Regulatory Financial Performance Report

Northern Powergrid (Northeast) plc
Northern Powergrid (Yorkshire) plc

2021/22

CONTENTS

Note

1. *All financial figures within this document are rounded to 1 decimal place and quoted in 2012/13 prices (unless otherwise stated). As such, there may be variances in total figures due to rounding.*

1. EXECUTIVE SUMMARY

a. CEO foreword

Still on track to deliver on our business plan promise - 'more for less'

As we enter the final year of the 2015-23 period, I'm pleased to report that even after two of the most operationally challenging years we have ever faced, we are still on track to deliver the 'more for less' promise we made in 2013. We will deliver our output targets and all other commitments we made; in fact, we have or will exceed many of our targets.

Consistent with the projection we have been making from the outset, our expenditure forecast remains in line with the £3.2bn allowances that were set in 2014. On top of that we are also progressing well with the £53m green investment programme that we agreed with our regulator in 2021, to help accelerate progress to net zero and provide vital regional economic stimulus.

A challenging winter for our customers

Storm Arwen was one of the most challenging situations that we and our customers have had to face, and it was quickly followed by several other major storms. We are sorry for the significant difficulty and disruption that some of our customers had to face. I greatly appreciate the patience that so many of them showed and the dedication of our teams who worked through some of the most challenging conditions we have ever faced.

The extreme nature of Storm Arwen meant we learned some difficult lessons. It highlighted some limitations in our systems and showed us things we can do to be able to provide a stronger response in situations like that. We are committed to doing those things to make the communities that we serve more resilient to extreme weather events and we continue to work closely with both BEIS and Ofgem to ensure the energy sector provides even better support to customers in major power cuts and severe weather events.

Our output performance continues to be strong

We continue to drive improvement in our performance in more normal circumstances and expect to exceed our targets in most areas. Our customers experience 28% shorter and 26% fewer power cuts[1], customer satisfaction has improved by six percentage points and we're on track to more than halve our accident rate by the end of the period.

Our strategic investments in resilience continue to feature prominently in our plans and we are also nearing completion of our stakeholder-led flood defence programme that will see 271 of our sites made more resilient to flooding. Our £19.4m investment in cyber security also means we're well positioned to deliver against the requirements of both the regulations and industry best practice.

Facilitating the decarbonisation transition in our region

Our network will play a crucial role in the decarbonisation of our region and stakeholders have made it clear that this is their top priority. We are making good progress in facilitating and preparing for greater use of low carbon technologies, such as electric vehicles, and we have already started to see demand from customers increase.

Our smart grid enablers programme was impacted by the pandemic but is in full scale rollout, upgrading our telecoms network to support deployment of smart grid solutions and installing 2,700 LV monitors across our network. We're routinely examining flexibility as an alternative to reinforcement, offering tenders to the market for flexibility services and built four fully active network management zones, which provide 433MW of contracted flexibility.

Encouraging sustainable and long-term investment

Our investor's long-term outlook provides financial stability that our stakeholders deserve. In this period, we expect to deliver a return to our shareholder of around 7.5%[2]. As we look to step up investment in order to support decarbonisation across our region, it is vital that we continue to encourage investment. That relies on a workable price control for 2023-28, which we are working on at the moment with our peers in the industry and our regulator.

I am proud of what our team has achieved and that we are on-track to deliver our commitments for 2015-23. This reinforces our track record as a company that makes good on its commitments – and it positions us well to deliver on the ambitious plan that we have put forward for 2023-28.

Phil Jones
Chief Executive

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1. Since the time we wrote our business plan
2. Return on Regulatory Equity based on actual gearing, including financing and tax

b. ED1 business plan delivery and strategic priorities

Key Strategic Priorities	ED1			Key initiatives
	Target	2021/22	Forecast	
COSTS & OUTPUTS: Efficiently deliver our £3bn ED1 investment programme				
Total Costs – ED1 to date *(Variance to allowances)*	£3,032m (0%)	+£8.1m (0.3%)	£3,044m (0%)	• ED1 cost efficiency programme
Outputs – ED1 to date *(Variance to target)*	100%	90.3% (+2.8%)	100% (0%)	
SAFETY & SECURITY: Reduce our accident rate by 50% and enhance our cyber security defences				
OSHA accident rate[1]	0.22 (-50%)	0.25 (-42%)	0.14 (-67%)	• Safety engagement, training and audits • Vehicle telematics to improve driver safety • Cyber security investment in ED1 including delivering NIS-D requirements
CUSTOMER SERVICE: Improve customer satisfaction to become a leader in the industry				
Overall BMCS *(Improvement in period)*	85%	88.2% (+5.9pp)	92.0% (+9.7pp)	• Customer Relationship Management technology across core service lines • Proactive communication and web services
Day+1 complaint resolution *(Improvement in period)*	85%	66.8% (+13.0pp)	88.0% (+34.2pp)	
CONNECTIONS: Improve connections customer satisfaction, whilst reducing routine lead times by 30%				
Connections BMCS *(Improvement in period)*	85%	86.3% (+7.6pp)	91.2% (+12.5pp)	• Face-to-face services • Quotations-on-site for small works connections • Autodesign self-service for connection budget estimates including LCTs • Flexible connections
Small works lead time improvement *(LVSSA & LVSSB lead times)*	-30%	-20% (57.8 days[2])	-50%[3] (36.2 days)	
ICE penalty	Nil	Nil[4]	Nil	
RELIABILITY AND AVAILABILITY: Increased network resilience, 20% shorter and 8% fewer unplanned power cuts				
Customer minutes lost[5]	-20%	-28%	-42%	• Regional operations • Network automation and remote control • Trialling fault prediction technology • Flood defence investment programme
Customer interruptions[5]	-8%	-26%	-29%	
Flood defence upgrades	156	206[6]	211	
ENVIRONMENTAL PROTECTION: Minimise our impact on the environment				
Oil/fluid lost to ground	-15%	-47%	-49%	• Fluid filled cable replacement • Roll-out of innovative solutions such as thermal imaging for SF_6 and self-healing cables
Business Carbon Footprint	-10%	-44%	-53%	
SOCIAL OBLIGATIONS: Extend our range of differentiated services for our vulnerable customers				
SECV rank	2nd	6th	2nd	• Partnerships that support the most vulnerable in our region • Enhanced use of data to provide tailored services
DSO AND SMART NETWORKS: Transition to DSO and support the national smart meter roll-out				
Renewable generation connected	*No target set*	3.0GW	4.3GW[7]	• Green recovery investment • Distribution Future Energy Scenarios (DFES) • Smart grid enabling investment • Market testing for flexibility services • 433MW of Active Network Management flexibility

KEY RISKS & UNCERTAINTIES

Risk	Description	Risk Mitigation
NETWORK RESILIENCE	**Widespread loss of network from weather, asset failure or physical attack**	• Physical security upgrades • Targeted network investment • Major incident management plans
CYBER	**Successful cyber-attack on our IT or OT network**	• Investment in cyber security defences • NIS-D risk treatment plan implementation
PANDEMIC	**Failure to safeguard staff and contractor health and support priority processes from pandemic impacts**	• Robust business continuity planning • Adjustments to operations, as required

Figure 1.1 Northern Powergrid ED1 performance summary

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1. Reduction relative to business plan baseline – 2013 calendar year
2. Reflects the 7 year ED1 annual average (2015/16 to 2021/22)
3. Reflects our forecast from our ED2 business plan. Lead times relate to LVSSA and B lead times only and reflect a weighted average based on volumes
4. 2020/21 performance. 2021/22 determination expected in Q3 2022
5. Unplanned, excluding exceptional events - reduction is relative to business plan baseline, 2012/13
6. Surveys have revealed defences at an additional 60 sites already meet required flood defence standards
7. Reflects accepted schemes as at 2020/21. Final connection dates are subject to change

2. KEY FINANCIAL PERFORMANCE MEASURES

a. Explaining our financials

Our overall Return on Regulatory Equity (RoRE) forecast for the ED1 period is 8.8% based on Ofgem's notional gearing calculation[1] (7.5% based on actual gearing) which we believe is a fair and reasonable return on equity for a company expecting to over-deliver on its business plan

Northern Powergrid RoRE	Notes[2]	Notional gearing		Actual gearing	
		ED1 to date	ED1 forecast	ED1 to date	ED1 forecast
Allowed Equity Return	1	6.0%	6.0%	5.3%	5.2%
Totex outperformance	2	(0.3)%	(0.1)%	(0.2)%	(0.1)%
IQI Penalty	3	(0.1)%	(0.1)%	(0.1)%	(0.1)%
Broad Measure of Customer Service	4	0.4%	0.4%	0.3%	0.3%
Interruptions-related quality of service	5	1.7%	1.6%	1.5%	1.4%
Incentive on Connections Engagement	6	-	-	-	-
Time to Connect Incentive	7	0.0%	0.1%	0.0%	0.0%
Losses Discretionary Reward scheme	8	0.0%	0.0%	0.0%	0.0%
Network Innovation unrecoverable expenditure	9	(0.0)%	(0.0)%	(0.0)%	(0.0)%
Penalties and fines	10	(0.3)%	(0.2)%	(0.2)%	(0.2)%
RoRE - Operational performance		**7.4%**	**7.6%**	**6.5%**	**6.5%**
Debt performance	11	(0.5)%	1.0%	(0.3)%	0.8%
Tax performance	12	0.2%	0.2%	0.2%	0.2%
RoRE - including financing and tax		**7.2%**	**8.8%**	**6.4%**	**7.5%**
RoRE - Excluding holdco debt[3]		**7.5%**	**9.2%**	**5.6%**	**6.3%**
Northeast		*7.5%*	*9.5%*	*5.6%*	*6.7%*
Yorkshire		*7.5%*	*8.9%*	*5.5%*	*6.0%*

Figure 2.1: Northern Powergrid RoRE summary table

RoRE measures how much a company has earned on its investment in regulatory assets that have been funded by shareholders. This starts with the base return that Ofgem allows to reflect the cost of equity in capital markets and is adjusted for the value earned from any incentive schemes to reflect performance, and any difference between the company's debt finance costs and Ofgem's assumption. In setting the base return, Ofgem assumes notional gearing of 65%, (i.e. 65% of regulatory assets are funded by debt and 35% by equity) however a company's actual gearing level will be different to this, which impacts shareholder returns.

Our forecast RoRE for the ED1 period is 7.5% and for the ED1 period to date it is 6.4%, taking into account our actual level of gearing (i.e. debt to equity ratio) and debt held by our holding company, Northern Powergrid Holdings Company (holdco), outside of our two regulatory licensees (Northeast and Yorkshire). When Ofgem views our regulatory returns, it uses the 65% notional assumption for gearing. On this basis, our forecast RoRE for the ED1 period (including holdco debt) is 8.8%. This is 2.8 percentage points above the 6.0% base return set by Ofgem for the ED1 period.

The main contribution to this outperformance is incentive revenue from the interruptions quality of service incentive (IIS), generating a 1.6% return. In addition, we forecast that we will achieve around 58% of the available Broad Measure of Customer Service (BMCS) reward generating a return of 0.4%.

Partially offsetting our incentive performance is the cost of Storm Arwen, £34.6m (£27.3m when converted to 2012/13 prices), which has reduced operational RoRE performance by 0.3 percentage points, due to a combination of network repairs expenditure (£12.7m), compensation payments (£14.2m), and a £7.7m voluntary charitable contribution.

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1. Including holding company debt
2. See section 2b for detail
3. Including financing and tax

Operational outperformance is supplemented by a 1.0% outperformance on debt financing, driven by the high inflation forecast in 2022/23.

As our actual level of gearing is 60% on average for ED1 (lower than Ofgem's 65% notional assumption), this reduces equity returns as our shareholder has contributed more equity than the notional calculation assumes. This means that while the financial rewards remain the same in absolute terms, as percentage of our investment, the return reduces. This accounts for the 1.3 percentage point difference between the 8.8% ED1 forecast using Ofgem's notional gearing (including holdco debt) and the ED1 forecast RoRE of 7.5% using actual gearing (including holdco debt).

Excluding holdco debt, the gearing of our two licensees is around 49%. When viewed in isolation, our forecast RoRE for our Northeast and Yorkshire licensees is 6.7% and 6.0% respectively based on actual gearing.

There has been significant scrutiny on network company returns in recent years. Our returns remain at the lower end of the range of UK network companies and we continue to see our outcome as fair and appropriate for a company delivering significantly improved outputs for customers against a challenging price control settlement.

FORECAST RoRE – year-on-year variance

Northern Powergrid RoRE – ED1 forecast Notional Gearing	2020/21	2021/22	Variance
Allowed Equity Return	6.0%	6.0%	-
Totex Outperformance	(0.0)%	(0.1)%	(0.1)%
IQI Reward	(0.1)%	(0.1)%	-
Broad Measure of Customer Satisfaction	0.4%	0.4%	-
Interruptions-related quality of service	1.7%	1.6%	(0.1)%
Incentive on connections engagement	-	-	-
Time to Connect Incentive	0.1%	0.1%	-
Losses discretionary reward scheme	0.0%	0.0%	-
Network Innovation	(0.0)%	(0.0)%	-
Penalties and Fines	(0.0)%	(0.2)%	(0.2)%
RoRE – Operational Performance	**8.0%**	**7.6%**	**(0.4)%**
Debt performance – at notional gearing	(0.8)%	1.0%	1.8%
Tax performance – at notional gearing	0.0%	0.2%	0.2%
RoRE – Including financing and tax	**7.2%**	**8.8%**	**1.6%**

Figure 2.2: Northern Powergrid RoRE forecast year-on-year variance

Our overall ED1 RoRE forecast has increased to 8.8%, from 7.2% reported in 2020/21. There have been minor changes in respect of incentive performance, together with an adverse impact of Storm Arwen of 0.3% (included in Totex and 'Penalties and Fines' above), offset by a significant debt performance improvement resulting mainly from higher forecast inflation (which reduces the real cost of debt that is not index-linked).

Our forecast output incentive performance reflects the updated position in line with 2021/22 actuals and the service levels required to set us on a trajectory to deliver our RIIO-ED2 business plan. The year-on-year ED1 forecast is largely unchanged, with the main impact being IIS, which we forecast to reduce by 0.1 percentage point (from 1.7% to 1.6%) in terms of its contribution to RoRE.

b. Step-by-step breakdown of our RoRE

RoRE Components	Comments
1. **Allowed Equity Return**	*Ofgem's allowed base cost of equity is 6.0%, assuming notional gearing of 65%.* The allowed equity return falls to 5.2% when our actual gearing of 60% is taken into account, as our shareholders have invested a greater amount of equity than Ofgem's assumed 35% i.e. they receive a lower rate of return (Ofgem's assumed cost of debt) on the additional equity[1].
2. **Totex outperformance**	*The Totex Incentive Mechanism (TIM) incentivises DNOs to outperform their total cost allowances, sharing any under/overspend with investors and customers through adjusted network charges* Our expenditure in ED1 to-date is £2,699m, £8m (0.3%) above our phased cost allowances. Our forecast shows a small RoRE underperformance (0.1%), as we expect our expenditure to be close to Ofgem's allowances for the ED1 period as a whole.
3. **Information Quality Incentive (IQI)**	*The IQI is a mechanism that provides a company with a reward or penalty depending on how close its forecast is to Ofgem's view of efficient costs.* We incurred an annual penalty averaging £1.3m over the ED1 period, as our totex forecast exceeded Ofgem's view of efficient costs. This has a negative RoRE impact of 0.1%.
4. **Broad Measure of Customer Service (BMCS)**	*BMCS incentivises DNOs to improve customer satisfaction, deal with complaints quickly and effectively and engage with stakeholders to inform how they run their business.* We forecast to earn approximately 58% of the available rewards under the BMCS incentive by delivering improvements in customer satisfaction, complaints and stakeholder engagement. For the ED1 period to-date, our average annual earnings from this incentive have been £4.3m. Our forecast average annual earnings for the ED1 period as a whole are £4.7m taking into account projected performance improvements.
5. **Interruptions-related quality of service**	*The Interruption Incentive Scheme (IIS) incentivises each DNO to improve performance against their targets for the number of customers interrupted per 100 customers (CI) and the number of customer minutes lost (CML).* We have delivered significant network improvements in the ED1 period to-date, reducing the number of unplanned customer interruptions and minutes lost by 26% and 28% compared to our ED1 Business plan baseline. This is our primary source of RoRE, earning an annual average of £19.8m against this incentive mechanism in the ED1 period to-date, with our forecast annual average earnings at £19.7m for the ED1 period.
6. **Incentive on Connections Engagement (ICE)**	*ICE is a penalty-only mechanism to ensure DNOs continuously improve services for major/large connections customers.* We have received no penalties against this mechanism in ED1 to date and we have forecast no penalties for the remainder of the period.
7. **Time To Connect (TTC) Incentive**	*TTC incentivises DNOs to reduce connection times for minor/small connections customers.* We expect to improve the time taken to deliver connections to our customers during the ED1 period. In the period to date, our average annual earnings under the Time to Connect incentive has been £0.4m. Ofgem has tightened incentive targets for the second half of ED1. Our forecast average annual earnings for the ED1 period as a whole are £0.6m, taking into account projected performance improvements offset by the more stretching targets.

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1. Adjusting the RoRE calculation from notional to actual gearing also impacts other line items as the same monetary value is divided by a greater amount of equity investment

8.	**Losses Discretionary Reward (LDR) scheme**	*LDR is a discretionary reward to incentivise DNOs to take additional actions to better understand and manage electricity losses on their network.* The incentive has a minimal impact on our RoRE. We received £0.3m from the first tranche of this reward scheme. No DNOs received a reward in the second or third tranches of the scheme.
9.	**Network Innovation unrecoverable expenditure**	*The Network Innovation Allowance (NIA) is a set allowance received by each DNO to fund smaller technical, commercial or operational innovation projects.* 10% of network innovation expenditure is DNO funded and therefore not recovered from customers. This has a small impact on RoRE.
10.	**Penalties and fines**	*These are the penalty payments we incur if we fail against the Guaranteed Standards of Performance (GSoP).* This line item generally takes into account the small impact on RoRE of payments we make to customers in respect of GSoP failures. In 2021/22 we have also included ex-gratia payments and a £7.7m (£6.1m in 2012/13 prices) charitable contribution in this category in order to capture the RoRE impact of all Storm Arwen costs.
11.	**Debt performance**	*Debt performance (at notional gearing) shows the difference between our actual cost of debt (on a real basis) and Ofgem's allowed cost of debt.* Over the ED1 period, this has a positive impact on RoRE of 1.0% driven by the high inflation (RPI) forecast for 2022/23. The underperformance of -0.5% in ED1 to-date is driven by the impact of low inflation (as measured by RPI) in 2015/16 and 2020/21 and some historical debt with a relatively high-coupon (i.e. interest rate) that matures during the ED1 period to be replaced with lower-coupon debt. Debt performance is significantly influenced by inflation, as we hold fixed nominal debt, rather than index-linked debt. The cost of debt allowance is not materially affected by short-term increases or decreases in inflation, but the conversion of our nominal cost of debt to a real basis within the RFPR template results in values which vary significantly from year-to-year although nominal debt interest payments remain relatively stable.
12.	**Tax performance**	*Tax performance shows the difference between our actual tax costs and Ofgem's allowed tax cost.* The RoRE impact of tax performance for ED1 to-date and the full ED1 period is 0.2%, including utilisation of the tax trigger dead band.

Figure 2.3: Explaining our RoRE components

c. RoRE - excluding holdco debt

In this section we show our RoRE results on a licensee basis and provide explanation where there is a difference in performance between the licensees. The RFPR tables published alongside this report are on a licensee basis and do not include holdco debt. The tables below present the ED1 forecast for RoRE from the RFPR tables.

RoRE based on notional gearing

On a notional gearing basis, there is no difference to the NPg operational RoRE as set out in figure 2.1 above.

The main differences in performance between the two licensees are the Interruptions Incentive Scheme (IIS) and 'Penalties and Fines'.

- **IIS**: Network performance relative to the Ofgem targets has been better in Yorkshire than in Northeast, exceeding the incentive cap in the first four years of the eight-year ED1 period.
- **Penalties and Fines**: This is driven by the impact of Storm Arwen, which predominantly affected our Northeast region.

The difference in RoRE including finance and tax to the figures shown in section 2a and 2b is due to the exclusion of holdco debt. The licensees also have different historical debt books, and this is reflected in their differing debt performance.

Notional Gearing	NPgN	NPgY	NPg
Allowed Equity Return	6.0%	6.0%	**6.0%**
Totex Outperformance	(0.1)%	(0.1)%	**(0.1)%**
IQI Reward	(0.1)%	(0.1)%	**(0.1)%**
Broad Measure of Customer Satisfaction	0.4%	0.4%	**0.4%**
Interruptions-related quality of service	1.5%	1.7%	**1.6%**
Incentive on connections engagement	-	-	**-**
Time to Connect Incentive	0.0%	0.1%	**0.1%**
Losses discretionary reward scheme	0.0%	0.0%	**0.0%**
Network Innovation	(0.0)%	(0.0)%	**(0.0)%**
Penalties and Fines	(0.5)%	(0.1)%	**(0.2)%**
RoRE – Operational Performance	**7.3%**	**7.9%**	**7.6%**
Debt performance – at notional gearing	2.0%	0.9%	**1.3%**
Tax performance – at notional gearing	0.3%	0.2%	**0.2%**
RoRE – Including financing and tax	**9.5%**	**8.9%**	**9.2%**

Figure 2.4: Eight-year RoRE (notional gearing, excluding holdco debt)

RoRE based on actual gearing

When we include actual debt in the licensees (rather than notional), the gearing of our two licensees falls to around 49%. When viewed in isolation, our forecast RoRE for our Northeast and Yorkshire licensees is 6.7% and 6.0% respectively based on actual gearing. The difference in debt performance between the licensees again reflects the historical debt books.

Actual Gearing (%)	NPgN	NPgY	NPg
Allowed Equity Return	4.3%	4.0%	**4.1%**
Totex Outperformance	(0.1)%	(0.1)%	**(0.1)%**
IQI Reward	(0.1)%	(0.1)%	**(0.1)%**
Broad Measure of Customer Satisfaction	0.3%	0.3%	**0.3%**
Interruptions-related quality of service	1.1%	1.2%	**1.1%**
Incentive on connections engagement	-	-	**-**
Time to Connect Incentive	0.0%	0.0%	**0.0%**
Losses discretionary reward scheme	0.0%	0.0%	**0.0%**
Network Innovation	(0.0)%	(0.0)%	**(0.0)%**
Penalties and Fines	(0.3)%	(0.0)%	**(0.2)%**
RoRE – Operational Performance	**5.2%**	**5.3%**	**5.2%**
Debt performance – at actual gearing	1.3%	0.7%	**0.9%**
Tax performance – at actual gearing	0.2%	0.1%	**0.2%**
RoRE – Including financing and tax	**6.7%**	**6.0%**	**6.3%**

Figure 2.5: *Eight-year RoRE (actual gearing, excluding holdco debt)*

d. Overview of our costs and outputs

Our headline ED1 business plan commitment was to deliver more for less for our customers. This means keeping a tight grip on our costs while continuing to invest in the health of our network, improving services to customers and innovating for the future

Controlling our costs to stay inside Ofgem's tough cost allowances…

Our business plan commitment to deliver 'more for less' meant we had to make significant performance improvements in the RIIO-ED1 period at new levels of cost efficiency. The cost reductions imposed by Ofgem in its price control settlement for ED1 increased the scale of that challenge. For that reason, we took time to challenge the engineering content of our plan and to let key service contracts to deliver efficiencies. This has meant that we have been operating to a revised plan that includes £281m of cost efficiencies over the period. Whilst our cost efficiency plans are well established, risks remain around execution and we continually update our plans to reflect cost pressures, delivery of efficiencies and changes in stakeholder requirements.

After seven years of the eight-year period, our total expenditure is tracking marginally ahead of the profile of allowances (100%) with the primary difference attributable to timing. Our investment programme was slightly front-end loaded in our plan and is now tracking a straight line profile through the period. We forecast that our expenditure will be in line with allowances for the ED1 period as a whole (see Figure 2.5).

…while investing in improving the health of our network

Our performance to date has been strong in most areas driven by solid volume delivery and ongoing reprioritisation of our investment programmes in response to emerging risks on the network.

At an overall Northern Powergrid level, our Network Asset Secondary Deliverables (NASD) are ahead of the straight-line profile as at year seven of the eight-year ED1 period at 90.3% (vs. an indicative 87.5% straight line profile).

Overall we expect to achieve our agreed risk reduction targets (i.e. 100%) by the end of the period in both licence areas. (see Figure 2.6).

More detail of our cost performance is included in the next section and our output performance is described in section 3.

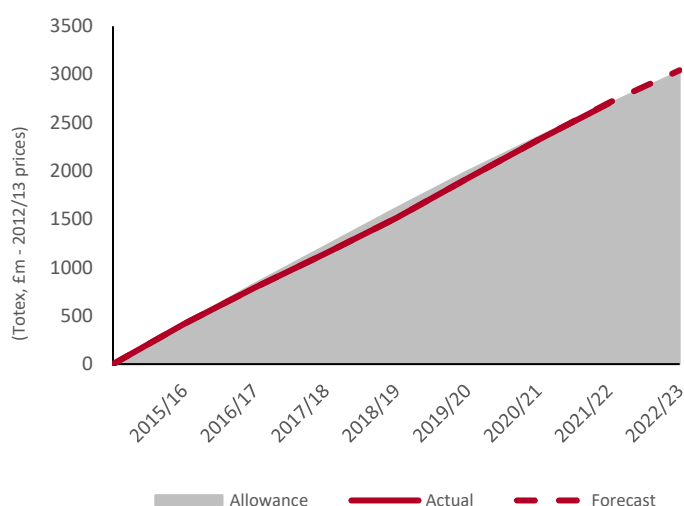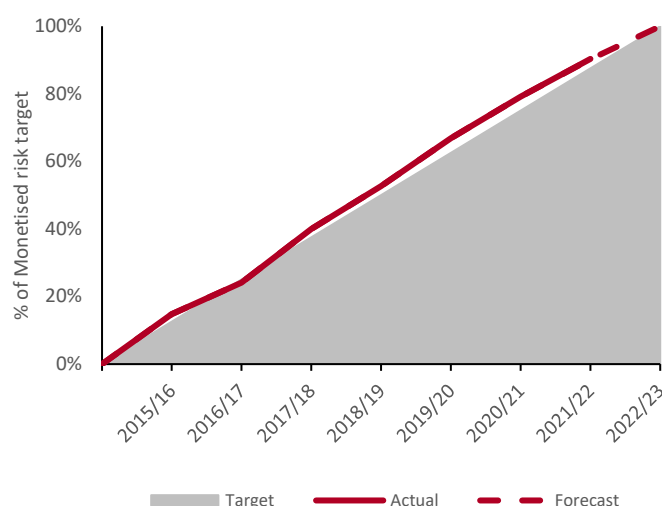**Figure 2.5:** *Total expenditure Vs Ofgem cost allowances (Totex)*

Figure 2.6: *Network Output delivery Vs Ofgem targets (Asset Health and criticality index)*

e. Totex performance summary

Allowing for the reinvestment of SECV Rewards our ED1 forecast expenditure remains in line with allowances …

Our ED1 base totex allowances were £2,990m against our original business plan submission of £3,226m. In this report we have updated allowances to account for costs we expect Ofgem to allow through uncertainty mechanisms in the areas of visual amenity, smart meters, streetworks and physical security, bringing total allowances to £3,032m.

During the early part of the ED1 period we undertook a significant cost re-engineering exercise in light of Ofgem's challenging final determination to ensure that we could deliver the outputs we committed to our stakeholders in our ED1 business plan at the lower level of allowed costs. This cost re-engineering work, which included re-negotiating key service contracts, has meant we are operating to a revised plan that includes £281m of cost savings over the period (9% efficiencies relative to our original ED1 business plan).

Figure 5.1 ED1 forecast

We continually update our plans to reflect cost pressures, delivery of efficiencies and changes in stakeholder requirements.
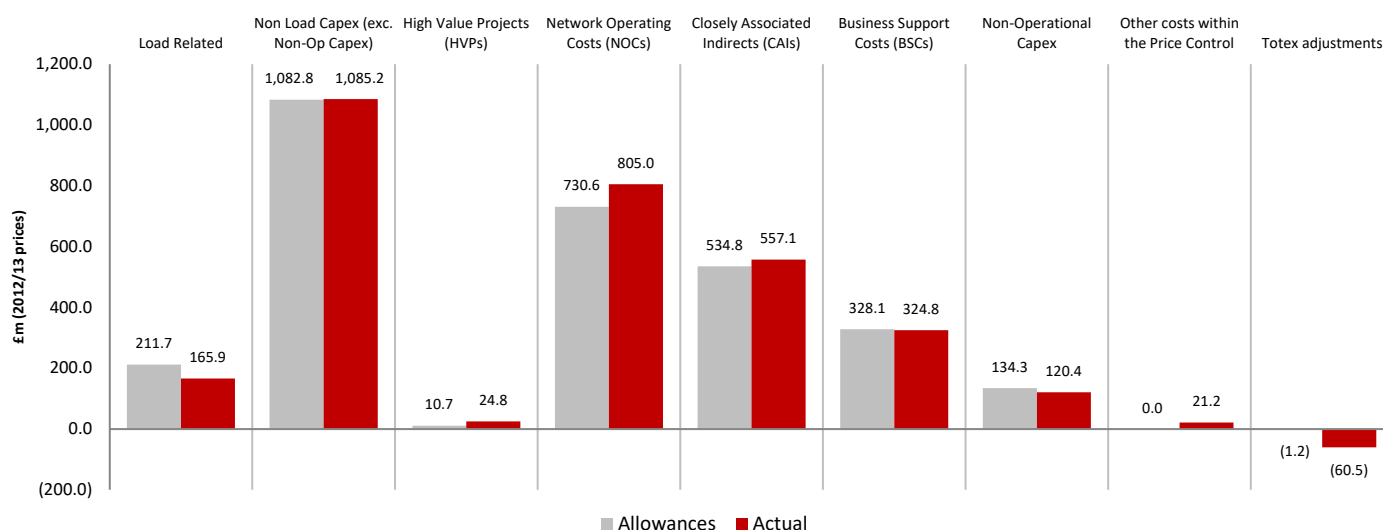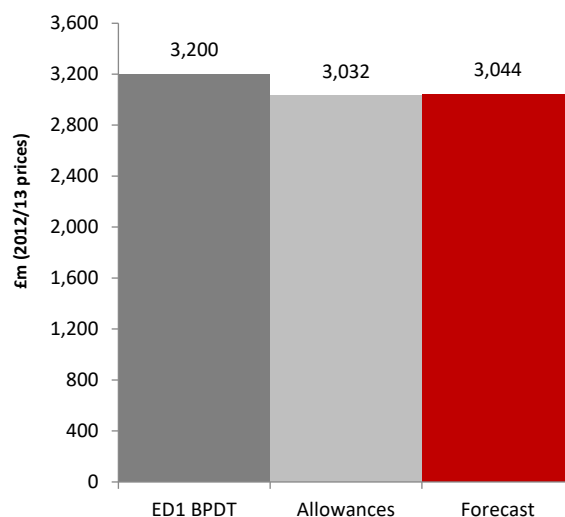
Figure 5.2 Forecast ED1 outturn against allowances by cost category

For the period as a whole, we expect our expenditure to be above allowances on network operating costs (£74.4m; 10%) and closely associated indirects (£22.3m; 4%) offset by under spending against allowances in network investment (£29.4m, 2%), non-op capex (£14.0m; 10%) and business support costs (£3.3m; 1%). We were not allowed our ED1 business plan forecast for fault costs in Ofgem's final determination and whilst our cost reduction programme has recognised efficiencies in the period, external factors and the delivery of service enhancements will see our ED1 spend to be in line with our initial ED1 plan, we forecast to overspend against our total allowances for network operating costs. We were awarded more than our ED1 business plan forecast for business support costs where we were the most efficient company in Ofgem's disaggregated cost assessment and expect to outperform the allowances we were set even after additional investments on IT.

…responding to severe weather events and the lessons learned for future events

The 2021/22 storm season was the most challenging in decades due to the number and size of storms. The most significant event was Storm Arwen, the largest storm to impact our region for 15 years with windspeeds peaking at 98mph, the strongest since 1984, and resulted in interruptions for more than 280,000 customers. Several other named storms, such as Malik and Eunice, also impacted our network.

We are committed to doing those things to make the communities that we serve more resilient to extreme weather events and we have worked closely with both BEIS and Ofgem to ensure the energy sector better supports customers in major power cuts and severe weather events.

We have continued to manage cost pressures and deliver additional investment where required in the period

At the time of writing our ED1 business plan we knew that unforeseen cost pressures would materialise during the longer eight-year price control period. For instance, we have seen pension costs increase (circa £16m more than allowances over the plan period) and the response required to increasing cyber security threats will increase our IT costs by £24.1m.

As reported last year, cost pressure has arisen from changes to the EU's Persistent Organic Pollution (POPs) Regulation that requires removal of PCB contaminated equipment by December 2025. At this stage, based on statistical modelling, we estimate around 8,800 pole mounted transformers will require replacement by this date. We are able to absorb some activity within the envelope of our existing ED1 allowances namely where there are synergies with our reinforcement expenditure. Our forecast contains around £1.5m in ED1 that was not included in our business plan in relation to this work.

The smart meter roll-out as regained momentum following the impact of the COVID pandemic, with activity levels for the 2021/22 regulatory year returning to pre-pandemic levels. However, our ED1 forecast does not foresee this activity being fully recovered through the remainder of ED1 as the impacts of the pandemic are enduring for the period. We have recognised a slight reduction in forecast costs and the associated variant allowances relating to this in our forecasts (£0.6m reduction to allowances). We still have a high volume (more than 10k) of MOP driven interventions where we are yet to be informed of a smart meter being installed at the property. In 2021/22 smart meter installation volumes were 93% higher than the prior year.

Overall, evidence in ED1 to-date strongly supports the view that we will deliver both a more resilient network and outputs to our customers that exceed those originally envisaged in our ED1 business plan. As part of our plan, we expect to accommodate an additional investment of £6.4m in flood defence work upgrading a further 55 sites (in line with the outcome of the National Flood Resilience Review and updated flood map analysis) beyond the 156 sites we set out as part of our original commitment, invest an additional £2.1m beyond our visual amenity allowance cap and a further £50m on 72km of EHV cables, removing fluid and gas filled cable risk from our network. We are also investing £2.3m on improving the safety of our link box population by installing fire suppression blankets at locations with significant foot traffic. We will keep our forecast under review to ensure we deliver the best outcome for our customers.

The costs set out in this report do not include investment related to Ofgem's Green Recovery scheme. Costs for our 14 approved projects under the scheme are forecast to be £53.1m which will increase our overall costs and associated allowances for the ED1 period. By not including this in our forecast, our submission remains consistent with Ofgem's ED1 regulatory reporting packs.

ED1 to-date

ED1 expenditure to-date is within 1% of allowances for the period

Our total expenditure in ED1-to-date is tracking closely to allowances at £2,699.3m, <1% (£8.1m) above our phased allowances of £2,691.2, This is broadly where we expected to be entering the last year of the price control period.

At cost sub-category level, the majority of the variance to allowances is driven by underspend in load and non-operational capex, underspends seen in previous years on Non-load due to rephasing have now been unwound as we enter the last year of the price control period.
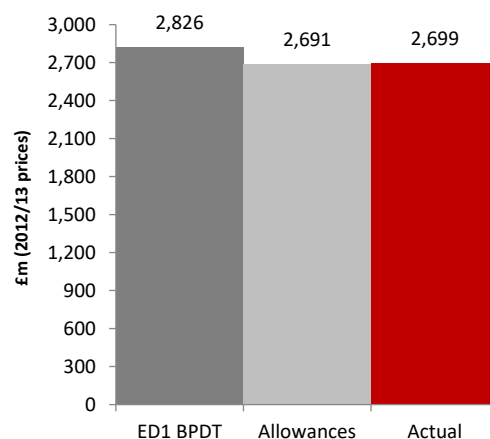
Figure 5.3 ED1 expenditure to-date
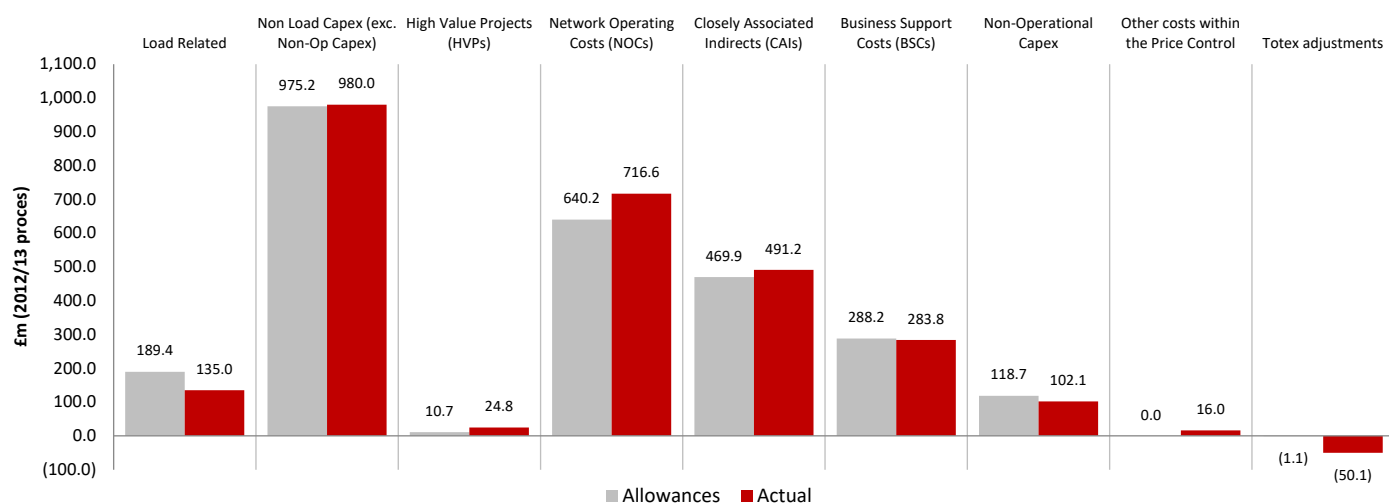
Figure 5.4 Cumulative ED1 to-date actuals and allowances by cost category

Over the period as a whole we expect to generate 9% of efficiency savings – being the savings we needed to make from our ED1 business plan forecast to meet allowances and further efficiency savings realised in the ED1 period. Efficiencies realised to date relative to allowances are reflected in the table below (Figure 5.5) on a total expenditure basis and have enabled us to absorb cost pressures and deliver service enhancements.

TOTEX	Unit	Efficiency	Service Enhancements	External Factors	Provision in the Price control settlement	Re-phasing of timing of work	Other	Total
Northeast	£m	(45.9)	50.0	(0.1)	35.5	(5.5)	(0.4)	**33.5**
	%	*(4%)*	*4%*	*(0%)*	*3%*	*(0%)*	*(0%)*	*3%*
Yorkshire	£m	(57.1)	44.7	(52.6)	45.0	(17.3)	12.0	**(25.4)**
	%	*(4%)*	*3%*	*(3%)*	*3%*	*(1%)*	*1%*	*(2%)*
NPg Total	**£m**	**(103.0)**	**94.7**	**(52.8)**	**80.5**	**(22.9)**	**11.6**	**8.1**
	%	*(4%)*	*4%*	*(2%)*	*3%*	*(1%)*	*0%*	*0%*

Figure 5.5 Cost driver allocation for Totex variance to allowance in the ED1 period-to-date

Totex performance summary

Northern Powergrid	Cumulative ED1 to-date Actuals *minus* Allowance		Forecast Actuals *minus* Allowance for whole of RIIO-ED1	
	£m	**%**	**£m**	**%**
Load Related	(£54.4)	(29%)	(£45.8)	(22%)
Non Load Capex (exc. Non-Op Capex)	£4.8	0%	£2.3	0%
High Value Projects (HVPs)	£14.0	131%	£14.0	131%
Network Operating Costs (NOCs)	£76.4	12%	£74.4	10%
Closely Associated Indirects (CAIs)	£21.3	5%	£22.3	4%
Business Support Costs (BSCs)	(£4.3)	(1%)	(£3.3)	(1%)
Non-Operational Capex	(£16.6)	(14%)	(£14.0)	(10%)
Other costs within the Price Control	£16.0	N/A	£21.2	N/A
Totex adjustments	(£49.0)	N/A	(£59.2)	N/A
Totex	£8.1	0%	£11.9	0%

Figure 5.6 Totex performance summary - Northern Powergrid

Northeast	Cumulative ED1 to-date Actuals *minus* Allowance		Forecast Actuals *minus* Allowance for whole of RIIO-ED1	
	£m	**%**	**£m**	**%**
Load Related	(£27.2)	(27%)	(£23.4)	(22%)
Non Load Capex (exc. Non-Op Capex)	£22.4	5%	(£0.6)	(0%)
High Value Projects (HVPs)	£0.0	0%	£0.0	0%
Network Operating Costs (NOCs)	£42.0	17%	£37.7	13%
Closely Associated Indirects (CAIs)	£21.7	10%	£22.2	9%
Business Support Costs (BSCs)	(£1.1)	(1%)	(£2.4)	(2%)
Non-Operational Capex	(£2.0)	(4%)	(£3.0)	(5%)
Other costs within the Price Control	£5.5	N/A	£7.3	N/A
Totex adjustments	(£28.0)	N/A	(£33.1)	N/A
Totex	£33.5	3%	£4.8	0%

Figure 5.7 Totex performance summary - Northeast

Yorkshire	Cumulative ED1 to-date Actuals *minus* Allowance		Forecast Actuals *minus* Allowance for whole of RIIO-ED1	
	£m	**%**	**£m**	**%**
Load Related	(£27.3)	(30%)	(£22.5)	(21%)
Non Load Capex (exc. Non-Op Capex)	(£17.6)	(3%)	£3.0	0%
High Value Projects (HVPs)	£14.0	131%	£14.0	131%
Network Operating Costs (NOCs)	£34.4	9%	£36.7	8%
Closely Associated Indirects (CAIs)	(£0.5)	(0%)	£0.0	0%
Business Support Costs (BSCs)	(£3.2)	(2%)	(£0.9)	(1%)
Non-Operational Capex	(£14.7)	(23%)	(£11.0)	(15%)
Other costs within the Price Control	£10.4	N/A	£13.9	N/A
Totex adjustments	(£21.0)	N/A	(£26.1)	N/A
Totex	(£25.4)	(2%)	£7.1	0%

Figure 5.8 Totex performance summary - Yorkshire

3. KEY OPERATIONAL PERFORMANCE

a. Primary output summary

Output	Licensee	RAG[1]	DNO Group RAG[1]	Comments
Safety	Northeast	●	●	• Performance in 2021/22 represented a 42% reduction in our OSHA accident rate since we set our business plan targets and keeps us on track to achieve our business plan target to halve our OSHA rate by 2023. • No HSE enforcement notices for either licensee.
	Yorkshire	●		
Reliability & Availability	Northeast	●	●	• Unplanned CI and CML have reduced by 26% and 28% respectively so far in ED1, relative to our business plan baseline. • In 2021/22 we met all four Ofgem reliability and availability targets - Customer Interruptions (CI) and Customer Minutes Lost (CML) in Northeast and Yorkshire. • We upgraded flood defences at an additional seven sites in the year, taking our ED1 total to 206.
	Yorkshire	●		
Environment	Northeast	●	●	• Another strong year of performance across all of our key environmental measures – we met or exceeded all of the targets we set in our business plan. • We are pursuing more stretching targets that go beyond our original plan following engagement with our stakeholders including at least 50% reductions for oil loss and business carbon footprint compared to our targets of 15% and 10% respectively.
	Yorkshire	●		
Connections	Northeast	●	●	• Connections BMCS performance in 2021/22 represented a 7.6 percentage point improvement since the start of ED1. • We missed time to quote and deliver targets for LVSSA and LVSSB lead times in both licensees because of high volumes and customers requesting face-to-face site visits. • We are seeing increased LVSSA volumes for the connection of LCTs and fibre telecoms cables (c.10% increase in delivery volumes) • Zero ICE penalty in ED1 to date. For 2021/22, we delivered all 12 actions in our plan.
	Yorkshire	●		
Customer Satisfaction	Northeast	●	●	• Overall satisfaction has improved by 5.9pp since the start of ED1. • Customer satisfaction declined by 2.3 percentage points in the year, ranking 5th (out of 6). • Complaints resolution is improved by 13.0pp for Day+1 resolution in ED1 to date at 66.8%.
	Yorkshire	●		
Social Obligations	Northeast	●	●	• Disappointing provisional SECV score of 3.70, ranking 6th in the 2021/22 incentive against our DNO peers. • Stakeholders continued to inform the delivery of our plan with a broad range of engagement activities in the year.
	Yorkshire	●		

Figure 3.1 *Northern Powergrid output performance*

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1. For details of RAG assessment, see Annex 1: Output Performance Assessment
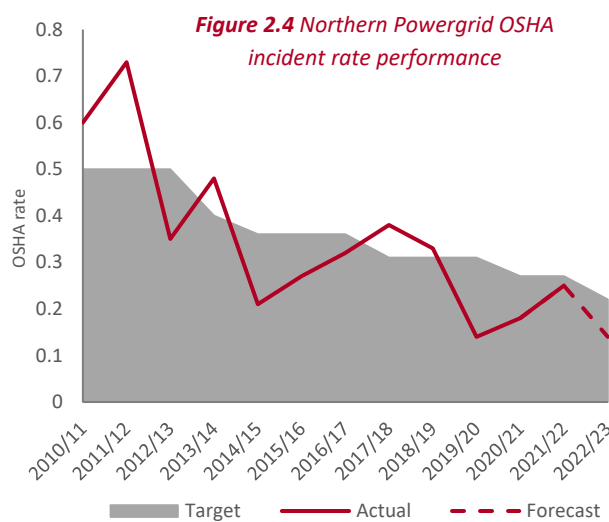
b. Safety

Measure	DNO	2021/22			Comments
		Target[1]	Actual	RAG	
HSE compliance	NPg[2]	✓	✓	●	Full HSE compliance in the year
OSHA[3] Rate	NPg[2]	0.27[4]	0.25	●	Six reportable incidents in the year
RIDDOR[5] Rate	NPg[2]	0.10[4]	0.20	●	Five reportable incidents in the year

Figure 2.3 Northern Powergrid Safety performance

We remain a leading performer in the industry after another strong year of performance, with 2021/22 reflecting a 42% reduction in our OSHA accident rate[6] since we set our business plan

- Our 2021/22 performance in our OSHA accident rate sees us remain on track to achieve our ED1 commitment to halve our incident rate by 2023[6].

- Our performance in 2021/22 saw us maintain HSE compliance.

- We incurred six incidents in the year, all minor and none electrical in nature.

- During 2021/22 we have seen the unwinding of COVID restrictions across the country. We have revised our controls in line with government guidance while maintaining many of our mitigation activities.

- Operationally this has meant a revision of our protocols, such as removed the single occupancy in fleet vehicles and an increase in customer site visits. While for our non-operational staff it has taken the form of a deliberate partial return to the office for many of our colleagues – focused on increasing collaboration and supporting mental health and wellbeing.

Figure 2.4 Northern Powergrid OSHA incident rate performance

- Our workforce drove 15.1 million miles in 2021/22, around 2.6 million miles less when compared to 2019/20, which consolidates efficiencies implemented during the pandemic, with the number of preventable vehicle accidents (PVAs) we incurred increasing by three to 36. We continue to train our drivers, utilising the outputs from vehicle telematics, on-board reversing cameras and driver safety assistance packages to improve performance.

- We continued to use our adapted our safety engagement programmes that were developed during the pandemic. We used social media to target agriculture and road haulage via our 'Look Up It's Live' programme while adapting our school age children programme to provide online videos, resources and planning content for use by teachers.

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1. Ofgem targets unless otherwise stated. For details of target setting, forecasting and RAG assessment, see Annex 1: Output Performance Assessment
2. Our key safety targets are agreed and reported at a group level to our shareholder
3. The Operational Safety and Health Administrators (OSHA) is a US based measure of reportable work-related accidents (per 200,000man hours). It includes major incidents leading to absence and less severe injuries leading to restricted duties or the prescription of drugs as treatment or therapy. See www.OSHA.gov
4. Northern Powergrid target
5. The major accident rate measures the number of accidents we have that are reported under the UK's Reporting of Injuries, Disease and Dangerous Occurrences Regulations 2013 (RIDDOR). These accidents are reportable to the Health and Safety Executive (HSE) and include fatal, major injury and lost-time accidents resulting in over seven days' absence from work. See www.hse.gov.uk/riddor/index.html
6. Reduction compared to our ED1 business plan baseline of 2013 calendar year performance.

c. Reliability & Availability

Measure	DNO	2021/22 Target[1]	2021/22 Actual	RAG	Comments
Customer Interruptions[2] (CI)	NPg	60.9	50.8	●	Unplanned customer interruptions have reduced by 26%[3] compared to our ED1 business plan baseline
	Northeast	59.2	50.2	●	
	Yorkshire	62.0	51.2	●	
Customer Minutes Lost[2] (CML)	NPg	53.2	45.0	●	Unplanned customer minutes lost have reduced by 28%[3] compared to our ED1 business plan baseline
	Northeast	52.8	46.5	●	
	Yorkshire	53.5	43.9	●	
Cumulative health index[4] (% of monetised risk)	NPg	87.5%[5]	90.3%	●	2.8 percentage points ahead of straight line profile for the ED1 period to date at NPg level
	Northeast	87.5%[5]	94.6%	●	
	Yorkshire	87.5%[5]	85.5%	●	
Non-connections GSoP failures[6] (Count)	NPg	3,048[7]	38,040	●	Performance on GSoP failures was heavily impacted by Storm Arwen.
	Northeast	2,002[7]	32,216	●	
	Yorkshire	1,046[7]	5,824	●	
Non-connections GSoP (Payments, £)	NPg	N/A	9,014,019	N/A	
	Northeast	N/A	8.361,395	N/A	
	Yorkshire	N/A	652,624	N/A	

Figure 2.5 Northern Powergrid Reliability & Availability Performance

We hit all Ofgem reliability and availability targets for the seventh consecutive year in ED1 and remain ahead of our business plan commitments to reduce the number of power cuts by 8% and shorten their duration by 20%

- The 2021/22 storm season was the most challenging in decades due to the number and size of storms. The most significant event was Storm Arwen, the largest storm to impact our region for 15 years with windspeeds peaking at 98mph, the strongest since 1984, and resulted in interruptions for more than 280,000 customers. Several other named storms, such as Malik and Eunice, also impacted our network. Overall, this resulted in a 2021/22 performance that was lower than our ED1 average.

- Overall our underlying performance for the ED1 period is good representing a 26% reduction in unplanned customer interruptions and a 28% unplanned customer minutes lost compared to the target reduction of 8% and 20% committed in our ED1 business plan.

- We are progressing well against our ED1 plan for improving the health of our network. We are tracking ahead of a straight-line profile with 90.3% of our ED1 target achieved in the period to-date. Northeast is ahead of the phased target while Yorkshire is marginally behind primarily driven by phasing of our fluid filled cable replacement programmes. We expect to successfully deliver 100% of our planned risk reduction by the end of the period.

- Our flood defence programme remains on track and continues to be an area of high priority for our stakeholders. We have upgraded defences at 206 sites, investing £36.9m in ED1 to date, and having expanded our original programme from 156 to 271 sites to be protected in line with ETR 138.

Figure 2.6 CI/CML Outperformance vs. Ofgem targets (in year and ED1 average)
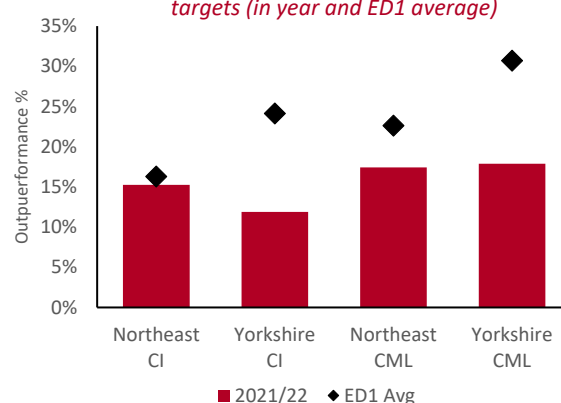
Figure 2.7 Cumulative Network Outputs vs. Targets
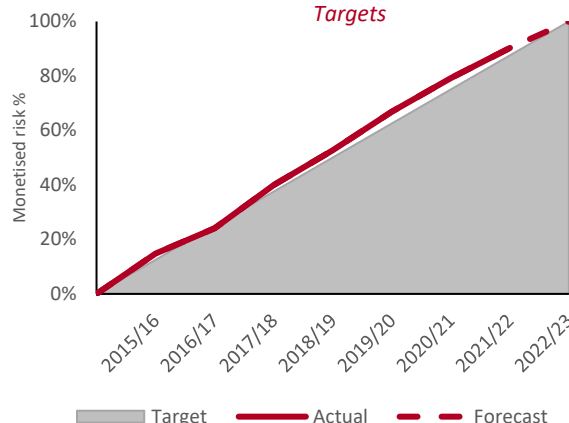
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1. Ofgem targets unless otherwise stated. For details of target setting, forecasting and RAG assessment, see Annex 1: Output Performance Assessment
2. Planned and unplanned, excluding exceptional events
3. Reduction relative to our ED1 business plan baseline - 2012/13
4. Cumulative health index for ED1 period
5. Annual targets were not set. This is an illustrative target reflective of 12.5% for each year of ED1
6. Guaranteed Standards Payments (GSoP) reflects the number of failures after exemptions
7. Northern Powergrid target

d. Environment

Measure	DNO	2021/22 Target[1]	2021/22 Actual	2021/22 RAG	Comments
Business Carbon Footprint[2] (tCO₂e)	**NPg**	**55,081**	**33,498**	●	44% reduction compared to our ED1 business plan baseline[3] – ahead of our 10% reduction target
	Northeast	25,518	17,099	●	
	Yorkshire	29,563	16,399	●	
SF₆ emissions (kg)	**NPg**	**112.0**	**101.6**	●	7% reduction in ED1 to date
	Northeast	36.5	14.5	●	
	Yorkshire	75.5	87.1	●	
Oil Leakage (Litres)	**NPg**	**46,399**	**28,362**	●	47% reduction compared to our ED1 business plan baseline[4] – ahead of our 15% reduction target
	Northeast	15,181	8,979	●	
	Yorkshire	31,218	19,383	●	
Visual Amenity – removing overhead lines from AONBs (km, cumulative ED1)	**NPg**	**73.4**	**88.9**	●	14km removed in 2021/22. We are on track to meet our stretch target of 114km in ED1
	Northeast	47.3	57.8	●	
	Yorkshire	26.1	31.1	●	

Figure 2.8 Northern Powergrid Environmental Performance

Another solid year of environmental performance keeps us on track to exceed our business plan targets

- We have reduced our Business Carbon Footprint (BCF) by 44%[3] so far in the period, exceeding our business plan commitment of a 10% reduction in ED1.

- We've consistently delivered improvements in our emissions, the increase in 2021/22 is largely down to the relaxation of COVID-19 restrictions which reduced emissions in 2020/21, specifically for business travel. As we emerge from the pandemic, we have embedded enduring benefits from agile working arrangements. We have also introduced telematics which will help improve fuel efficiency and introduced more ULEV/ZEV vehicles onto our fleet over ED1.

- SF₆ emissions are a significant contributor to carbon footprint – these have reduced by 7% in ED1 to date. Year-on-year we saw an increase of ca. 29kg due to three switchgear assets which lost ca. 66kg; one of which has now been replaced and the other two are due for replacement in 2022/23. We will continue utilise innovative thermal imaging technology to detect leaking switchgear whilst trialling SF₆ alternatives for switchgear.

- Our strong management of oil leakage continued into 2021/22 and we have maintained a 47%[4] reduction in the period to date. Our performance in this area is reflective of a combination of cable replacement, installing oil containment bunds at substations sites and use of PFT[5] technology to locate leaks. We are also trialling self-healing cable fluid additives.

Figure 2.9 Business Carbon footprint (Including contractors)
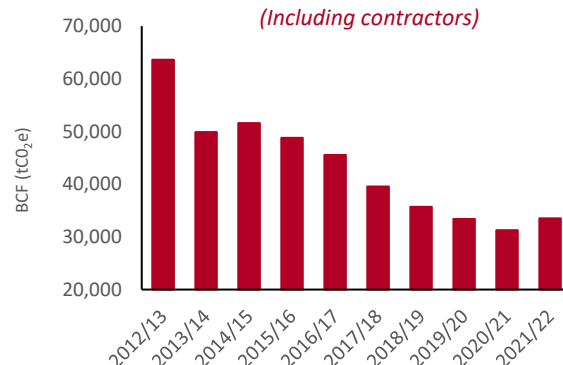
Figure 2.10 Oil/fluid lost to ground

- Our programme to underground overhead lines in National Parks and Areas of Outstanding Natural Beauty (AONB) continues to make good progress. We removed 14km of overhead lines from AONBs and we are on track to deliver our expanded business plan commitment of 114km (an additional 14km) by 2023.

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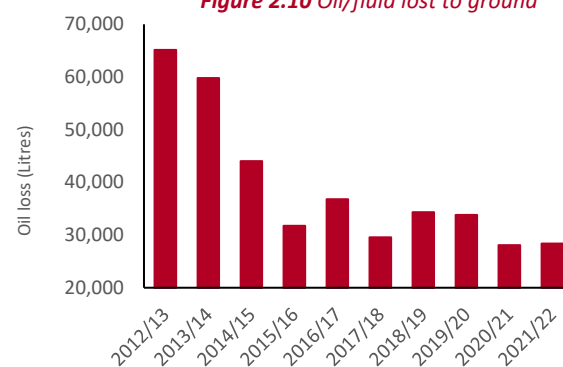
1. Northern Powergrid ED1 business plan targets. For details of target setting, forecasting and RAG assessment, see Annex 1: Output Performance Assessment
2. Excluding losses and inclusive of our contractors
3. ED1 business plan baseline of 59,700 TCO2e
4. ED1 business plan baseline of 53,425 litres
5. Perfluorocarbon tracers (PFT) are an additive put into fluid filled cables so we can detect leaks by 'sniffing' the specific chemical structure of the tracer in the ground above the leak

e. Connections

Measure	DNO	2021/22 Target[1]	2021/22 Actual	2021/22 RAG	Comments
Time to quote: LVSSA (Days)	**NPg**	**4.8**	**8.1**	●	Time to quote targets missed in both licensees impacted by the continued high volumes of customers requesting site visits
	Northeast	4.8	9.3	●	
	Yorkshire	4.8	7.2	●	
Time to quote: LVSSB (Days)	**NPg**	**7.8**	**15.8**	●	
	Northeast	7.8	16.1	●	
	Yorkshire	7.8	15.7	●	
Time to deliver: LVSSA (Days)	**NPg**	**39.3**	**46.2**	●	Time to deliver targets missed in both licensees due to a number of long running jobs at customers' requests and/or requiring wayleaves
	Northeast	39.3	50.1	●	
	Yorkshire	39.3	43.7	●	
Time to deliver: LVSSB (Days)	**NPg**	**47.9**	**54.6**	●	
	Northeast	47.9	61.6	●	
	Yorkshire	47.9	50.5	●	
ICE Penalty (£)	**NPg**	**£0**	**TBC**	N/A	Zero penalty under ICE in ED1 to date
GSoP failures[2] (Count)	**NPg**	**110**[3]	**1,380**	●	Significant increase in the number of enquiries for modifications to connections at existing premises to facilitate the installation of low carbon technologies has led to an increase in the number of quotations provided outside the prescribed timescale of the guaranteed standards
	Northeast	45	613	●	
	Yorkshire	65	767	●	
GSoP failures[2] (% of cases)	**NPg**	**2.00%**	**3.92%**	●	
	Northeast	2.00%	4.68%	●	
	Yorkshire	2.00%	3.47%	●	
GSoP failures[2] (£)	**NPg**	N/A	**205,706**	N/A	
	Northeast	N/A	**107,496**	N/A	
	Yorkshire	N/A	**98,210**	N/A	

Figure 2.11 Northern Powergrid Connections Performance

Small works connections customer satisfaction is up by 7.6 percentage points in ED1 to date and our major works customers continue to give positive feedback for the tailored services we offer

- **For small works connections,** we saw quotation and delivery volumes increase, particularly in LVSSA where they increased by 22% and 59% respectively driven by the uptake of LCTs and the telecoms fibre rollout. Time to quote has also been impacted by a high number of customers that continue to prefer site visits, increasing lead times but improving satisfaction. Delivery lead times have also been impacted by a small number of long-running jobs that require wayleaves or where customers have requested delayed connection dates. We are taking additional steps to reduce lead time through implementation of new technologies and recruitment of additional resource in preparation for a higher volume of LCT uptake in the 2023-28 period and launching a new self-service quotation offering.

- **For our major works connections customers,** we delivered all 12 actions in our 2021/22 Incentive on Connections Engagement (ICE) plan. We have 11 actions in our plan for 2022/23.

- AutoDesign, our web-based, self-service design tool continues to facilitate a smooth process for customers to generate their own budget estimates for low voltage connections including the connection of EV chargers. In 2021/22, over 1,800 estimates were created in the system.

- Our connections input services team (for non-contestable works) continued to pursue service improvements including enhancing our legal/wayleave interactions.

Figure 2.12 Time-to-quote performance

Figure 2.13 Time-to-connect performance

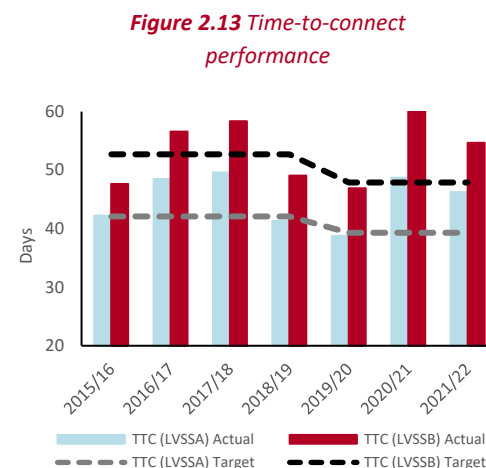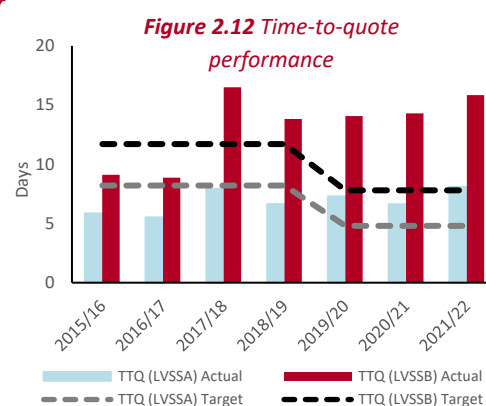1. Ofgem targets unless otherwise stated. For details of target setting, forecasting and RAG assessment, see Annex 1: Output Performance Assessment
2. Excluding ECGS11 (Quotation Accuracy Scheme) and ECGS12 (failure to make payment), which is on the same basis as the 2% Ofgem target
3. Northern Powergrid target
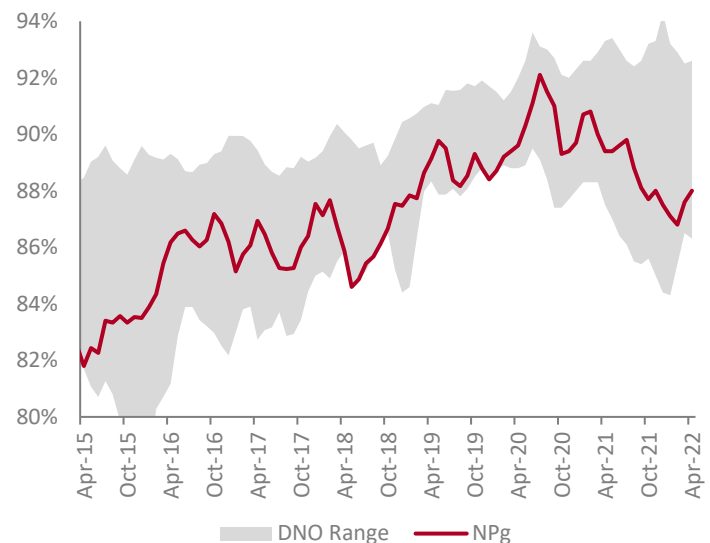
f. Customer Satisfaction

Measure	DNO	2021/22			Comments
		Target[1]	Actual	RAG	
Interruptions survey	**NPg**	**8.20**	**8.79**	●	3.6 percentage point improvement since the start of ED1
	Northeast	8.20	8.78	●	
	Yorkshire	8.20	8.79	●	
Connections survey	**NPg**	**8.20**	**8.63**	●	7.6 percentage point improvement since the start of ED1
	Northeast	8.20	8.74	●	
	Yorkshire	8.20	8.54	●	
General enquiries survey	**NPg**	**8.20**	**9.34**	●	7.9 percentage point improvement since the start of ED1
	Northeast	8.20	9.35	●	
	Yorkshire	8.20	9.33	●	
Overall survey	**NPg**	**8.20**	**8.82**	●	5.9 percentage point improvement since the start of ED1
	Northeast	8.20	8.88	●	
	Yorkshire	8.20	8.77	●	
Complaints metric	**NPg**	**8.33**	**5.26**	●	30% improvement (2.3 reduction) compared to 2015/16 performance
	Northeast	8.33	5.98	●	
	Yorkshire	8.33	4.57	●	

Figure 2.14 Northern Powergrid Customer Satisfaction Performance

Since the start of ED1 we have delivered a 5.9 percentage point[2] improvement in overall customer satisfaction

- In 2021/22 we were heavily impacted by the effects of the storm season which significantly affected our customer satisfaction and impacted the continuous improvement we had seen in prior years, achieving an overall score of 8.82.

- Our performance ranked us 5th in the year with a gap of only 0.5pp to 4th and 2.1pp to 3rd.

- Our aim is to rank amongst the leaders in the industry. Our focus is on leveraging technology solutions to improve the experience for our customers when subject to a power cut or applying for new connections, as well as increasing the capacity with a customer first mindset in these key customer facing functions.

- We have taken actions following our experience in Storm Arwen to improve the ways we communicate with our customers, including deploying a new power cut logger in February 2022, upgrading our website in May 2022, and delivering a new telephony solution in June 2022.

Figure 2.15 Overall Customer satisfaction (Rolling quarter)

- To provide a more convenient experience for our customers, we have piloted evening and weekend appointments for general enquiries services in 2021/22. This has been successful and received positive feedback from customers and we will be rolling this out to business as usual during 2022/23.

- Our Customer Relationship Management (CRM) system continues to be a key enabler for our colleagues allowing them to provide great customer service. We upgraded this to include our 'CRM Go' solution for planned power cuts - app-technology that allows us to provide 'on the day' updates to our customers. We also extended our CRM system to include disconnections, quality of supply and street lighting whilst also utilising CRM Go to support improvements in customer communications across other core services.

- Our complaint handling stepped backwards in the year impacted by Storm Arwen – current levels of day+1 resolution are now at 66.8%, representing a 13.0 percentage point improvement in ED1 to date. We received no repeat complaints or adverse ombudsman decisions in the year.

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1. Ofgem targets unless otherwise stated. For details of target setting, forecasting and RAG assessment, see Annex 1: Output Performance Assessment
2. Based on score out of 100% since the start of ED1

g. Social Obligations

Measure	DNO[1]	2021/22			Comments
		Target[2]	Actual	RAG	
Stakeholder Engagement and Consumer Vulnerability score	NPg	8.00	3.70	●	Provisional 6th place ranking for 2021/22
Supporting Measures					
Power cuts Customer satisfaction (PSR)	NPg	8.20[3]	8.87	●	We are targeting our own standards for those who need extra support during power cuts – this is reflected in our improving PSR satisfaction scores
Power cuts *Restoration within 6 hours*	NPg	95.0%	91.7%	●	
Power cuts *Restoration within 9 hours*	NPg	95.0%	94.8%	●	
School pupils engaged through safety education	NPg	40,000	22,976[4]	●	We continued to provide more online resources in the year including YouTube content

Figure 2.16 Northern Powergrid Social Obligations Performance

We have continued to enhance our support for customers in fuel poverty as well as delivering our social legacy programme in deprived areas where we are improving network infrastructure

- Our provisional SECV ranking for 2021/22 is 6th, down from 5th position in 2020/21. It was a disappointing outcome in a very challenging year, however we remain committed to delivering an excellent service to our current and future customers in a way that build trust in how we operate, making a real sustainable difference to the communities we serve.

- We currently have around 790,000 customers on our PSM register. This year, we worked with Experian to enable more accurate targeting of vulnerable groups at a household level, identified our customers in rural areas at increased risk of power cuts, and addressed gaps in our partner network identifying more potential new partners.

Figure 2.17 PSM customers

- Storm Arwen demonstrated the potential impact of future extreme weather events, how our customers can become vulnerable, and how existing vulnerabilities can be exacerbated.

- During Storm Arwen, 90% of customers were restored in the first 48 hours. We provided 20,000 hot meals, 260 locations were visited by our customer support vehicles, 2,000 winter-warmer packs were distributed and 1,300 hotel bookings were made. We also created rest centres to ensure help was within reasonable distance of those worst-affected and partnered with Local Resilience Forums and the military to co-ordinate door knocking to reach those customers.

- There are more than 430,000 households in our region living in acute fuel poverty. Our focus in 2021-22 was to scale our direct support services, reaching ca. 8,000 individuals annually through expanding our Citizens Advice partnerships, delivering energy advice hubs in partnership with Utilita to two areas of significant income deprivation and piloting delivery of energy-saving packs to 500 hard-to-reach households.

- Our joint Community Partnering Fund with Northern Gas Networks offers £100k of funding each year. Our programme has now funded over 40 community organisations with 12 projects being awarded funding in 2021/22. We have also doubled support from one to two years to allow each organisation to embed their work.

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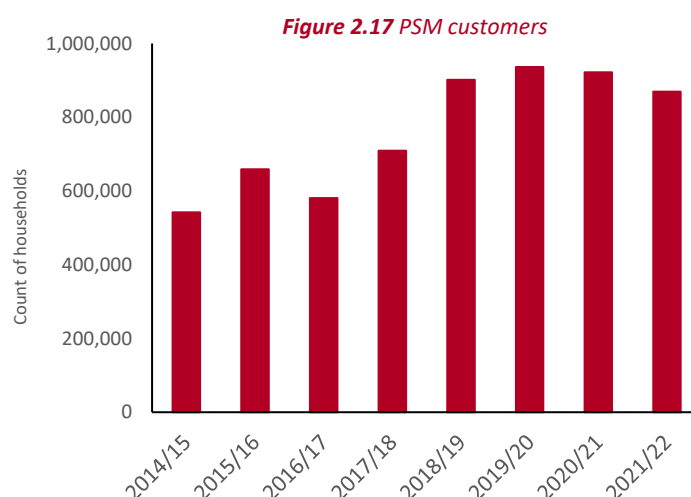
1. Our social obligations targets are agreed and reported at a group level
2. Northern Powergrid target unless otherwise stated. For details of target setting, forecasting and RAG assessment, see Annex 1: Output Performance Assessment
3. Ofgem target
4. Including views of our YouTube content, which was developed during the pandemic, this figure rises to 76,098

h. Innovation

	Allowances to date in ED1 (£m)[1]	Expenditure to date in ED1 (£m)	Number of projects[2]
Network Innovation Allowance (NIA)	26.0	18.4	39
Network Innovation Competition (NIC)	-	-	1
Low Carbon Network (LCN) Fund	-	-	-

Figure 3.1: Innovation performance

Our vision remains unchanged - to be at the forefront of innovative technology, solutions and thinking in the energy sector; using our innovation activity to provide our customers with world-class, affordable services

Innovation is vital to respond to external changes and new demands, improve services for our customers and respond to emerging risks. These external changes develop over time, and it is essential that our innovation approach evolves to meet them.

At the start of ED1 we identified four core innovation priorities assisting with our objectives of reducing costs and improving services for customers:

- developing a smarter and more flexible power grid;
- delivering benefits from smart meters;
- continuing to enhance our web-based and digital-enabled services; and
- addressing issues of affordability.

The energy landscape continues to place increased emphasis on the energy system transition and the tools that will enable it. As a result, our mid-period refresh of our strategy re-prioritised innovation towards decarbonisation, reliability, digitalised solutions and value for money.

As we look towards ED2, our innovation programme is increasingly focusing on solutions that facilitate a "just transition" approach towards net zero. Underpinning our objectives, our strategy focuses on:

- charting the best course to net zero;
- achieving next-level energy system dependability;
- collaboratively unlocking the value of open data and an increasingly digitalised network; and
- ensuring all customers benefit.

We believe there are six areas where transformational capabilities are required and while these are specifically in our plans for the next regulatory period (2023-28) we are starting to focus on them now:

- *Identifying opportunities to accelerate the benefits of flexibility*

- *Developing sophisticated data management and analytics to inform energy system forecasting, planning and real time decision making*

- *Enhancing the connections process to facilitate higher volumes and different types of connection*

- *Maintaining dependability of the energy system as seen by the customer during the energy system transition to decarbonisation*

- *Removing barriers preventing access to the energy system including access to energy data, particularly for those not currently engaged or informed, vulnerable or less-advantaged*

- *Creating capabilities to deliver a next generation local energy network that links up whole system energy sources and vectors, balancing in real time*

We have continued to invest in developing our innovation partnerships to keep us at the forefront on innovative thinking. We have strong relationships with respected academic research institutions, such as Newcastle University, Strathclyde University, Bristol University and Imperial College; with businesses such as our reliability orientated work with Hyperdrive (now Turntide) and connections automation with EA Technology; and with customer interest groups such as National Energy Action. We also leverage being part of the Berkshire Hathaway Energy group to share ideas, collaborate to develop innovative solutions, access international best practice.

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1. This reflects the maximum available allowance
2. NIA funded projects in ED1 to date - a brief description of our key projects can be found in the 'Innovation Activity in Primary Output areas' section, pages 14-15

Storms and supply issues slowed innovation investment in 2021/22 but benefits for our customers continue

In 2021/22 we invested 37% of our £3.6m Network Innovation Allowance (NIA) across our innovation portfolio consisting of 14 live NIA projects. In addition to our NIA investment, we had three externally funded projects[3] in progress and we jointly bid a successful collaborative Network Innovation Competition project '*Reliability as a Service'* which is being led by SSEN. We self-fund a range of innovation activities in our business, for example projects to reduce network losses and rolling-out machine learning.

In the ED1 period to date, our innovative solutions have delivered benefits to customers in excess of £36m, and our plans for 2023-28 forecast further benefits upwards of £250m.

Decarbonisation and the transition to DSO are shaping our innovation portfolio

Our **Boston Spa Energy Efficiency Trial** (BEET) was authorised in 2020/21 and has since been examining whether data flows from smart meters can be used to improve voltage control and reduce low voltage energy use by around 5% - assisting decarbonisation and saving customers money. In 2020/21 the project successfully completed desktop studies and during 2021/22 the build for the field trial has commenced with the production of voltage algorithms, using of data flows through metering and operation computer systems and the upgrading of voltage control equipment at major substations in the Boston Spa area.

In parallel, our **Customer Led Distribution System** (CLDS) innovation project completed its work and delivered whole system insights into the interaction between network services and wider energy markets, in particular where the value in flexibility lies between the electricity retail and networks sectors. We are pursuing other projects that underpin various aspects of technical functionality behind future commercial offerings, notably **MicroResilience**, **ResilientHomes**[4] and **SilentPower.** Our **SilentPower** project (NIA funded, £420k total project investment) completed its NIA development stage and entered business-as-usual roll-out. Insights into the whole systems aspects of optimising energy supply underpin our ED2 business plan, particularly our thinking around flexibility.

Innovation Activity in Primary Output areas

The benefits of innovation can be seen across the output areas of our business. Some of our key projects are set out below:

Safety

- **Vehicle Telematics** continues to prove to be a useful tool in improving fleet driver safety in normal driving. We are now seeking solutions to assist in low-speed manoeuvring, site environments and parking to further improve our performance. **Extended reality training/ simulation** is showing promise in this area amongst the staff who have already undertaken it.
- Inexpensive **fault current measurement** of wooden poles has been developed to address electrical safety issues associated with broken insulators on overhead lines. It is being field tested in the UK, and we have had interest from outside the UK as the device is seen as one of the potential mitigations for wildfire risk in the USA. We have had preliminary discussions with a manufacturer about potential production of the device.
- Our **Centralism** project (NIA funded, £88k total project investment), which both registers and controls authorised access and prevents unauthorised access to substations is in the field trial stage.

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3. *e4Future* with Innovate UK *Gendrive* with United Kingdom Research and Innovation and *Barnsley Domestic DSR* with Department for Business, Energy and Industrial Strategy
4. More information can be found on our innovation webpage: https://www.northernpowergrid.com/innovation

Reliability & Availability

- In addition to our network automation programmes of APRS[5] and LV smart fuses, our **Foresight** fault prediction project (NIA funded, £4m total project investment) represents a revolution in LV cable fault management. So far, the project has made hundreds of thousands of pre-fault identifications prior to them becoming permanent faults. We are learning more about how to use this equipment and our understanding of cable behaviour is improving. This project has now transferred to business-as-usual operations and the aim is to use the technology to target network repairs before faults occur.
- We are using **unmanned aircraft systems (UAS)** to carry out inspections of our overhead line assets to drive cost efficiencies and we are investigating the use of near-real-time satellite imagery to improve our capability, particularly at times when UAS systems cannot fly.
- We have invested £19.4m in ED1 to date in advanced **cyber security** infrastructure.
- Our **MicroResilience** project (NIA funded, £3.7m total project investment) will allow us to keep customers on supply even after faults have taken out higher voltage circuits. Work on site to deliver this project is expected to complete this year.

Environment

- Use of **Perfluorocarbon tracer** (Pft) additives has sped up cable oil leak detection, contributing to a 47% reduction in oil/fluid loss compared to our ED1 business plan baseline.
- **Self-healing cable additive** that solidifies leaking cable fluid, reducing leakage even further, has completed its NIA funded development (a series of collaborative Innovation Funding Incentive (IFI) and NIA funded projects, circa £750k total project investment) and is now undergoing live field trials.
- In collaboration with other DNOs, we explored a **new alternative to traditional wood poles** which is not creosote reliant and of a consistent size and strength, allowing multiple poles to be made from one tree, reducing environmental impact.
- Our **distributed storage and solar study** (NIA funded, £275k total project investment) has created an understanding of how Photovoltaic (PV) generation and behind the meter storage can reduce costs for customers and their carbon footprint, which is being taken forward as a commercial proposition in the energy retail market.
- **SilentPower**, our battery-based restoration unit that replaces mobile diesel generators, has been used over 250 times saving around £170k in one year of operation relative to diesel. This is in addition to the CO2, NOx, particulate and noise reductions and functionality that allows customers to continue to use their solar generation, where they have it, during a fault.

Customer Satisfaction

- Our **Estimated Time to Restoration (ETR)** project is combining historical power cut data with weather, traffic, time, location and resourcing information via a machine-learning tool to forecast more accurate ETRs for customers. Consideration is being given as to whether contextual data (e.g. traffic reports or weather reports) could be worked into the next generation of this tool to further refine the ETRs.
- Our **Customer Relationship Management (CRM)** system is transforming our customer interactions from reactive, inbound contacts to largely proactive and outbound contacts across a range of integrated communication channels.
- Our expanded range of **web-based services** such as SafeDig (access to online network records), is allowing our customers to self-serve, accessing more information whilst saving time and cost.

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5. Automated Power Restoration System

Connections

- **Voltage reductions** enabled by learnings from our Customer Led Network Revolution (CLNR) project[6] have released over 4.5GW of capacity for multiple small-scale generators to connect to our local network.
- Our **AutoDesign** project (NIA funded, £1.1m total project investment) has created a web-based, self-service design tool that is live for our customers, providing those looking to connect EV chargers access to high-quality designs, in real-time, at a lower cost. This initiative was enabled by our previous investment in integrated vectorised network and asset records and is enabling us to service increasing LCT connection requests, with over 4,000 automated quotes provided thus far.

Social Obligations

- Design work and customer engagement on our **Resilient Homes** project, a key initiative for vulnerable customers, is now complete and roll out has begun with the battery units ordered. The project utilises a domestic battery solution for ensuring that medically electrically dependent customers remain on supply if a fault occurs on the network. A successful outcome may have positive implications more widely for vulnerable and electrically dependent customers, associated commercial offerings that a third party might develop from our work.

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6. Completed in 2014

i. Whole Systems Progress

The energy system is rapidly changing - our network investment and approaches to data and digitalisation are evolving to address the more active nature of our network, along with broader impacts on the electricity system

Whole energy system solutions have the potential to deliver significant value for our customers. 2021/22 has been another active year at our interface with National Grid; developing lowest cost, technically appropriate solutions that meet our customers' evolving needs.

We continued to engage in the development of a cross-industry framework through the ENA Open Networks project to enhance whole electricity system benefits with emphasis on a greater uptake of customer flexibility.

We continue to explore opportunities for additional actions to help optimise the whole energy system. After publishing our Digitalisation Strategy and Action Plan we continued our work with the ESO, other DNO/IDNOs and GDNs via the Data and Digitalisation Steering Group to develop proposals for common GB approaches to energy system open data.

Customers will always benefit from network operators working more closely together to solve issues on their networks – doing so allows us to deliver lower cost and/or lower carbon options

We have been engaged in the year to deliver efficient whole system planning and system development with:

- National Grid, transmission owner (TO) and the electricity system operator (ESO) through routine interfaces, on individual projects and on longer-term plans for RIIO-2, and more specifically on the initiation of several Regional Development Programmes (RDPs) to address the impacts of transmission congestion on our customers;
- Other electricity distribution networks on specific connection requests;
- IDNOs on their development plans for inset networks in our region so that we can factor that into our economic development plans for our upstream network;
- Multiple cross-industry initiatives as part of the ENA Open Networks project including the ongoing standardisation of flexibility services contracts and alignment of DNO/ESO procurement approaches;
- Partner DNOs to continue the development of a shared platform and toolkit to signpost and operate flexibility services, as well as to coordinate whole systems solutions on our network (more information is available in our Whole Electricity System Coordination Register);
- Northern Gas Networks and Local Authorities to refresh our Charter on Local Area Energy Plans (LAEPs), including Local Authority workshops on LAEPs;
- Those Local Authorities seeking urgent action on decarbonisation, including those seeking to pursue LAEPs, in particular, we have been supporting the development of four LAEPs in York and North Yorkshire where we are part of the LAEP steering group, as well as providing inputs and information to the LAEPs being developed in the Borderlands project;
- The community energy sector, which highlighted that local groups have an appetite for taking part in local energy decisions. We have subsequently held a community energy stakeholder panel session to explore the concept and how groups would like to support these;
  - As a result of our recommendation, two Community Energy groups were included in York and North Yorkshire's LAEP Technical Advisory Panel; and
- Industry and the Energy Systems Catapult to develop a LAEP guidance framework.

Our engagement with the ESO and TO is delivering whole system benefits

With National Grid, whole system initiatives have historically been managed through our existing interface processes; our routine Joint Technical Planning Meetings (JTPMs) and fortnightly calls to discuss generation connections and their impacts. These forums enable us and the ESO to work together to determine transmission impacts and lowest cost solutions for our connections customers. The investment decisions arising from these interactions are recorded and alternatives are considered in our options appraisal documents. For example:

- Assessing the operating voltages at grid in-feeds as we seek to optimise voltages on the distribution network to provide more headroom for generation and operational flexibility for system defence measures.
- Involvement in Pennine Area Voltage Pathfinder activities with the ESO, to support whole system planning across National Grid, Electricity North West and Northern Powergrid licence areas. This required us to assess the impact of reactive power injection at certain key points on our network, where the ESO then assessed the distribution and transmission system options to then determine the most appropriate solution.

In addition, this year we have initiated several RDPs to address the impacts of transmission congestion at various points across our network. RDPs will assess the specific network issues and wider constraints on the transmission network, and tailor solutions to reduce delays to connections and allow our customers to connect sooner. These projects will be delivered collaboratively by Northern Powergrid, National Grid ESO and National Grid Electricity Transmission (NGET).

The early examples will work to resolve issues that are presenting currently, after which we will continue to apply the principles to areas where we foresee issues arising in the future.

We have continued to deliver the Accelerated Loss of Mains Programme (ALoMCP). This is progressing well with the significant reduction of the loss of mains risk resulting in balancing cost savings which will ultimately be passed on to the end consumer

Results of our whole systems approaches are evident in our Whole Electricity System Coordination Register (WESCo)

This year saw the publication of the first Whole Electricity System Coordination Register, which records and highlights some of the key joint deliverables and whole systems actions from the past year, that have arisen through engagement with other DNOs, customers and stakeholders. Notably including:

- Planning and coordination with neighbouring network licensees (distribution and transmission)
- Co-ordination of asset rebuild programmes to ensure the most cost-efficient solution is adopted
- Electric Vehicle Charging Infrastructure Framework – Northern Powergrid has been actively supporting Transport for the North in developing an Electric Vehicle Charging Infrastructure
- Development of LAEPs with local authorities.

Demonstrating our flexibility first approach

Our teams have worked to identify areas of our network where future reinforcement could be deferred and have tested whether contracted flexibility could be a viable solution. As a result, processes have been developed that have led to a 2022 tender event, where we expect to place our first contracts for flexibility in the next regulatory year.

ANNEX A1(a) NORTHERN POWERGRID PERFORMANCE

NPg		Unit	2020/21 Actual	2021/22 Actual	2021/22 Target[1]	RAG	2022/23 Forecast	Trend[2]
Revenue (and key financial metrics)								
Total annual revenue		£m	£572.4m	**£583.3m**	N/A	N/A	£697.8m	N/A
Customer bill[3]		£	£71.39	**£69.45**	N/A	N/A	£94.18	N/A
RoRE[4]		%	7.2%	**8.8%**	N/A	N/A	N/A	N/A
RAV	Opening balance	£m	£2,807m	**£2,843m**	N/A	N/A	N/A	N/A
	Closing value	£m	£2,843m	**£2,878m**	N/A	N/A	N/A	N/A
Totex	Allowance	£m	£357.2m	**£337.8m**	N/A	N/A	£3,032.0m[5]	N/A
	Actual	£m	£398.5m	**£380.0m**	N/A	N/A	£3,043.8m[5]	N/A
	Difference	£m	£41.3m	**£42.2m**	N/A	N/A	£11.9m[5]	N/A
		%	11.6%	**12.5%**	N/A	N/A	0.4%[5]	N/A
Incentives[6]								
IIS		£m	£21.3m	**£12.7m**	£23.5m	N/A	£18.9m	▼
TTC		£m	£0.0m	**£0.0m**	£2.0m	N/A	£1.9m	—
ICE *(penalty only)*		£m	£0.0m	- [7]	£0.0m	N/A	£0.0m	—
BMCS *(Including SECV)*		£m	£5.7m	**£1.6m**	£7.8m	N/A	£7.6m	▼
Total		£m	£27.1m	**£14.3m**	£33.3m	N/A	£28.3m	▲
Innovation								
NIA Expenditure		£m	£3.5m	**£1.3m**	£3.6m	●	£3.7m	—
NIC Expenditure		£m	£0.0m	**£0.0m**	£0.0m	N/A	£0.0m	—
Primary Outputs								
Safety	HSE Compliance	Hit/miss	✓	✓	✓	●	✓	—
Environmental	Oil Leakage	Litres	28,055	**28,362**	46,399[8]	●	27,300	▼
	Business Carbon Footprint[9]	tCO2e	31,241	**33,498**	55,081[8]	●	28,760	▼
	SF_6 emissions	kg	73	**102**	112[8]	●	50	▼
Customer service	Overall survey	Score	9.05	**8.82**	8.20	●	9.20	▼
	Interruptions survey	Score	9.07	**8.79**	8.20	●	9.18	▼
	Connections survey	Score	8.89	**8.63**	8.20	●	9.12	▼
	General enquiries survey	Score	9.40	**9.34**	8.20	●	9.42	▼
	Complaints metric	Score	2.76	**5.26**	8.33	●	1.80	▼
Connections	Time to quote (LVSSA)	Days	6.6	**8.1**	4.8	●	3.4	▼
	Time to quote (LVSSB)	Days	14.3	**15.8**	7.8	●	5.5	▼
	Time to connect (LVSSA)	Days	48.7	**46.2**	39.3	●	28.3	▲
	Time to connect (LVSSB)	Days	78.5	**54.6**	47.9	●	36.5	▲
Reliability	Customer interruptions — Northeast	CI	45.3	**50.2**	59.2	●	43.6	▼
	Customer interruptions — Yorkshire	CI	52.4	**51.2**	62.0	●	50.0	▼
	Length of interruptions — Northeast	CML	36.8	**46.5**	52.8	●	32.0	▼
	Length of interruptions — Yorkshire	CML	40.0	**43.9**	53.5	●	35.4	▼
Social obligations	SECV	Score	5.01	**3.70**	8.00[8]	●	8.00	▼
Secondary Deliverables								
Asset health and criticality index	**HI** Score	Points	15.8m	**17.5m**	17.5m[10]	●	20.0m	▲
	HI % of monetary risk target	%	79.1%	**90.3%**	87.5%	●	100%	▲

Figure A1.1 Northern Powergrid performance overview

1. Ofgem targets unless otherwise stated. For details of target setting, forecasting and RAG assessment, see Annex 1: Output Performance Assessment
2. Based on 2021/22 performance compared to prior year. ▲ Trending positively; ▼ Trending Negatively; — No/negligible movement
3. Based on average domestic consumption of 2,900kWh - https://www.ofgem.gov.uk/electricity/retail-market/monitoring-data-and-statistics/typical-domestic-consumption-values
4. RoRE forecast for the ED1 period based on notional gearing and including holding company debt
5. Cumulative ED1 Period forecast (2015-2023)
6. Incentive targets reflect maximum rewards against the relevant Ofgem Incentive mechanism
7. ICE determination expected in Q4 2022
8. Northern Powergrid target
9. Business Carbon Footprint including contractors
10. Annual targets were not set; this figure is illustrative based on an equal 12.5% of the 2023 target being delivered each year

ANNEX A1(b): LICENSEE PERFORMANCE (NORTHEAST)

Northeast		Unit	2020/21 Actual	2021/22 Actual	2021/22 Target[1]	RAG	2022/23 Forecast	Trend [2]
Revenue (and key financial metrics)								
Total annual revenue		£m	£251.2m	**£258.1m**	N/A	N/A	£304.3m	N/A
Customer bill[3]		£	£78.80	**£76.57**	N/A	N/A	£99.25	N/A
RoRE[4]		%	8.0%	**9.5%**	N/A	N/A	N/A	N/A
RAV	Opening balance	£m	£1,207m	**£1,225m**	N/A	N/A	N/A	N/A
	Closing value	£m	£1,225m	**£1,235m**	N/A	N/A	N/A	N/A
Totex	Allowance	£m	£152.7m	**£143.0m**	N/A	N/A	£1,298.0m[5]	N/A
	Actual	£m	£177.5m	**£161.0m**	N/A	N/A	£1,302.8m[5]	N/A
	Difference	£m	£24.8m	**£18.0m**	N/A	N/A	£4.8m[5]	N/A
		%	16.2%	**12.6%**	N/A	N/A	0.4%[5]	N/A
Incentives[6]								
IIS		£m	£10.0m	**£4.5m**	£10.0m	N/A	£8.4m	▲
TTC		£m	£0.0m	**£0.0m**	£0.8m	N/A	£0.7m	—
ICE *(penalty only)*		£m	£0.0m	**TBC[7]**	£0.0m	N/A	£0.0m	—
BMCS *(including SECV)*		£m	£2.5m	**£0.7m**	£3.3m	N/A	£3.2m	▼
Total		£m	£12.5m	**£5.1m**	£14.1m	N/A	£12.3m	▲
Innovation								
NIA Expenditure		£m	£1.5m	**£0.6m**	£1.6m	●	£1.6m	▲
NIC Expenditure		£m	£0.0m	**£0.0m**	£0.0m	N/A	£0.0m	—
Primary Outputs								
Safety	HSE Compliance	Hit/miss	✓	**✓**	✓	●	✓	—
Environmental	Oil Leakage	Litres	7,831	**8,979**	15,181[8]	●	10,550	▼
	Business Carbon Footprint[9]	tC02e	14,749	**17,099**	25,518[8]	●	12,800	▼
	SF_6 emissions	kg	24.1	**14.5**	36.5[8]	●	12.9	▲
Customer service	Overall survey	Score	9.14	**8.88**	8.20	●	9.20	▼
	Interruptions survey	Score	9.13	**8.78**	8.20	●	9.18	▼
	Connections survey	Score	8.99	**8.74**	8.20	●	9.12	▼
	General enquiries survey	Score	9.52	**9.35**	8.20	●	9.42	▼
	Complaints metric	Score	2.72	**5.98**	8.33	●	1.80	▼
Connections	Time to quote (LVSSA)	Days	7.0	**9.3**	4.8	●	3.4	▼
	Time to quote (LVSSB)	Days	14.9	**16.1**	7.8	●	5.5	▼
	Time to connect (LVSSA)	Days	51.9	**50.1**	39.3	●	28.3	▲
	Time to connect (LVSSB)	Days	91.1	**61.6**	47.9	●	36.5	▲
Reliability	Customer Interruptions	CI	45.3	**50.2**	59.2	●	43.6	▼
	Length of Interruptions	CML	36.8	**46.5**	52.8	●	32.0	▼
Social obligations	SECV	Score	5.01	**3.70**	8.00[8]	●	8.00	▼
Secondary Deliverables								
Asset health and criticality index	**HI** Score	Points	9.3m	**10.0m**	9.3m[10]	●	10.6m	▲
	HI % of monetary risk target	%	87.6%	**94.6%**	87.5%	●	100%	▲

Figure A1.2: Northern Powergrid (Northeast) performance overview

ANNEX A1(c): LICENSEE PERFORMANCE (YORKSHIRE)

Yorkshire		Unit	2020/21 Actual	2021/22 Actual	2021/22 Target[1]	RAG	2022/23 Forecast	Trend[2]
Revenue (and key financial metrics)								
Total annual revenue		£m	£321.2m	£325.2m	N/A	N/A	£393.5m	N/A
Customer bill[3]		£	£66.14	£64.40	N/A	N/A	£90.57	N/A
RoRE[4]		%	7.2%	8.9%	N/A	N/A	N/A	N/A
RAV	Opening balance	£m	£1,600m	£1,618m	N/A	N/A	N/A	N/A
	Closing value	£m	£1,618m	£1,643m	N/A	N/A	N/A	N/A
Totex	Allowance	£m	£204.5m	£194.8m	N/A	N/A	£1,734.0m[5]	N/A
	Actual	£m	£221.0m	£219.0m	N/A	N/A	£1,741.0m[5]	N/A
	Difference	£m	£16.5m	£24.1m	N/A	N/A	£7.1m[5]	N/A
		%	8.1%	12.4%	N/A	N/A	0.4%[5]	N/A
Incentives[6]								
IIS		£m	£11.3m	£8.2m	£13.5m	N/A	£10.6m	▼
TTC		£m	£0.0m	£0.0m	£1.2m	N/A	£1.1m	▼
ICE *(penalty only)*		£m	£0.0m	TBC[7]	£0.0m	N/A	£0.0m	—
BMCS *(including SECV)*		£m	£3.2m	£0.9m	£4.5m	N/A	£4.4m	▼
Total		£m	£14.5m	£9.2m	£19.2m	N/A	£16.0m	▼
Innovation								
NIA Expenditure		£m	£2.1m	£0.8m	£2.1m	●	£2.1m	▲
NIC Expenditure		£m	£0.0m	£0.0m	£0.0m	N/A	£0.0m	—
Primary Outputs								
Safety	HSE Compliance	Hit/miss	✓	✓	✓	●	✓	—
Environmental	Oil Leakage	Litres	20,224	19,383	31,218[8]	●	16,750	▲
	Business Carbon Footprint[9]	tCO2e	16,492	16,399	29,563[8]	●	15,100	▲
	SF$_6$ emissions	kg	49.0	87.1	75.5[8]	●	37.1	▼
Customer service	Overall survey	Score	8.97	8.77	8.20	●	9.20	▼
	Interruptions survey	Score	9.01	8.79	8.20	●	9.18	▼
	Connections survey	Score	8.81	8.54	8.20	●	9.12	▼
	General enquiries survey	Score	9.28	9.33	8.20	●	9.42	▲
	Complaints metric	Score	2.79	4.57	8.33	●	1.80	▼
Connections	Time to quote (LVSSA)	Days	6.4	7.2	4.8	●	3.4	▼
	Time to quote (LVSSB)	Days	14.0	15.7	7.8	●	5.5	▼
	Time to connect (LVSSA)	Days	46.8	43.7	39.3	●	28.3	▲
	Time to connect (LVSSB)	Days	71.0	50.5	47.9	●	36.5	▲
Reliability	Customer Interruptions	CI	52.4	51.2	62.0	●	50.0	▲
	Length of Interruptions	CML	40.0	43.9	53.5	●	35.4	▼
Social obligations	SECV	Score	5.01	3.70	8.00[8]	●	8.00	▼
Secondary Deliverables								
Asset health and criticality index	**HI** Score	Points	6.5m	8.0m	8.2m[10]	●	9.4m	▲
	HI % of monetary risk target	%	69.6%	85.5%	87.5%	●	100%	—

***Figure A1.3** Northern Powergrid (Yorkshire) performance overview*

1. Ofgem targets unless otherwise stated. For details of target setting, forecasting and RAG assessment, see Annex 1: Output Performance Assessment
2. Based on 2021/22 performance compared to prior year. ▲ Trending positively; ▼ Trending Negatively; — No/negligible movement
3. Based on average domestic consumption of 2,900kWh - https://www.ofgem.gov.uk/electricity/retail-market/monitoring-data-and-statistics/typical-domestic-consumption-values
4. RoRE forecast for the ED1 period based on notional gearing and excluding holding company debt
5. Cumulative ED1 Period forecast (2015-2023)
6. Incentive targets reflect maximum rewards against the relevant Ofgem Incentive mechanism
7. ICE determination expected in Q4 2022
8. Northern Powergrid target
9. Business Carbon Footprint including contractors
10. Annual targets were not set; this figure is illustrative based on an equal 12.5% of the 2023 target being delivered each year.

ANNEX 2: OUTPUT PERFORMANCE ASSESSMENT

Approach to target setting and forecasting for outputs

We seek to achieve continuous improvement through our target setting, moving the performance of the business forward to best-ever levels.

The 2021/22 targets set out in this report include a combination of:

- Ofgem incentive targets where stipulated in RIGs guidance and/or RAG rating guidance; and
- Northern Powergrid targets where Ofgem has not indicated the basis for targets.

We have included footnotes on the outputs tables throughout the document to identify the basis of the targets applied for each measure.

In addition, on pages 5, 35 and 36 of the report, we have included our 2022/23 forecast for key output measures indicating our targeted out-turn position by the end of the ED1 price control period.

RAG rating guidance/approach

The tables over the page set out the RAG rating approach applied in Section 2 of the document (Output and Incentive Performance).

They include Ofgem's RAG guidance used in its ED1 Annual Reports along with Northern Powergrid's RAG approach for measures where no guidance has been set by Ofgem.

OFGEM RAG GUIDANCE				
Measure	**Green**	**Amber**	**Red**	**Overall RAG (for Section 2a)**
Average duration of interruptions (CML)	Actual performance is lower than or equal to the regulatory target	Actual performance is higher than target but lower than or equal to 105% of regulatory target	Actual performance is higher than 105% of regulatory target	For DNOs' overall Reliability and availability RAG status: Both green = Green overall Both red = Red overall Any other combination – Amber overall
Number of interruptions (CI)	Actual performance is lower than or equal to the regulatory target	Actual performance is higher than target but lower than or equal to 105% of regulatory target	Actual performance is higher than 105% of regulatory target	
Complaints	Performance is lower than or equal to regulatory target of 8.33 (score <=8.33)	Performance is higher than regulatory target, but lower than or equal to 105% of regulatory target (8.33 < score < =8.75)	Performance is higher than 105% of regulatory target (score > 8.75)	Weight performance as follows: 50% connections; 30% interruptions; and 20% general enquiries.
Customer Satisfaction Survey	Performance is higher than or equal to regulatory target (>=8.2)	Performance is lower than regulatory target, but higher than or equal to 95% of regulated target (7.79 <= score < 8.2)	Performance is lower than 95% of regulated target (<7.79)	For DNOs' overall Customer satisfaction RAG status: Both green = Green overall Both red = Red overall Any other combination – Amber overall
Fluid Filled cables (top up as a percentage of oil in service)	None – will build a picture of annual performance over price control *(see next page for Northern Powergrid's approach)*			
SF$_6$ (emissions as percentage of SF$_6$ bank)	None – will build a picture of annual performance over price control *(see next page for Northern Powergrid's approach)*			
BCF (excluding losses) (as a % of network length and customer numbers)	None – will build a picture of annual performance over price control *(see next page for Northern Powergrid's approach)*			
Time to Quote and Time to Connect	Actual time is lower than or meeting regulatory target in all 4 of the categories	Actual time is higher than 105% of regulatory target for no more than 2 categories	Actual time is higher than 105% of regulatory target for 3 or 4 categories	For DNOs' overall Connections RAG status: All five green = Green overall Three or more red = Red overall Any other combination = Amber overall
Connection GSoPs	0% to <=2% of total connections standards missed	>2% and <=5% of total standards missed	>5% of total standards missed	

Figure A1.1: Ofgem RAG guidance/approach

NORTHERN POWERGRID RAG APPROACH				
Measure	**Green**	**Amber**	**Red**	**Overall RAG (for Section 2a)**
INNOVATION				
NIA expenditure	NIA expenditure is >=90% of allowance	NIA expenditure is >=75% but <90% of allowance	NIA expenditure is <75% of allowance	
SAFETY				
HSE compliance	No HSE compliance failures or prohibition notices	No material HSE compliance failures and only minor non-conformances e.g. minor prohibition notice(s)	1 or more material compliance failures or major non-conformances	Overall RAG status for safety based on RAG status for Ofgem's headline measure of HSE compliance (see left)
OSHA RIDDOR	Performance is equal to or less than Northern Powergrid internal target	Performance is >100% but <=110% of Northern Powergrid internal target[1]	Performance is >110% of Northern Powergrid internal target	
RELIABILITY & AVAILABILITY				
Non-connections GSOP (no of failures)	Performance is equal to or less than Northern Powergrid internal target	Performance is >100% but <=105% of Northern Powergrid internal target	Performance is >105% of Northern Powergrid internal target	
ENVIRONMENT				
Oil Leakage Business Carbon Footprint SF6 emissions	Performance is equal to or less than Northern Powergrid internal target	Performance is >100% but <=105% of Northern Powergrid internal target	Performance is >105% of Northern Powergrid internal target	Overall RAG status for environment based on oil leakage, business carbon footprint and SF6 emissions: All three green = Green overall
Undergrounding in protected landscape (km)	Performance is equal to or higher than Northern Powergrid internal target	Performance is <100% but >=90% of Northern Powergrid internal target	Performance is <90% of Northern Powergrid internal target	Two or more red = Red overall Any other combination = Amber overall
SOCIAL OBLIGATIONS				
SECV score	Rank is 1st or 2nd *(against our DNO peers)*	Rank is 3rd or 4th *(against our DNO peers)*	Rank is 5th or 6th *(against our DNO peers)*	Overall RAG status for social obligations based on SECV score (ranking): 1st or 2nd = Green
PSR Powercuts — BMCS / < 6 hours / < 9 hours School pupils engaged through safety education	Performance is equal to or less than Northern Powergrid internal target	Performance is >100% but <=105% of Northern Powergrid internal target	Performance is >105% of Northern Powergrid internal target	3rd or 4th = Amber 5th or 6th = Red
SECONDARY DELIVERABLES				
Outputs HI	Performance is >=100% of phased ED1 straight-line profile	Performance is <100% but >=95% of phased ED1 straight-line profile	Performance is <95% of phased ED1 straight-line profile	

Figure A1.2: Northern Powergrid RAG approach for measures where no guidance is set by Ofgem

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1 - Amber RAG range set at 10% given small number of absolute incidents that contribute to target

4. OVERVIEW OF REGULATORY PERFORMANCE

We are required by Ofgem's Regulatory Instructions and Guidance to include narrative on a table-by-table basis. Much of this requirement is covered by our narrative in sections 2, 3 and data within Annex A of this report; therefore we have cross-referenced wherever possible but include further detail in some areas. We have also referenced the relevant table in the RFPR template (published alongside this report) where supporting values can be found.

RoRE (Table R1): See section 2a-2c

Revenue (Table R2)

On average for the ED1 period to date, 94% of our allowed Network Revenue is base revenue. Incentive mechanism revenues account for the majority of the remainder for both licensees in the years 2017/18 to 2021/22, with the correction factor being more significant in 2015/16 and 2016/17, as it includes the recovery of energy supplier temporary rebates given in DPCR5.

Table R2 of the RFPR shows the impact of incentives earned in DPCR5 on revenues collected in the ED1 period. Incentives earned are generally allowed into revenue with a 2-year lag, therefore incentive revenue adjustments reported in this table in 2015/16 and 2016/17 mainly relate to incentive performance in DPCR5. The DPCR4 residual distribution losses incentive also affected Northeast allowed revenues in 2015/16 and 2016/17 and Yorkshire allowed revenues in all ED1 years to 2017/18. This DPCR4 incentive will not affect allowed revenue in future ED1 years.

For further information on 2021/22 incentive revenues earned, see annex A1(a – c).

Totex performance (Table R4): See section 2d-2e

Northeast

In the ED1 period to date we have overspent against allowances by £33.5m (after taking into account expected allowance updates affecting those years, which are not yet reflected in the price control financial model (PCFM)).We have incurred £39.0m of additional costs, partially offset by rephasing or timing differences of -£5.5m which we expect to unwind in 2022/23.

After making an enduring value adjustment to remove the effect of the rephasing/timing differences, the £39.0m additional cost shows as an underperformance against the totex incentive mechanism (TIM) for the period to date, which translates into an average RoRE impact of -0.8% at notional gearing and -0.5% at actual gearing.

Our forecast expectation is to spend £4.8m more than allowances over the ED1 period, taking into account the net impact of efficiencies, external factors, and service enhancements such as additional EHV cable replacement, cyber security and flood defence work.

After taking into account enduring value adjustments, the profile of our TIM performance varies on a year-by-year basis over the period, reflecting the differing timing of efficiency savings, external factors (such as reinforcement requirements) and service enhancements.

Yorkshire

In the ED1 period to date we have underspent against allowances by £25.4m (after taking into account expected allowance updates affecting those years, which are not yet reflected in the PCFM). We attribute £17.3m of this underspend to re-phasing or timing differences which we expect to unwind in 2022/23.

After making an enduring value adjustment to remove the effect of the re-phasing/timing differences, the remaining £8.1m underspend against allowances shows as a TIM outperformance for the period to date, equating to an average RoRE impact of 0.1% at both notional gearing and actual gearing.

Our forecast expectation is to spend £7.1m more than allowances over the ED1 period, taking into account the net impact of efficiencies, external factors, and service enhancements such as additional EHV cable replacement, cyber security and flood defence work.

After taking into account enduring value adjustments, the profile of our TIM performance varies on a year-by-year basis over the period, reflecting the differing timing of efficiency savings, external factors (such as reinforcement requirements) and service enhancements.

Output incentive performance (Table R5): See Annex A, 1a-1c

Innovation (Table R6): See section 3h

Only the NIA section of Table R6 has an impact on RoRE, albeit an immaterial one, being the unfunded element net of Corporation Tax.

Financing (Table R7)

Northeast

Although the nominal cost of debt has reduced during the ED1 period-to-date, it has been relatively stable; however, there is significant volatility in the real cost of debt. Actual inflation was low in 2015/16 (1.08% using Ofgem's methodology), 2016/17 (2.14%) and 2020/21 (1.21%), resulting in an underperformance against the allowance at notional gearing in these years. In contrast, actual inflation was high in 2021/22 (5.78%) and forecast inflation for 2022/23 is 8.30% using Ofgem's methodology, resulting in an outperformance against the allowance.

Real Cost of Debt	Actual							Forecast
	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Actual	3.75%	2.74%	1.10%	1.45%	1.83%	2.73%	(2.26)%	(3.61)%
Allowed	2.55%	2.42%	2.29%	2.09%	1.94%	1.78%	1.62%	1.44%
Difference	1.20%	0.32%	(1.19)%	(0.64)%	(0.11)%	0.95%	(3.88)%	(5.05)%

Figure 4.1: Cost of debt (Northeast)

At notional gearing, Table R7 shows us outperforming the cost of debt allowance both for the ED1 period to date and the overall ED1 forecast. Overall ED1 forecast outperformance has increased significantly, compared with our 2020/21 RFPR due to higher inflation in 2021/22 and 2022/23, which has reduced the real cost of debt because we hold fixed nominal (rather than index-linked) debt. It should be noted that, because this table is at a licensee level, higher-coupon debt held at holdco level is excluded.

At actual gearing we show a higher outperformance against the cost of debt allowance, as our gearing (at 51% on average) is significantly below the notional level. It should be noted that, although this gives a positive result in Table R7, the additional element funded by equity is effectively receiving the lower cost of debt allowance and therefore the overall impact on RoRE of having lower than notional gearing is negative.

Yorkshire

As actual inflation was particularly low in 2015/16 (1.08% using Ofgem's methodology), this year shows the most significant underperformance against the allowance. Although actual inflation was also low in 2020/21 (1.21%), the underperformance reported is not as significant because it is partially offset by a reduction in our nominal cost of debt.

Real Cost of Debt	Actual							Forecast
	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Actual	4.83%	3.83%	2.35%	2.87%	2.93%	2.96%	(1.63)%	(4.32)%
Allowed	2.55%	2.42%	2.29%	2.09%	1.94%	1.78%	1.62%	1.44%
Difference	2.28%	1.41%	0.06%	0.78%	0.99%	1.18%	(3.25)%	(5.76)%

Figure 4.2: Cost of debt (Yorkshire)

At notional gearing, Table R7 shows us underperforming the cost of debt allowance for the ED1 period to date but outperforming based on the overall ED1 forecast. Yorkshire had a bond with a coupon rate of 9.25%, which matured in 2019/20, after which we forecast improved performance in the remaining years of ED1 (although 2020/21 was affected by low inflation, as noted above). Our overall ED1 forecast has improved, compared with our 2020/21 RFPR due to higher inflation in 2021/22 and 2022/23, which has reduced the real cost of debt because we hold fixed nominal

(rather than index-linked) debt. It should be noted that, because this table is at a licensee level, higher-coupon debt held at holdco level is excluded.

At actual gearing we show a much higher level of overall ED1 forecast outperformance against the cost of debt allowance, as our gearing (at 48% on average) is significantly below the notional level. It should be noted that, although this gives a positive result in Table R7, the additional element funded by equity is effectively receiving the lower cost of debt allowance and therefore the overall impact on RoRE of having lower than notional gearing is negative.

Net Debt (Table R8)

As noted above in relation to Financing (Table R7), actual gearing is significantly lower than the notional level. Northeast's gearing starts at 52% and is approximately 51% on average over the period. Yorkshire's gearing starts at 51% and falls during the period (giving an average of approximately 48%).

RAV (Table R9)

'Closing RAV per latest published PCFM' reported in row 11 of Table R9 is effectively a hybrid - being based on a combination of opening allowances (for the forecast years) and actual expenditure/allowances in the ED1 period to date.

Yorkshire's ED1 closing RAV forecast is approximately 1% higher than the closing RAV value per the latest PCFM (row 11), due to a combination of re-profiling of expenditure into later years of the period and expected additional allowances. Northeast's ED1 closing RAV forecast is only marginally higher than the closing RAV value per the latest PCFM, as the expenditure re-profiling relating to the final two years of ED1 is not significant.

Taxation (Table R10)

Over the ED1 period, RoRE performance relating to tax is 0.2%, including utilisation of the tax trigger dead band.

Dividends paid and current policy (Table R11)

Our current dividend policy is aligned to Ofgem's PCFM assumption that 5% of the equity element of RAV is paid as a dividend annually. Annual values for dividends paid are shown in Table R11.

Pensions (Table R12)

The values on Table R12 do not feed into the RoRE calculations within the RFPR, on the basis that differences between established deficit allowances and the equivalent element of deficit repair payments are timing differences only, and the incremental deficit is assumed to be funded as part of totex.

It should be noted that the disallowed element of the established deficit is not taken into account in the RoRE in Table R1, as it is a cost deemed not to relate to the regulated business.

To the extent that the incremental deficit is greater than that assumed at the time of setting allowances, it will be subject to the TIM incentive rate and therefore will not be fully funded. The incremental deficit is included in the overall TIM performance reported in Table R4. The values included in row 11 of this table represent the amount of the incremental deficit we have included in actual totex for the years concerned, rather than an assessment of the element of this which has been funded via allowances.

The proportion of the deficit attributable to post cut-off-date service (the incremental deficit) increased significantly at the March 2016 triennial valuation, due predominantly to low gilt rates at that time, and remained at a similar level following the March 2019 triennial valuation.

DATA ASSURANCE STATEMENT

We have applied Ofgem's Data Assurance Guidance (DAG) methodology. Data inputs are predominately from well-established existing sources of information (the first two of which are subject to data assurance under DAG requirements):

- RRP – Costs and Volumes Reporting pack and Revenue Reporting pack;
- our pension RIGs submission following the March 2019 triennial valuation;
- our 10-year business plan

Our forecast is based on our annual 10-year business plan that is prepared for our shareholder. The plan is signed-off by the Chief Executive, the Board and ultimately formally approved by our shareholder. We use the latest approved plan (in this case the 2022 plan) as the basis for our annual RRP and RFPR forecast reflecting any significant changes that are known at the time of preparation, for example changes in costs subject to uncertainty mechanisms. This year we have also supplemented our forecasts with the analysis work we have undertaken in preparing our final ED2 business plan which was submitted to Ofgem on 1 December 2021.

The internal process for preparing the business plan is extensive and has significant Executive and management oversight. Business managers prepare local budgets based on guidance around key assumptions and targeted levels of expenditure (for example holding costs below RPI) whilst identifying cost pressures and new cost saving initiatives. Iterative reviews of the plan are then undertaken to ensure that the plan meets the requirements of our stakeholders.

Capital and direct costs are largely forecast based on volumes of work required to deliver our outputs at planned unit costs (e.g. asset replacement) with certain lines forecasted on a run-rate basis (e.g. faults). Indirect costs budgets are built up at individual cost centre and cost category level.

The assumptions in our planning process are consistent with the parameters of the ED1 settlement.

ANNEX B1: ENDURING VALUE METHODOLOGIES

Ofgem requires that we classify any updates to allowances which are not included in the last published PCFM as enduring value adjustments.

a) Smart Meter Roll-out updated allowances

For the first six years of the ED1 period, smart meter roll-out updated allowances updates have already been directed, as this is done on an annual basis as part of the annual iteration process.

The expected allowance update for 2021/22 is based on actual interventions in 2021/22.Future years are our best estimate at this time, based on our experience of intervention rates in the ED1 period to date.

The smart meter roll-out continues to face delays, and more latterly has been severely impacted by COVID-19. It is uncertain at this stage what the enduring impact on the supplier-led programme will be against the revised targets for the programme in 2024.

We have forecast allowances continuing into the last two years of ED1 in line with government's revised target completion date.

b) Visual Amenity allowances

For the first six years of the ED1 period, visual amenity allowances have already been directed, as this is done on an annual basis as part of the annual iteration process.

The expected allowance update for 2021/22 is based on actual costs incurred in 2021/22. Future years represent recovery of our planned expenditure up to the maximum total level for ED1 set out in our licence.

c) Street Works allowances

We have included anticipated allowance updates for Northeast based largely on our May 2019 ED1 reopener submission for the costs associated with Local Authorities implementing new permit schemes. Although, under Ofgem's assessment, Northeast did not meet the materiality threshold for the May 2019 reopener, we are able to apply again at the end of the ED1 period based on costs incurred.

d) Adjustment to remove impact of rephasing/timing differences

An enduring value adjustment has been made to reverse the value of our underspend in each year of the period-to-date that we attribute to rephasing/timing and to profile that reversal over the remainder of the ED1 period, giving no total ED1 adjustment. This gives a better view of our underlying performance to date, and future expected performance under the Totex Incentive Mechanism.

ANNEX B2: BASIS OF APPORTIONMENTS AND ALLOCATIONS

The RFPR draws on data from well-established existing sources of information which are subject to data assurance under DAG requirements i.e. the RRP – Costs and Volumes Reporting pack and Revenue Reporting pack.

No further apportionments or allocations between licensees were required in the population of the RFPR.

ANNEX B3: GLOSSARY

Cost Categories

Load Related

The cost of managing the load on the network: for example, the installation of new assets to accommodate changes in the level or pattern of electricity demand and generation.

Non Load Capex (excluding Non-Operational Capex)

Primarily the costs of replacing and refurbishing network assets, including operational buildings, defending our substations against flooding, and the costs of operational IT & telecoms systems/equipment.

High Value Projects

Capital expenditure projects with a particularly high value. For ED1, these are projects expected to cost at least £25.0m (in 2012/13 prices), which may be Load Related or Non Load Related in nature.

Network Operating Costs

Primarily the cost of repairing faults on the network, inspection and maintenance activities and smart meter related expenditure.

Closely Associated Indirects

The cost of supporting direct activity on the network, such as the costs of network design, project management, engineering management, clerical support, operational training, call centres and control centres.

Business Support Costs

The cost of running the DNO business, such as those associated with the CEO, finance, IT and non-operational property running costs, HR and non-operational training.

Non-Operational Capex

Capital expenditure on non-operational IT and telecoms systems/equipment, non-operational property, vehicles, tools and equipment.

Other/Totex Adjustments

Adjustments made to expenditure to remove related party profit margins that are not allowed as totex and deduct other items prescribed by Ofgem, such as proceeds from the sale of assets, in arriving at the overall totex value.

Contact us about this report

We believe that our customers and stakeholders are the best judges of our performance. We always want to hear your views and opinions on the services we provide and your ideas for what we could be doing. If you would like to comment, you can contact us in a number of ways:

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