGT_IJP08_Estate and Property Strategy_RIIO-GT3	130
Additional borrowing costs	New	NGT_A09_Finance Annex_RIIO-GT3 section 4.2	Unknown

## 7. Late and early competition

3.148 We have identified the network reinforcement project (which ensures we can manage entry capacity at Milford Haven) as a candidate meeting the threshold value under the late and early competition requirements, as defined in the BPG. After careful consideration, we have decided not to put forward this project for competition on the grounds that we do not consider it is suitable for contestability. Our rationale is that alternative, non-asset solutions have already been thoroughly considered and ruled out in our assessment to manage this capability change. We are uniquely qualified to perform this assessment due to our privileged access to information in our joint role as Transmission Operator and System Operator. Full details of the proposal can be found in West Import Resilience Project EJP<sup>27</sup>.

Projects	Early competition			Late competition		
	Cost Criteria (>£50m)	Suitable for Contestability	Wider scope of Works	New	Separate	Cost Criteria (>100m)
West Import Resilience	Y	N	N	Y	Y	N

<sup>27</sup> NGT\_EJP05\_Network Capability: West Import Resilience Project\_RIIO3



## 4 Delivering our plan



Our confidence in the deliverability of the plan	63
How we will deliver our commitments	68
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- 4.1 Our plan is the most ambitious plan we have ever put forward. It sets out our commitment to deliver the resilient network required to safeguard our country's energy security today and through the transition to net zero, while continuing to deliver safe and reliable services for our customers.
- 4.2 This section explains how we will make those ambitions a reality and what we will do to deliver our commitments. It aims to provide all our stakeholders, whether Government, Ofgem, our customers or partners, with the assurance they need that when we say **what** we are going to deliver, we have clear, robust, and realistic plans in place to demonstrate **how** we will deliver it.

### Our performance today will drive our plans for tomorrow

- 4.3 Our delivery in RIIO-T2 started slower than anticipated, partly due to low regulatory confidence (i.e. weak investment signals) in our business plan, leading to limited preparatory works. Delivery was further impacted by the unforeseen global events, including the aftermath of the COVID pandemic and Russia's invasion of Ukraine. This created volatility in the gas market, necessitating a focus on energy security both for Britain and our European neighbours, and disruption to our supply chains with increased lead times on critical materials and equipment. The increased compressor running hours and a four-fold increase in exports through the European interconnector meant that access to our network for planned works was restricted.
- 4.4 Consequently, we took steps to rephase our delivery programme, recognising that this would result in an increase in activity during the final years of RIIO-T2. Similarly, we found ourselves having to manage the risk associated with Cyber Security Operational Technology. An inability to obtain required gas outages, the impact of unprecedented market conditions (triggered by the Ukraine war) on delivery of our control system programme and the complexity of projects resulted in the need to rephase our cyber investments, without losing sight of the requirement to meet our security commitments.
- 4.5 In RIIO-T2, we forecast £3.22bn of investment (including UMs) over the five-year price control period. This is forecast to increase by a further £0.43bn associated with UM decisions in the last year of RIIO-T2, in order to continue to provide a secure and resilient network.

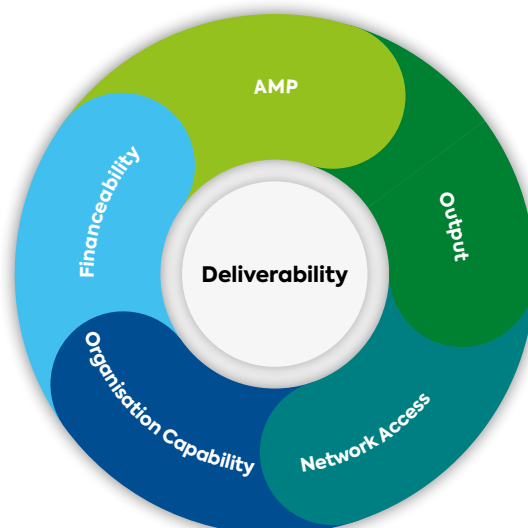
- 4.6 Against this unpredictable, and at times challenging, environment, we have demonstrated a determination to deliver efficiently. And, at the time of developing this plan, our performance is on track to deliver our agreed regulatory outputs for RIIO-T2, providing evidence of our ability to achieve our ambitions.
- 4.7 In summary, for our customers, we have delivered 100 percent of their gas requirements and have not had any exit constraints on the network throughout RIIO-T2 despite the challenging market conditions and ageing asset base, and have ensured that our regulatory commitments to industry and the GDNs have been fulfilled. For consumers, we have delivered against the three priorities we set out in RIIO-T2 by maintaining a safe and reliable network, meeting the needs of consumers and network users, and delivering an environmentally sustainable network.

### Learning the lessons for the future

- 4.8 While our track record makes a strong case for our ability to deliver, we know there is much to improve on for RIIO-GT3. We are determined to learn the lessons from RIIO-T2 so that we are ready and able to deliver the increased investment we are proposing, from the outset.
- 4.9 If we learned one thing from RIIO-T2, it was that we must start the business planning process for RIIO-GT3 well in advance of the start of the price control period. Therefore, as we have developed our plan, we have had an eye to the future, and how we deliver it.
- 4.10 We have taken the opportunity to prepare for the increased investment proposed for our plan. For example, we know that global events are still impacting supply chains at home and abroad with lengthened lead times and increased costs. Therefore, we have taken steps to order long-lead items now, reducing the risk of undue delays to the start of project delivery.
- 4.11 We have been looking at how we are set up to deliver. We are enhancing our ways of working and improving accountability and flexibility by putting decision making into the areas where work is taking place, all of which will support delivery of higher capital expenditure (CAPEX) work volume in the plan period, by ensuring the appropriate resources, plans and long-lead items are in place for us to start delivery of works without delay.
- 4.12 In RIIO-T2, the strategic planning and survey work we undertook proved effective in helping us to prioritise workload, identify bundling opportunities and optimise resource allocations. We are building on this in RIIO-GT3, by bringing forward targeted surveys to improve the confidence in our plan. The information from these surveys has helped us to improve outage scheduling, bundling opportunities, cost forecasts and procurement strategies.

### Our confidence in the deliverability of the plan

- 4.13 We have rigorously tested our £5.3bn plan to ensure deliverability and as a result constrained our plan with £172m of investments being deferred from RIIO-GT3 to RIIO-GT4.
- 4.14 We have conducted deliverability assessments to understand the scope and volume of work we can deliver and manage the level of risk to agreed levels. In validating the deliverability of the plan, we have assessed our plans against the following categories: AMP, Outputs, Network Access, Organisational Capability (including delivery strategies, internal capability and supply chain capability) and Financeability.
- 4.15 We will keep the deliverability of our plan under review. Our planning cycle will be a continuous process, throughout RIIO-GT3. This will make sure our plan remains flexible to reflect stakeholder engagement and any uncertainty in the energy landscape, and that we are ready to respond. We have factored in our RIIO-T2 planned delivery profiles as part of our holistic approach to deliverability assessment. This has also considered supply chain capacity, and our internal capability and capacity, which is why we are confident we can deliver our RIIO-GT3 plan.



## 4. Delivering our plan

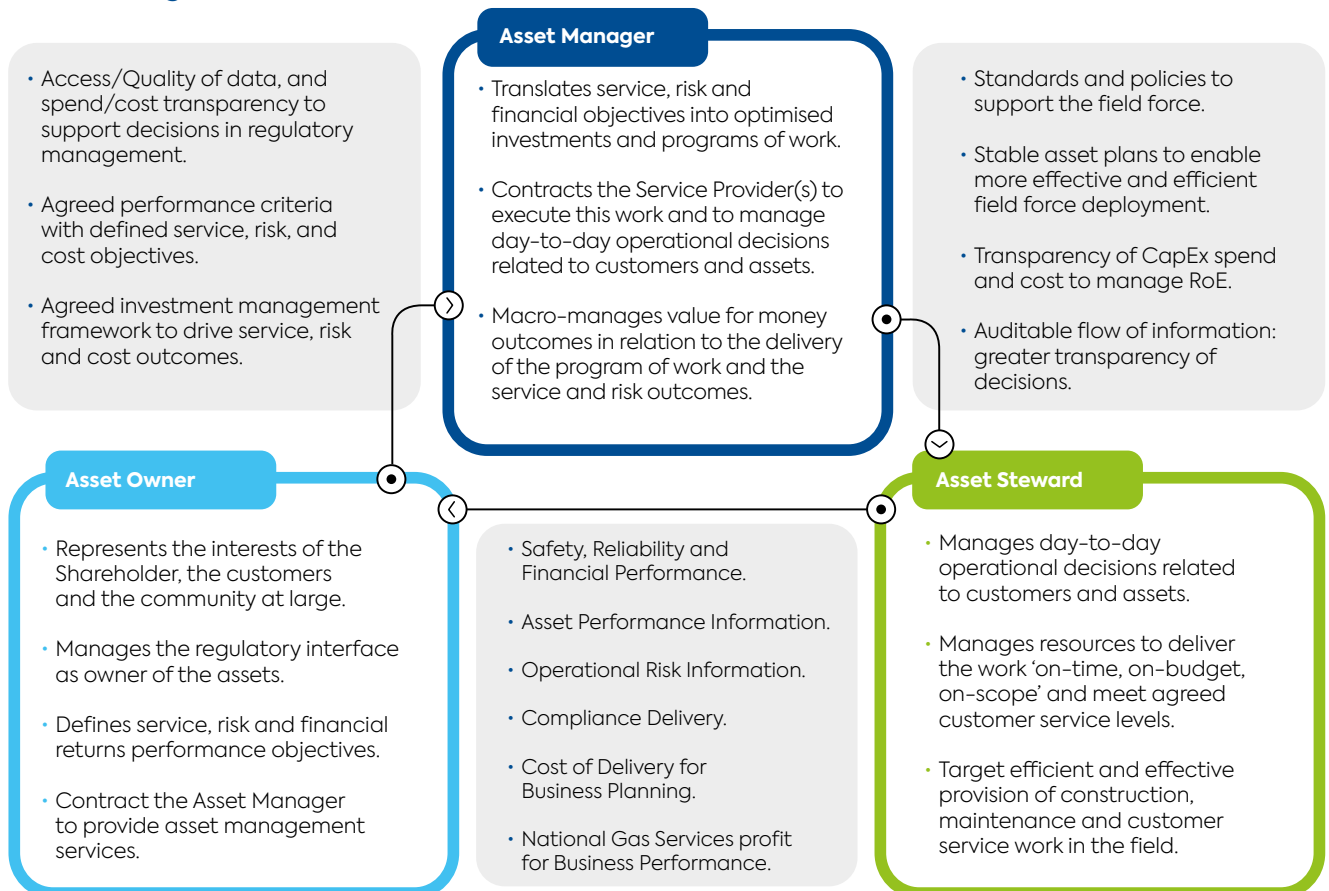
### Our confidence in the deliverability of the plan

#### Asset Management Plan (AMP)



- 4.16 We seek to deliver best value from our assets by continually balancing cost, risk and performance decisions, recognising that our asset base, systems and processes are complex. Our AMP<sup>28</sup> provides a long-term, optimised plan to manage network risk and performance, aligned to our business priorities and asset management strategies. It is a rolling 10-year value-based plan, with a clear line of sight from our business priorities and asset management strategies. It has been developed to enable us to optimally manage our assets, to align with our business needs and to adapt quickly to regulatory and commercial changes. We refresh our asset management strategy and rebase our AMP, adapting to the continually evolving energy landscape and accounting for changing asset risk and performance.
- 4.17 Our AMP (and associated IDPs) describes in detail the asset-related investments that are required to deliver our Asset Management Objectives (AMO). They also explain the information we use, the approach we have taken, and the assumptions we have made to develop the plan. For every investment decision there is a clear driver accompanied by justification outlining how we have derived specific intervention proposals.
- 4.18 Our approach to asset management is set out within our Network Asset Management Strategy<sup>29</sup>. It describes our overall asset management strategy, our AMOs and how our practices, policies and procedures form an integrated and effective Asset Management System (AMS). Collectively, these documents set out a direction for how we should use and develop our assets, systems and processes, informing our asset management strategies and subsequent delivery plans. Our asset management roles are set out below.

#### Asset Management Roles



<sup>28</sup> NGT\_A01\_Asset Management Plan AMP\_RIO\_GT3  
<sup>29</sup> NGT\_A08\_Network Asset Management Strategy\_RIO\_GT3



## Output

4.19 We seek to deliver best value from our assets by continually balancing cost, risk and performance decisions, recognising that our asset base, systems and processes are complex. How we work and the decisions we make are critically important, not least because our assets can have adverse impacts on our stakeholders and the environment if they are not managed correctly. We make our asset decisions within our ISO55001:2014 accredited AMS.

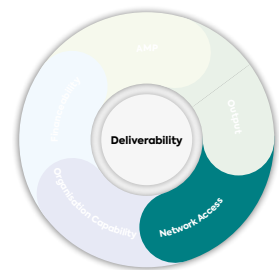


4.20 We have a defined set of criteria to help us make our asset decisions and these reflect the different expectations of our stakeholders. We also have duties and obligations under the Gas Act and through our Gas Transporter Licence and these factors come together to underpin our asset management decisions. Throughout RIIO-T2, we have continued to evolve and improve our asset management capabilities, establishing tools and systems that help us to optimise our asset management decision making, whilst embedding engineering excellence and a culture of responsibility throughout the business.

4.21 We engage with our stakeholders as part of our business processes. We respond to their expectations by clearly communicating our obligations, progress, challenges and requirements, externally and internally. For example, we actively engage stakeholders through the NARMS methodology and Service Risk Measures, aligning our risk strategy to achieve RIIO-T2 risk levels after discussions with DESNZ. Using Service Risk Measures, we address customer concerns about potential outage impacts within our risk model. Availability and reliability, one component of the NARMS methodology, is used to assess both direct and indirect effects on customers across the gas network. In response to stakeholder feedback, we presented alternative risk strategies and cost-benefit analyses to demonstrate the investments required to restore availability and reliability risks to RIIO-T2 levels.

## Network Access

4.22 Physical network access is one of the main factors that restricts our ability to deliver capital works. The key principle is to maximise utilisation of available outages, to deliver work whilst minimising disruption to our customers and consumers. Plan deliverability will become more challenging in RIIO-GT3 with increased work, which is why we propose to move towards a 'shutdown' approach, to maximise the volume of work delivered within proposed outages.



4.23 Our outage plan is based around legislative and safety-critical work which requires substantial outages. These include emissions-driven investments to build new or enhance our existing compressor units, investments to in-line inspect and, if required, remediate potential defects on our pipelines and replace control systems on our compressor stations. Other outage work or non-outage work has then been bundled with or scheduled around this.

4.24 To enhance our ability to build a deliverable plan, we have made use of the investment optimisation tool called Copperleaf to configure several constraints into the system, including network access constraints. We have modelled the available outages on the network (or network access) to maintain resilience and network operation whilst delivering our capital work. Our compressor and pipeline assets have been considered in constraint groups relative to how they are operated, and the plan has been optimised to ensure a minimum availability of assets within these constraint groups.



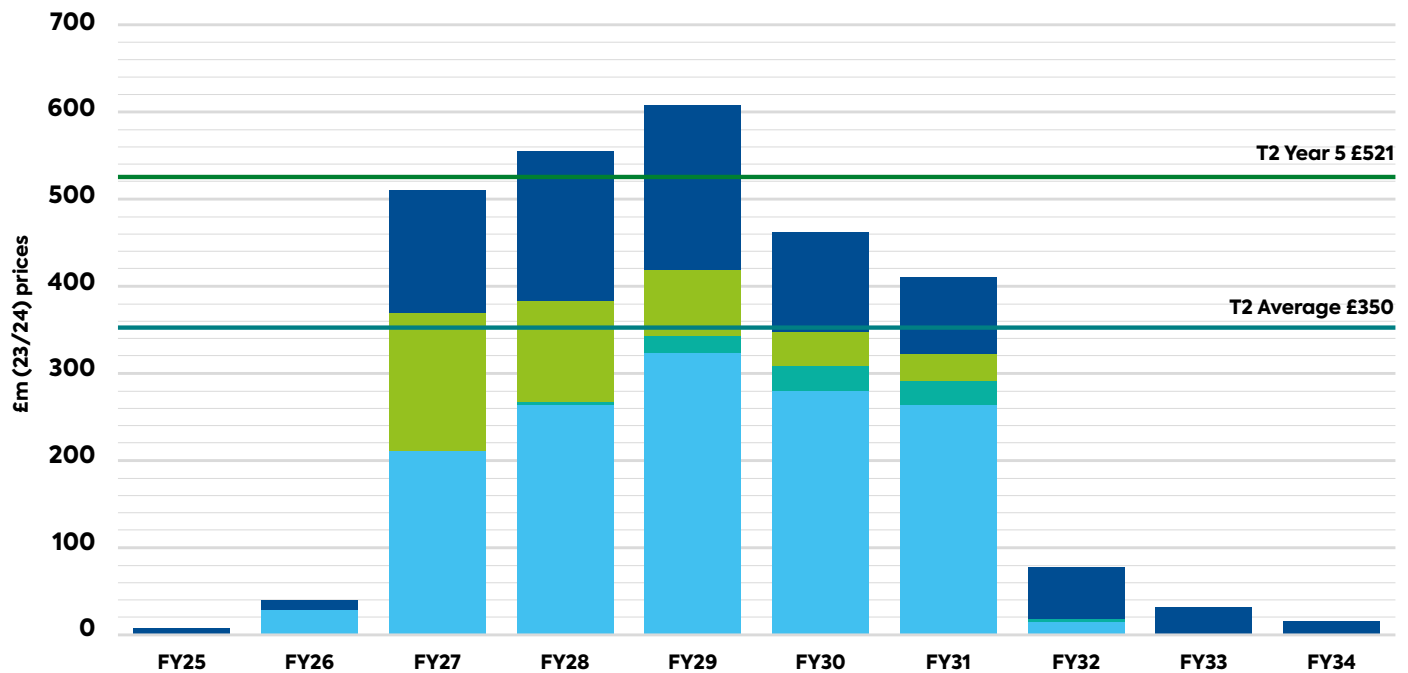
We are proud of the role we play and passionate about what we deliver for society

## 4. Delivering our plan

### Our confidence in the deliverability of the plan

#### Network Access

4.25 Our deliverability profiles (see below) for the duration of RIIO-GT3 will be greater than RIIO-T2 and broadly aligned with planned delivery for RIIO-T2 year 5. This strategy builds and sustains our delivery volumes for RIIO-GT3.



	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
T3 Uncertainty Mechanism	5	10	139	170	188	113	86	58	30	16
T2 Funded	0	0	165	118	76	39	32	0	0	0
Volume Driver	0	0	0	2	16	30	29	2	0	0
Baseline	0	28	208	264	323	279	263	16	0	0
T2 Year 5	521	521	521	521	521	521	521	521	521	521
T2 Average	350	350	350	350	350	350	350	350	350	350

4.26 Physical network access is constraining our AMP, which has resulted in us allocating £172m of investment into a future price control. Specifically, given this constraint, our plan will not return the network to the target level of network risk until 2032. Therefore, it is vital that there are no delays to delivering our proposed RIIO-GT3 planned interventions, if we are to avoid future constraint and supply risk. If we do not invest at the levels set out in our plan, then network risk will increase and will not be returned to agreed levels until later than 2032.

4.27 We have learnt from the past, as a result, we are focusing on building a resilient supply chain and understanding our delivery strategies for investment themes, so that we can plan investments with an awareness of lead times and mobilise on-site delivery in year one.

## Organisation Capability

- 4.28 Critical to our success now, and in the future is our focus on building organisational capability and capacity. We are doing this by investing in our people, processes and assets.
- 4.29 Our approach to delivering our capability has been to review our internal and external capability and dependencies. Internally, we have developed a strategic workforce plan that supports our increased investment plan, providing the capability we need for today and tomorrow. We have also looked at how we structure ourselves to optimise delivery of this plan. From an external perspective, we have developed our strategic partnerships and supply chains and also in-housed key skills and competencies through strategic acquisitions.



## Strategic Workforce Plan

- 4.30 We have made great strides in inclusivity and diversity in this last year, particularly our ethnic diversity and have now passed the UK ethnic diversity benchmark (18 percent) and sector benchmark (11 percent) with 19.6 percent of our workforce declaring ethnic diversity. From a gender perspective, we are just below sector benchmark (29 percent) with 27.3 percent of our total workforce being female. We published our first, stand-alone Gender Pay Gap Report in March 2024.
- 4.31 Our Workforce and Supply Chain Resilience Strategy<sup>30</sup> sets out how we will build the right capacity and capability, internally and externally, to deliver energy security today and a network fit for the future. We have c. 600 technicians and engineers across the country working to maintain, repair and upgrade our network. They work around the clock ensuring that we can do what we can to guarantee security of supply for today and tomorrow.
- 4.32 We are supporting our people to enable them to develop, building both their skills and capabilities. We cannot deliver our plans without our people. We need to ensure our workforce is fit for the future; that it is resilient, diverse, highly skilled, and fully engaged. We are developing a diverse workforce with the right people with the right skills, and which reflects the communities that we serve. We know that we need to invest in the development of our people so that they are supported to be the best they can be, by continually building individual capabilities and strengthening capacity. By fostering a culture of innovation and continuous learning, we will attract and retain the talent we require. We will ensure we are set up to deliver, but remain agile in how we use our resources, so that we provide our business with the resilience it needs to deliver for consumers.

## Supply chain

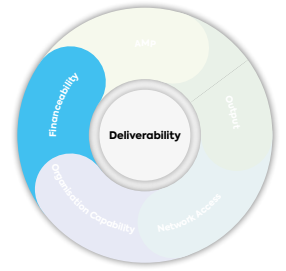
- 4.33 We have revised our strategic direction and approach to procurement and supply chain management, meaning that for RIIO-GT3 we will focus on seven key areas<sup>31</sup>. By adopting this focused approach, we will ensure that in collaboration with the market and our suppliers, we are delivering not only a safe and reliable system today, but throughout the energy transition adopting strategic, commercial and sustainable leadership in all our procurement efforts.
- 4.34 For the last two years, we have been building the depth and reach of our supply chain to ensure we have the necessary relationships, capacity, capabilities, and senior commitment to deliver. We have involved our partners in the development, design and cost-estimating of our plan. They are supportive of our plan, and have expressed their commitment to help us deliver it<sup>32</sup>.
- 4.35 We have a robust supply chain with access to a wide market to procure the goods and services we need. We use proven approaches and strategies to deliver efficiently and on time, at the lowest cost to consumers. To enable us to deliver the increased volumes of work, we are already procuring long-lead items in RIIO-T2 to ensure timely project delivery in RIIO-GT3.
- 4.36 To provide further confidence, we have tested the capacity of our supply chain against generic values and volumes. This has created a matrix of our existing supply chain by theme and the investment they could deliver. We have some pockets of new interventions or growth areas we need to focus on, but given the time available until the start of the RIIO-GT3 price control period, we believe we can secure the market capacity.
- 4.37 Our plan is to utilise technology to improve the way we work, an example of this is through our asset management tooling and systems. Our IT and Telecoms Strategy and Digitalisation Strategy and investment will enable the business to transform our capability and ensure that we leverage digitalisation across our data, systems and processes. For more information on how we use technology to make improvements, see our IT Investment Justification Packs 01 to 07.

<sup>30</sup> NGT\_A13\_Workforce and Supply Chain Resilience Strategy\_RIIO\_GT3

<sup>31</sup> NGT\_A13\_Workforce and Supply Chain Resilience Strategy\_RIIO\_GT3, Page 32, The 6C strategic framework

<sup>32</sup> See supply chain commitment on page 14.

## 4. Delivering our plan



### Financeability

4.38 For us to deliver for society, the activities within our business plan must be funded at an appropriate level, and the agreed rate of return must reflect the level of risk associated with the capital our investors make available. Further information on financeability is set out in Section 5: Financing our plan.

### How we will deliver our commitments

4.39 The following section sets out **how** we will deliver our commitments (for **what** we will deliver, see Section 3: Delivering Britain’s energy needs). We have developed specific strategies and plans to underpin the delivery of the commitments. Some of these strategies support the delivery of a single commitment while others cut across and support multiple commitments.

Strategy/Plan	The Commitments it helps to deliver	
Asset Management Strategy and Plan	2 7 9	1 Caring for our environment and our communities
Climate Resilience Strategy	4	2 Delivering a resilient network fit for the future
Compressor Fleet Strategy	1 8	3 Drive relentless performance and service
Cyber Security Strategy	7	4 Ensuring our network is resilient to climate change
Digitalisation Strategy and Action Plan	5 11	5 Innovating now and for future generations
Environmental Action Plan	1 8	6 Investing in our people and capability for the future
Environmental, Social and Governance Strategy	1	7 Keeping our critical systems secure
Innovation Strategy	5 7 11	8 Leading the energy transition to clean power and net zero
IT and Telecoms Strategy	5 7 11	9 Meeting our critical obligations every hour of every day
Security Strategy	2 7 9	10 Operating the system safely, reliably, and efficiently
System Operation Strategy	3 10	11 Transforming our activities through IT and data
Workforce and Supply Chain Resilience Strategy	1 6	

More details on our supporting strategies can be found in our supporting annexes. We set out below our key investment areas within the business plan.

### Asset Management

4.40 Our AMP<sup>33</sup> provides a long-term optimised plan to manage network risk and performance, aligned to our business priorities and asset management strategies. We have set out more information on the AMP in the section ‘Our confidence in the deliverability of this plan’ page 64.



**Making sure our assets can delivery for consumers whatever the weather**

<sup>33</sup> NGT\_A01\_Asset Management Plan (AMP)\_RIO\_GT3

## Deep dive: Our plans for asset management and asset health

### Managing and stabilising rising risk

- 4.41 Since 2013, asset risk has grown significantly. This has been primarily driven by lower investment and a fundamental shift to long-term risk targets. To maintain safety and reliability, we need to deliver an increase in maintenance, refurbishment, and replacement activities. Our plan, therefore, prioritises strategic investments and optimisation of asset management.
- 4.42 Without investment, our asset risk would be set to increase by over 25 percent. A materialisation of this could lead to critical failures, network constraints, and safety hazards, threatening life, disrupting service, and harming the environment. To stabilise risk to levels consistent with the start of RIIO-T2 (by 2032), our plan proposes increased asset health activity.

### Addressing the challenges of an ageing infrastructure

- 4.43 Our infrastructure requires urgent attention. Enhanced inspections and improved risk forecasting has highlighted significant concerns about failure risks in above-ground site assets. We are therefore investing in targeted interventions to address these challenges.

### Investing to secure network resilience

- 4.44 Neglecting necessary investment would trigger a spiral of decline and lead to undesired consequential impacts for the assets and potentially the market. Also, reactive management is costly and inefficient. Strategically investing in our assets ultimately prevents long-term disruptions and ensures sustainable asset performance and market confidence. Our plan outlines the interventions needed to return to RIIO-T2 risk levels (by 2032), balancing practical timelines with network access and supply chain capabilities.
- 4.45 This strategy means that we can continue to maintain a safe, efficient, and environmentally conscious gas transmission system.

### Optimising our Asset Management Plan

#### Copperleaf and NARMs

- 4.46 Copperleaf is central to how we implement the NARMs methodology. Copperleaf's Single Value Framework (SVF) (part of the Ofgem-approved NARMs methodology), calculates probability of failure, consequence, and risk using a universal metric of monetised risk. By adopting this approach, we can make sure that all assets are valued equally, in turn allowing for consistent and effective decision-making. Copperleaf's predictive analytics also helps us identify the right mix of strategic investments, which will enable us to maintain stable risk levels and deliver maximum value to our customers.
- 4.47 Copperleaf will be instrumental in delivering our plan by optimising investments around outages and resource constraints. Through its dedicated portfolio module, the investment lifecycle, from design to closeout, will be streamlined, thereby reducing reporting burdens and improving efficiency.
- 4.48 By integrating Copperleaf with our asset database, it will support ongoing digital asset management projects and connect with other systems, enabling enhanced investment planning and more timely and effective interventions. Copperleaf also underpins improvements in risk assessment, as it enhances the granularity of data and tracking of asset condition. Together these improvements optimise our asset investment plan.

## 4. Delivering our plan

### How we will deliver our commitments

#### Our asset health plan

- 4.49 For RIIO-GT3, our asset health plan proposes around two thirds the RIIO-T2 levels of investment £2.80 billion (of which £2.58 billion is within the RIIO-GT3 period). This investment is necessary to deliver a stable level of risk across the network by 2032, to a level aligned to the beginning of RIIO-T2 providing the security and resilience needed across the network. Through our NARMs methodology, we quantify and monitor the level of performance that our assets are delivering for customers. This provides additional justification for the expenditure needed to maintain and improve safety, reliability and environmental performance across our network.
- 4.50 Our asset health plan uses three common drivers for investment across all themes. The drivers map to the Ofgem asset health plan structure with drivers A and B being ‘monetised risk NARMs related assets’ and driver C being ‘non-monetised risk assets.’
- 4.51 The NARMs assesses the long-term monetised risk reductions delivered by asset investments. For RIIO-GT3 we know we need to focus on risk at our sites, which is why we are removing 79 percent more Long Term Risk Benefit (LTRB) than we did in RIIO-T2 at our sites. These investments support our commitment to delivering a resilient network that is fit for the future.
- 4.52 **Driver A: NARMs, legislation and safety case interventions:** focuses on NARMs-related activities that are required to ensure compliance with legislation, safety case requirements, and industry standards. For example, adherence to OEM compressor overhaul guidance to mitigate risks to individuals and the environment. Failure to comply with such interventions could result in enforcement agency approval for deviations or risk enforcement actions, irrespective of whether the risk materialises.
- 4.53 **Driver B: NARMs:** Investments in this category address assets contributing to monetised risk under the NARMs methodology. Asset condition naturally deteriorates with age, and external factors in the environment and heavy utilisation accelerate the ageing process. Corrosion, the second highest risk on the NTS (after third-party damage), remains the primary life-limiting factor of our assets.
- 4.54 **Driver C: Maintain reliability on non-lead assets:** This category supports non-lead assets which are critical to NTS reliability. It includes investments, which are often driven by obsolescence or legislation, to address structural integrity and electrical systems. Asset reliability diminishes with age and usage, and failures, such as in pipe supports, can severely impact primary NTS assets like above-ground pipework. Electrical equipment, in particular, faces shorter support lifecycles compared to mechanical assets. We seek to mitigate this risk by actively managing relationships with OEMs to anticipate obsolescence and maintain access to spares and expertise.
- 4.55 **An intervention can have multiple drivers.** Each intervention in our plan has been assigned a primary driver based on descending priority from A to C. Our AMP includes a breakdown of the investments attributed to each driver. The NARMs methodology include five key risk categories: 1. Safety, 2. Environment, 3. Availability and Reliability Risk, 4. Financial and 5. Societal Risk. Through these service risk metrics and legislative requirements, we manage risks on the network as efficiently as possible. Further information on NARMs can be found on our website<sup>34</sup>.

<sup>34</sup> Network Asset Risk Metric (NARM) | National Gas

## Deep Dive: Upgrading our compressor fleet

### About our compressor fleet

- 4.56 Our compressor fleet of more than 60 compressor units is critical to the safe and reliable operation of the NTS. Our compressors respond to changing supply and demand to meet our customers' requirements and our licence obligations. A range of external factors are resulting in gas flows becoming increasingly volatile. Our compressors respond, flexibly, to the fluctuations, which is especially important where power stations are located at the extremities of the network. It is essential that our compressor fleet is available to meet the demands being put on the NTS, with any loss of compression having the potential to impact significantly and adversely our customers and consumers more generally.
- 4.57 The requirements being placed upon our compressor fleet are evolving. To meet these changes head on, our plan sets out investment of £91.42m, to ensure our compressors continue to provide the capability and resilience required to meet customer demands now and in the future.

### The investment we are planning

- 4.58 In RIIO-T2, work has begun at key sites to replace compressors which will not be compliant with emissions legislation from 2030. As a result, five new units at St Fergus, Wormington and Peterborough, will be constructed by the end of RIIO-GT3. This is in addition to five new unit at Peterborough, Huntingdon and Hatton, all of which are nearing completion.
- 4.59 We have taken into account the network impact of those projects and have assessed every network zone to identify investments required to our compressor fleet. We have assessed the benefit of investments to achieve different levels of availability across our fleet. This has been based on a Reliability, Availability and Maintainability (RAM) model, which has led to the incorporation of additional asset health investments.
- 4.60 We have considered a wide variety of investments, including: compressor re-wheels, decommissioning, purchase of strategic spares, performance testing, emissions-abatement technology and site reconfigurations.
- 4.61 The table below sets out the primary drivers for these investments. It should be noted most proposed investments have multiple network benefits, making it complicated to pinpoint the primary driver.

Primary Investment Driver	Definition	Intervention volumes	RIIO-GT3 investment (£m, 2023/24)
Resilience/Security of Supply	Investments to ensure network operation continues in the event of unplanned issues.	Baseline: 6 UM Reopener: 2	Baseline: 20.17 UM Reopener: 9.96
Network Capability	Investments to change the capability of the NTS in response to changing customer needs or forecast supply and demand patterns.	Baseline: 11 UM Reopener: 2 Volume Driver: 4	Baseline: 15.44 UM Reopener: 7.77 Volume Driver: 12.09
Redundant Assets	Investments to address assets which are no longer required or are not cost effective to retain.	Baseline: 4 UM Reopener: 2	Baseline: 18.97 UM Reopener: 6.99
Climate Change Adaptation	Adapting our assets to the climatic conditions to increase their lifespan and make the assets and network more reliable.	Baseline: 13	Baseline: 0.04

## 4. Delivering our plan

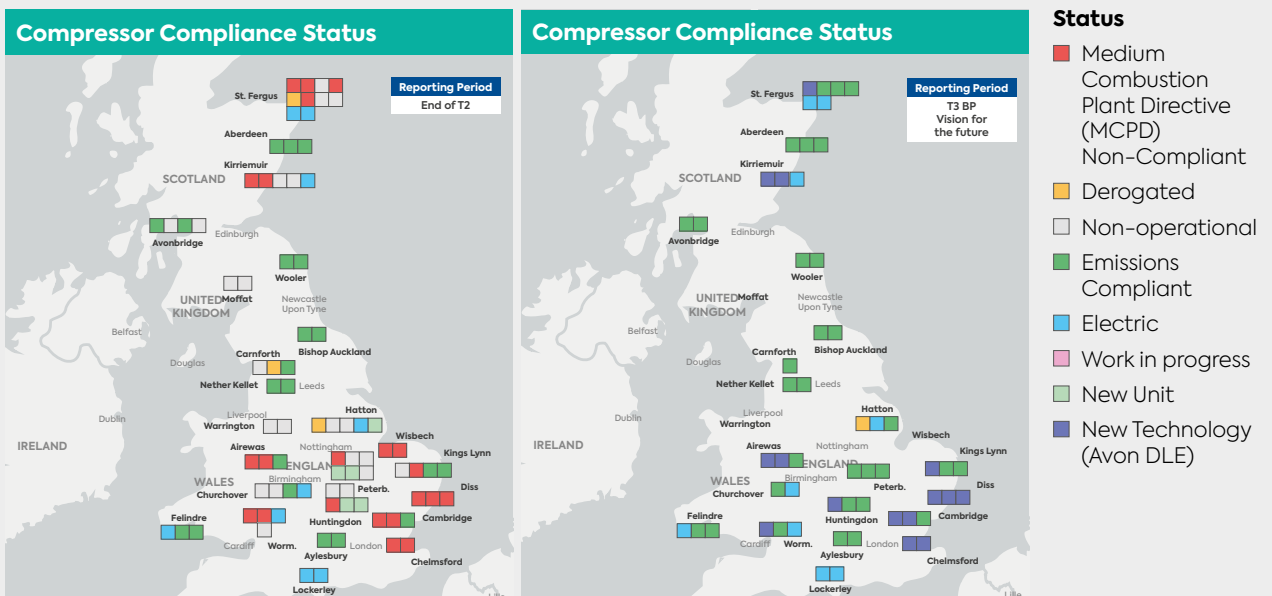
### How we will deliver our commitments

#### Deep Dive: Upgrading our compressor fleet

- 4.62 Although we are proposing investment on units affected by emissions legislation, the primary driver is no longer just emissions compliance. Where compliance with emissions legislation could be achieved through a running hours derogation, the primary driver for the abatement technology is to ensure there is no restriction which would limit the capability of that network zone.
- 4.63 We continue to investigate the possibility of retrofitting innovative technology to non-compliant units to meet emissions limit values. This is something which could save consumers upwards of £40m per compressor unit compared to the cost of installing a new unit. If the technology is proven, we will aim to install three units in RIO-GT3, which could in turn generate savings of around £120m. Looking forward, if we deployed this technology across the fleet, we could generate further savings of around £160m compared to replacing four more key non-compliant units with new ones.

#### Deploying new technologies/changing compressor fleet

- 4.64 We are also tackling non-compliant units by adjusting the capability of compliant units on the same, or adjacent, sites to provide a greater share of the operational duty. This approach both decreases the risk of exceeding running hour limits and reduces our environmental impact.
- 4.65 Over time, our compressor fleet has changed. The high-level changes are shown in the images below. Although the implementation of abatement technology (as described above) has not been included due to the unproven nature of innovation projects. If successful, we will apply to remove the units from the derogation which would remove the running hours restriction. Units that are shown as non-compliant in RIO-T2 reflect the fact that they will not meet emissions limits which will come into force in 2030. Without availability of abatement technology, by the end of RIO-GT3 all affected units will either be derogated, replaced or removed and will therefore be compliant with the legislation.
- 4.66 The overall impact is that the number of units in our fleet will decrease. Where we had 66 operational units at the end of RIO-T1, we expect to have only 57 by the end of FY36. With the deployment of this technology, the capability, resilience and availability of the remaining units will be better targeted to meet the needs of the network, optimising the value to consumers.





## Safety and Security

### Safety

- 4.67 Our ambition is to be 'safe every day', and to embed a proactive safety culture to enable us to drive for the highest-level of safety culture maturity. Maintaining industry-leading safety standards is non-negotiable as we seek to protect our employees, contractors, stakeholders, and the public.
- 4.68 By managing the integrity and health of our assets, operating systems, and processes, and applying good design principles, engineering, and operating practices, we work to prevent major incidents, while working to achieve the level of reliability expected by our stakeholders.
- 4.69 Our safety priorities are:
- We will maintain an emergency response and repair service for our pipework system and will provide 24/7 standby cover, emergency planning and training.
  - We will minimise the risk of others causing damage to our pipeline network by carrying out regular surveys and consider new technological options to become more effective and efficient.
  - We will maintain an emergency-response service, called Centralised Emergency Materials and Equipment (CEME) which will be available to a range of pipeline operators to keep their operations running.

### Security

- 4.70 A cyber-attack against our systems or any one of our 167 Critical National Infrastructure sites would have significant consequences. It could disrupt the transmission system, in part or wholly, rendering us unable to meet our gas supply obligations. The commercial, societal, and human impacts of such disruption to supplies could have dire consequences. Therefore, our overall cyber security strategy is to eliminate or, where this is not achievable, reduce our IT and Operational Technology (OT) risks through pragmatic and timely means, by applying the risk hierarchy Eliminate, Reduce, Isolate, Control (ERIC).
- 4.71 Our security strategy is centred around a single target operating model, agnostic of environment. We have adopted this approach because it drives efficiency and consistency, with investments risk-assessed against the changing threat. Our security strategy also includes leading the 'downstream' gas sector. In RIIO-T2, we have already established forums with the GDNs and are working with Ofgem and National Cyber Security Centre (NCSC) initiatives. The Cyber Operational Research Environment (CORE) at Ebbw Vale has been frequently attended by Ofgem, NCSC, and the Welsh Government.

## Information Technology (IT) and Digitisation

- 4.72 We rely on IT as a key enabler in safely and reliably operating the network, and in delivering our business functions. Throughout RIIO-T2, we have demonstrated our ability to deliver a growing volume of technical change, successfully delivering improved data services whether through our 'New Information Provision' and 'Digital Asset Management' projects, or through the separation of our systems as we became a stand-alone business. With the conclusion of the separation project (early 2025), all our IT assets will be under our sole control, simplifying our IT estate and enabling a 'right-sized architecture' fit for our future needs.
- 4.73 Our plan sets out investment in our critical IT systems. This investment will secure system capability, maintain their supportability, enable adaptation to changing requirements and exploitation of emerging technologies. This investment will ultimately enable the continued operation of the NTS in RIIO-GT3. The programme of GSO-related IT investments in baseline plan is £200m, delivery of which will be supported by the GSO.
- 4.74 Our plan builds on the work done in RIIO-T2, as well as addressing new requirements and anticipating the level of change to which we will need to respond. It is driven by the outcomes that consumers and network users expect us to deliver and has informed an efficient portfolio of investment that not only delivers key outcomes but also improves our information services to our customers and stakeholders.

## 4. Delivering our plan

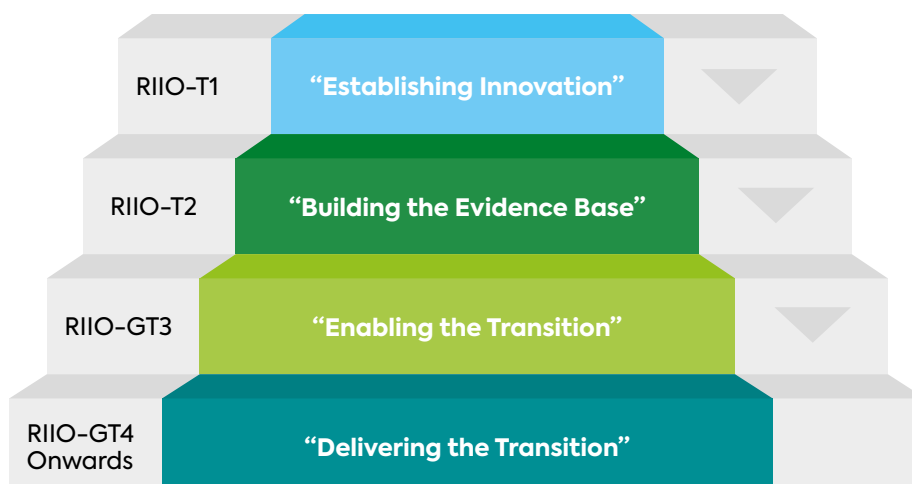
### How we will deliver our commitments

#### Information Technology (IT) and Digitisation

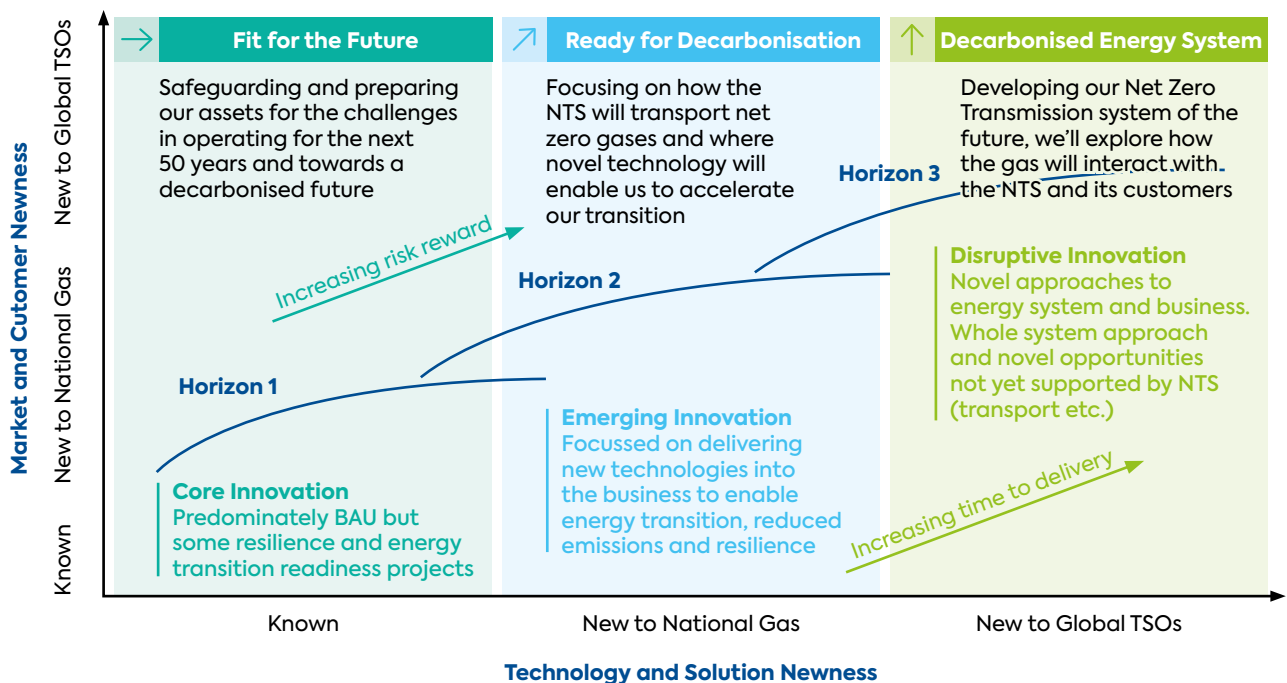
- 4.75 Our IT investments can broadly be split into two categories: front-office systems, and back-office systems and infrastructure. Front-office systems (58 investments of £375.51m) are IT enablers of business capabilities that deliver our core business functions of operating and maintaining the NTS and acting as system operator. These business capabilities directly deliver value to our consumers and stakeholders, and the IT enablers of those capabilities are organised by the business value delivered. Back-office systems and infrastructure (31 investments of £122.62m) are cross-functional and used by many or all business areas. Examples are the finance and human resources (HR) systems and the hardware infrastructure on which these systems run. These IT enablers are not specific to a business function and deliver consumer and stakeholder value indirectly.
- 4.76 Therefore, in RIIO-GT3, we will maintain the system health of our existing IT solutions by ensuring that they are kept up to date and supported. Where typical IT lifecycles mean that many of our systems will reach end of life during this period, we will update or replace these systems in the most cost-effective way, and in line with our IT Asset Health Policy.
- 4.77 Throughout RIIO-GT3, digitalisation of our processes will continue at pace, constantly increasing the value of and reliance on IT. Our plan, therefore, reflects a balance of maintaining asset health investments versus investments that directly enable business outcomes. Maintaining asset health is a ‘must-do’ activity to sustain a healthy IT estate, while we must also deliver to support business functions in a way that reflects the business’s ambitions and requirements.
- 4.78 We will be seeking to deploy more advanced tools to enable us to analyse richer data sets and help us to reach better-informed decisions. Such advances will be critical to the efficient delivery of a larger AMP, as well as to managing a network which is under increasing risk, and supporting whole energy system management. Delivering these enhanced capabilities represents 20 percent of our IT plan, compared to 17 percent in RIIO-T2.
- 4.79 Our Digitalisation Strategy supports the priorities that were developed and tested with our stakeholders. In turn, their priorities have led to five focused areas for investment. We know that by delivering these investments we will both set ourselves up to deliver efficiencies and long-term value to consumers, but also ensure that we are contributing to the delivery of a safe, secure and resilient network.

#### Innovation

- 4.80 Innovation is not a discrete activity but an ongoing continuum of improvement, and is a constant theme which spans price controls. In RIIO-T2, our focus was on ‘building the evidence base’ while in RIIO-GT3, we will look to ‘enable the transition’ by taking our work to the next phase.



- 4.81 In RIIO-T2, we identified the need for a team to focus on driving innovation back into our business and to support projects outside of the innovation incentives set by Ofgem. The team is structured around technology portfolios, which enables us to build expertise in a defined technology area, so becoming a key expert for the gas industry and a point of contact for both internal and external stakeholders. These themes then deliver on the wider network focus areas: whole system energy, consumer vulnerability, net zero and the energy system transition, data digitalisation, flexibility and commercial evolution, and proactive optimised assets and practices. With the creation of the team, we have seen an integrated approach to managing innovation from identification through to benefits realisation and have cemented innovation as core to how we run our business.
- 4.82 We know that the energy industry is evolving quickly, with new products and technologies entering the market with increasing regularity. If we are to meet future challenges head on, then we must maintain an up-to-date view of this change and continue to leverage innovation where we can.



- 4.83 Innovation delivers benefits across the suite of regulatory priorities around which this plan is based. Therefore, for RIIO-GT3, our request for funding totals £130m. The requested value represents a continuation of the levels of funding achieved through the RIIO-T2 period with an increase in predicted Strategic Innovation Fund (SIF) spend, and the scale up and rollout funding required to enable an accelerated transition of innovation into business-as-usual. To deliver our innovation strategy in RIIO-GT3, we will utilise a range of funding mechanisms.

Innovation funding mechanisms				
<p><b>Baseline Innovation Funding - Network Innovation Allowance (NIA)</b></p> <p>Targeted at research and development, project development, stakeholder engagement and challenge identification, drive dissemination and collaboration</p> <p><b>(£40m)</b></p>	<p><b>Demonstration Funding - Strategic Innovation Funding (SIF)</b></p> <p>Demonstration of technologies and systems for the energy transition, taking the research and development projects and showcasing their capability in application</p> <p><b>(£70m)</b></p>	<p><b>Scale up and Rollout Funding</b></p> <p>Enables the innovation projects to move from application demonstration to implementation including policy and standard creation, training and additional development for other asset classes</p> <p><b>(on project basis)</b></p>	<p><b>Net zero Use It or Lose It (UIOLI)</b></p> <p>Provides funding for developing and delivering energy transition projects through to Reopener, this fund supports the development of Pre-FEED/Strategy work for regional projects</p> <p><b>(£10m)</b></p>	<p><b>Business-as-Usual (BAU)</b></p> <p>For RIIO-GT3 we will spend up to £10m outside of our Totex allowance on BAU innovation</p> <p><b>(£10m)</b></p>

## 4. Delivering our plan

### How we will deliver our commitments

4.84 While innovation is naturally uncertain, we have identified examples below of specific areas, or broader themes, which could form the focus for innovation projects for RIIO-GT3. We have set out RIIO-T2 success stories, which will now be embedded into our operations.

#### RIIO-T2 business-as-usual innovation

**Avon DLE** – The MCP emissions targets for 2030 could mean the replacement of several compression assets across the NTS through the RIIO-GT3 period. We have been developing an approach to upgrade our Avon unit combustion systems with Dry Low Emission (DLE) technology to enable them to meet the targets without a full replacement, saving hundreds of millions of pounds across RIIO-GT3 and future price controls.

This not only helps us reduce the cost to the natural gas network today, but also points us towards our hydrogen future, where these units are being demonstrated at FutureGrid to run on Hydrogen (HyNTS Compression).

#### RIIO-T2 energy transition innovation

**FutureGrid** – In RIIO-T2 we began the HyNTS FutureGrid Phase 1 NIC Project. This was the first of many steps to a potential full-scale conversion of the existing NTS to transport hydrogen. The project involved constructing a test facility from decommissioned assets that was used to carry out a wide range of hydrogen tests, to demonstrate its effect on our assets, as well as the operation of the network.

HyNTS FutureGrid Phase 2 is made up of two parts (Compression and Deblending) funded through SIF. This project will enable us to continue to prove our network asset capability whilst ensuring reduced cost of the transition.



#### Our plans for RIIO-GT3

The HyNTS FutureGrid Phase 2 project extends into the beginning of RIIO-GT3. The output from the project, alongside that of the business-as-usual work, will be integrated into our compression equipment strategy to ensure a future-proofed network. We are working closely with Project Union to ensure the solutions developed are suitable and aligned to their network repurposing plans. We will continue to develop our approach to repurposing through using digital tools, novel materials and equipment, improved asset monitoring and other solutions developed both in RIIO-T2 and RIIO-GT3.

## Sustainability and Community

- 4.85 Our Environmental, Social and Governance (ESG) strategy identifies our most important ESG issues, with firm commitments to address these through specific time-bound targets. The ESG strategy also focuses on environmental factors, security of gas supply, employee rights, and regulatory compliance, which align with the business observed culture and priorities, the legislative and media environment, and the strategic challenges facing an energy company. To ensure we remain accountable to our stated ESG priorities and commitments, we have put in place governance and reporting structures to track progress and ensure transparency. This is part of our work to embed ESG within our decision-making at all levels.
- 4.86 Our social commitments include support for a variety of charitable and community organisations through both financial grants and employee activity. We are also committed to fostering a workplace where diversity, equity and inclusion are celebrated through meaningful actions, helping us to attract and retain the best talent in our industry, and reflect the communities we serve.
- 4.87 From an environmental perspective, we have made specific commitments. These include identifying and responding to risks resulting from climate change, delivering carbon emissions reductions through a Science Based Target Initiative-aligned pathway to net zero, improving air quality through a reduction in NOx emissions from our compressors, and protecting and promoting biodiversity on our operational land.
- 4.88 In addition to our ESG strategy, our EAP describes how we will mitigate and improve the environmental impact of our network. It builds on the commitments made in the RIIO-T2 EAP and incorporates anticipated future requirements, such as mandatory reporting Taskforce for Nature-related Financial Disclosures (TNFDs). Our EAP consists of 18 commitments across five areas, designed to both build on the RIIO-T2 EAP and support our commitments on page 37<sup>35</sup>.
- 4.89 Through our compressor fleet strategy, we are not only investing in our fleet so that it continues to meet the needs of our network, but also looks at how improvements to or innovation trials in respect of our compressors can help achieve clean power and net zero. This is an area still in the early stages of development, but we are looking at options ranging from relatively simple changes to seals and motor starters through to potential construction of new, less polluting units. Through our plan we will continue to deliver strategic investment to ensure our compressor fleet has the capability, resilience, operability and availability to meet our licence obligations and consumers' needs, whilst also complying with emissions legislation and contributing to network decarbonisation. We have set out more information in our Deep Dive on page 71.

## Delivering a network fit for the future

- 4.90 Our network must be ready to serve not only the energy needs of today, but those of the future. Our network will be key to the deployment of innovative technologies such as hydrogen and carbon capture. Both these innovations will be integral to the decarbonisation of power by 2030 and achievement of net zero by 2050. Our network must deliver the flexibility needed to provide security of energy supply today, but also as the energy system transitions to greater levels of intermittent renewable power in the future.

## Transitioning to a low-carbon future

- 4.91 We are committed to net zero by 2050. We are looking to the future by developing the transmission system of tomorrow while also ensuring that no-one is left behind in the net zero transition. Our network assets have flexibly adjusted over many decades and, through cost-effective repurposing to low-carbon fuel transportation, we may adapt the network so it can continue to be the platform for gas.
- 4.92 Since Net Zero Greenhouse Gas Emissions by 2050 was set into UK legislation in 2019, the decarbonisation policy landscape has continued to evolve. Several UK Government policies highlight our targets and ambitions relating to hydrogen, such as 10GW hydrogen production by 2030. These policy targets signal a commitment to reduce greenhouse gases and provide a roadmap for network hydrogen integration.

<sup>35</sup> NGT\_A03\_Environmental Action Plan\_RIIO\_GT3

## 4. Delivering our plan

### Delivering a network fit for the future

#### Transitioning to a low carbon future

- 4.93 As the UK Government promotes private-sector investment, accompanied by available public funding, we can expect advancements in hydrogen production and storage solutions alongside expanded hydrogen transportation. Project Union<sup>36</sup>, our pioneering project to create a ~2500km hydrogen backbone using mainly repurposed infrastructure, will be key to achieving the Government's net zero goals. We will work with Government to bring forward the Hydrogen Transportation Business Model (HTBM) to accelerate the developments required.
- 4.94 Another key component in our effort to reduce carbon emissions, is hydrogen blending. While blending has been approved by the European Union (EU), we are waiting for a strategic policy decision from the Government. In addition, we need to understand the impact of blends of hydrogen on our assets, as well as the interventions we need to perform to prepare our network to receive such blends.
- 4.95 The Government also has an ambition to have 30-40 TWh of biomethane by 2050, with 8 TWh by 2031, which would substitute natural gas within the gas grid. The NTS can accommodate uninterrupted flows of biomethane onto the system, which will enable maximum plant outputs to make them more economical and deliver greater carbon benefits. This will also remove the need for propane injections to improve gas quality or the addition of odorant required at a distribution level. The approach would be equally applicable once hydrogen injection is approved.
- 4.96 The market framework will also need to be in place to deliver the arrangements needed to enable the continued functioning of the market in a low-carbon future. Work is being progressed at industry and government levels on what changes will be required to the market framework to enable this transition.
- 4.97 Our global-first facility, FutureGrid<sup>37</sup>, delivers essential information on existing asset capabilities. It is helping us prioritise the asset investments we will need to perform to safely transport blends of up to 100 percent hydrogen on our retained network. FutureGrid's primary focus has been testing, demonstration and validating assumptions in relation to how our assets behave when operated with hydrogen, generating evidence to build our safety case.

#### Green gas – our ambition

- 4.98 We believe that green gases have an important role to play during the RIIO-GT3 period, with a view to achieving a cleaner energy future.
- 4.99 We will continue to develop processes and policy to facilitate an increased number of biomethane/green gas connections on to the transmission system than ever before, so helping to enable a cost-efficient transition towards net zero.
- 4.100 We have increased our engagement with biomethane producers in the last 18 months. This engagement has focused on specific biomethane connection enquiries, as well as general discussions with producers, through the Biomethane Forum. Producers have fed back on issues, which they have experienced in connecting to the NTS. These issues primarily relate to the timeliness and cost of connection. We are, therefore, proactively addressing the issues which impact the timelines, from introducing standardised green gas connection designs to procuring long-lead items to manage stock levels.
- 4.101 We currently have one biomethane site connected to the NTS, with another site due to commission 2024/25. Whilst there has been interest for connections to the NTS, the initial connection charges of £1.5m-£2m have been a limiting factor, along with the longer timelines associated with Biomethane connections to the NTS, which can be up to three years from the initial application.

<sup>36</sup> Project Union | National Gas (<https://www.nationalgas.com/future-energy/hydrogen/project-union>)

<sup>37</sup> FutureGrid | National Gas (<https://www.nationalgas.com/future-energy/futuregrid>)

4.102 Our intelligence suggests there are approximately 51 new biomethane sites wanting to connect to the NTS, with an associated volume of 3.8TWh, and we are targeting 2030 as a date to have these connected. Compared to the previous five years for all entry connections (two since 2020), this will see a significant increase in the connections made to the NTS, which underlines our ambition.

4.103 Further information in respect of biomethane is set out in the System Operator Annex<sup>38</sup>.

### Hydrogen - our ambition

4.104 We will realise our hydrogen ambition through the delivery of Project Union, which will see the creation of a 100 percent hydrogen transportation network, connecting hydrogen production and storage with end users. The project will support the country's future energy security by providing the necessary infrastructure to connect a flexible and long-term energy transport and storage solution. It will also open up potential import/export opportunities with Europe and beyond.

4.105 Project Union is delivering a phased, FEED programme by geographical region, which will determine the preferred routes (such as pipeline feeder sections) that are to transition and form part of the hydrogen backbone. FEED studies are due to be completed in early 2028. Therefore, they will not be concluded in time to enable finalised routes or confirm associated operating strategies to be included within our plan.

4.106 We will begin preparatory works relating to the development of hydrogen infrastructure and repurposing natural gas assets in RIIO-GT3. This will ensure we can deliver upon our hydrogen ambition and prepare our transmission network for the transition to low-carbon energy. It is imperative that we take action now, which is why we are proposing to take no-regret decisions within our plan.



**Innovating to play our part in a transition to a low carbon future and deliver net zero**

<sup>38</sup> NGT\_A10\_System Operator Annex\_RIIO\_GT3

## 4. Delivering our plan

### Delivering a network fit for the future

#### Pipeline integrity inspection

- 4.107 Maintaining the integrity of our pipelines is critical to their safe and reliable operation. The inspection of a pipeline as a pressure vessel is mandated in the Pressure System Safety Regulations 2000 (PSSR). We perform an inspection regime to understand the integrity of the pipeline and to allow investigation and remediation to be targeted.
- 4.108 In geographical regions which have a high likelihood of repurposing natural gas transmission assets to form part of the hydrogen backbone, essential integrity inspections must be performed to minimise or control the increase in natural gas security of supply risk prior to repurposing. Integrity inspection is required in order to determine whether pipeline feeders are:
- of a health that will enable effective isolation (valves are functional etc), to facilitate transition to a hydrogen-ready network;
  - of good asset health to ensure the retained natural gas network can manage a less supportive service (reduced resilience with reduced pipelines);
- 4.109 We have successfully optimised our RIIO-GT3 programme of in-line inspection (ILI) and have no anticipated requirement to bring forward ILIs that are currently scheduled for RIIO-GT4.

#### Gas analysers and meters

- 4.110 When delivering planned asset health interventions, we have evaluated opportunities to perform cost-efficient solutions that deliver both natural gas and hydrogen compatibility where there is a viable option in the market. We will be readying assets for hydrogen transportation.
- 4.111 We have already taken steps within our gas analyser replacement programme to re-size the kiosks in which they are housed, ensuring that they are suitably sized to accommodate a dual carrier gas (hydrogen-ready) system design in the future. Gas analysers are used across sites for gas composition measurements to support accurate metering and to ensure our compliance with GSMR 1996 (health and safety).
- 4.112 Given the likelihood of receiving hydrogen molecules onto our transmission system during RIIO-GT3, our investment plans detail the proposed installation of modified process gas chromatographs and meters that can provide accurate measurements of gas composition and flow, respectively, for natural gas with varying levels of hydrogen; these assets can essentially be considered hydrogen-ready.
- 4.113 These preparatory works (£6.85m) will ensure we are able to measure both natural gas and hydrogen within our network. For further details of these works, please refer to the Gas Quality, Metering and Telemetry EJP<sup>39</sup> and would be triggered through a UM.

Investments - £m	Best view Uncertainty Mechanism (£m)
Gas Quality Hydrogen Preparatory works	4.42
Metering Hydrogen Preparatory works	2.43

<sup>39</sup> NGT\_EJP06\_Gas Quality, Metering and Telemetry\_RIIO-GT3





# 5 Financing our plan



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## Background

- 5.1 As the owner and operator of the NTS in Britain, we are a natural monopoly and are therefore subject to a regulatory regime. This regime is in place in part to limit the amount we can earn from charges for use of the network but also to enable and incentivise investment, efficiency, performance and resilience, thus ensuring we deliver outcomes that are in the interests of both current and future energy consumers. Effective price controls balance the relationship between facilitating investment in the network, allowing networks to earn fair returns that properly reflect the risks faced in the prevailing financial market conditions while ensuring that the amount that can be charged for operating our network represents value for consumers.
- 5.2 Our revenues and profits are therefore driven by the allowances and returns allowed by Ofgem in respect of performing our obligations under our licence. Revenues broadly consist of allowances for operating our business and discharging our obligations that are incurred within each year ('fast money' allowances), those that relate to the recovery of previous investment to maintain or expand our network ('slow money' allowances, currently recovered over 45 years) and an allowed return granted by Ofgem at each price control review.
- 5.3 We do not operate as an energy retailer or as an importer or shipper and as such, do not own the gas in the transmission network nor sell it to end customers. Our key drivers of profitability are outlined below.
  - The return that Ofgem grants in return for the investment we make and for the delayed recovery of that investment.
  - Delivering our obligations efficiently and going beyond our core obligations to deliver value for customers, allowing us to secure additional allowances via a suite of incentive schemes.
- 5.4 This makes the setting of the financial package at each price control crucial to retaining and attracting investment to facilitate a safe, reliable and secure network in a period where multiple industries have high capital demands to deliver extensive infrastructure investment.

## 5. Financing our plan

### Background

- 5.5 At the start of RIIO-T2 (April 2021), we were a member of the National Grid plc group and called National Grid Gas. In March 2022, National Grid announced the sale of the gas entity of the business, primarily consisting of National Gas Transmission (the regulated gas transmission entity) and National Gas Metering, to long-term infrastructure investors. This consortium is led by Macquarie Asset Management, the world's largest infrastructure manager, and includes British Columbia Investment Management Corporation, one of Canada's largest institutional investors. The transaction was subject to numerous regulatory and governmental approvals and was completed in stages starting in January 2023. From 26 September 2024, we are 100 percent owned by the consortium.
- 5.6 The regulated business is financed via a combination of debt and equity, as is the norm for infrastructure companies. This ability to access private capital allows networks to spread the cost of investment to consumers over a longer period. The proportion of debt and equity is governed by the financial package set by Ofgem at each price control period and each networks' ability, within the RIIO framework, to set its own financing strategy within the parameters set by the regulator. Please refer to the Finance Annex<sup>40</sup> for further details.

### The importance of investability

- 5.7 Both debt and equity investors provide funding in anticipation of earning a return that is commensurate with the risk they are taking.
- 5.8 Risk arises due to uncertainty as to whether future cashflows generated by the company will fully refund the investment and return expected by investors. Therefore, investors' assessment of the attractiveness of investing in UK regulated energy networks will include a judgement about the long-term quality and stability of the UK regulatory regime and the certainty of recovery of the Regulatory Asset Value (RAV) which represents money due to investors.
- 5.9 If investors perceive the risk is too high compared to the return, they will move their money elsewhere, making raising new equity and debt more costly and so increasing costs to consumers.
- 5.10 There have been material changes in capital market conditions since RIIO-T2 began. The period of ultra-loose macroeconomic policy has ended as a result of a variety of global shocks and as such, there has been an abrupt rise in interest rates and the cost of borrowing for governments and companies alike. The regulatory models that served the previous era of cheap money must be adapted to reflect these new conditions in financial markets.
- 5.11 These factors, combined with the significant investment required across multiple sectors driven by the need to replace ageing infrastructure and to invest in the transition to net zero, means that ensuring the financial package is set at a level appropriately attractive to both retain and attract investment in the sector is more essential than ever.
- 5.12 Ofgem is aware of this challenge and has expanded its assessment of financeability to include the concept of 'investability'. One of Ofgem's core obligations is to ensure networks can deliver their business plans, including being able to raise sufficient capital to do so. This is especially important in RIIO-GT3 given the need for networks to deliver higher investment and retain and attract capital in a competitive capital market. In previous price controls, this has primarily focused on networks' ability to raise sufficient debt capital, which remains fundamental, but will now be expanded to focus on needs of equity investors.
- 5.13 Ensuring investability requires that the cost of equity lies sufficiently far above the long-term return on senior investment-grade debt. This condition stems from the relative earnings profile of debt and equity. Senior debt is paid first, and it is paid a contractually stipulated sum with contractual protections available as a backup. In comparison, holders of equity are paid last, and act as residual claimants on the business with no guarantee they receive anything, (for example, in times of financial distress). Therefore, senior debt indicates a lower risk and better recovery prospects. Due to this difference in risk, it would be irrational for investors to raise equity when equity returns are not sufficiently above the rates that could be received from raising senior debt instead. We expand on this point later in this chapter and in our Finance Annex<sup>41</sup>, as it is a crucial input to the setting of the allowed return for the RIIO-GT3 period.

<sup>40</sup> NGT\_A09\_Finance Annex\_RIIO\_GT3

<sup>41</sup> NGT\_A09\_Finance Annex\_RIIO\_GT3

## Our financial stakeholders

5.14 Our business plan is stakeholder-led. As such, together with our advisors and industry peers, we have reviewed the evidence from financial markets to assess the needs of our investor stakeholders and used that as the basis for our RIIO-GT3 submission to Ofgem. As detailed in our Finance Annex, we also carried out extensive consumer and customer surveys (c. 2,500) on selected elements of the financial package, as well as considering the input of consumer groups such as Citizens Advice.

## Debt investors

- 5.15 Debt investors are primarily interested in credit ratings because they provide a view of the credit risk of the networks and their ability to meet loan principal and interest repayments. Investors' assessment of this risk governs the interest rate they are willing to accept to lend networks capital to invest on behalf of customers. Ours and Ofgem's assessment of financeability is therefore calibrated around how networks are assessed by credit rating agencies.
- 5.16 We hold two investment grade credit ratings and are in regular contact with credit rating agencies.
- 5.17 The primary feedback from agencies reiterates the importance of a stable regulatory regime that fairly addresses risks for networks and investors. For example, in response to Ofgem setting out its proposals in the Sector Specific Methodology Consultation (SSMC), Fitch stated:
- 5.18 "Ofgem's key challenge remains fulfilling its objectives of safeguarding customer interests (including intergenerational fairness) while allowing fair returns for both equity and debt investors and respecting its recently defined net zero duty. We believe that Ofgem's concepts of financeability and investability acknowledge the substantial investment needs of the electricity sector to achieve net zero and the importance of visibility over the future of gas to allow adequate funding for gas networks."
- 5.19 Such focus on the uncertainties facing gas networks demonstrates the importance of addressing the risks that are currently driving higher cost of debt for gas networks but also recognising realities of the markets that networks will be raising capital from in RIIO-GT3.
- 5.20 Our modelling of our RIIO-GT3 business plan and the finance package parameters known at this stage indicates that we will need to raise approximately £1.1bn, of which £910m is to refinance existing debt facilities.
- 5.21 This represents 23 percent of our existing debt book. It is clearly of utmost importance to ensure that the cost of debt allowance is appropriately calibrated to reflect this mix of new and embedded debt and the interest rates new debt will attract.



**When the wind doesn't blow and the sun doesn't shine we will power industry and society**

## 5. Financing our plan

### Equity investors

- 5.22 Investors are typically attracted to regulated businesses by a well-understood regulatory model and the relatively predictable dividend stream that can be generated from a well-managed network, which supports the requirements of the long-term funds from which investment is commonly sourced (such as through pension funds). This stable regime comes with the expectation of a fair return for the investment facilitated and the period over which it is recovered.
- 5.23 Our ability to continue to pay dividends and deliver RAV growth are priority considerations in our equity investors' assessment of the attractiveness of investing in NGT, particularly at a time of growth in investment in multiple sectors. The absence of an appropriate dividend yield increases the risk that investors will not receive a return commensurate with the risk of their investment. To continue to attract equity investors and reflect the delay in realisation of returns, we need to be able to pay a dividend yield which is comparable to equivalent investment opportunities and demonstrates stability in line with investor expectations.
- 5.24 Our dividend policy is aligned to our licence obligations, notably the need to deliver investments agreed with Ofgem and to perform our unique role on the network. The policy references a number of factors but key determinates of the levels of dividends paid are as follows:
- regulatory resilience measures (e.g. regulatory gearing of 60 percent);
  - the investment requirements of National Gas as a whole (taking into account all businesses, not just regulated activities);
  - the performance of the various business units within National Gas (including unlicensed activities); and
  - ensuring it has sufficient facilities available to fulfil its licence obligations (e.g. balancing, shrinkage purchases etc).
- 5.25 We regard dividend yield as a key measure of the financeability of our business plan. Ofgem assumes a dividend yield of 3 percent equity RAV in its notional assumptions, which we have adopted in the base case presented in our Finance Annex. As described more fully in our Finance Annex, since being an independent entity our dividend yield derived from regulated activities is comparable with the industry average.

### Our proposed financial package

#### Cost of debt

- 5.26 The cost of debt allowance in a price control, is set to remunerate companies for the cost of debt expected to be incurred by a notional efficient network company in the sector a network operates. We support this methodology, as does the UK Regulators Network (UKRN) in its recommendations, which states that regulators should estimate an allowance for an efficient company under the notional company structure for the relevant sector, with actual debt costs suitably benchmarked against other market evidence.
- 5.27 However, setting the parameters of the notional company is crucial to ensuring that the appropriate allowance is set.
- 5.28 In R110-T2, the allowed cost of debt was constructed using data from an index of borrowing costs deemed to best align to the sector as defined at that time period (Iboxx Utilities 10yr+) and an allowance for additional costs that are not fully reflected in that index output. This was adjusted to a real allowance using the long-term Consumer Prices Index including Housing (CPIH) assumptions set in R110-T2.
- 5.29 Throughout the SSMC and decision (SSMD), and related stakeholder engagement sessions, Ofgem has referred to differentiating sectors, depending on the specific investment needs of those sectors and if evidence suggests there is a need to reflect different sector risks in how cost of debt is calibrated. In response to SSMC, we presented strong evidence for an increase in risk for gas networks, relative to electricity and to R110-T2, which manifests as a higher cost of borrowing and lower tenures for the gas sector.

- 5.30 As such, we proposed that it is appropriate to assess our efficient borrowing costs against a comparator group of NGT and the GDNs, which provides an appropriate balance of reflecting the divergent risk between electricity and gas and maintaining a comparator that extends beyond NGT alone. We reiterate that this is the appropriate starting point for benchmarking the cost of debt in our business plan.
- 5.31 As described elsewhere in this business plan, stakeholder-led demands for a resilient network, maintained at an appropriate level of network risk and that meets Government-defined levels of cyber and physical security leads to a significant increase in investment in RIIO-GT3 vs RIIO-T2. Furthermore, Ofgem's decision to accelerate the recovery of the RAV for GDNs, to address the perceived stranding risk, has the potential to create a different dynamic in the gas debt market, assuming GDNs are expected to pay down debt as the RAV is collected.
- 5.32 To address the requirements to raise significant debt to fund investment plans, Ofgem has decided to introduce a RAV-weighted assessment for all electricity transmission networks but retain the RIIO-T2 unweighted approach for gas networks. Ofgem's main rationale for not introducing this for gas networks is the level of RAV growth, which Ofgem anticipates for gas networks to be substantially lower than electricity.
- 5.33 However, our plans result in significant RAV growth for RIIO-GT3 and therefore we assert that at a minimum, a fair assessment of the amount of new debt networks need to raise, particularly in the counterfactual scenario that NGT proposes is appropriate, is taken into account when arriving at forecast average debt costs.
- 5.34 We commissioned Economic Insight (EI, consultant) to estimate the nominal cost of debt over RIIO-GT3 for NGT and the sector as a whole. This illustrated a significant increase in borrowing costs since RIIO-T2, with embedded debt forecast to cost c. 4.2 percent but new debt c. 6.2 – 6.5 percent, emphasising the need to calibrate average costs fairly. By applying high level proportions of new and embedded debt for the sector sourced on a confidential basis via FEN to the benchmarked data sourced by EI, estimated average sector debt costs are c.4.7 percent (nominal, Ofgem base case) to c.4.8 percent (nominal, alternative package). Assuming the established approach of adopting the IBoxx trailing average that best aligns to average sector costs, our alternative package adopts this estimate, although we note that an adjustment to IBoxx trailing averages (as in RIIO-ED2) appears to be necessary to ensure costs are recovered fairly.
- 5.35 Further detail on the sector's benchmarked cost of debt is included in our Finance Annex<sup>42</sup>. Ofgem will perform its own analysis of the mix of embedded and new debt in networks' and the gas sector's business plan submissions ahead of Draft Determinations, as well as reaching a preliminary decision on investment plans for RIIO-GT3, which may impact networks' financing plans. As such we will continue our engagement with Ofgem on this matter once it has had the opportunity to perform this analysis.
- 5.36 A conclusion on additional costs was postponed by Ofgem until Draft Determinations. At SSMC, together with the ENA, we submitted a report by NERA, updating the various elements of the additional costs granted at RIIO-T2 to reflect current market conditions. This proposed additional costs of 57 bps vs the 25 bps granted at RIIO-T2, primarily reflecting the underlying market costs of securing relevant facilities such as revolving credit facilities. Such facilities are crucial to NGT, given our obligations in respect of system balancing and acting as a Supplier of Last Resort (SoLR) should shippers fail, all of which can cause material short-term cash demands. We have adopted the updated NERA proposals in the alternative financial package scenario we present later in this section. Within this category of borrowing costs, the matter of the RPI/CPIH wedge and planned index convergence in 2030 needs to be carefully considered by Ofgem. After this date networks with RPI-linked debt are likely to incur additional costs to convert existing agreements. Whilst financing strategy is a network's choice, another key principle of the RIIO framework is to hold networks whole for factors they cannot control and RPI reform is not in a network's control nor was it stated policy at the time of these agreements. Furthermore, such agreements were put in place when all allowances were indexed with reference to RPI. Holding networks accountable for costs they cannot control could unnecessarily increase financing costs and therefore accounting for this cost appears a required course of action which can be partly addressed in the short term by at least continuing the allowance at the level proposed in NERA's report (18-23 bps) into the final year of RIIO-GT3 but given the absence of executed transactions and the likelihood of lengthy legal processes and commercial negotiations, we also consider that Ofgem should include a targeted uncertainty mechanism to ensure borrowing costs fairly reflect sector borrowing costs.

<sup>42</sup> NGT\_A09\_Finance Annex\_RIIO\_GT3

## 5. Financing our plan

### Our proposed financial package

#### Treatment of inflation

- 5.37 Ofgem has concluded on how it intends to respond to feedback received to its Call for Input on the matter of inflation, the focus of which is to remove the so-called 'leverage effect'. This effect is observed when outturn inflation exceeds the inflation assumed when setting cost of debt allowances and is particularly prevalent in companies that hold a higher proportion of fixed-rate debt.
- 5.38 We responded to the Call for Input and demonstrated that we would not be forecast to benefit from the leverage effect across R110-T1 and T2 under Ofgem's modelling principles and information available at the time. This is because our financial structure is significantly different to the current notional financing structure assumptions; it maintains a relatively high proportion of inflation-linked debt which offsets the additional CPIH indexation, reflecting investor preferences and the R110 framework at the time.
- 5.39 At SSMD, Ofgem selected an option that grants a nominal allowance for fixed-rate debt but removes CPIH indexation from the relevant portion of RAV measured under the notional structure (i.e. 70 percent of 60 percent, being 42 percent).
- 5.40 Ofgem also stated that whilst the proportion of index-linked debt in the notional structure would be re-assessed at draft determinations, it is not expected to change materially from the 30 percent adopted at R110-T2. We agree with this conclusion, given the use of index-linked debt throughout the sector and the fundamental principles inherent in how the notional company is calibrated. Therefore, cost of debt allowances for index-linked debt will continue to be granted as a CPIH-real allowance, adopting the same 2 percent long-run estimate of CPIH inflation used in R110-T2.
- 5.41 Whilst we are not forecast to materially benefit from the leverage effect, we understand Ofgem's position in SSMD and will not challenge the adoption of Ofgem's preferred option. Our position would have been significantly different had the decision on the treatment of index-linked debt been different. Ofgem's methodology for the treatment of inflation and the subsequent impact on RAV indexation is therefore adopted in our base scenario.

#### Cost of Equity

- 5.42 Setting the right allowed return is critical to achieving a balance between current and future customer charges and investor returns. It ensures networks can fund their operations and future investments and have adequate financial capacity to manage uncertainty around the energy transition, whilst at the same time consumers pay no more than is necessary for the services and activities they receive and from which they benefit.
- 5.43 This is important for the resilience of the energy sector, as a whole and especially in gas transmission, given the investment that is required and the risks facing the gas sector. The required financial capacity is dependent on networks receiving a fair return for the risks they hold, and on investors having confidence in the stability of the regulatory regime.
- 5.44 The cost of equity cannot be directly observed and will always be an estimation, which makes it important that all available evidence is considered to ensure the estimation is suitably robust. The most used framework to estimate cost of equity is the Capital Asset Pricing Model (CAPM), generally accepted as the most appropriate model employed across all regulated sectors. The equity beta within CAPM captures all the risks that cannot be eliminated through diversification of an investment portfolio, for which investors require compensation. However, very few of the risks that we face as a business can be clearly classified as either diversifiable or non-diversifiable.
- 5.45 Furthermore, CAPM is largely dependent on historic data and as such, there is a likelihood of forward-looking risks that networks face are not fully captured in CAPM inputs. As such, we and other networks have consistently emphasised the importance of cross-checks of the cost of equity range resulting from CAPM.

5.46 In estimating cost of equity, and in selecting a reasonable point value from within the possible ranges, we not only consider cross-checks but also take into account the following:

- Financeability considerations.
- Feedback (from both investors and consumers).
- Evidence from the financial markets in which networks operate.
- The need to attract and retain finance.

5.47 Please refer to our Finance Annex<sup>43</sup> for further details on how we assessed the cost of equity. In this summary, we have focused on what we regard as the key inputs to calibrating this allowance for RIIO-GT3.

### Total Market Return (TMR)

5.48 TMR is used to estimate the Equity Risk Premium (ERP). This is the additional return over the risk-free rate that investors expect for taking the market average level of risk. TMR is typically estimated using long-run historical averages of relevant broad equity indices as the best proxy for long-term future expectations. While some regulators have taken into account future-looking estimates, UKRN guidance recommends that TMR should be primarily based on historical ex-post (observable historical returns) and ex-ante (historical returns adjusted for unexpected events) evidence. Ofgem noted in the SSMD that the exact balance of historical ex-post and historical ex-ante inputs into the TMR estimate will reflect their regulatory judgement but will place weight on both sets of data.

5.49 Whilst the UKRN expects TMR to be stable, it does clarify that this does not necessarily mean it should be fixed. At RIIO-T2, TMR was set at 6.5 percent CPIH-real, a reduction from the rate used at RIIO-T1. NGT and other ENA members submitted evidence at SSMC via work performed by Oxera and Frontier Economics. It demonstrated the relationship between the levels of TMR granted by regulators across multiple sectors and price control periods and UK gilt rates (that is, the cost of borrowing paid by the UK Government). Referred to as the 'TMR Glider', this work demonstrated that given the significant increases in UK gilts since RIIO-T2 and the relationship between those rates and the levels of TMR granted, evidence suggests that there is a need for the estimate of TMR to increase for RIIO-GT3 (note for example that UK gilts have increased c. 3.6 percent since RIIO-T2 rates were set).

5.50 At SSMD, Ofgem disputed that TMR decisions were directly related to prevailing market conditions. It instead argued that developments in best practice in calculating real TMR were of greater influence and the importance of a stable TMR. Ofgem did however increase the proposed TMR range for RIIO-GT3 to 6.5 percent - 7.0 percent CPIH-real in SSMD.

5.51 This movement is positive in that it partly recognises the current evidence put together with the ENA. The ENA commissioned further work by Frontier to enhance the robustness of the TMR Glider to give further confidence in its use as a sense check. The TMR Glider is not proposed as a predictive TMR model but rather a tool for regulators and networks to reflect prevailing marketing conditions when setting TMR, at the same making UKRN guidance that TMR is 'stable but not fixed' more operational in nature.

5.52 Analytical refinements and updated data applied to the methodology now result in a range of 7.0 percent - 7.5 percent CPIH-real with a point estimate towards the top of this range. Supported by evidence from cross-checks, 7.5 percent is adopted as the point estimate in our alternative financial package.

5.53 As noted later in this section, Ofgem recognises the importance of employing cross-checks but generally as a sense check of the overall cost of equity derived from CAPM rather than individual inputs. However, it did state in SSMD that investment managers' forecasts of TMR will be considered as a cross-check specifically for TMR which we support.

<sup>43</sup> NGT\_A09\_Finance Annex\_RIIO\_GT3

## 5. Financing our plan

### Our proposed financial package

#### Beta

- 5.54 Beta is utilised within the CAPM approach to take account of the specific risk of investing in a network or sector that cannot be diversified away ('systematic risk'). Beta is not directly observable and as such, has in the past been derived from share price data from a group of listed comparators selected as they share characteristics with networks regulated under the RIIO framework.
- 5.55 In RIIO-T2, comparator firms were limited to listed UK energy and water networks, being National Grid plc (considered a 'pure play' mixed utilities group), Severn Trent plc and United Utilities plc.
- 5.56 National Grid's recent mergers and acquisitions activity has reduced its exposure to gas networks, disposing of gas distribution networks and National Gas during the period of data generally analysed for assessing beta (up to 10 years of data is generally assessed). At SSMC, we and the ENA responded that data from listed European utility companies should be included in the comparator set for RIIO-GT3.
- 5.57 At SSMD, Ofgem stated that this recommendation would be subject to a further review of the regulatory regimes in which these companies operate. At this stage Ofgem is minded to include data from Enagas (GT) and Red Electrica (ET) in Spain and Italgas (GD), Snam (GT) and Terna (ET) in Italy.
- 5.58 We and the ENA recommended comparators on the basis of exposure to the same industry challenges faced by the energy sector in the UK and on the proportion of regulated activities they undertake. Therefore, we acknowledge Ofgem's need to ensure that comparator firms are suitable but continue to support the inclusion of such comparators given their exposure to similar industry risks and the reducing exposure to the gas sector that RIIO-T2 comparator networks now have.
- 5.59 To confirm the validity of the inclusion of European comparators, Oxera analysed the regulatory regimes that each of the five European comparators are regulated under and compared these with RIIO-T2 across a number of risk factors deriving from either the regulatory process or the design of the regulatory regime. As detailed in our Finance Annex, it concluded that such comparators should be included. Furthermore, Oxera demonstrated that the inclusion of Pennon would be appropriate given UKRN recommendations and its exposure to the regulated water business in the period under review.

#### The use of cross-check evidence

- 5.60 UKRN guidance recommended the use of cross-checks to sense check the overall cost of equity derived from the CAPM midpoint but that the midpoint should only be deviated from if there are strong reasons to do so. At SSMC, Ofgem agreed with that recommendation and proposed to adopt it in RIIO-GT3, and we, along with other networks, submitted evidence in response. However, SSMD appears to have disregarded the majority of the evidence and methodologies presented as cross-checks, notably those methodologies that utilise observable evidence regarding cost of debt to estimate a suitable cost of equity.
- 5.61 The objective of cross-checks is to enhance the robustness of the estimate derived from the CAPM, which is particularly important at a time when networks face unprecedented risks in future and risks that may not be reflected in historical data used to estimate CAPM. We continue to be of the view that the outcome of these cross-checks should be considered by Ofgem to ensure a balanced estimate of the risks facing network in future.



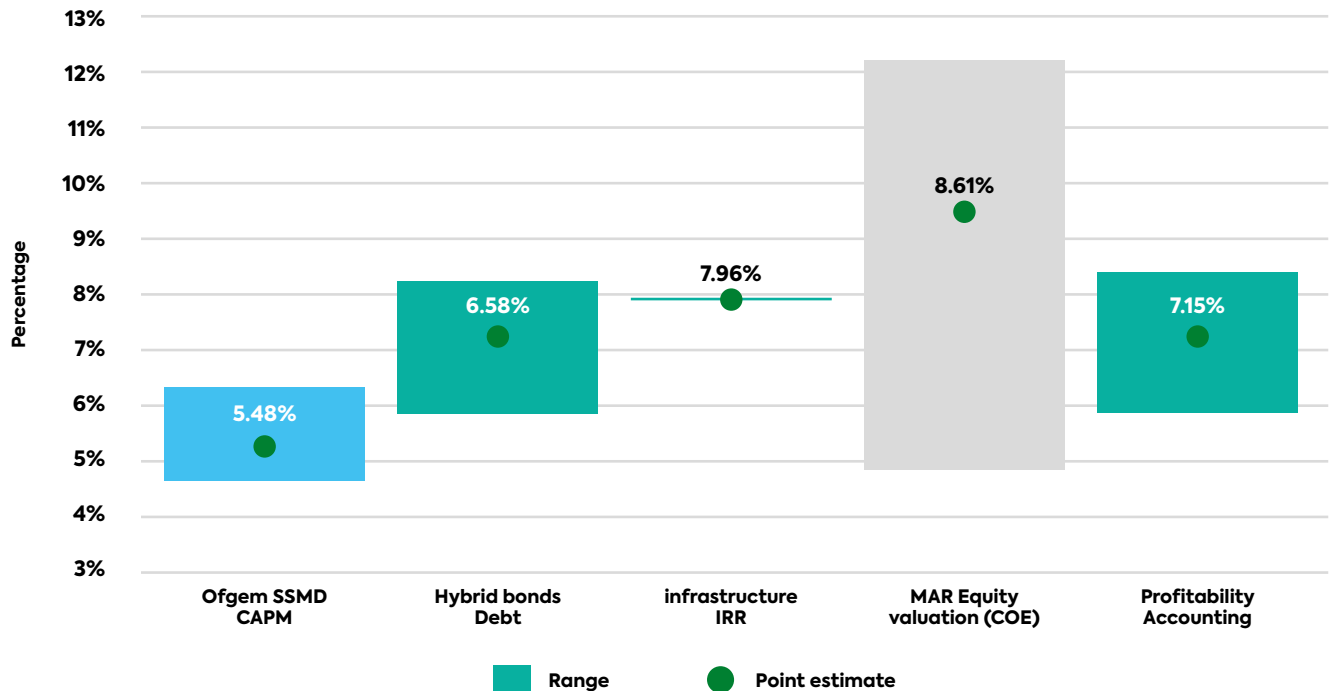
- 5.62 At SSMC, we and the ENA presented an assessment of and updated evidence on several cross-check methodologies. Considering Ofgem's response at SSMD, Frontier Economics has further supported the ENA by performing a detailed analysis of the various cross-check methodologies against a consistent set of criteria. Cross-checks broadly to four main categories:
- Debt-based (such as Asset Risk Premium–Debt Risk Premium or hybrid bonds), which utilise observable market data on the cost of debt to sense check the cost of equity, the principle being that as debt holders have priority claims ahead of equity investors, equity holders are subject to greater risks and demand a higher return. At SSMD accepted this principle but challenged the sample data utilised and the manner in which these cross-checks should be implemented. Such challenges have also been addressed in Frontier's updated report, as described in our Finance Annex.
  - Survey-evidence cross-checks (such as infrastructure fund returns).
  - Equity valuation-based cross-checks (such as Market-to-Asset Ratios, whether observed via equity prices or transactions).
  - Accounting profitability.
- 5.63 The result of this assessment, particularly for those methodologies considered most robust such as debt-based cross-checks, demonstrates that the CAPM output at SSMD does not fully reflect market conditions as it fails to overlap with the range derived from the cross check data.
- 5.64 At SSMC, evidence available at the time regarding the MAR implied cost of equity cross-check was also assessed but it was not yet possible to draw meaningful conclusions given the low number of relative transactions. Whilst further transactions have taken place since SSMC, Frontier's subsequent work demonstrates that several other factors are considered when values are derived in a market transaction, the same factors being relevant to a lesser extent when assessing share transactions. As such, Frontier does not recommend placing significant weight on such cross-checks Evidence from infrastructure funds, investment managers' forecast of TMR and MAR methodologies were utilised by Ofgem as it expects to do so again for RIIO-GT3.
- 5.65 While Ofgem challenged certain elements of how ARP-DRP and hybrid bond methodologies were proposed at SSMC, it did state that the principles of such cross-checks were understood and Ofgem would consider how best to utilise such evidence at Draft Determinations.
- 5.66 The ARP-DRP cross-check works on the logic that market-observable evidence of the cost of debt faced by networks can be utilised as a sense check of cost of equity. As debt holders have priority claims ahead of equity investors over a company's assets, equity investors are subject to greater risks and demand a higher return. Where this principle is breached by cost of equity estimates being too low relative to the market pricing of debt, this suggests an error in the application of the cost of equity estimation.
- 5.67 Ofgem challenged the assertion that cost of debt data can be utilised to 'back solve' a required return on equity, the logic being that real equity returns do not respond on a one-for-one basis. Ofgem will however consider how to deploy such a cross-check at Draft Determinations.
- 5.68 On similar lines, hybrid bonds blend characteristics of both debt and equity and therefore, evidence was submitted at SSMC demonstrating that equity returns should be higher than debt returns for the same asset and therefore pricing signals from hybrid instruments can be considered to sense check the cost of equity. At SSMD, Ofgem stated that it acknowledged the principles of the cross-check but expressed concerns that evidence presented referenced only one issuer (a financing subsidiary of National Grid plc). As such, in an updated report to the ENA, Frontier has widened the sample size to include evidence from a range of energy and other infrastructure companies whilst carefully assessing the characteristics of each issuer/sector to ensure an appropriate degree of comparability with GB regulated networks. This demonstrated that the National Grid bond originally analysed was sufficiently representative of the observable spreads between debt and equity costs.

## 5. Financing our plan

### Our proposed financial package

#### The use of cross-check evidence

5.69 The results of the various cross-check methodologies are summarised below<sup>44</sup>:



5.70 The evidence gathered above for the overall positioning of CoE illustrates that Ofgem's proposed Cost of Equity range is too low; notably the midpoint of Ofgem's CAPM output fails to overlap with the range indicated by the hybrid bond cross-check. Based on the evidence produced during our analysis, the most appropriate adjustment is to TMR and as such, NGT has decided to choose the top of the presented TMR range with the point estimate of 7.5 percent. This is based upon the conclusions of Oxera and Frontier analysis which both reference prevailing market conditions strongly indicate a TMR range of 7.0 percent–7.5 percent for RIIO-GT3 and recommend that the point estimate should be towards the top of this range. NGT's point estimate of 7.5 percent brings the cost of equity to 6.48 percent for RIIO-GT3, which is consistent with the hybrid bond cross-check evidenced in Frontier's analysis to be the most robust. It is also supported by the evidence from the infrastructure IRR and other cross-checks, which while perhaps more viable as directional indicators rather than for a specific calibration of CoE, do illustrate how underlying market conditions should be reflected in CoE.

#### Conclusion on Allowed Return

5.71 The updated evidence presented in our Finance Annex and by consultants' reports supporting the ENA demonstrates that a higher level of cost of equity than would result from adopting the midpoint of the range Ofgem presented at SSMD is appropriate. This should manifest as the adoption of a higher range of TMR or adoption of the top end of our consultants Oxera and Frontier's range of TMR estimates, as supported by the cross-check evidence laid out above.

5.72 The overall weighted average cost of capital (WACC) that is set for a price control, is an estimate of the cost of capital for the notional network. As such, it is a weighted average of the allowed cost of debt and cost of equity for the notional network company, where these are weighted using the notional gearing which was assumed in estimating the cost of equity and cost of debt. Using the values for cost of equity (CoE), cost of debt (CoD) and notional gearing from Ofgem's base scenario and our alternative, the overall WACC values are summarised opposite.

<sup>44</sup> Frontier Report prepared for the ENA - Updated cost of equity cross-checks evidence dated 22 November 2024, page 34, Section 6, paragraph 6.1.3

## 5.73 Ofgem working assumptions and NGT Business Plan Values for WACC in RIIO-GT3.

	SSMD	Base Scenario	NGT alternative scenario
Cost of debt (midpoint)	3.02%	2.90%	3.37%
Cost of Equity (midpoint)	5.43%	5.43%	6.48%
Gearing	60%	60%	60%
WACC (CPIH-real, midpoint)	3.99%	3.92%	4.61%
Semi-nominal WACC	4.85%	4.78%	5.48%
Asset lives/depreciation method	45 years, sum of digits	RAV recovery by 2050	45 years, sum of digits
CPIH RIIO-GT3 average	1.93%	1.93%	1.93%
Long run CPIH	2.00%	2.00%	2.00%

## Financial Resilience

- 5.74 Ofgem has introduced additional requirements in respect of financial resilience, both for the RIIO-GT3 period and starting from the financial year 2024 suite of regulatory reporting. In respect of the latter, further disclosures were included in the Regulatory Financial Performance Report (RFPR) on dividend policies, the governance surrounding the setting of such policies and the cash requirements of Midco or Topco financing structures. We complied with the new requirements in our FY2024 reporting submitted in July 2024.
- 5.75 For the RIIO-GT3 period, SSMD concluded that new financial resilience measures will be implemented. More than one investment grade rating will now be required (RIIO-T2 stated that networks must make 'reasonable endeavours' to maintain one). A dividend 'lock up' of 75 percent regulatory gearing or a credit rating of BBB, with a negative outlook and a longer term assessment of Availability of Resources will now be required. Ofgem stated in SSMD that no further action is to be expected in RIIO-GT3, including dividend controls, although we do note Ofgem Call for Input ("Energy networks ring fence review", issued 18 September 2024), to which we have responded separately.
- 5.76 We take financial resilience very seriously and have implemented financing policies with our regulatory obligations at the heart. We believe that such measures give Ofgem improved foresight of developing issues in the sector and they are therefore sufficient. At National Gas Transmission, we already maintain two investment grade credit ratings and have implemented financing structures at the Midco level to ensure alternative funding is available to meet Midco's debt financing obligations and significantly reduce the short-term reliance on dividends from the regulated entity.



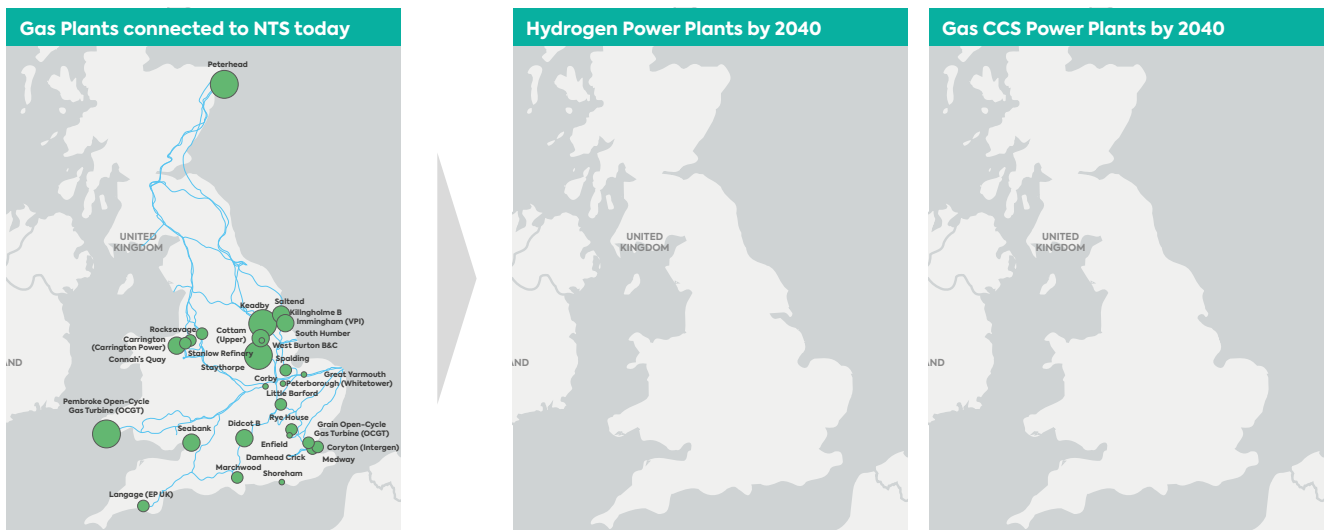
**Our plan will ensure we can maintain our assets and deliver energy security for our customers today and tomorrow**

## 5. Financing our plan

### Financial Resilience

#### Regulatory asset lives

- 5.77 There are important principles in play when setting regulatory asset lives, including ‘inter-generational fairness’, meaning the right population of consumers should pay for assets they utilise over an appropriate period of time. In RIIO-T2, 45 years was used, which reflected a fair average of the technical useful lives of the assets networks operated and continued to invest in.
- 5.78 Ofgem is concerned about the risk of stranded assets in RIIO-GT3; the risk that networks do not recover their RAV while there are a reasonable number of consumers using assets and therefore spreading the costs as widely as possible. Therefore, Ofgem intend to take action to accelerate depreciation of RAV for all gas networks.
- 5.79 We support the assertion that consumers should pay the full value of the assets they use and addressing stranding risk, at the right time, is appropriate. However, it is important to consider that existing gas transmission assets will be used by customers post 2050, and can be repurposed to support the adoption of new technologies that drive the transition to net zero. If an appropriate mechanism to identify, value and transfer assets to a hydrogen or CCS business can be established, this will help mitigate the stranding risk for a significant portion of the existing RAV. It will avoid the likely significant decommissioning costs in the process, as well as providing benefits to the users of new technologies given that current research suggests the cost of repurposing existing assets is significantly lower than constructing new assets and lead times are likely to be shorter.
- 5.80 Furthermore, as detailed in our Finance Annex, there is a growing evidence base for the retention of a significant gas transmission network in 2050. Evidence from external sources such as reports from the National Infrastructure Commission and NESO energy scenarios and Clean Power 2030 report demonstrate that while the volume of methane carried by the network in 2050 will significantly reduce, the total molecules carried, including hydrogen and carbon dioxide, is likely to fall at a much lower rate.
- 5.81 The demand for peak power generation in the form of dispatchable installed thermal capacity, is likely to increase from current levels and remain geographically spread across Great Britain. This analysis demonstrates that there is a high likelihood that the majority of the existing network will either be repurposed or retained post-2050. This would imply that action to accelerate the depreciation profile of the NGT RAV is not necessary at RIIO-GT3 but should be monitored and re-assessed as more certain forecasts of demand mix become available.



**Gas Plants - MW**

- 380 - 560
- > 560 - 890
- > 898 - 1,360
- > 1,360 - 2,188
- NTS

Redacted data due to commercially sensitive information.

- 5.82 As Ofgem itself notes in SSMD, the impact on consumer bills of accelerating depreciation is relatively limited for NGT, which by the same logic as is the potential consequence of delaying such a decision. Furthermore, this relatively early analysis of the usage of the network illustrates that accelerating depreciation prematurely may result in current natural gas consumers being over-charged for assets when future customers may still benefit from such assets or they may be transferred into other business models, the same applying to industrial or power generation customers. A premature acceleration of asset lives may also require networks to redeem financing instruments earlier than expected, which is likely to incur significant and potentially unnecessary costs.
- 5.83 Establishing how our network will be used is an important first step, but equally so is establishing the value at which assets could be transferred between businesses. We have been working with Frontier Economics to assess how such asset transfer and valuation mechanisms could be established and the options available to Ofgem and to us at NGT. The matter is complicated by the manner in which RAV is constructed in UK regulated entities, in that it represents the value of allowances to be recovered over future periods, rather than being akin to a register of individual assets. This means that any methodology to establish a fair value of the assets being transferred between the natural gas RAV and a hydrogen or CCS RAV needs to make assumptions on the best and fairest way of assigning a value to the asset being transferred. A variety of methodologies have been assessed and presented to DESNZ and Ofgem at a principles-level. They were summarised in our SSMC response, but further work is required to establish a favoured option. This is an important judgement as establishing a practical methodology that finds the most appropriate balance of fairness between current customers and future hydrogen or CCS customers is crucial in facilitating the net zero transition, albeit there may be significant cross over between these two populations given the transition, as well as not undermining the financeability of networks.
- 5.84 Please refer to our Finance Annex for further detail on the options considered.
- 5.85 We welcome the discussions we have had so far and would welcome the opportunity to continue to work with DESNZ and Ofgem to share our approach to modelling this matter and to refine the RAV transfer methodologies being considered and the subsequent impact on asset lives. We recognise that there is a balance to be achieved between the impact on energy bills and affordability and ensuring we recover the investment in the RAV. However, given the analysis summarised above we believe the impact of delaying a decision until the position is more mature is not significant and does not risk a material impact on consumer bills in RIIO-GT4.

### Assessing financeability

- 5.86 Ofgem employs a series of measures to assess whether networks' plans are deliverable from a financing perspective. The financeability of the plan needs to be assessed from both a debt and equity investors' perspective and using both the notional financing structure and the actual financial circumstances of the business.
- 5.87 The two key measures employed are:
- **Credit rating:** Business plans are considered financeable if they support the maintenance of an investment grade credit rating, as assessed under the Moody's methodology. Being investment grade means maintaining a rating of Baa3 or above. To ensure the business plan can be delivered whilst providing sufficient flexibility and resilience to withstand downside shocks, the financeability target is set at Baa1.
  - **Adjusted Interest Cover Ratio (AICR):** This measure assesses the ability of a network to pay its debt financing commitments, measuring the funds generated from operations against net interest charges. Business plans are considered financeable if a ratio of 1.2x is met but again, to allow headroom to absorb financial shocks the financeability target is set at 1.4x.
- 5.88 We have assessed the two scenarios presented earlier in this section, being the base scenario instructed by Ofgem and our alternative proposal. The outcome of SSMD whilst retaining a 45 year asset life is also included for illustrative purposes.

## 5. Financing our plan

### Financial Resilience

#### Assessing financeability

5.89 Results of modelling these scenarios are summarised below:

	SSMD with existing asset life	Base Scenario	NGT alternative scenario
Cost of debt (midpoint)	2.90% <sup>45</sup>	2.90%	3.37%
Cost of equity (midpoint)	5.43%	5.43%	6.48%
Gearing	60%	60%	60%
WACC (CPIH-real, midpoint)	3.92%	3.92%	4.61%
Semi-nominal WACC	4.78%	4.78%	5.48%
Asset lives/depreciation method	45 years, Sum of Digits	RAV recovery by 2050	45 years, Sum of Digits
CPIH RIIO-GT3 average	1.93%	1.93%	1.93%
Long-run CPIH	2.00%	2.00%	2.00%
Moody's credit rating	A3	A2	A3
AICR	1.77	1.82	1.86
FFO/Net Debt	13.18%	18.27%	14.19%
Consumer bill – Holistic Transition, Best View totex	10.99	12.44	11.46
Consumer bill – Counterfactual, Best View totex	9.96	11.16	10.29

5.90 We have applied a number of stress tests to both scenarios. This is to support the analysis of these scenarios and assess the ability of the financial package to allow us to be financeable, while absorbing the impact of a range of downside risks, as detailed in our Finance Annex. In all cases, our proposed financial package allows our business plan to be financeable under the notional assumptions defined by Ofgem.

5.91 It is of equal importance to ensure that networks are financeable under their own, actual financial structure. As such, we have modelled these scenarios against our actual financial structure and the covenants included in debt financing agreements. These covenants, while centred on similar measures such as gearing and AICR, are slightly different. Therefore, it is important to ensure our actual financing structure can be maintained under these proposals, the potential alternative being a higher lender perception of risk and the subsequent impact of higher costs to consumers.

5.92 Both scenarios are considered financeable and the proposal financeable package enables NGT to withstand reasonable downside risks.

5.93 Consumer bill assessments utilise the approach included in Ofgem's Business Plan Financial Model and adopt the same demand forecasts used in building our business plan submission. Whilst the need to invest more in RIIO-GT3 to ensure we continue to deliver a secure and resilient network results in higher consumer bill than the average in RIIO-T2 (£8.54), our alternative financial package results in a consumer bill that is c. 8 percent lower than Ofgem's base case and one that still represents less than 1 percent of a typical dual fuel bill, or 3 pence per day. Based on the Counterfactual scenario, our share of the consumer bill will be £9.89 when applied to baseline totex only.

#### Assurance of our financial package

5.94 Assurance of our business plan is detailed in the relevant section of the Finance Annex. In respect of the finance package, we have either directly or, in conjunction with the ENA, commissioned external consultancy support to validate our strategy and the evidence on which it is based.

<sup>45</sup> Assumption updated to reflect Ofgem BPFM

# 6 Board engagement and assurance



- 6.1 This Business Plan aligns with our overall business strategy to deliver an affordable, sustainable service for our customers which has the full support of our stakeholders.
- 6.2 Our business has a well-established internal controls framework. It is closely monitored by our Board, which consists of three Sufficiently Independent Directors and seven Shareholder Nominated Directors.
- 6.3 Our Board has been actively engaged in the development of our plan to ensure that the needs of our stakeholders and customers have been met. This has included:
- Overseeing that suitable arrangements and resources were in place to develop our plan.
  - Monitoring progress against key milestones.
  - Ensuring that there was an appropriate assurance plan in place.
  - Challenging draft versions of our plan, its output commitments and how key risks are being managed.
- 6.4 Our Executive members provided strategic direction and oversight for plan development. Martin Cook, our Chief Commercial Officer, has provided executive oversight of the plan development.
- 6.5 Our Business Plan Governance Framework sets out the components of the governance framework supporting the development of the Business Plan as shown in the diagram.
- 6.6 We have operated a robust governance and assurance process (see below) to ensure our plan meets the requirements of Ofgem Business Plan Guidance. Our business plan has also been tested with stakeholders and in the summer, we published the Business Plan Overview document to seek feedback and make further refinements. The Independent Stakeholder Group has also provided feedback and challenge to ensure that our plans reflect the needs of stakeholders.
- 6.7 We have fully tested our plan and can confirm our plan is financeable and has been appropriately assured. Based on the outcomes of the assurance activities, including external independent reviews, the Board have collectively satisfied themselves that we have met all the requirements set out in Ofgem's guidance.
- 6.8 Further detail on our assurance methodology can be found in our Assurance Statement<sup>46</sup>. Our Governance framework is set out below.
- 6.9 "As a Board we fully support the submission of our RIIO-GT3 business plan. My fellow Directors and I are confident that the plan is accurate, ambitious, efficient and affordable and in the customer interest. We believe it will deliver value to our customers, consumers and stakeholders whilst ensuring continued security of gas supply."

<sup>46</sup> NGT\_A14\_Assurance Statement\_RIIO\_GT3

# 6. Board engagement and assurance

## Our Board of Directors



**Dr Phil Nolan**  
Chair and Sufficiently Independent Director



**Jon Butterworth**  
Chief Executive Officer



**Nick Hooper**  
Chief Financial Officer



**Cathryn Ross**  
Sufficiently Independent Director



**Mark Russell**  
Sufficiently Independent Director



**Will Price**  
Shareholder Nominated Director



**Mark Mathieson**  
Shareholder Nominated Director



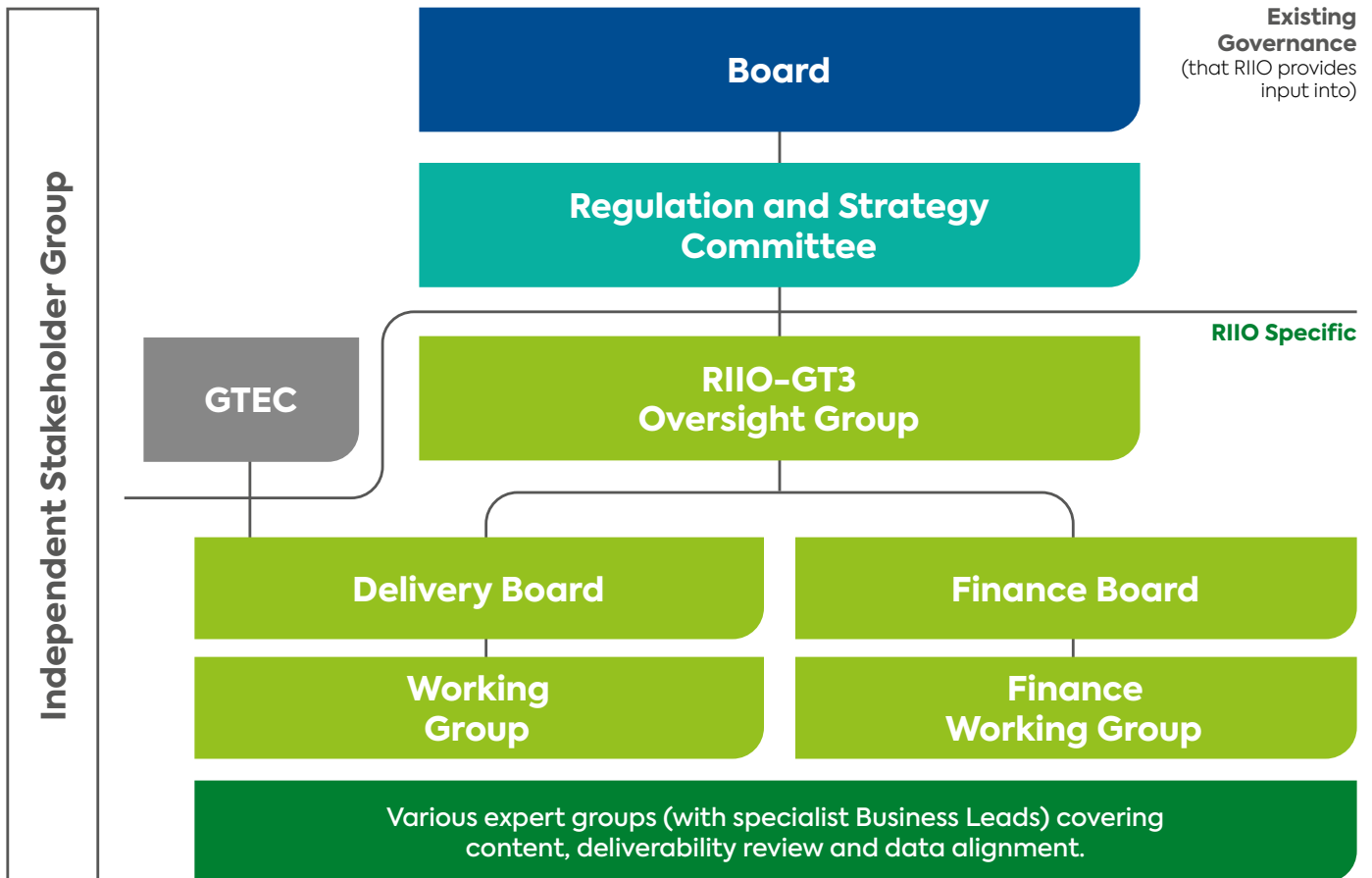
**Howard Higgins**  
Shareholder Nominated Director



**Jerry Divoky**  
Shareholder Nominated Director



**David Farkas**  
Shareholder Nominated Director







1. Introducing our RIIO-GT3 Business Plan for 2026-2031

2. Stakeholder led business plan

3. Delivering Britain's energy needs

4. Delivering our plan

5. Financing our plan

6. Board engagement and assurance

7. Document library

# 7 Document library



## 7. Document Library

Greyed out documents are not published on our website due to data classification

### NGT RIIO-GT3 Submission Documents

- NGT\_Main\_Business\_Plan\_RIIO-GT3

### Asset Investment Decision Packs

#### IDP01 – Site Assets

- NGT\_EJP01\_Site Assets – Asbestos, Stabbings and Redundant Assets\_RIIO-GT3
- NGT\_EJP02\_Site Assets – Preheating, Filters & Pipework\_RIIO-GT3
- NGT\_IDP01\_Portfolio EJP Site Assets\_RIIO-GT3
- NGT\_IDP01\_V5 CBA Site Assets\_RIIO-GT3

#### IDP02 – Electrical Infrastructure

- NGT\_EJP10\_Electrical Infrastructure: Switchgear and Transformers\_RIIO-GT3
- NGT\_EJP11\_Electrical Infrastructure: Standby Power Systems and LV Distribution\_RIIO-GT3
- NGT\_EJP12\_Electrical Infrastructure : Site Lighting, Earthing and Lightning Protection\_RIIO-GT3
- NGT\_IDP02\_Portfolio EJP Electrical Infrastructure\_RIIO-GT3
- NGT\_IDP02\_V5 CBA Electrical Infrastructure\_RIIO-GT3

#### IDP03 – Network Capability

- NGT\_EJP05\_Network Capability: West Import Resilience Project\_RIIO-GT3
- NGT\_EJP13\_Compressor Fleet – Network Investments and Zone 1 (Scotland)\_RIIO-GT3
- NGT\_EJP14\_Compressor Fleet – Zones 2 and 3 (Central)\_RIIO-GT3
- NGT\_EJP15\_Compressor Fleet – Zones 4 and 5 (South Wales and South West)\_RIIO-GT3
- NGT\_EJP16\_Compressor Fleet – Zones 6 and 7 (East Midlands and South East)\_RIIO-GT3
- NGT\_IDP03\_V5 CBA Scotland\_RIIO-GT3
- NGT\_IDP03\_V5 CBA Central\_RIIO-GT3
- NGT\_IDP03\_CBA\_V5 South Wales\_RIIO-GT3
- NGT\_IDP03\_CBA\_V5 South West\_RIIO-GT3
- NGT\_IDP03\_CBA\_V5 East Midlands\_RIIO-GT3
- NGT\_IDP03\_CBA\_V5 South East\_RIIO-GT3

#### IDP04 – AC Inspection and Remediation

- NGT\_EJP08\_AC Inspection and Remediation\_RIIO-GT3
- NGT\_IDP04\_Portfolio EJP AC Inspection and Remediation\_RIIO-GT3
- NGT\_IDP04\_V5 CBA AC Inspection and Remediation\_RIIO-GT3

#### IDP05 – Sites Cathodic Protection

- NGT\_EJP09\_Sites Cathodic Protection\_RIIO-GT3
- NGT\_IDP05\_Portfolio EJP Sites Cathodic Protection\_RIIO-GT3
- NGT\_IDP05\_V5 CBA Sites Cathodic Protection\_RIIO-GT3

#### IDP06 – Pipeline

- NGT\_EJP17\_Pipeline\_RIIO-GT3
- NGT\_EJP20\_Pipeline Cathodic Protection\_RIIO-GT3
- NGT\_IDP06\_Portfolio EJP Pipeline\_RIIO-GT3
- NGT\_IDP06\_Portfolio EJP Pipeline CP\_RIIO-GT3
- NGT\_IDP06\_V5 CBA Pipeline\_RIIO-GT3

#### IDP07 – Pressure Vessels

- NGT\_EJP18\_Pressure Vessels\_RIIO-GT3
- NGT\_IDP07\_Portfolio EJP Pressure Vessels\_RIIO-GT3
- NGT\_IDP07\_V5 CBA Pressure Vessels\_RIIO-GT3

#### IDP08 – Civils

- NGT\_EJP19\_Civils\_RIIO-GT3
- NGT\_IDP08\_Portfolio EJP Civils\_RIIO-GT3
- NGT\_IDP08\_V5 CBA Civils\_RIIO-GT3

#### IDP09 – Network Decarbonisation

- NGT\_EJP21\_Network Decarbonisation\_RIIO-GT3
- NGT\_IDP09\_V5 CBA Network Decarbonisation\_RIIO-GT3

#### IDP10 – Valves

- NGT\_EJP22\_Valves: Valves\_RIIO-GT3
- NGT\_EJP23\_Valves: Actuators\_RIIO-GT3
- NGT\_EJP24\_Valves: PCVs and FCVs\_RIIO-GT3
- NGT\_EJP25\_Valves: Bypass Installation and Modification\_RIIO-GT3
- NGT\_IDP10\_Portfolio EJP Valves\_RIIO-GT3
- NGT\_IDP10\_V5 CBA Valves\_RIIO-GT3

#### IDP11 – Pipeline Protection

- NGT\_EJP26\_Pipeline Protection\_RIIO-GT3
- NGT\_IDP11\_Portfolio EJP Pipeline Protection\_RIIO-GT3
- NGT\_IDP11\_V5 CBA Pipeline Protection\_RIIO-GT3

#### IDP12 – St Fergus

- NGT\_EJP27\_St Fergus: Rotating Machinery\_RIIO-GT3
- NGT\_EJP28\_St Fergus: Electrical Assets\_RIIO-GT3
- NGT\_EJP29\_St Fergus: Valves and Actuators\_RIIO-GT3
- NGT\_EJP30\_St Fergus: Pressure Vessels\_RIIO-GT3
- NGT\_EJP31\_St Fergus: Site Assets\_RIIO-GT3
- NGT\_EJP32\_St Fergus: Civils\_RIIO-GT3
- NGT\_IDP12\_Portfolio EJP St Fergus\_RIIO-GT3
- NGT\_IDP12\_V5 CBA St Fergus\_RIIO-GT3

#### IDP13 – Cabs

- NGT\_EJP03\_Cabs\_RIIO-GT3
- NGT\_IDP13\_Portfolio EJP Cabs\_RIIO-GT3
- NGT\_IDP13\_V5 CBA Cabs\_RIIO-GT3

#### IDP14 – Rotating Machinery

- NGT\_EJP04\_Rotating Machinery\_RIIO-GT3
- NGT\_IDP14\_Portfolio EJP Rotating Machinery\_RIIO-GT3
- NGT\_IDP14\_V5 CBA Rotating Machinery\_RIIO-GT3

#### IDP15 – Gas Quality, Metering and Telemetry

- NGT\_EJP06\_Gas Quality, Metering and Telemetry\_RIIO-GT3
- NGT\_IDP15\_Portfolio EJP Gas Quality, Metering and Telemetry\_RIIO-GT3
- NGT\_IDP15\_V5 CBA Gas Quality, Metering and Telemetry\_RIIO-GT3

#### IDP16 – Control Systems

- NGT\_EJP07\_Control Systems\_RIIO-GT3
- NGT\_IDP16\_Portfolio EJP Control Systems\_RIIO-GT3
- NGT\_IDP16\_V5 CBA Control Systems\_RIIO-GT3

#### IDP17 & 18 – Physical Security

- NGT\_EJP33\_Physical\_Security\_Non\_Asset\_EJP\_RIIO-GT3
- NGT\_EJP34\_Physical\_Security\_Asset\_EJP\_RIIO-GT3
- NGT\_IDP17\_18\_Cost\_Book\_Physical\_Security\_RIIO-GT3

#### IT Investment Papers

- NGT\_IJP02\_Customer and Stakeholder\_RIIO-GT3
- NGT\_IJP01\_Operations Enablement\_RIIO-GT3
- NGT\_IJP06\_Efficient Enterprise Essentials [Apps]\_RIIO-GT3
- NGT\_IJP07\_Efficient Enterprise Essentials [Infrastructure]\_RIIO-GT3
- NGT\_IJP03\_Enabling Energy Security\_RIIO-GT3
- NGT\_IJP04\_Enabling Market Efficiency and Regulatory Changes\_RIIO-GT3
- NGT\_IJP05\_Data Foundations, AI and Smart Networks\_RIIO-GT3

#### Property Investment Paper

- NGT\_IJP08\_Estate and Property Strategy\_RIIO-GT3

## Cyber Submission Documents - not published

### BPDT Documents

- NGT\_Business\_Plan\_Financial\_Model\_(BPFM)\_NGT\_Alternative\_Macro\_Enabled\_RIIO-GT3
- NGT\_Business\_Plan\_Data\_Table\_Commentary\_RIIO-GT3
- NGT\_Business\_Plan\_Data\_Tables\_RIIO-GT3
- NGT\_Business\_Plan\_Financial\_Model\_(BPFM)\_Commentary\_RIIO-GT3
- NGT\_Business\_Plan\_Financial\_Model\_(BPFM)\_Macro\_Enabled\_RIIO-GT3
- NGT\_NARM\_BPDT\_Commentary\_RIIO-GT3
- NGT\_NARM\_BPDT\_RIIO-GT3
- NGT\_Business\_Plan\_Financial\_Model\_(BPFM)\_Appendix\_2\_NGGT\_TO\_Mirror\_Table\_RIIO-GT3
- NGT\_Business\_Plan\_Financial\_Model\_(BPFM)\_Appendix\_3\_NGGT\_SO\_Mirror\_Table\_RIIO-GT3
- NGT\_Business\_Plan\_Financial\_Model\_(BPFM)\_Appendix\_4\_NGGT\_BPFM\_Scenario\_Outputs\_(Macro)\_RIIO-GT3

### Business Plan Annexes

- NGT\_A01\_Asset Management Plan (AMP)\_RIIO\_GT3
- NGT\_A02\_Digitalisation Strategy and Action Plan\_RIIO\_GT3
- NGT\_A03\_Environmental Action Plan\_RIIO\_GT3
- NGT\_A04\_Innovation Strategy\_RIIO\_GT3
- NGT\_A05\_Strategic Summary\_RIIO\_GT3
- NGT\_A06\_Climate Resilience Strategy\_RIIO\_GT3
- NGT\_A07\_Statement from ISG Chair\_RIIO\_GT3
- NGT\_A08\_Network Asset Management Strategy\_RIIO\_GT3
- NGT\_A09\_Finance Annex\_RIIO\_GT3
- NGT\_A10\_System Operator Annex\_RIIO\_GT3
- NGT\_A11\_IT and Telecoms Strategy\_RIIO-GT3
- NGT\_A12\_Cost Assessment and Benchmarking Approach\_RIIO\_GT3
- NGT\_A13\_Workforce and Supply Chain Resilience Strategy\_RIIO\_GT3
- NGT\_A14\_Assurance Statement\_RIIO\_GT3
- NGT\_A16\_Stakeholder Engagement and Decision Log\_RIIO\_GT3
- NGT\_A17\_Financial Stress Testing\_RIIO\_GT3
- NGT\_A23\_Full\_Document\_list\_and\_Redaction\_Explanatory\_Statement\_RIIO\_GT3
- NGT\_A24\_NetDAR\_RIIO\_GT3
- NGT\_A25\_T3 Risk Assessment\_RIIO\_GT3

## Consultants Reports

- NGT\_C01\_Gartner Review of IT Costs and Benchmarking of comparable costs
- NGT\_C02\_National Gas Cyber Financial Assurance - Phase 1 - CNI Security - Report
- NGT\_C03\_National Gas Cyber Financial Assurance - Phase 1 - IT Security - Report
- NGT\_C04\_Arcadis\_NGT\_Cost\_Assurance Final Report (AMP)
- NGT\_C05\_Xodus Engineering Justification Paper review
- NGT\_C06\_WSP Engineering Justification Paper review
- NGT\_C07\_ARUP Review of Asset Management strategy
- NGT\_C08\_ICS Validation of NGT's Asset Risk Model
- NGT\_C09\_Accenture Benchmarking Business Support Services costs
- NGT\_C10\_Frontier Critical Friend across whole plan
- NGT\_C11\_Frontier Updated Cost of Equity Cross-Check Evidence
- NGT\_C12\_Explain End Consumer Acceptability Research
- NGT\_C13\_Explain End Consumer Engagement Focus Groups
- NGT\_C14\_KPMG Potential Improvements to RPE framework at RIIO-GT3
- NGT\_C15\_NERA Additional Cost of Borrowing for the RIIO-GT3 Price Control
- NGT\_C16\_Economic Insight NGT Efficient Cost of Debt for Gas Transmission
- NGT\_C17\_Economic Insight Ongoing Efficiency for Gas Networks at RIIO-GT3
- NGT\_C18\_Economic Insight Further Evidence on Ongoing Efficiency for Gas Networks at RIIO-GT3
- NGT\_C19\_Economic insight Index-linked Debt for the Notional Company
- NGT\_C20\_Oxera RIIO-GT3 Cost of Equity - CAPM Parameters
- NGT\_C21\_Oxera Review of European beta comparators
- NGT\_C22\_NGT\_T-3\_Environmental\_Action\_Plan\_Commitments\_Final\_Report

### Asset Investment Decision Packs - Appendices

- See: NGT\_A23\_Full\_Document\_list\_and\_Redaction\_Explanatory\_Statement\_RIIO\_GT3

## Table reference to Business Plan Data Tables (BPDT)

Secure and resilient supplies – cost category	Total £bn	Ofgem Data Table Ref
Load Related	0	6.1 Capex Summary
Asset Health	1.61	6.3a – 6.4b Asset Health tables 11.6 UMs
Resilience	0.73	5.16a NISR Cyber (GTO) 5.16b NISR Cyber (GSO) 6.6 PSUP Capex
TO Direct Opex	0.34	5.3 TO Direct Opex 5.6 PSUP Opex
Non-Op Capex – Vehicles/STEPM	0.06	6.7 TO NonOp Capex 6.8 SO NonOp Capex
Other Non-Load – Maintainability/Decommissioning/Network Capability/ Security of Supply	0.48	6.2 Projects 6.5 Redundant Assets 11.6 UMs
<b>Total</b>	<b>3.22</b>	

Infrastructure fit for a low-cost transition to net zero - cost category	Total £bn	Ofgem Data Table Ref
Other Non-Load – Climate Change Adaptation	0.16	6.2 Projects 11.6 UMs
Other Non-Load – Compressor Emissions	0.22	
Other – Net zero	0.01	8.9 Net Zero
<b>Total</b>	<b>0.39</b>	

High quality of service from regulated firms – cost category	Total £bn	Ofgem Data Table Ref
SO Direct Opex	0.18	5.4 SO Direct Opex
<b>Total</b>	<b>0.18</b>	

System efficiency and long-term value for money – cost items	Total £bn	Ofgem Data Table Ref
Non-op capex – IT and telecoms	0.45	6.7 TO NonOp Capex 6.8 SO NonOp Capex
Non-op capex – Non-op property	0.16	
Business support	0.48	5.8 Bus Sup Alloc
Closely associated indirects	0.37	5.1 TO Indirects 5.2 SO Indirects
Quarry and loss	0.02	5.5 Quarry Loss
Pension costs	0.02	5.1 TO Indirects 5.2 SO Indirects
<b>Total</b>	<b>1.51</b>	



1. Introducing our RIIO-GT3 Business Plan for 2026-2031

2. Stakeholder led business plan

3. Delivering Britain's energy needs

4. Delivering our plan

5. Financing our plan

6. Board engagement and assurance

7. Document library



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