4

Learning from past performance

In this chapter we take stock of our past to provide context to the rest of the Plan. The performance we have delivered during RIIO-1 is summarised and the key lessons that we have learned are highlighted. The chapter concludes by looking forward to RIIO-2: how we are seeking to deliver for all of our customers, how we are applying our learning from the past, and the transformation that we are undergoing to reach our clear vision of setting standards that all of our customers love and others aspire to.

This chapter has the following structure:

Key messages

- We understand our relative performance, what we do well and where we need to improve to deliver consistently for our customers.
- RIIO-1 has fundamentally changed our business. We have improved customer service, driven efficiency, delivered bill reductions and made real progress in support of the vital role we will play in helping the UK tackle climate change.
- Under new ownership, we have recast our vision and are in the process of transforming our business to deliver our Plan for RIIO-2. We recognise that this transformation will not be easy, but we are committed to creating an organisation that will set the standards for the industry.

Learning from past performance

4.1 The background to RIIO-1

In 2005, ownership of the UK GDNs changed fundamentally, creating for the first time different control and ownership of the eight UK regional gas networks. The four networks that today comprise Cadent were retained by their original owner ('National Grid') and as a consequence underwent less change than networks that entered new ownership in the years immediately after the sale. In 2017, midway through the RIIO-1 period, National Grid sold its four GDNs to new owners who created Cadent.

The regulatory landscape changed in 2013/14 when the networks moved to the RIIO framework. The RIIO framework amplifies the voice of the customer and creates an environment which incentivises companies to innovate and to deliver 'outputs' that are valued by their customers and other stakeholders. This prompted network companies to make fundamental changes to their operations. There is still a strong incentive on companies to reduce costs but the RIIO framework has also orientated companies to deliver customer outcomes.

In response to the introduction of RIIO, our strategy was to organise the business around process lines, and to centralise the operational support, network strategy, HR, IS and legal functions. This centralisation left the four regional network teams with operational responsibilities only. The RIIO-1 contract strategy created significant partnerships with tier one contractors and handed those partners the prime responsibility for and control of the delivery of significant parts of our investment programmes.

4.2 Our delivery in RIIO-1

Our engagement with customers during the development of our RIIO-1 Business Plan taught us that they wanted us to prioritise:

Safety, including Carbon Monoxide ('CO') awareness

Running a **reliable network** with minimal incidents and interruptions

Tackling climate change by reducing emissions and innovating

Improving **customer service** by focusing on quality and convenience

Reducing **fuel poverty** and supporting vulnerable customers

These insights were reflected in our RIIO-1 commitments and what we have delivered for customers throughout the period. A summary of our performance over the RIIO-1 period is provided in **Table 04.01**.

We have delivered improvements in safety, reliability, customer service, social and environmental outputs and a step-change in stakeholder engagement over the period. The level of expectation around customer engagement activities has risen significantly over the period; we need to continually extend and refine our engagement plan to ensure we meet the level of expectation in this area.

There are also areas where our performance has been off the pace compared to other networks – notably in the strength and consistency of our customer satisfaction scores, the duration of interruptions in multi-occupancy buildings in London and the relative cost efficiency of our networks.

The key areas of our performance are detailed in the remainder of this chapter, covering: customer service and social obligations; safety and reliability of our network; environment; and Multi-occupancy buildings. We also set out financial performance measures.

LESSON LEARNED

Customer engagement is critical to our success and, with expectations in this area constantly rising, this must form a key part of our ongoing business strategy.

HOW WE ARE APPLYING THIS LEARNING

We are establishing a comprehensive programme for perpetual and iterative engagement throughout RIIO-2. See Appendix 05.01 - Stakeholder Engagement Strategy for more details.

4.2.1 During RIIO-1 we have improved our services to customers

Table 04.01 below shows our performance against the key regulatory targets in relation to customer service and delivery of social obligations. (Our performance against our commitments is summarised below.)

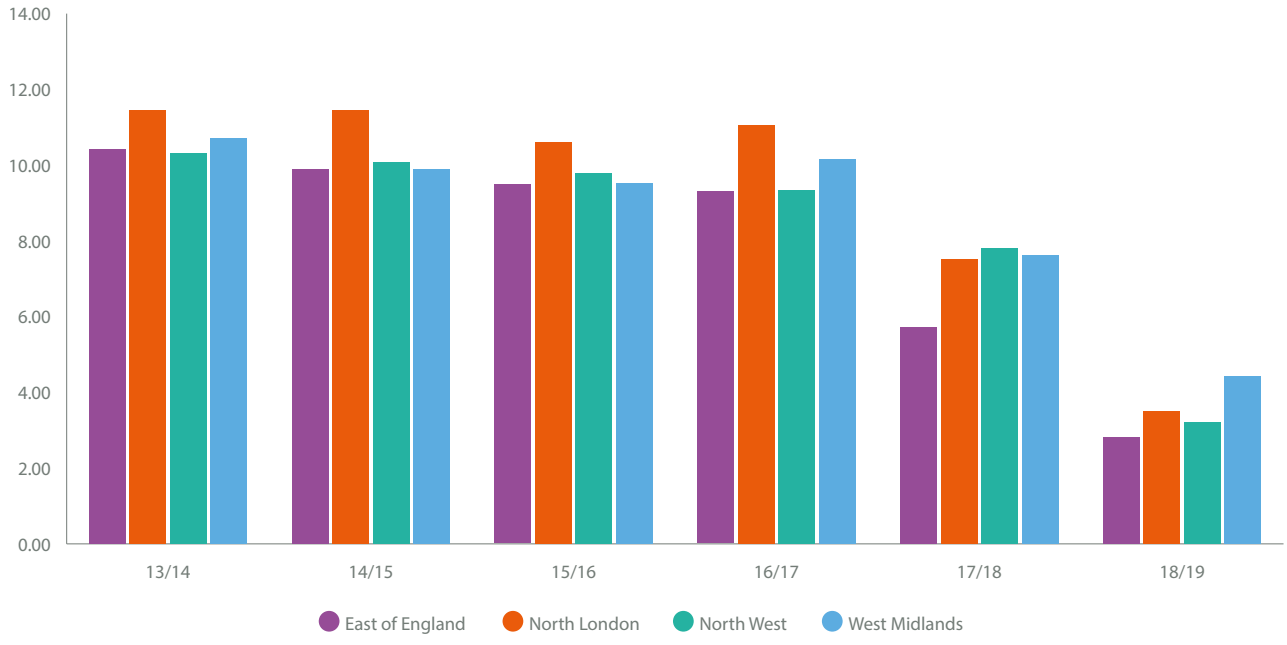
Table 04.01: Customer service and social commitments

Output Category	Output Measure	Unit	East of England	North London	North West	West Midlands
Connections	Guaranteed Standards Performance	N/A	✓	✓	✓	✓
Customer Service	Planned Work C-Sat	Out of Ten	✓	✓	✓	✗
	Connections C-Sat		✓	✗	✓	✓
	Emergency Response and Repair C-Sat		✓	✓	✓	✓
	Complaints Handling	Metric Score	✓	✓	✓	✓
	Stakeholder Engagement	Out of Ten	✓	✓	✓	✓
Connections	Introduce Distributed Gas Entry Standards	Connections	✓	✓	✓	✓
Social Obligation	Fuel Poor Connections	Number	✓	✓	✓	✓
	CO Awareness		✓	✓	✓	✓

Learning from past performance continued

Our customer service, as measured by Customer Satisfaction ('C-Sat'), Stakeholder Engagement and Complaints Handling output measures, has improved during RIIO-1. Stakeholder Engagement has been an area of focus and we have achieved some of the top scores and best feedback during RIIO-1 amongst all GDNs. Cadent has also made a step-change in Complaints Handling, having learned a lesson about local control; one of the first stages of our transformation plan involved moving the handling of complaints away from the central team and into the four regional networks. This showed us that more value can be created by empowering local teams and giving them the responsibility to provide a consistent service, instead of having centrally run consistent processes that do not necessarily leave customers with the positive experience that was intended. **Figure 04.01** below shows the step-change in complaints handling performance during 17/18 and 18/19.

Figure 04.01: Complaints scores



LESSON LEARNED

Local control enables service quality to be prioritised over process rigidity to deliver on all our customers' needs.

HOW WE ARE APPLYING THIS LEARNING

We are transforming to a decentralised, depot-centric operating model.

However, we recognise that there is more to do to provide all of our customers with a consistently good service. Whilst positive, the rate of performance improvement that we have delivered on C-Sat has been slower than that delivered by other GDNs and we recognise that we have a gap to close in this area. In particular, the satisfaction of customers with our planned work and connections processes are behind the best in the industry. We have identified some aspects of our contracting strategy that do not connect customers' interests with our contract partners. These aspects must be fully aligned with mechanisms that adjust if we are off-target.

LESSON LEARNED

All incentives – those for our employees and those built into contracts – must be aligned with our customers' priorities.

HOW WE ARE APPLYING THIS LEARNING

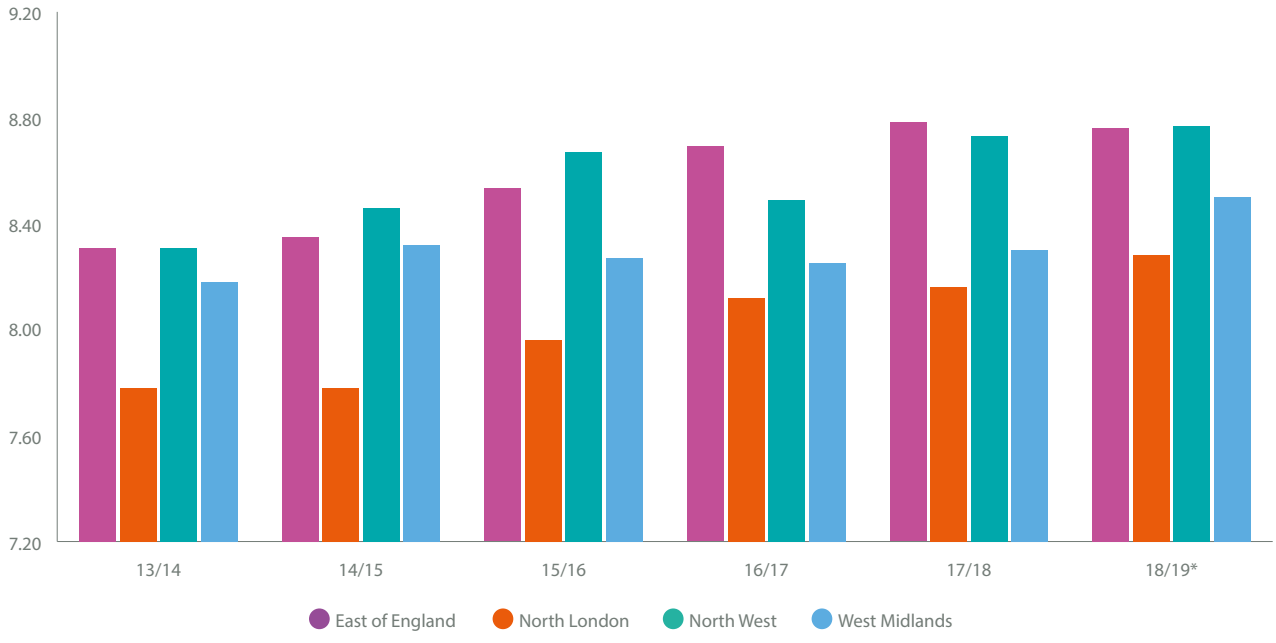
We will create strong connections between our customers' priorities and contracts with external suppliers, and the incentives that apply to staff and management.

Table 04.02 Measures taken to improve customer satisfaction in RIIO-1

The list below provides examples of some of the measures we took:

Improvement	Description
Fast Customer Feedback	Enabling customers to feed back to us via a simple text message during and after our works.
Customer Liaison Officers	Local customer specialists to support communities during our more complex work.
Clearer Literature	Simplified leaflets, letters and information cards making our services clear and accessible.
Social Media	Advance notice of planned works and keeping communities up-to-date during gas supply incidents.
Supply Reconnections	Dispatch system optimisation on reactive work and 6pm reconnection deadlines on planned works to get customers back on gas faster.
Advance Notifications	Providing advance notification on more work types than ever.
Reduced Road Disruption	Increased use of keyhole technology, the deployment of robotic technology ('CISBOT') and night-time working to reduce our impact on the busiest roads.
Improved Welfare Provisions	Better welfare provisions to reduce the inconvenience suffered by those off gas.
Locking Cooker Valves	To improve safety for customers in vulnerable situations who want to remain safe and independent in their own home.

Figure 04.02: Average overall C-Sat scores by Cadent region



Learning from past performance continued

4.2.2 We need to improve the consistency of our performance

We have improved the satisfaction of customer groups across our regions and services. Against this background, there are highlights and lowlights to our RIIO-1 performance. We are focusing on improving consistency and creating more accountability.

London network stands out as an area where our customers are less satisfied. By comparing the C-Sat returns on identical service offerings we can see that expectations in London are higher than in other areas. A number of factors add complexity to delivering work in London - our customers are more likely to live in Multi-occupancy buildings, speak English as a second language, be at home during the day and live in rented accommodation. These factors complicate access, communication and delivery of our work. However, we know that we have to reach a higher bar in London to be successful.

In our Emergency Response and Repair service we have achieved some C-Sat scores that we and our teams are really proud of (some regions have achieved scores that are consistently above 9.5). Our planned work attracts poorer scores. In the West Midlands we need to improve our mains replacement and connections service and we believe the contractual agreements we established were insufficiently customer focused. This is a point of learning we take towards RIIO-2.

4.2.3 We continue to work to protect customers and in particular vulnerable customers

Cadent has improved safety and social wellbeing through an extensive carbon monoxide (CO) awareness programme, being at the forefront of improvements in the Priority Services Register and helping thousands of fuel-poor homes with gas network connections and energy efficiency.

Our CO awareness programme has gone beyond the commitment embedded in the RIIO-1 framework – we have worked hard to raise awareness of Carbon Monoxide and to issue CO alarms. We are proud of the work we have done focusing on groups of customers who are most at risk by going into schools to educate early Key Stage children through our pioneering Safety Seymour campaign. The sessions are designed to be fun, engaging and to be accessible to children whose first language may not be English. At the end of each session, the children take home a CO alarm, an information pack and a treasure hunt (identifying the signs and symptoms of carbon monoxide) to complete with their family and friends. Over the last four years we have reached around 9,000 school children and their families and in doing so we have confirmed the importance of this work, having seen the scale of the opportunity to raise awareness of carbon monoxide risks. Our Safety Seymour initiative has now been adopted by all the GDNs.

LESSON LEARNED

We can play a key role in promoting awareness of carbon monoxide. We will expand our work in this area during RIIO-2.

HOW WE ARE APPLYING THIS LEARNING

We will increase the level of CO awareness work we will deliver for our customers.

We have been at the forefront of improving the Priority Services Register by leading a cross-industry group which has developed a common set of 'needs codes' that can help network companies to better target their services towards customers' individual needs. In addition, we have trialled and developed referral schemes through which we connect customers to appropriate sources of support that may not be known by or easily accessible to customers in vulnerable situations (examples include Local Authority support services and our partnership with National Energy Action).

LESSON LEARNED

Effective partnerships are a catalyst for improving the circumstances of customers in vulnerable situations and delivering great outcomes.

HOW WE ARE APPLYING THIS LEARNING

We will foster partnerships across our activities, including to support innovation, improved customer service and to tackle vulnerability and fuel poverty.

In the first five years of RIIO-1 we have connected over 23,000 properties under the Fuel Poor Network Extension Scheme. Through the Community Interest Company we created (Affordable Warmth Solutions), we have helped customers to secure 'whole-house solutions' that leverage all available forms of funding, ensuring that heating and other energy efficiency measures are installed alongside the gas connection. Our partnership approach has drawn on expert input from National Energy Action and has been developed with input from the departmental fuel poverty policy committees. We have learned that we need to tailor our approach to ensure that customers receive the best outcome possible and that a revised approach in RIIO-2 is needed.

LESSON LEARNED

Tackling fuel poverty as a GDN in isolation has delivered positive outcomes in RIIO-1. However, a new joined-up approach to Fuel Poor Schemes is required in England in order to deliver even greater value.

HOW WE ARE APPLYING THIS LEARNING

We will facilitate a combined funding model to deliver the best results for Fuel-poor customers.

For more detail on our RIIO-2 Customer Vulnerability Strategy, see **Appendix 07.03.00**.

4.2.4 During RIIO-1 we have improved network safety and reliability

Our networks have provided world class levels of performance to our customers, and this has been underpinned by our focus on the safety and wellbeing of our customers, employees, contractors and members of the public. Table 04.03 below shows our performance against the key regulatory targets in relation to safety and network reliability.

Table 04.03: Safety and network reliability commitments

Output Category	Output Measure	Unit	East of England	North London	North West	West Midlands
Safety – Emergency Response	97% Controlled Gas Escapes	%	✓	✓	✓	✓
	97% Uncontrolled Gas Escapes	%	✓	✓	✓	✓
Safety – Management of Repairs	GS(M)R 12 Hour Escape Repair Requirement		✓	✓	✓	✓
	Repair Risk		✓	✓	✓	✓
Safety – Major Incident Hazard Prevention	GS(M)R Safety Case Acceptance by HSE		✓	✓	✓	✓
Management	COMAH Safety Report Reviewed by HSE		✓	✓	✓	✓
Reliability – Loss of Supply	Number of Planned Supply Interruptions		✓	✓	✓	✓
	Duration of Planned Supply Interruptions		✓	✓	✓	✓
	Duration of Unplanned Supply Interruptions		✓	✗	✓	✓
	Number of Unplanned Supply Interruptions		✓	✓	✓	✓
Reliability – Network Capacity	Achieving 1 in 20 Obligation		✓	✓	✓	✓
Reliability – Network Reliability	Maintaining Operational Performance		✓	✓	✓	✓
Safety – Mains Replacement	Iron Mains Risk Reduction (based on MRPS)		✓	✓	✓	✓
	Sub-Deducts Network Off-Risk		✓	✓	✓	✓

We continue to reduce network risk through the replacement of iron mains and we have consistently exceeded the Emergency Response standards to keep customers safe from gas escapes from the network or their gas installation.

Society has a lower appetite for risk than ever before and we have to continuously improve to keep up with the expectations of our customers and other stakeholders. Regrettably, we recognise that in RIIO-1 we have not always done this and there have been occasions where the Health and Safety Executive has intervened – for instance, with asset record keeping on Multi-occupancy buildings, and with our approach to Cathodic Protection. Our plans reflect how we are addressing these learnings.

LESSON LEARNED

Societal risk appetite is at an all-time low and we must work hard to maintain and improve our performance.

HOW WE ARE APPLYING THIS LEARNING

We have developed our asset investment plan in consultation with customers and other stakeholders.

Having set ourselves ambitious commitments for the management of Repair Risk, we struggled to deliver this output in the early years of RIIO-1. The way we organised ourselves spreaded accountability for delivery and reduced flexibility, preventing us from fully meeting our customers' needs. In RIIO-1 we committed to completing our repair work faster than our counterparts and this stretched the resources in our repair teams at significant cost. We now deliver on this challenging output area, having worked hard to increase efficiency and performance.

LESSON LEARNED

Segregation of resources can reduce our flexibility to deliver our customers' needs.

HOW WE ARE APPLYING THIS LEARNING

We are transforming to a depot-centric model which will reduce the risk of a silo mentality.

During RIIO-1 there have been 12 large failure of supply incidents, mainly caused by third parties damaging our networks. We have put a lot of effort into improving how we manage such incidents and how we engage with the affected customers. Two material improvements have been made during RIIO-1:

- We have upgraded our mobile incident command unit, which provides mobile office facilities supporting operational teams in the field and providing up-to-date communication (shown in the photo in figure 04.03).
- We have deployed an incident app for real-time data capture, specifically tailored to supply failures. This allows our operational teams to record data at incidents and provides incident managers with better insight into the state of the incident (a screenshot of this is included in figure 04.03).

We continue to explore innovative ways to improve how we manage this risk area.

LESSON LEARNED

Third party damage to our network is the biggest cause of large supply failures – we need an innovative solution to reduce risk.

HOW WE ARE APPLYING THIS LEARNING

We are innovating with satellite technology and machine learning to make a step-change in the avoidance of incidents.

Learning from past performance continued

Figure 04.03: Incident management app for real-time data capture

4.2.5 Improving the environment and tackling climate change

We have taken a leadership role in exploring how gas networks can help tackle climate change through innovation projects, and have worked with our stakeholders to help policymakers understand the opportunities they provide. Our work was evidenced in the series of leadership papers we produced on the Future of Gas. These papers considered the different pathways that could be followed to improve energy efficiency and decarbonise gas for heat and transport. Flagship work in this area includes the HyDeploy project which we are pursuing jointly with Keele University and the proposed HyNet project in the North West. We have engaged with stakeholders at both regional and national levels, reflecting that energy and transport policy is being developed at all levels. Our experience has emphasised the importance of demonstrating decarbonisation options at scale and supporting policy makers as they develop the legal, policy and regulatory frameworks to support the pathway towards a low carbon energy future.

LESSON LEARNED

Demonstrating viability of hydrogen at scale is critical to moving forward UK plans to tackle climate change.

HOW WE ARE APPLYING THIS LEARNING

Our plan includes flagship projects which will pave the way forward and demonstrate hydrogen blending and a pure hydrogen network.

Over 95% of our business carbon footprint results from gas leaks from our network. We expect to have delivered a reduction of over 400,000t of gas leakage – equivalent to taking 210,000 cars off the road – by the end of RIIO-1.

Whilst the majority of this output has been underpinned by the iron mains replacement programme, additional reductions have been incentivised under the shrinkage and leakage regulatory incentives. We have led the industry in using average system pressure management to reduce leakage and have innovated to provide a basis to increase Monoethylene Glycol ('MEG') saturation levels which helps reduce leakage from joints. **Figure 04.04** below demonstrates the progress we have made and plan to make in reducing leakage over RIIO-1.

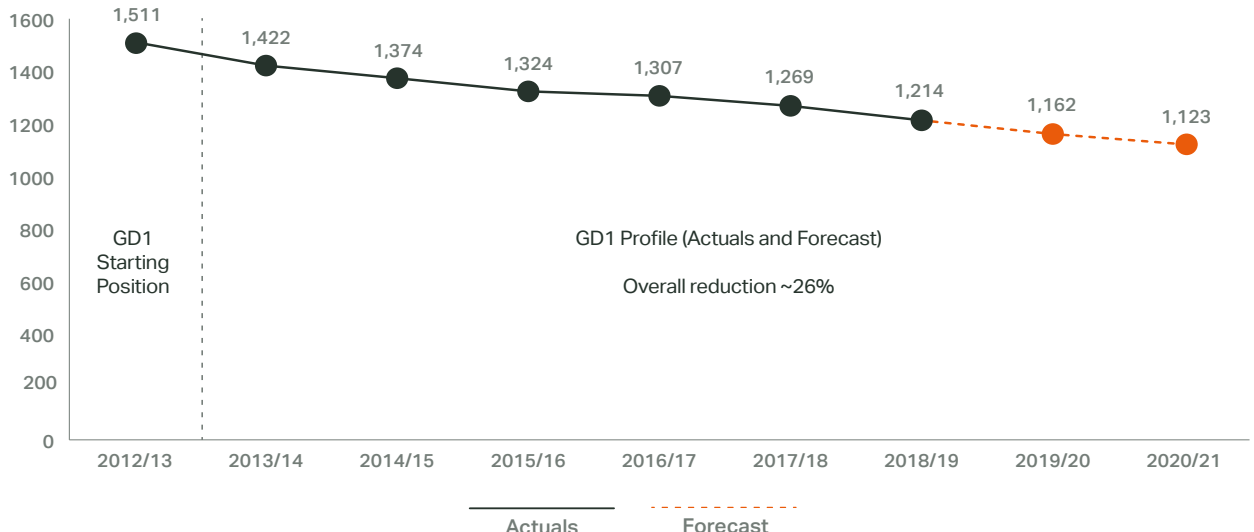
LESSON LEARNED

Replacing metallic mains is the principal means to reduce network emissions.

HOW WE ARE APPLYING THIS LEARNING

Our mains replacement plan tackles leakage hotspots, as well as delivering a safer network.

Figure 04.04: Cadent shrinkage profile ('GWh')



4.2.6 We need to improve our services to customers in Multi-occupancy buildings

When it has been necessary to isolate our customers' supply to MOBs, we have often taken too long to reconnect them. Whilst we have been rightly focused on public safety, we have occasionally failed to place the appropriate emphasis on customer experience. As can be seen in Figure 04.05 below, our London network has many more MOBs and high rise assets than any other UK distribution network. We regret the fact that we missed one of our output targets during RIIO-1. We are very conscious that many of our customers have been significantly inconvenienced and we are committed to improving our performance.

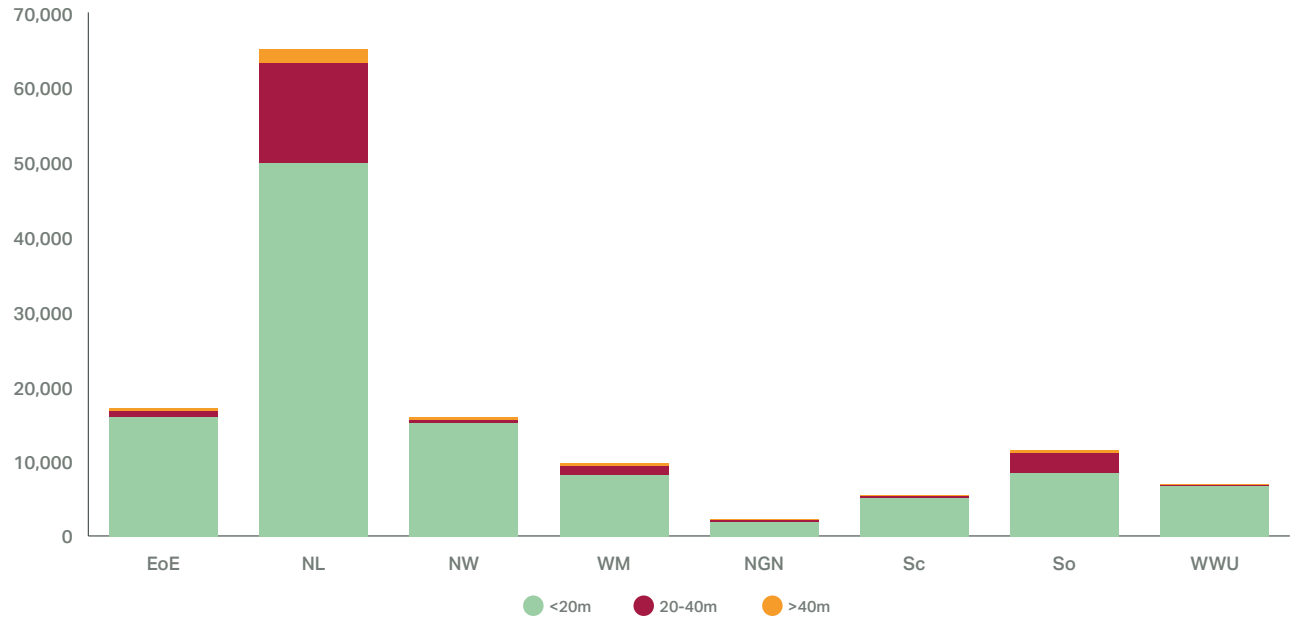
LESSON LEARNED

We must deliver on our safety requirements at the same time as improving customer experience.

HOW WE ARE APPLYING THIS LEARNING

We are addressing risks in our MOBs assets, whilst improving service for our customers. See Appendix 09.04 - Transforming the experience for MOBs customers.

Figure 04.05: High rise assets



The average time taken to reconnect a high rise building is much longer than for a standard single domestic residence (typically a number of weeks compared to less than a day). This is due to a range of factors, including the complexity of accessing the building and gaining the necessary agreements from multiple parties to design and commence work. For example, we often need planning consent or the consent of building owners before work can commence. We have learned that we need to work more closely with the relevant stakeholders and do pre-planning work to support reductions in the time customers are without gas.

LESSON LEARNED

Stronger collaboration and advanced pre-planning are critical to reduce the time customers are without gas in MOBs.

HOW WE ARE APPLYING THIS LEARNING

We are working towards building-by-building plans for high rise blocks though stronger stakeholder engagement.

There was a significant increase in the number and average duration of interruptions in our North London network from June 2017 through to the end of 2018. This was driven by two things: first, an understandably more cautious approach by stakeholders to building safety in the aftermath of the Grenfell Tower tragedy; and second, in early 2018 we identified that our high rise building records were incomplete. As a result of the gap in our records, in 2018 we carried out a large programme of surveying work, completing approximately four times the normal number of surveys for a single year. Although the additional surveys did not affect the average duration of interruptions, they did have an impact on the total number of MOBs that were disconnected over this period.

Learning from past performance continued

Over the first six years of RIIO-1, there was an average of 1 building off gas in each of the North West and West Midlands regions. In the East of England there was an average of around four properties off gas in each year. In marked contrast, in London the number of buildings off gas rose from 21 in 2014/5 to 67 in 2018/19.

The speed with which we can deploy repair innovations and processes is a key focus area. It has the potential to reduce the number of MOB disconnections and interruption minutes. We have learned that we need to challenge ourselves and other stakeholders to deploy innovations more quickly to ensure customers experience the benefits without undue delay. Having learned these lessons, we are implementing a comprehensive programme that will accelerate a step-change in performance of MOB interruptions during RIIO-1 and continue into RIIO-2. This programme is detailed in our **Appendix 09.04: Transforming the Experience for Multiple Occupancy Building Customers - Risers**.

LESSON LEARNED

Repair innovations must be exploited fully to reduce the number of MOBs disconnected.

HOW WE ARE APPLYING THIS LEARNING

A specialist repair team has already been established in London to maximise the use of innovation.

4.3 We have improved cost efficiency throughout RIIO-1

We have improved cost efficiency throughout RIIO-1. We have invested in our networks and our services, and have delivered improvements in safety, reliability, customer service, social and environmental outputs as a result. We have delivered these outputs and service improvements within the allocated cost allowances and are forecasting to underspend our total RIIO-1 allowance by 7%, as illustrated by Figure 04.06.

Figure 04.06: Cadent under/(over) spend of allowances

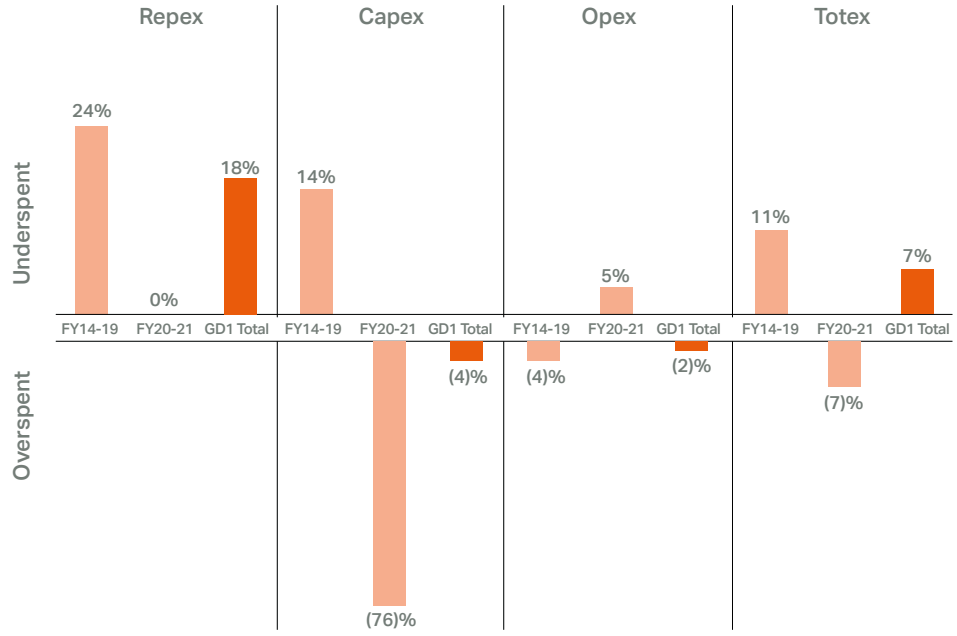


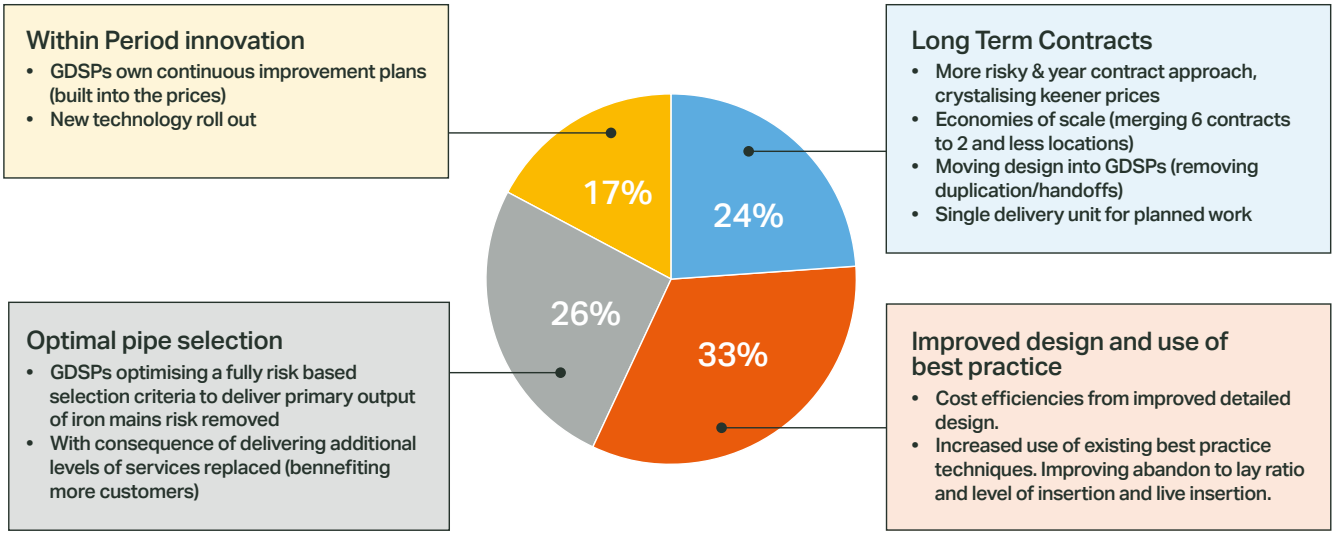
Table 04.04: Overall totex performance

Overall totex performance*	Current year		RIIO-1 to date		8 Year forecast	
Network	Variance to allowance £m	% Variance	Variance to allowance £m	% Variance	Variance to allowance £m	% Variance
East of England	34	10%	122	7%	38	1%
London	46	15%	268	17%	255	10%
North West	47	19%	115	9%	141	7%
West Midlands	38	20%	139	14%	218	14%

4.3.1 Repex work is being delivered more efficiently

We expect to deliver the RIIO-1 primary output of iron mains risk removed and the secondary output of length of mains decommissioned. We expect to do this at a cost that is 18% below the allowance. We have achieved this by deploying the four levers summarised in Figure 04.06b below.

Figure 04.06b: The four drivers of repex underspend to allowance



We recognised the challenges associated with our decision to change our contracting approach to what we call Gas Distribution Strategic Partnerships (GDSPs). We took the decision to adopt a new and innovative contracting strategy to deliver efficiency. However, we have experienced delivery issues, which are being managed actively. These issues included the GDSPs focusing on delivering to price at the expense of seeking improved customer service. Moving forward, and in light of the change in ownership of Cadent, we are refreshing our contracting approach to improve the service we provide to customers.

The delivery issues, along with our conscious decision to defer larger diameter (more expensive) work, accounts for our underspend in the first four years (25%) of RIIO-1. As we address these issues and face a tightening market, we expect to catch up the backlog in work and our underspend will only be 8% in the last four years of the control.

LESSON LEARNED

An over-emphasis on cost efficiencies can result in other service and delivery consequences.

HOW WE ARE APPLYING THIS LEARNING

We are implementing a new contracting structure and an increase in decentralised control. This will help us balance competing aims more effectively.

We have achieved some efficiency improvements by optimising the pipe selection. When designing our programme, we have targeted pipes with a higher risk score. This has led to a greater number of smaller diameter pipes being delivered which are typically cheaper to complete. The risk profile of the remaining iron mains population which needs to be replaced is now relatively flat, and we believe that there is an opportunity to balance the replacement plan going forwards between risk score and other areas of benefit, including emissions reductions and the pipes that drive significant Opex costs due to more frequent leakage.

LESSON LEARNED

With risk levels reduced, a more balanced delivery of mains replacement work will deliver whole system benefits for our customers.

HOW WE ARE APPLYING THIS LEARNING

We will build in protections to future contracts.

None of our outperformance has been generated by the non-delivery of commitments. For example, when we scaled back the RIIO-1 London Medium Pressure Scheme to reduce congestion in the City (given the number and scale of competing cross-sectoral infrastructure projects), we returned £60m to customers.

LESSON LEARNED

Stakeholder feedback on large projects can lead to change: our framework needs to be flexible.

HOW WE ARE APPLYING THIS LEARNING

We engaged early on our investment proposals for RIIO-2.

Learning from past performance continued

4.3.2 Capex spending is in line with allowances

We deliberately profiled our Capex towards the end of the RIIO-1 period. Our strategy, particularly in relation to the Asset Health Network Output Measures ('NOMs'), was to collect and refresh asset health data in the early part of RIIO-1 so we could make more informed decisions about the interventions we needed to make. Having improved our asset health data, we sought to deliver work via bundles that were tendered competitively because we thought that this approach would be efficient and attractive to potential suppliers. The tendering process revealed that the cost of the work was significantly higher than we had expected and so a revised approach was devised. This led to a larger volume of asset health interventions taking place towards the end of RIIO-1 than we intended.

By the end of RIIO-1 we expect to have delivered all of our capital investment regulatory outputs, and in doing so will have spent marginally above our allowances. The overspend is mainly as a consequence of the higher unit cost pressures that are materialising in the wider market as our work programme accelerates.

LESSON LEARNED

Prompt mobilisation of the capital plan to prevent back-loading can support efficient delivery.

HOW WE ARE APPLYING THIS LEARNING

We have developed longer term network asset plans owned by network-aligned teams.

4.3.3 Our transformation programme is reversing our historical opex overspend

At the start of RIIO-1 we were less efficient than our counterparts – our indirect business costs were notably inefficient. A decision was taken to try and benefit more from economies of scale, with further centralisation of activities, including business support activities. However, the complexity of different network needs and the additional handoffs blurred accountabilities and removed decision rights away from local management.

Moreover, the new GDSP contracts restricted our ability to move resources across opex, capex and repex activities. This had an unintended consequence on our ability to deliver the Repair Risk commitment. In RIIO-1 we committed to completing our repair work faster than our counterparts and this stretched the resources in our repair teams at significant cost. We are now delivering on this challenging output area, having worked hard to increase efficiency and performance.

The way we organised ourselves, spreading accountability for delivery, also reduced flexibility and prevented us from fully meeting our customers' needs.

LESSON LEARNED

By tailoring our support functions to deliver the specific needs of our business through our transformation programme, we can drive improved performance and efficiency.

HOW WE ARE APPLYING THIS LEARNING

We are three years into our wide-reaching transformation plan, informed by benchmarking and best practice.

LESSON LEARNED

Centralisation does not always deliver economies of scale or the local service necessary given the differences in the local environments. Segregation of resources can reduce our flexibility to deliver our customers' needs and cost efficiency.

HOW WE ARE APPLYING THIS LEARNING

We are implementing a depot-centred operating model, reflecting the lessons learned during RIIO-1.

Our costs have been higher than our allowances during the first five years of the price control. Since becoming a standalone business we have sought to transform our business. Over the second half of RIIO-1 we expect our costs to be below our allowance and we are positioning Cadent to deliver greater value for money into RIIO-2. Our ambitious transformation plan, including a new contracting strategy, represents a significant challenge for our whole business, for the benefit of our customers. Our transformation programme is described in greater detail in **Chapter 9, Costs and efficiency**.

As the Table 04.05 shows, we we expect our totex to be 7% lower than the allowance for Cadent as a whole over RIIO-1. Two of our networks have reduced costs by more than the Cadent average and two by less. This pattern can be explained by the relative weight of repex to opex work within each network (given repex is the area where we have secured the greatest reductions against our RIIO-1 allowance).

4.4 In RIIO-1, bills have reduced and shareholders have made fair returns

Our customers and stakeholders hold us to high standards. Unsurprisingly, energy networks have come under close scrutiny over the course of RIIO-1. We recognise that it is important to ensure that the profits we make are in line with what our customers and stakeholders expect

LESSON LEARNED

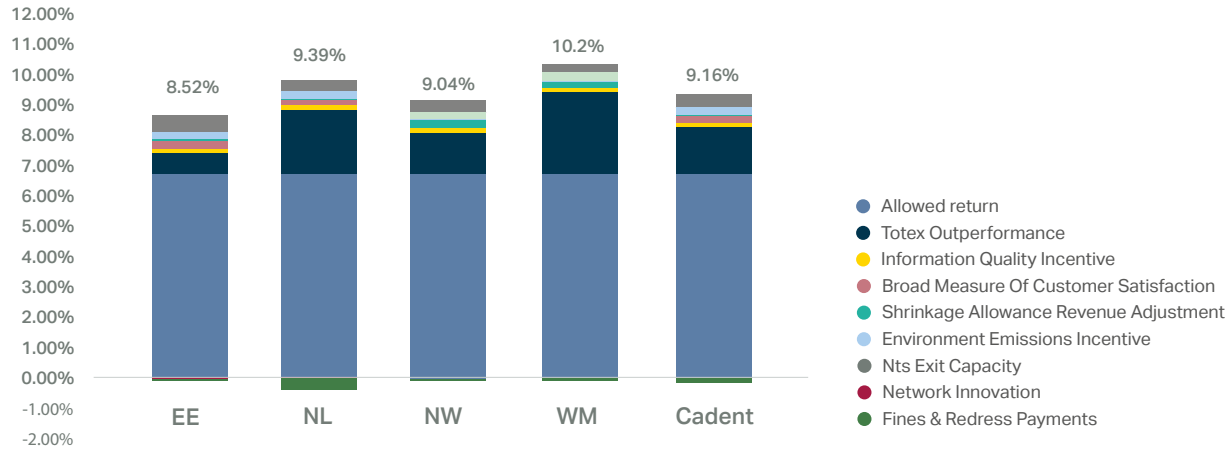
Trust is hard to win and easily lost. We need to build and maintain trust throughout RIIO-2.

HOW WE ARE APPLYING THIS LEARNING

We have set out how we will aim to be seen to be trusted to act for our communities in our Trust Charter - see Appendix 07.05.00.

The returns we forecast to earn over the eight year RIIO-1 period and into RIIO-2 are summarised in Figure 04.07 below (expressed in Return on Regulatory Equity, 'RORE'). Our method of RORE calculation is aligned to the approach used by Ofgem in the production of the RIIO-1 annual reports.

Figure 04.07: Eight year forecast RORE performance (post tax, real)



The table below summarises the main factors which contributed to our RORE performance. As can be seen from the table, beyond the base return allowed by Ofgem, our returns have been driven by the exit capacity, environmental emissions and customer satisfaction incentives.

Table 04.05: Drivers of forecast RORE performance for Cadent as a whole

Contributory factor	Contribution to RORE	Comment
Allowed return	+6.70%	The base return allowed by Ofgem for RIIO-1.
Totex outperformance	+1.53%	The benefits to Cadent from underspending against the totex allowed by Ofgem. The main area of underspend was against our repex allowance. We were able to optimise the repex programme by targeting high risk, low cost mains replacement. The scope to continue this approach in RIIO-2 is limited (as explained above).
NTS Exit capacity	+0.42%	The gain to Cadent from actions to optimise the capacity it reserves on the National Transportation System. The scope to earn rewards from optimising exit capacity in the future will depend on how the incentive is designed by Ofgem.
Environment emissions incentive	+0.25%	The financial reward from reducing emissions which are harmful to the environment. We have proposed environmental outputs which will continue to incentivise us to reduce our impact on the environment.
Broad measure of customer satisfaction	+0.23%	The reward for improving customer satisfaction. We have proposed outputs which will continue to incentivise us to improve the service we provide to customers.

Note - the other incentives and regulatory mechanisms that have impacted our performance were: the Information Quality Incentive, which Ofgem is not continuing in RIIO-2 (+0.14%); shrinkage (+0.05%); the cost of funding network innovation (-0.03%) and regulatory fines and redress payments (-0.14%).

Learning from past performance continued

4.5 How consumers have been protected from additional or delayed costs

The RIIO-1 framework provides automatic protection for customers in the event that circumstances turn out to be different from expectations. Our revenues are adjusted if costs are lower than our allowance, to the benefit of customers. In this context, we describe the action of uncertainty mechanisms in **Chapter 10, Managing risk and uncertainty**.

However, we have also taken positive steps to protect customers from the impact of delays and cost increases:

- The contracts we established with our GDSPs fixed contract rates. Through these contracts we saved customers £10m p.a. over RIIO-1, a total of £80m over the period.
- As mentioned previously, when we scaled back the RIIO-1 London Medium Pressure Scheme to reduce congestion in the City (given the number and scale of competing cross-sectoral infrastructure projects), we returned £60m to customers.
- We have worked hard to reduce the impact of smart metering on our customers across the industry.
- At the start of RIIO-1, Shippers told us that they wanted our charges to be predictable. We worked hard to put effort into better forecasting and to introduce a two year lag in pricing. This was to provide more predictability and stability in Shipper charges, removing transportation pricing risk from Shippers/ suppliers and, in turn, allowing them to reduce charges to customers.

4.6 Shareholder returns

The RORE performance noted above delivered customer benefits (through cost outperformance sharing and meeting output commitments) and also resulted in a fair return to shareholders. The level of dividend paid has been lower than the level of profit generated in each financial year of RIIO to date, as shown in Table 04.06 below.

Table 04.06: Beneficiaries of our performance during RIIO-1

	National Grid				Cadent		
	13/14	14/15	15/16	16/17*	17/18	18/19	Average
Gas Distribution Networks ('GDNs')	387	436	383	95	415	420	356
Other (Metering and Non-Regulated)	68	104	75	0	3	3	42
Total Dividend	455	540	458	95	418	423	398
Profit after tax (PAT)	817	612	818	503	465	542	626
Dividend as % of PAT	56%	88%	56%	19%	90%	78%	64%

* PAT excluding exceptional items (due to materiality). Low dividend value due to year of separation from National Grid.

Looking forward to the end of RIIO-1 and into RIIO-2, dividends are forecast to be significantly lower than the average paid in RIIO-1 to date, as the cost of delivering our 8 year RIIO-1 output commitments increases and allowed returns significantly reduce. Our notional company RIIO-2 Plan is aligned to Ofgem guidance with an opening target gearing of 60% of the RAV and a dividend yield of 3%. The reduction in the notional gearing assumption relies on continued liquidity in the market for new equity which is uncertain given the low level of returns proposed at RIIO-2. This uncertainty is reinforced by the Ofgem dividend yield assumption of 3%. This is discussed in more detail in **Chapter 11, Affordability and financing our plan.**

4.7 Our history remains visible today

We are simultaneously proud of and constrained by our culture and history. There are many aspects that deserve recognition, for example, our safety record and our work on exploring the pathways to decarbonisation of heat. However, we recognise that we need to refresh and modernise our approach to business.

The process-aligned operating model that we adopted in RIIO-1 (with a heavy emphasis on centralisation and standardisation) has moved decision-making too far from the customer. Our contract partner model has not succeeded in sufficiently aligning customer interests with the interests of those responsible for laying new gas mains and connections. Until recently, our strategic focus on repex efficiency has taken precedence over the removal of waste associated with diseconomies of scale.

Whilst the physical separation of National Grid and Cadent is all but completed (with some IS changes remaining), the cultural separation and establishment of a new Cadent style is an area where we still need to put in a lot of hard work, but there is enormous opportunity for Cadent to improve through cultural changes and we are really excited about the possibilities.

LESSON LEARNED

We are on a cultural journey that will take time to embed. This can be accelerated by working with expert organisations in delivering cultural change and we are working with external experts ('Vision') to fast-track our journey.

HOW WE ARE APPLYING THIS LEARNING

Our wide-ranging transformation plan builds on our engaging vision and we will create the business we need.

We understand our relative performance, what we do well and where we need to improve to deliver consistently for our customers. There are some particular areas of focus for our improvement plans:

- driving our cost base down to the right size;
- achieving consistency in our delivery to increase customer satisfaction; and
- completing our work to rectify past mistakes and underperformance on Multi-occupancy buildings.

Our response to this challenge is wide-reaching. It involves every part of the business and every employee. We have:

- A new Board with a fresh and ambitious outlook, comprising an expanded presence of independent directors and our new owners.
- Recast our vision, and are carefully embedding it into everything we do.
- A wide-reaching cultural and operational transformation programme to accelerate the business's performance.
- A challenging CEG which is pushing us hard to improve.

4.8 We have a plan to transform experiences

We are clear about where we want to get to. Our vision is to set standards that all of our customers love and others aspire to. We want to do this in all aspects of our business: the day-to-day services that customers see and interact with; the decisions that we take in the background to deliver the safest, most reliable network; and our work to shift the UK, a global leader of the response to climate change, through the use of hydrogen.

We recognise that this destination is ambitious; it demands a lot. We recognise that our transformational journey will be challenging as well as exciting, and we are committed to creating an organisation that will set the standards for the industry. We are investing all of our effort into things that move us closer to our vision and we have detailed plans about how we will take our next steps in this direction. We are confident in the plans we have developed because they are built on tough self-reflection and our learning from the past.