Regulatory Financial Performance Report

Northern Powergrid (Northeast) plc

Northern Powergrid (Yorkshire) plc

2020/21

CONTENTS

SECTION A

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'

2020/21 was not the year any of us were expecting, so I'm pleased to report that, despite the challenges of the past year or so, we remain on track to deliver on our output targets and all the other commitments we made for the 2015-23 period. In fact, we are set to significantly exceed many of our targets.

Our expenditure in the six years since the start of the period almost exactly matches phased allowances and our £3.2bn forecast for the price control package set in 2014 remains in line with allowances for the period. In addition to that we are also progressing well with a new £53m green investment programme that we agreed with our regulator earlier in 2021 that will help accelerate progress to net zero and provide vital regional economic stimulus.

Successfully delivering through the COVID-19 pandemic

The whole of the 2020/21 regulatory year that this report covers was affected by the pandemic. I am proud of the way our team responded to make sure we kept on delivering for our customers. The resilience that we have shown demanded flexibility, determination and diligence. That showed in the results – we kept all our key services running, wherever customers needed us, even achieving some of our best ever results during the period. What impact there was, was limited to a few isolated programmes of work, particularly those that depended on getting access to customers' properties (such as the smart meter programme) or more technical work in our substations that required work in particularly confined spaces. We are already well on the way to clearing any backlogs now that many restrictions have eased and the remainder are expected to unwind by 2023.

Our output performance continues to improve

We have significantly improved output performance across the board since 2015. We have delivered 37% shorter and 27% fewer power cuts[1] and customer satisfaction has improved by eight percentage points to over 90%. We recently achieved a period of 690 consecutive days without a lost time accident, registering the fewest recordable accidents in the industry in 2020. We are nearing completion of our stakeholder-led flood defence programme that will see 271 of our sites made more resilient to flooding and our £16.4m investment in cyber security 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 stakeholders have made it clear that decarbonisation is their top priority. We are making good progress in facilitating and preparing for greater use of low carbon technologies, such as electric vehicles. Our smart grid enablers programme was impacted by the pandemic but is now back in full scale rollout, upgrading our telecoms network to support deployment of smart grid solutions and installing 2,700 LV monitors across our network by 2023. We're now routinely examining flexibility as an alternative to reinforcement, offering tenders to the market for flexibility services and building four fully active network management zones, which provide 433MW of contracted flexibility. Overall reinforcement remains below forecast but we are seeing clear signs of pockets of concentrated demand creating pressure on our local LV networks.

This is the beginning. We expect it to increase significantly, and the plan we published recently for the 2023-28 period makes it clear that we intend to make sure that we keep all credible decarbonisation pathways open.

Encouraging sustainable and long-term investment

Our shareholder Berkshire Hathaway Energy (BHE) group is committed to our business and our region. In the period to date BHE has reinvested £996m into the business and over the 2015-23 period we expect it to receive a return of 6.5%[2]. Now is a critical time to encourage investment and Ofgem needs to have the courage to set a price control for 2023-28 that encourages the vital investment required to facilitate decarbonisation in the next price control period.

I am delighted that we are on-track to deliver our commitments for 2015-23. This will not only reinforce our track record but position us well to begin delivering on the ambitious plan that we have put forward for 2023-28.

Phil Jones
Chief Executive

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 Target	ED1 2020/21	ED1 Forecast	Key initiatives
COSTS & OUTPUTS: Efficiently deliver our £3bn ED1 investment programme				
Total Costs – ED1 to date *(Variance to allowances)*	£3,037m (0%)	-£34.1m (-1.4%)	£3,037m (0%)	• ED1 cost efficiency programme
Outputs – ED1 to date *(Variance to target)*	100%	79.1% (+4.1%)	100% (0%)	
SAFETY & SECURITY: Reduce our accident rate by 50% and enhance our cyber security defences				
OSHA accident rate[1]	0.22 (-50%)	0.18 (-58%)	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%	90.5% (+8.2pp)	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%	83.3% (+29.5pp)	88.0% (+34.2pp)	
CONNECTIONS: Improve connections customer satisfaction, whilst reducing routine lead times by 30%				
Connections BMCS *(Improvement in period)*	85%	88.9% (+10.2pp)	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%	-18% (59.1 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%	-37%	-42%	• Regional operations • Network automation and remote control • Trialling fault prediction technology • Flood defence investment programme
Customer interruptions[5]	-8%	-27%	-29%	
Flood defence upgrades	156	199[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%	-48%	-53%	
SOCIAL OBLIGATIONS: Extend our range of differentiated services for our vulnerable customers				
SECV rank	2nd	5th	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
PANDEMIC	**Failure to safeguard staff and contractor health and support priority processes from pandemic impacts**	• Adjustments to operations • Robust business continuity planning
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

***Figure 1.1** Northern Powergrid ED1 performance summary*

1. Reduction relative to business plan baseline – 2013 calendar year
2. Reflects the 6 year ED1 annual average (2015/16 to 2020/21)
3. Reflects our forecast from our ED2 draft business plan. Lead times relate to LVSSA and B lead times only and reflect a weighted average based on volumes
4. 2019/20 performance. 2020/21 determination expected in Q3 2021
5. Unplanned, excluding exceptional events - reduction is relative to business plan baseline, 2012/13
6. Surveys have revealed defences at an additional 56 sites already meet required flood defence standards
7. Reflects accepted schemes. 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 7.2% based on Ofgem's notional gearing calculation[1] (6.5% 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%	5.3%
Totex outperformance	2	0.0%	(0.0)%	0.0%	(0.0)%
IQI Penalty	3	(0.1)%	(0.1)%	(0.1)%	(0.1)%
Broad Measure of Customer Service	4	0.4%	0.4%	0.4%	0.4%
Interruptions-related quality of service	5	1.8%	1.7%	1.6%	1.5%
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	(0.0)%	(0.0)%	(0.0)%	(0.0)%
RoRE - Operational performance		**8.1%**	**8.0%**	**7.1%**	**7.0%**
Debt performance	11	(1.4)%	(0.8)%	(1.0)%	(0.5)%
Tax performance	12	0.0%	0.0%	0.0%	0.0%
RoRE - including financing and tax		**6.7%**	**7.2%**	**6.1%**	**6.5%**
RoRE - Excluding holdco debt[3]		**7.0%**	**7.5%**	**5.4%**	**5.7%**
Northeast		*7.3%*	*8.0%*	*5.6%*	*6.0%*
Yorkshire		*6.9%*	*7.2%*	*5.3%*	*5.4%*

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 6.5% and for the ED1 period to date it is 6.1%, 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 7.2%. This is 1.2% 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 1.7% return. In addition, we forecast that we will achieve around 67% of the available Broad Measure of Customer Service (BMCS) reward generating a return of 0.4%. The outperformance is offset by a -0.8% underperformance on debt financing as the debt we took out many years ago at prevailing rates at that time is more costly than Ofgem allows.

As our actual level of gearing is 61% 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.

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

This accounts for the 0.7% difference between the 7.2% ED1 forecast using Ofgem's notional gearing (including holdco debt) and the actual RoRE figure of 6.5% using actual gearing (including holdco debt).

Excluding holdco debt, the gearing of our two licensees is around 50%. When viewed in isolation, our forecast RoRE for our Northeast and Yorkshire licensees is 6.0% and 5.4% 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	2019/20	2020/21	Variance
Allowed Equity Return	6.0%	6.0%	-
Totex Outperformance	(0.0)%	(0.0)%	0.0%
IQI Reward	(0.1)%	(0.1)%	(0.0)%
Broad Measure of Customer Satisfaction	0.5%	0.4%	(0.0)%
Interruptions-related quality of service	1.8%	1.7%	(0.1)%
Incentive on connections engagement	-	-	-
Time to Connect Incentive	0.1%	0.1%	(0.0)%
Losses discretionary reward scheme	0.0%	0.0%	0.0%
Network Innovation	(0.0)%	(0.0)%	0.0%
Penalties and Fines	(0.0)%	(0.0)%	0.0%
RoRE – Operational Performance	**8.2%**	**8.0%**	(0.2)%
Debt performance – at notional gearing	(0.9)%	(0.8)%	0.1%
Tax performance – at notional gearing	(0.0)%	0.0%	0.1%
RoRE – Including financing and tax	**7.2%**	**7.2%**	(0.0)%

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

Our overall ED1 RORE forecast has remained at 7.2%, with minor changes in respect of incentive performance offset by debt performance improvement resulting mainly from higher forecast inflation (which reduces the real cost of debt).

Our forecast output incentive performance reflects the updated position in line with 2020/21 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% (from 1.8% to 1.7%) 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 5.3% when our actual gearing of 61% 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[4].
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 £2,319m, 1% (£34.1m) below our phased cost allowances. Our forecast shows no RoRE impact, as we expect this variance to unwind by the end of the price control period and for our expenditure to be in line with Ofgem's allowances for the 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 67% 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 has been £4.8m. Our forecast average annual earnings for the ED1 period as a whole is £5.4m 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 27% and 37% compared to our ED1 Business plan baseline. This is our primary source of RoRE, earning an annual average of £20.9m against this incentive mechanism in the ED1 period to-date, with our forecast annual average earnings at £20.5m for the ED1 period as a whole.
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 £0.5m. Ofgem has tightened incentive targets for the second half of ED1. Our forecast average annual earnings for the ED1 period as a whole is £0.6m, taking into account projected performance improvements offset by the more stretching targets.

4. 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 takes into account the small impact on RoRE of payments we make to customers in respect of GSoP failures. In 2020/21, we made payments totalling £0.4m to customers under GSoP.
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 negative impact on RoRE of -0.8%. The underperformance of -1.4% 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 slightly improves when viewed at actual gearing, reflecting the impact of increased equity funding and therefore lower actual debt on which interest is paid. This improvement is however more than offset by the increased equity portion being funded at Ofgem's allowed cost of debt (which is lower than Ofgem's allowed cost of equity).
12.	**Tax performance**	*Tax performance shows the difference between our actual tax costs and Ofgem's allowed tax cost.* The RoRE impact of forecast tax performance is negligible over the ED1 period.

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 totex and the Interruption Incentive Scheme (IIS).

- **Totex**: At a group level, we are planning to spend in line with allowances, however at a licensee level, the variances are;
    - ***Northeast*** *(+1.1%/£14.2m vs. allowances) – Driven by higher fault costs, with expenditure exceeding allowances, offset by a lower load related expenditure as a result of slower uptake in Low Carbon technologies.*
    - ***Yorkshire*** *(-0.8%/-£14.2m vs. allowances) – In line with the Northeast, we have seen higher fault costs and lower load related expenditure. In addition, we have also seen lower non-load related expenditure, with there being a lower requirement for reactive condition based civils and investment in legal and safety works to mitigate metal theft.*
- **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.

More detail on our totex performance can be found in section 2e and output performance can be found in section 3.

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	(0.2)%	0.2%	**(0.0)%**
IQI Reward	(0.1)%	(0.1)%	**(0.1)%**
Broad Measure of Customer Satisfaction	0.5%	0.4%	**0.4%**
Interruptions-related quality of service	1.6%	1.8%	**1.7%**
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	(0.1)%	(0.0)%	**(0.0)%**
RoRE – Operational Performance	**7.7%**	**8.3%**	**8.0%**
Debt performance – at notional gearing	0.3%	(1.1)%	**(0.5)%**
Tax performance – at notional gearing	0.0%	0.0%	**(0.0)%**
RoRE – Including financing and tax	**8.0%**	**7.2%**	**7.5%**

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 50%. When viewed in isolation, our forecast RoRE for our Northeast and Yorkshire licensees is 6.0% and 5.4% 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%	4.1%	**4.2%**
Totex Outperformance	(0.2)%	0.1%	**(0.0)%**
IQI Reward	(0.1)%	(0.1)%	**(0.1)%**
Broad Measure of Customer Satisfaction	0.3%	0.3%	**0.3%**
Interruptions-related quality of service	1.2%	1.2%	**1.2%**
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	(0.0)%	(0.0)%	**(0.0)%**
RoRE – Operational Performance	**5.5%**	**5.6%**	**5.6%**
Debt performance – at actual gearing	0.5%	(0.2)%	**0.1%**
Tax performance – at actual gearing	0.0%	0.0%	**0.0%**
RoRE – Including financing and tax	**6.0%**	**5.4%**	**5.7%**

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 six years of the eight year period, our total expenditure is tracking marginally behind the profile of allowances (99%) 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 2.6).

…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 6 of the 8-year ED1 period at 79.1% (vs. an indicative 75% 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 2.7).

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

Figure 2.6: *Total expenditure Vs Ofgem cost allowances (Totex)*

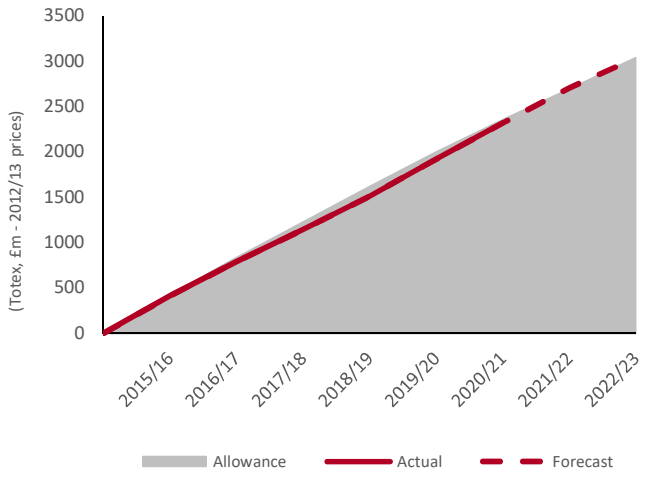
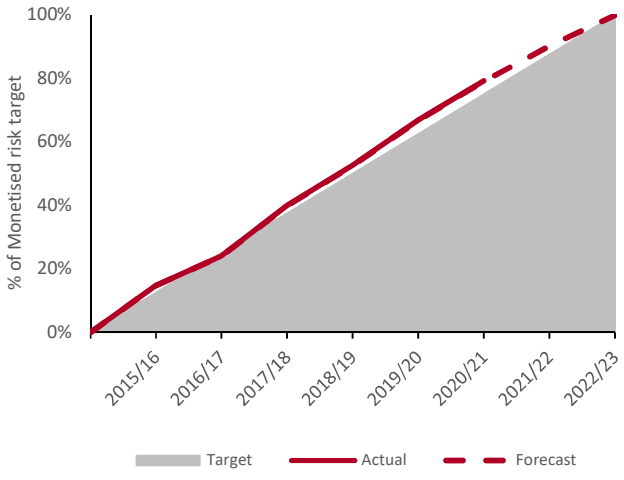


Figure 2.7: *Network Output delivery Vs Ofgem targets (Asset Health and criticality index)*



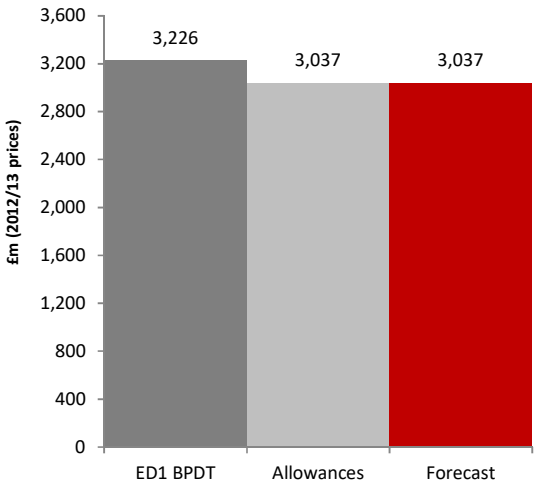
e. Totex performance summary

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 £3,037m.

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 2.8 *ED1 forecast*



We continually update our plans to reflect cost pressures, delivery of efficiencies and changes in stakeholder requirements.

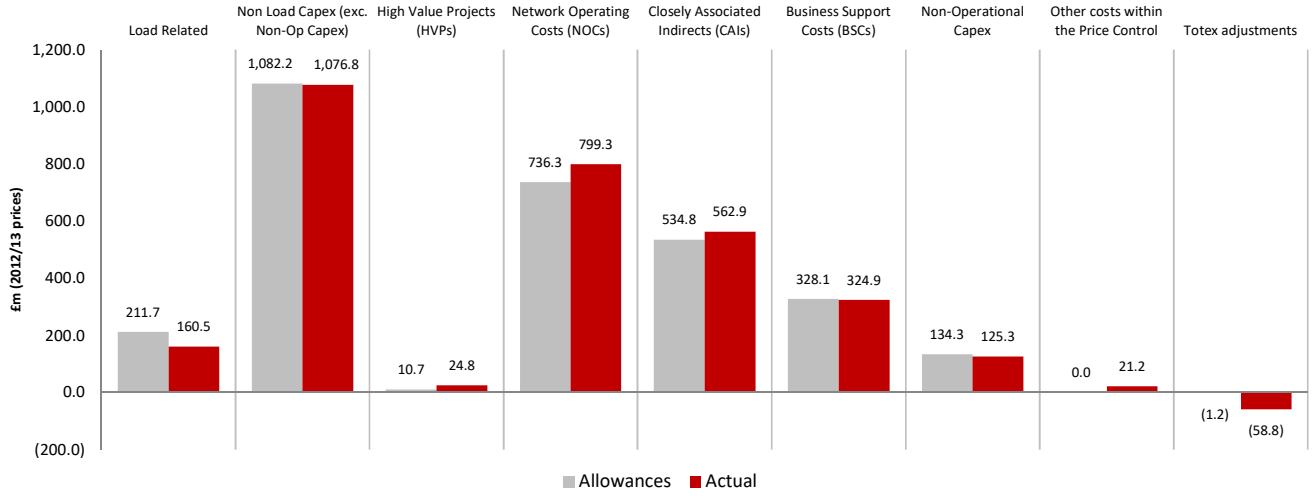


Figure 2.9 *Forecast ED1 outturn against allowances by cost category*

For the period as a whole, we expect our expenditure to be above allowances on network operating costs (£63.1m; 9%) and closely associated indirects (£28.1m; 5%) offset by under spending against allowances in network investment (£42.6m, 4%), non-op capex (£9.0m; 7%) and business support costs (£3.2m; 1%). We were not allowed our ED1 business plan forecast for fault costs in Ofgem's final determination and whilst our cost reduction programme will see us outperform our original submission, we do not expect to be able to operate within 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.

…successfully delivering during the year and throughout the pandemic

We are very pleased to be able to report strong performance on the delivery of our capital programmes despite the impact of the pandemic in the 2020/21 regulatory year. We quickly responded to Government guidance and social distancing measures to ensure we could continue as much of our work as possible while ensuring the safety of our workforce, contractors and the public. Critical to this was ensuring we retained sufficient contractor resource continuity to respond to our reactive work programmes and maintain quality of supply for our customers during the

work from home period. Certain programmes of work were affected, largely those that required access to customer premises (such as new connections, smart meter works and rising mains) and working in confined spaces (such as substation and smart grid programmes). We have worked hard to recover backlogs developed during 2020/21 with many of our programmes back on track and only a small number of programmes that have required more significant rephasing.

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 £3.0m in ED1 that was not included in our business plan in relation to this work.

The smart meter roll-out continues to face delays, with COVID 19 having a clear impact on activity levels for the 2020/21 regulatory year. Our ED1 forecast does not foresee this activity being fully recovered through the remainder of ED1 as we continue to see constraints on the rollout programme. We have recognised a reduction in forecast costs and the associated variant allowances relating to this in our forecasts (£7.8m reduction to allowances). In 2020/21 smart meter installation volumes were 32% lower than the prior year, and 52% lower than the 2018/19 year (the last regulatory year with no COVID impact). Over the same period the defect rate decreased to 3.4% (down from 3.6% in 2019/20 and 3.5% in 2018/19) with the unit cost of our interventions increasing due to changes in working practices to make cut-out replacement work safer for operatives.

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. We expect Ofgem to develop reporting for these investments for next year's submission.

ED1 to-date

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

Our total expenditure in ED1-to-date is tracking closely to allowances at £2,319m, 1% (£34.1m) below our phased allowances of £2,353m, all of which is forecast to unwind by the end 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-load related capex, most notably non-load related capex in Yorkshire, due to re-profiling of activity to later years in the period. The larger re-phasing in Yorkshire is due to the deferral of HV primary and EHV/132kV plant projects until later in the ED1 period to allow for re-design and tender activity. For the third consecutive year we have seen this underspend in the period to-date unwind. For

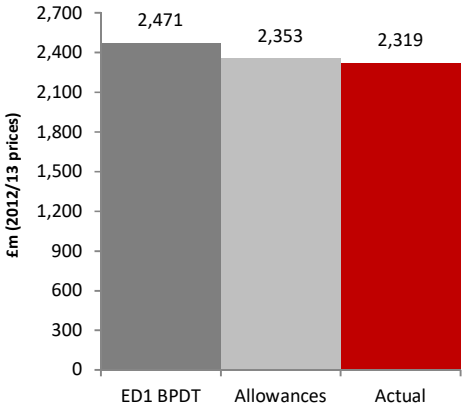


Figure 2.10 *ED1 expenditure to-date*

example, in Yorkshire non-load related expenditure was 23% below allowances after the first four years of the period, 14% below allowances after five years, and now stands at 8%.

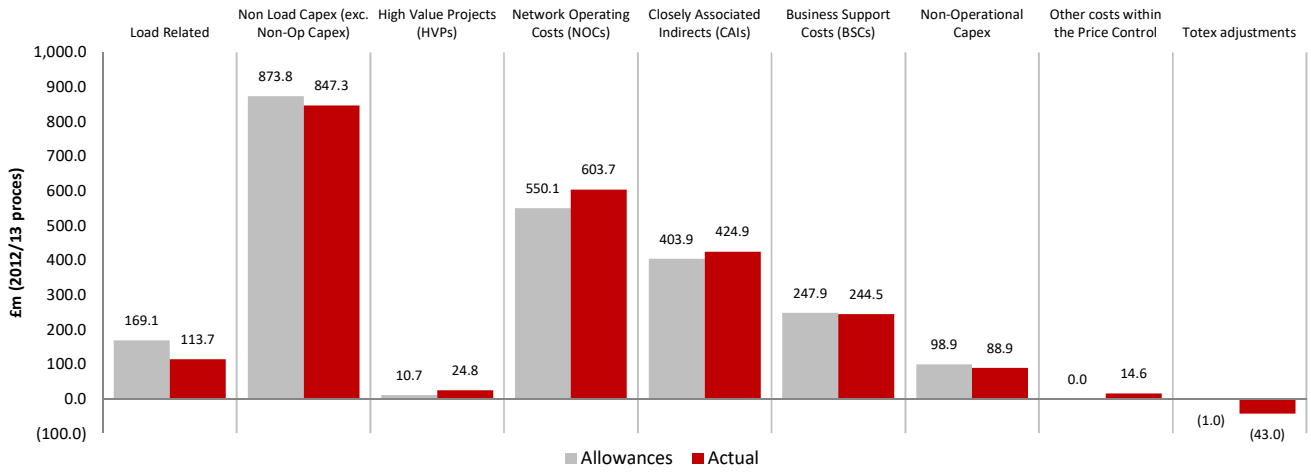


Figure 2.11 *Cumulative ED1 to-date actuals and allowances by cost category*

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. The other notable driver in the variance for the period to-date is re-phasing (1%) that is expected to unwind by the end of the period.

TOTEX	Unit	Efficiency	Service Enhancements	External Factors	Provision in the Price control settlement	Re-phasing of timing of work	Other	Total
Northeast	£m	(39.1)	38.1	(8.0)	31.1	(6.6)	(0.1)	**15.5**
	%	*(4%)*	*4%*	*(1%)*	*3%*	*(1%)*	*(0%)*	***2%***
Yorkshire	£m	(46.4)	25.6	(49.8)	33.6	(24.1)	11.6	**(49.5)**
	%	*(3%)*	*2%*	*(4%)*	*3%*	*(2%)*	*1%*	***(4%)***
NPg Total	**£m**	**(85.5)**	**63.7**	**(57.8)**	**64.7**	**(30.7)**	**11.5**	**(34.1)**
	%	***(4%)***	***3%***	***(2%)***	***3%***	***(1%)***	***0%***	***(1%)***

Figure 2.12 *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	(55.4)	(33%)	(51.2)	(24%)
Non Load Capex (exc. Non-Op Capex)	(26.5)	(3%)	(5.4)	(0%)
High Value Projects (HVPs)	14.0	131%	14.0	131%
Network Operating Costs (NOCs)	53.6	10%	63.1	9%
Closely Associated Indirects (CAIs)	21.0	5%	28.1	5%
Business Support Costs (BSCs)	(3.4)	(1%)	(3.2)	(1%)
Non-Operational Capex	(10.0)	(10%)	(9.0)	(7%)
Other costs within the Price Control	14.6	*N/A*	21.2	*N/A*
Totex adjustments	(42.1)	*N/A*	(57.6)	*N/A*
Totex	(34.1)	(1%)	0.0	0%

Figure 2.13 *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	(29.2)	(32%)	(26.2)	(24%)
Non Load Capex (exc. Non-Op Capex)	14.5	4%	2.2	0%
High Value Projects (HVPs)	0.0	0%	0.0	0%
Network Operating Costs (NOCs)	28.1	13%	33.8	12%
Closely Associated Indirects (CAIs)	20.5	11%	27.0	11%
Business Support Costs (BSCs)	(0.8)	(1%)	(3.3)	(2%)
Non-Operational Capex	0.7	2%	4.7	8%
Other costs within the Price Control	4.9	*N/A*	7.3	*N/A*
Totex adjustments	(23.2)	*N/A*	(31.3)	*N/A*
Totex	15.5	2%	14.2	1%

Figure 2.14 *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	(26.2)	(34%)	(25.0)	(24%)
Non Load Capex (exc. Non-Op Capex)	(41.0)	(8%)	(7.6)	(1%)
High Value Projects (HVPs)	14.0	131%	14.0	131%
Network Operating Costs (NOCs)	25.5	8%	29.3	6%
Closely Associated Indirects (CAIs)	0.5	0%	1.1	0%
Business Support Costs (BSCs)	(2.5)	(2%)	0.2	0%
Non-Operational Capex	(10.6)	(20%)	(13.8)	(19%)
Other costs within the Price Control	9.7	*N/A*	13.9	*N/A*
Totex adjustments	(18.8)	*N/A*	(26.3)	*N/A*
Totex	(49.5)	(4%)	(14.2)	(1%)

Figure 2.15 Totex performance summary - Yorkshire

3. KEY OPERATIONAL PERFORMANCE

a. Primary output summary

Output	Licensee	RAG[5]	DNO Group RAG[1]	Comments
Safety	**Northeast**	●	●	• Performance in 2020/21 represented a 58% reduction in our OSHA accident rate since we set our business plan targets and keeps us ahead of our business plan target to halve our OSHA rate by 2023. • In response to the COVID-19 pandemic, we implemented significant changes to ensure safe working arrangements as well as mental health and wellbeing support for our workforce. • No HSE enforcement notices for either licensee.
	Yorkshire	●		
Reliability & Availability	**Northeast**	●	●	• Unplanned CI and CML have reduced by 27% and 37% respectively so far in ED1, relative to our business plan baseline. • In 2020/21 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 13 sites in the year, taking our ED1 total to 199.
	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 2020/21 represented a 10.2 percentage point improvement since the start of ED1. • We missed time to quote and deliver targets for LVSSA and LVSSB lead time targets in both licensees impacted by COVID-19 restricting our interface with customers. • We are seeing increased LVSSA volumes for the connection of LCTs and fibre telecoms cables (a 59% increase in delivery volumes compared to prior year) • Zero ICE penalty in ED1 to date. For 2020/21, we delivered all 18 actions in our plan.
	Yorkshire	●		
Customer Satisfaction	**Northeast**	●	●	• Overall satisfaction has improved by 8.2pp since the start of ED1. • Customer satisfaction improved by 1.5 percentage points in the year, ranking 5th (out of 6). • Complaints resolution is improved by 29.5pp for Day+1 resolution in ED1 to date at 83.3%.
	Yorkshire	●		
Social Obligations	**Northeast**	●	●	• Achieved a provisional SECV score of 5.01, ranking 5th in the 2020/21 incentive against our DNO peers. • Stakeholders continued to inform the delivery of our plan with a broad range of engagement activities in the year. • Net financial benefits of £2.1m from our Powergrid cares programmes for 20,000 customers.
	Yorkshire	●		

Figure 3.1 *Northern Powergrid output performance*

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

b. Safety

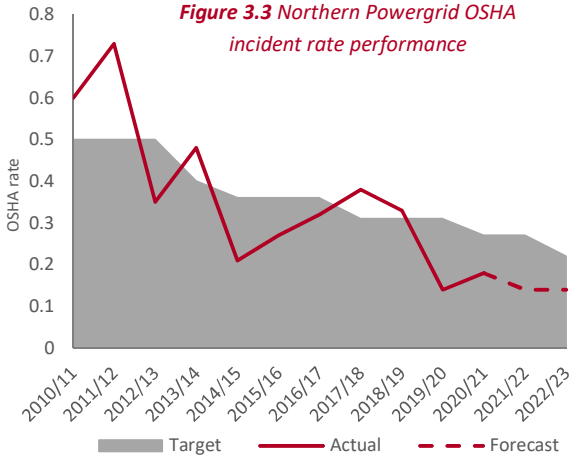
Measure	DNO	2020/21			Comments
		Target[1]	Actual	RAG	
HSE compliance	NPg[2]	✓	✓	●	Full HSE compliance in the year
OSHA[3] Rate	NPg[2]	0.27[4]	0.18	●	Four reportable incidents in the year
RIDDOR[5] Rate	NPg[2]	0.10[4]	0.08	●	Two reportable incidents in the year

Figure 3.1 *Northern Powergrid Safety performance*

We remain a leading performer in the industry after another strong year of performance, with 2020/21 reflecting a 58% reduction in our OSHA accident rate[6] since we set our business plan

- Our 2020/21 performance in our OSHA accident rate sees us remain ahead of our ED1 commitment to halve our incident rate by 2023[6].
- We achieved a significant milestone going 690 days without a lost time accident and registering the fewest recordable accidents in the industry in 2020. Our performance in 2020/21 saw us maintain HSE compliance.
- We incurred four incidents in the year, all minor and none electrical in nature.
- We rose to the challenges that COVID-19 presented, keeping our colleagues safe by implementing a robust set of social distancing policies, re-configuring office space, facilitating home working and introducing single occupancy in our fleet vehicles. In addition, we launched a new wellbeing programme aimed at supporting colleagues' mental health and wellbeing throughout the pandemic.

Figure 3.3 *Northern Powergrid OSHA incident rate performance*



- Our workforce drove13.8 million miles in 2020/21, around 4 million miles less in the year, primarily driven by the pandemic, with the number of preventable vehicle accidents (PVAs) we incurred reducing by three to 33. 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 adapted our safety engagement programmes to respond to social distancing restrictions. 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.

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	2020/21 Target[1]	2020/21 Actual	2020/21 RAG	Comments
Customer Interruptions[2] (CI)	**NPg**	**61.8**	**49.5**	●	Unplanned customer interruptions have reduced by 27%[3] compared to our ED1 business plan baseline
	Northeast	60.0	45.3	●	
	Yorkshire	63.0	52.4	●	
Customer Minutes Lost[2] (CML)	**NPg**	**55.0**	**38.7**	●	Unplanned customer minutes lost have reduced by 37%[3] compared to our ED1 business plan baseline
	Northeast	55.2	36.8	●	
	Yorkshire	54.8	40.0	●	
Cumulative health index[4] (% of monetised risk)	**NPg**	**75.0%**[5]	**79.1%**	●	4.1 percentage points ahead of straight line profile for the ED1 period to date at NPg level
	Northeast	75.0%[5]	87.6%	●	
	Yorkshire	75.0%[5]	69.6%	●	
Non-connections GSoP failures[6] (Count)	**NPg**	**3,048**[7]	**3,128**	●	We improved our performance on GSoP failures by 13% in the year.
	Northeast	2,002[7]	1,810	●	
	Yorkshire	1,046[7]	1,318	●	
Non-connections GSoP (Payments, £)	**NPg**	**N/A**	**272,221**	**N/A**	
	Northeast	N/A	157,002	N/A	
	Yorkshire	N/A	115,219	N/A	

Figure 3.4 *Northern Powergrid Reliability & Availability Performance*

We hit all Ofgem reliability and availability targets for the sixth 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%

- Our network and operations proved resilient throughout the COVID pandemic. We were able to adapt quickly to the new operating conditions and maintain performance within social distancing guidelines.
- In doing so our headline performance continued to improve despite periods of heavy snowfall and freezing rain in the first quarter of 2021. Our performance in the ED1 period to-date represents a 27% reduction in unplanned customer interruptions and a 37% 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 79.1% 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 199 sites, investing £33.2m in ED1 to date, and we have expanded our original programme from 156 to 271 sites to be protected in line with ETR 138.

Figure 3.5 *CI/CML Outperformance vs. Ofgem targets (in year and ED1 average)*

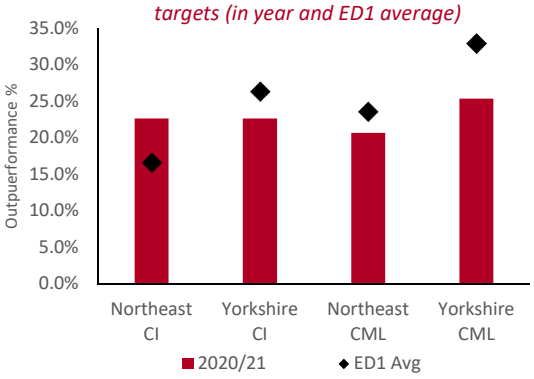
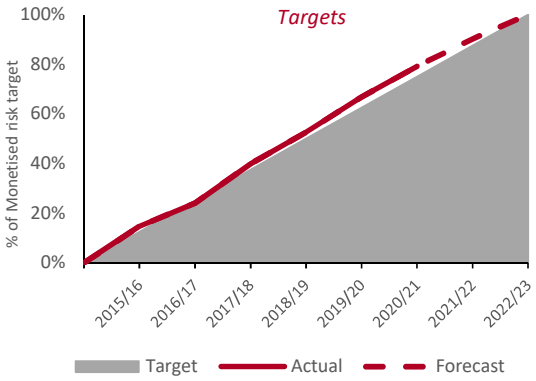


Figure 3.6 *Cumulative Network Outputs vs. Targets*



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	2020/21			Comments
		Target[1]	Actual	RAG	
Business Carbon Footprint[2] (tCO_2e)	**NPg**	**55,975**	**31,241**	●	48% reduction compared to our ED1 business plan baseline[3] – ahead of our 10% reduction target
	Northeast	25,932	14,749	●	
	Yorkshire	30,043	16,492	●	
SF_6 emissions (kg)	**NPg**	**112.0**	**73.1**	●	23% reduction in ED1 to date
	Northeast	36.5	24.1	●	
	Yorkshire	75.5	49.0	●	
Oil Leakage (Litres)	**NPg**	**47,540**	**28,055**	●	47% reduction compared to our ED1 business plan baseline[4] – ahead of our 15% reduction target
	Northeast	15,554	7,831	●	
	Yorkshire	31,986	20,224	●	
Visual Amenity – removing overhead lines from AONBs (km, cumulative ED1)	**NPg**	**73.4**	**74.9**	●	6.2km removed in 2020/21. We are on track to meet our stretch target of 120km in ED1
	Northeast	47.3	43.8	●	
	Yorkshire	26.1	31.1	●	

Figure 3.7 *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 48%[3] so far in the period, exceeding our business plan commitment of a 10% reduction in ED1.
- The impact of COVID-19 can be seen in a more aggressive reduction in our emissions than we had forecast, specifically for business travel. As we emerge from the pandemic, we expect these to pick back up slightly albeit at lower levels than before the pandemic as we embed enduring benefits from our revised working arrangements. Improved fuel efficiency thanks to telematics and the introduction of further ULEV/ZEV vehicles onto our fleet will also support continued reductions.
- SF_6 emissions are a significant contributor to carbon footprint – these have reduced by 23% in ED1 to date. Year-on-year we saw an increase of ca. 10kg due to a five specific incidents across the winter months, with higher losses experienced than normal operating levels. We will continue utilise innovative thermal imaging technology to detect leaking switchgear whilst trialling SF_6 alternatives.
- Our strong management of oil leakage continued into 2020/21 and we have now achieved 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.
- Our programme to underground overhead lines in National Parks and Areas of Outstanding Natural Beauty (AONB) continues to make good progress. We removed 6.2km of overhead lines from AONBs and despite being marginally behind our phased target in Northeast, we are on track to deliver our expanded business plan commitment of 120km (an additional 20km) by 2023.

Figure 3.8 *Business Carbon footprint (Including contractors)*

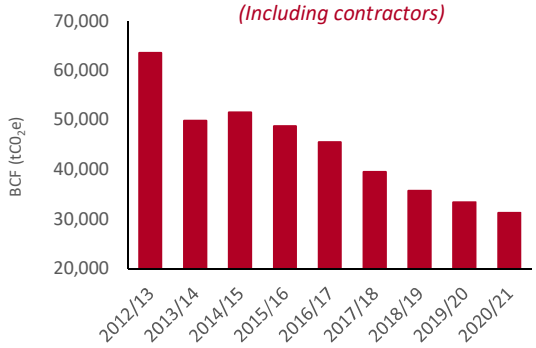
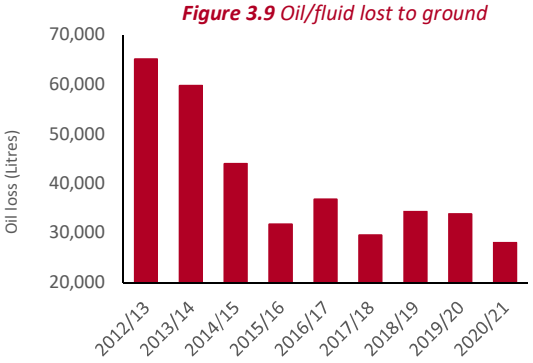


Figure 3.9 *Oil/fluid lost to ground*



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 TC02e
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	2020/21 Target[1]	2020/21 Actual	2020/21 RAG	Comments
Time to quote: LVSSA (Days)	**NPg**	**4.8**	**6.6**	●	Time to quote targets missed in both licensees impacted by COVID-19 restrictions and the continued high volumes of customers requesting site visits
	Northeast	4.8	7.0	●	
	Yorkshire	4.8	6.4	●	
Time to quote: LVSSB (Days)	**NPg**	**7.8**	**14.3**	●	
	Northeast	7.8	14.9	●	
	Yorkshire	7.8	14.0	●	
Time to deliver: LVSSA (Days)	**NPg**	**39.3**	**48.7**	●	Time to deliver targets missed in both licensees due to COVID-19 restrictions impacting access to customer premises and a number of long running jobs at customers' requests and/or requiring wayleaves
	Northeast	39.3	51.9	●	
	Yorkshire	39.3	46.8	●	
Time to deliver: LVSSB (Days)	**NPg**	**47.9**	**78.5**	●	
	Northeast	47.9	91.1	●	
	Yorkshire	47.9	71.0	●	
ICE Penalty (£)	**NPg**	**£0**	**TBC**	N/A	Zero penalty under ICE in ED1 to date
GSoP failures[2] (Count)	**NPg**	**110[3]**	**322**	●	We achieved the Ofgem target of 2% for the number of connections guaranteed standards failures in 2020/21. Despite missing our stretching internal volume targets, we reduced volumes by 22% compared to prior year.
	Northeast	45	137	●	
	Yorkshire	65	185	●	
GSoP failures[2] (% of cases)	**NPg**	**2.00%**	**0.80%**	●	
	Northeast	2.00%	0.89%	●	
	Yorkshire	2.00%	0.75%	●	
GSoP failures[2] (£)	**NPg**	N/A	**60,772**	N/A	
	Northeast	N/A	**23,514**	N/A	
	Yorkshire	N/A	**37,258**	N/A	

***Figure 3.10** Northern Powergrid Connections Performance*

Small works connections customer satisfaction is up by 10.2 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**, satisfaction levels in 2020/21 increased by 0.5 percentage points however we missed Ofgem targets for time to quote and deliver for both licenses. Performance was impacted by COVID-19 due to restricted access to customer premises, in particular businesses where sites were closed. On quotations, high volumes of customers 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. Small works connections volumes continue to increase. In 2020/21 quotation and delivery volumes for LVSSA increased by 22% and 59% respectively driven by LCTs and the telecoms fibre rollout.
- **For our major works connections customers,** we delivered all 18 actions in our 2020/21 Incentive on Connections Engagement (ICE) plan including streamlining our applications process for customers who make multiple, repeat applications. We have 12 actions in our plan for 2021/22.
- 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 2020/21, over 2,000 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 and removing the requirement to install link boxes for service connections.

***Figure 3.11** Time-to-quote performance*

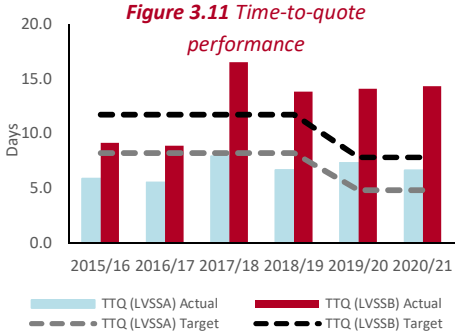
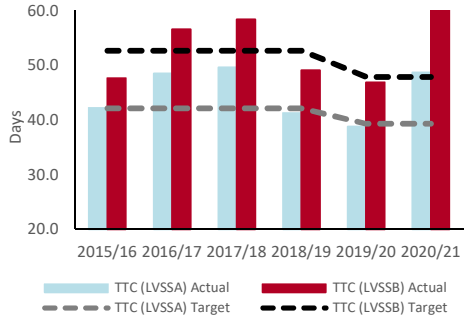


***Figure 3.12** Time-to-connect performance*



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

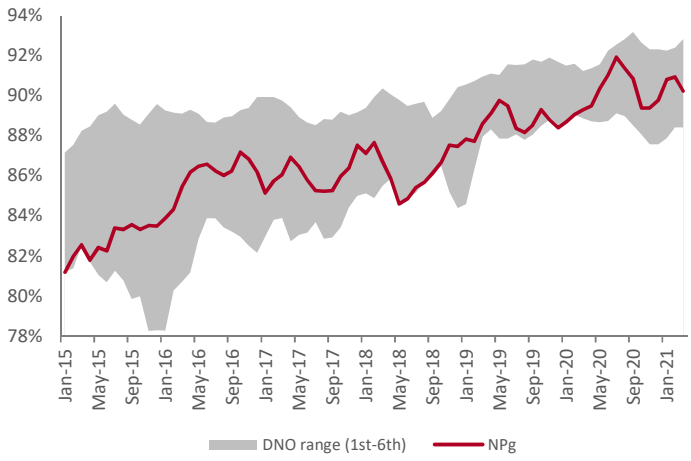
Measure	DNO	2020/21			Comments
		Target[1]	Actual	RAG	
Interruptions survey	**NPg**	**8.20**	**9.07**	●	6.4 percentage point improvement since the start of ED1
	Northeast	8.20	9.13	●	
	Yorkshire	8.20	9.01	●	
Connections survey	**NPg**	**8.20**	**8.89**	●	10.2 percentage point improvement since the start of ED1
	Northeast	8.20	8.99	●	
	Yorkshire	8.20	8.81	●	
General enquiries survey	**NPg**	**8.20**	**9.40**	●	8.5 percentage point improvement since the start of ED1
	Northeast	8.20	9.52	●	
	Yorkshire	8.20	9.28	●	
Overall survey	**NPg**	**8.20**	**9.05**	●	8.2 percentage point improvement since the start of ED1
	Northeast	8.20	9.14	●	
	Yorkshire	8.20	8.97	●	
Complaints metric	**NPg**	**8.33**	**2.76**	●	63% improvement (4.8 reduction) compared to 2015/16 performance
	Northeast	8.33	2.72	●	
	Yorkshire	8.33	2.79	●	

Figure 3.13 *Northern Powergrid Customer Satisfaction Performance*

Since the start of ED1 we have delivered an 8.2 percentage point[2] improvement in overall customer satisfaction

- In 2020/21 we improved our overall customer satisfaction performance, achieving an overall score of 9.05.
- Our improved performance ranked us 5th in the year with a gap of only 0.3pp to 4th and 1.3pp to 3rd (narrowed from 1.7pp in 2019/20).
- Whilst we are pleased with the performance improvements we have achieved to date, (the second most improved of all DNO groups in ED1 so far); our aim is to rank amongst the leaders in the industry. We are targeting further significant improvements in the remainder of the period including improving consistency across all measures. Our particular focus is on leveraging technology solutions to improve the experience for our customers when subject to a power cut or applying for new connections.

Figure 3.14 *Overall Customer satisfaction (Rolling quarter)*



- In the year, we further embedded our regional approach into our service delivery, recruiting six regional Customer Service Managers and developing our regional connections teams.
- 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 remained strong – current levels of day+1 resolution are now at 83.3%, representing a 29.5 percentage point improvement in ED1 to date. We also received no repeat complaints or adverse ombudsman decisions in the year.

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

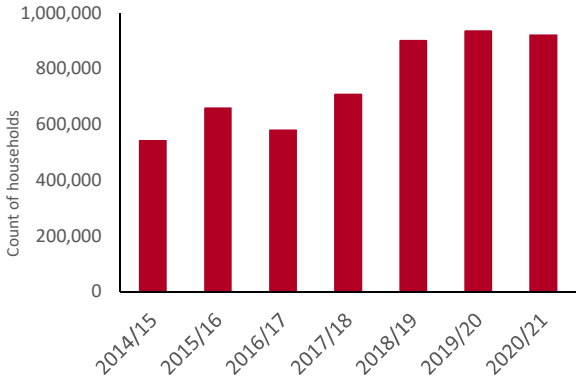
Measure	DNO[1]	2020/21			Comments
		Target[2]	Actual	RAG	
Stakeholder Engagement and Consumer Vulnerability score	NPg	8.00	5.01	●	Provisional 5th place ranking for 2020/21
Supporting Measures					
Power cuts Customer satisfaction (PSR)	NPg	8.20[3]	9.14	●	We are delivering against our own standards for 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%	95.6%	●	
Power cuts *Restoration within 9 hours*	NPg	95.0%	98.0%	●	
School pupils engaged through safety education	NPg	40,000	18,947[4]	●	We adapted our schools programme in the year to provide more online resources during the pandemic

***Figure 3.15** 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 2020/21 is 5th, down from 3rd position in 2019/20.
- We continue to refresh our Priority Service Membership (PSM) to ensure our records are accurate. A total of 129,430 PSM records were cleansed 2020/21 which is a 15% increase on the previous year leveraging improvements we have made to our central management systems to enable our colleagues to cleanse PSM records via every interaction with our customers.
- We currently have around 922,000 customers on our PSM register – a 70% increase in the period to date. In addition to PSM recruitment, we have worked hard to gain more insight into PSM communication needs, challenges and barriers to inclusion.

***Figure 3.16** PSM customers*



- Our Powergrid Cares initiative provides personal support to vulnerable customers in partnership with Citizen's Advice and Green Doctor. We've invested £0.8m since the start of ED1 and delivered financial benefits of £2.9m to over 20,000 customers.
- Our fuel poverty programmes continue to deliver benefits, supporting customers in our region in fuel poverty with schemes such as the installation of energy saving services in customers' homes. Our current estimate is that we will have supported over 192,000 customers and delivered in excess of £5m of financial benefits by the end of ED1.
- 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 15 projects being awarded funding in 2020/21.

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. Due to COVID-19, we were unable to facilitate face-to-face engagement

h. Innovation

	Allowances to date in ED1 (£m)[1]	Expenditure to date in ED1 (£m)	Number of projects[2]
Network Innovation Allowance (NIA)	22.4	17.1	34
Network Innovation Competition (NIC)	-	-	1
Low Carbon Network (LCN) Fund	-	-	-

Figure 3.17: *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:

- *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 or Imperial College; with businesses such as our reliability orientated work with Hyperdrive 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.

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

Another strong year of innovation in 2020/21 reflects our commitment to finding new solutions for our customers

In 2020/21 we invested 97% of our £3.7m Network Innovation Allowance (NIA) across our innovation portfolio consisting of 34 NIA projects. In addition to our NIA investment, we have 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 £23m.

Decarbonisation and the transition to DSO are shaping our innovation portfolio

Our **Boston Spa Energy Efficiency Trial** (BEET) was authorised in 2019/20 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 network, design and benefits studies and was authorised to enter its field trial phase.

In parallel, our **Customer Led Distribution System** (CLDS) innovation project is delivering 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 in the year 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 improve driver safety in our fleet helping us incur only 33 accidents across a fleet covering over 13.8 million miles in 2020/21.
- 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 **Centralock** 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.

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. Our aim is to use this technology to target network repairs before faults occur.
- We are using **unmanned aircraft systems** to carry out inspections of our overhead line assets to drive cost efficiencies.
- We have invested £16.4m in ED1 to date in advanced **cyber security** infrastructure.
- Our **MicroResilience** project (NIA funded, £2.7m total project investment) will allow us to keep customers on supply even after faults have taken out higher voltage circuits. Work has now started on site to deliver this project.

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
5. Automated Power Restoration System

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.

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. We are seeing our customer service scores steadily rising to new highs, achieving over 90% in 2020/21.
- 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.

Connections

- **Voltage reductions** enabled by learnings from our Customer Led Network Revolution (CLNR) project[6] have released over 4GW 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.

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. 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, in particular associated commercial offerings that a third party might develop from our work.

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. 2020/21 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.

Our stakeholder engagement has built on our earlier DSO v1.1 development plan[7] 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 Steering Group to develop proposals for common GB approaches to energy system open data. This year we have been focussing on data mapping and triage.

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;
- 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, alignment of DNO/ESO procurement approaches and the continuing development of a Common Evaluation Methodology to support network options assessment;
- Partner DNOs in the Flexible Power project to continue the development of a shared platform and toolkit to signpost and operate flexibility services;
- Northern Gas Networks and Local Authorities to publish a Charter on Local Area Energy Plans (LAEPs) - outlining principles and actions to develop them further; and
- Those Local Authorities seeking urgent action on decarbonisation, including those seeking to pursue LAEPs.

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

With National Grid, whole system initiatives have been managed through our existing interface processes - most significantly, 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 the operating voltages on the distribution network to provide more headroom for generation and operational flexibility for system defence measures.
- Commencement of 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 requires us to assess the impact of reactive power injection at certain key points on our network, where the ESO then assesses the distribution and transmission system options to then determine the most appropriate solution.
- Continuing to work with the ESO on system resilience to develop improvements to the low frequency disconnection scheme following the national event in August 2019. As well as improving the existing system this initiative is also considering new ways of operating to cater for future network scenarios.

7 - DSO v1.1 https://www.northernpowergrid.com/asset/0/document/5139.pdf

We continued to lead the DNO drafting of a grid code modification (GC0143) to give legal powers to disconnect generators upon instruction from ESO. The change, now formally introduced, will be used to manage system resilience alongside the ESO's Downward Flexibility Management service to manage any periods of low demand during summer periods.

We have set up a commercial and engineering team to work with the ESO and generation customers 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. Northern Powergrid chair the ALoMCP Stakeholder Working Group and have been at the forefront of the national stakeholder engagement strategy including the national awareness campaign. The programme has already delivered risk reduction for over half of the 25GW national target and we have delivered the changes to more than 2GW of capacity within our region.

Our innovation and engagement activity is exploring wider whole energy system benefits

Our innovation portfolio and wider stakeholder engagement activity has continued to explore greater value for customers through new commercial models and new technologies.

We have been supporting Durham Heat Institute's activities to drive whole system innovation in heat and we have been examining how our actions on the distribution network can unlock related, but non-network, benefits for customers in their energy bills via dynamic voltage optimisation (in our Boston Energy Efficiency Trial).

Our partnership with NGN on the InTEGReL innovation project is evaluating whole system solutions on gas and electricity networks for heat, transport and system optimisation. In the year, we have been developing projects looking at the electrical heating of different house constructions, hydrogen production from local electricity networks and supporting NGN's decarbonisation of mains gas in the Winlaton area.

In the transportation sector, we were heavily involved in the Electric Vehicle (EV) taskforce and have been taking actions to electrify our fleet including electrifying temporary generation through our SilentPower innovation project. We have rolled out an automated connections budget estimating solution for EV chargers and other small demands in our AutoDesign system. Following extensive stakeholder engagement, we published our EV strategy and additional guidance on EVs for our customers[8]. We are not limiting our EV thinking to cars – we started discussions with rail manufacturers about the best ways to decarbonise rail when overhead wires are not cost effective.

Rural decarbonisation will be more complex than the denser urban networks and we have started developing projects with Leeds University, the National Farmers Union, EA Technology and rural energy developers to understand how the wider rural economy can be an active player in the decarbonisation of rural energy. Our MicroResilience project contributes to this providing a framework into which flexible rural energy systems can be brought together to sustainably and dependably support rural communities.

8 - Maximising the value of electric vehicles for our customers https://www.northernpowergrid.com/asset/0/document/5043.pdf

ANNEX A1(a): NORTHERN POWERGRID PERFORMANCE

NPg			Unit	2019/20 Actual	2020/21 Actual	2020/21 Target[1]	RAG	2022/23 Forecast	Trend[2]
Revenue (and key financial metrics)									
Total annual revenue			£m	£572.8m	**£572.4m**	N/A	N/A	£623.0m	N/A
Customer bill[3]			£	£67.26	**£71.39**	N/A	N/A	£73.87	N/A
RoRE[4]			%	7.2%	**7.2%**	N/A	N/A	N/A	N/A
RAV	Opening balance		£m	£2,770m	**£2,807m**	N/A	N/A	N/A	N/A
	Closing value		£m	£2,807m	**£2,843m**	N/A	N/A	N/A	N/A
Totex	Allowance		£m	£379.6m	**£357.2m**	N/A	N/A	£3,036.9m[5]	N/A
	Actual		£m	£408.1m	**£398.5m**	N/A	N/A	£3,036.9m[5]	N/A
	Difference		£m	£28.4m	**£41.3m**	N/A	N/A	£0.0m[5]	N/A
			%	7.5%	**11.6%**	N/A	N/A	0.0%[5]	N/A
Incentives[6]									
IIS			£m	£19.1m	**£21.3m**	£23.5m	N/A	£18.9m	▲
TTC			£m	£0.1m	**£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	£5.9m	**£5.7m**	£7.8m	N/A	£7.6m	▼
Total			£m	£25.2m	**£27.1m**	£33.3m	N/A	£28.3m	▲
Innovation									
NIA Expenditure			£m	£3.5m	**£3.5m**	£3.7m	●	£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	33,810	**28,055**	47,540[8]	●	27,300	▲
	Business Carbon Footprint[9]		tC02e	33,365	**31,241**	55,975[8]	●	27,850	▲
	SF_6 emissions		kg	63	**73**	112[8]	●	50	▼
Customer service	Overall survey		Score	8.90	**9.05**	8.20	●	9.20	▲
	Interruptions survey		Score	8.90	**9.07**	8.20	●	9.18	▲
	Connections survey		Score	8.84	**8.89**	8.20	●	9.12	▲
	General enquiries survey		Score	9.05	**9.40**	8.20	●	9.42	▲
	Complaints metric		Score	2.39	**2.76**	8.33	●	1.80	▼
Connections	Time to quote (LVSSA)		Days	7.3	**6.6**	4.8	●	3.4	▲
	Time to quote (LVSSB)		Days	14.1	**14.3**	7.8	●	5.5	▼
	Time to connect (LVSSA)		Days	38.8	**48.7**	39.3	●	28.3	▼
	Time to connect (LVSSB)		Days	46.9	**78.5**	47.9	●	36.5	▼
Reliability	Customer interruptions	Northeast	CI	47.0	**45.3**	60.0	●	45.4	▲
		Yorkshire	CI	50.8	**52.4**	63.0	●	51.1	▼
	Length of interruptions	Northeast	CML	44.1	**36.8**	55.2	●	36.0	▲
		Yorkshire	CML	42.1	**40.0**	54.8	●	37.9	▲
Social obligations	SECV		Score	6.71	**5.01**	8.00[8]	●	8.00	▼
Secondary Deliverables									
Asset health and criticality index	**HI** Score		Points	13.3m	**15.8m**	15.0m[10]	●	20.0m	▲
	HI % of monetary risk target		%	66.8%	**79.1%**	75%	●	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 2020/21 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 2021
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	2019/20 Actual	2020/21 Actual	2020/21 Target[11]	RAG	2022/23 Forecast	Trend[12]
Revenue (and key financial metrics)								
Total annual revenue		£m	£248.9m	**£251.2m**	N/A	N/A	£272.7m	N/A
Customer bill[13]		£	£74.36	**£78.80**	N/A	N/A	£79.39	N/A
RoRE[14]		%	8.0%	**8.0%**	N/A	N/A	N/A	N/A
RAV	Opening balance	£m	£1,193m	£1,207m	N/A	N/A	N/A	N/A
	Closing value	£m	£1,207m	£1,225m	N/A	N/A	N/A	N/A
Totex	Allowance	£m	£164.7m	**£152.7m**	N/A	N/A	£1,300.8m[15]	N/A
	Actual	£m	£181.3m	**£177.5m**	N/A	N/A	£1,314.9m[5]	N/A
	Difference	£m	£16.6m	**£24.8m**	N/A	N/A	£14.2m[5]	N/A
		%	10.1%	**16.2%**	N/A	N/A	1.1%[5]	N/A
Incentives[16]								
IIS		£m	£7.6m	**£10.0m**	£10.0m	N/A	£8.4m	▲
TTC		£m	£0.0m	**£0.0m**	£0.8m	N/A	£0.7m	—
ICE *(penalty only)*		£m	£0.0m	**-** [17]	£0.0m	N/A	£0.0m	—
BMCS *(including SECV)*		£m	£2.6m	**£2.5m**	£3.3m	N/A	£3.2m	▼
Total		£m	£10.2m	**£12.5m**	£14.1m	N/A	£12.3m	▲
Innovation								
NIA Expenditure		£m	£1.5m	£1.5m	£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	9,543	**7,831**	15,554[18]	●	10,550	▲
	Business Carbon Footprint[19]	tC02e	15,893	**14,749**	25,932[8]	●	12,800	▲
	SF_6 emissions	kg	14.8	**24.1**	36.5[8]	●	12.9	▼
Customer service	Overall survey	Score	9.02	**9.14**	8.20	●	9.20	▲
	Interruptions survey	Score	8.93	**9.13**	8.20	●	9.18	▲
	Connections survey	Score	8.97	**8.99**	8.20	●	9.12	▲
	General enquiries survey	Score	9.29	**9.52**	8.20	●	9.42	▲
	Complaints metric	Score	2.73	**2.72**	8.33	●	1.80	▲
Connections	Time to quote (LVSSA)	Days	7.6	**7.0**	4.8	●	3.4	▲
	Time to quote (LVSSB)	Days	14.3	**14.9**	7.8	●	5.5	▼
	Time to connect (LVSSA)	Days	40.5	**51.9**	39.3	●	28.3	▼
	Time to connect (LVSSB)	Days	50.7	**91.1**	47.9	●	36.5	▼
Reliability	Customer Interruptions	CI	47.0	**45.3**	60.0	●	45.4	▲
	Length of Interruptions	CML	44.1	**36.8**	55.2	●	36.0	▲
Social obligations	SECV	Score	6.71	**5.01**	8.00[8]	●	8.00	▼
Secondary Deliverables								
Asset health and criticality index	**HI** Score	Points	7.9m	**9.3m**	7.9m[20]	●	10.6m	▲
	HI % of monetary risk target	%	75.1%	**87.6%**	75.0%	●	100%	▲

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

11. Ofgem targets unless otherwise stated. For details of target setting, forecasting and RAG assessment, see Annex 1: Output Performance Assessment
12. Based on 2020/21 performance compared to prior year. ▲Trending positively; ▼Trending Negatively; — No/negligible movement
13. Based on average domestic consumption of 2,900kWh - https://www.ofgem.gov.uk/electricity/retail-market/monitoring-data-and-statistics/typical-domestic-consumption-values
14. RoRE forecast for the ED1 period based on notional gearing and excluding holding company debt
15. Cumulative ED1 Period forecast (2015-2023)
16. Incentive targets reflect maximum rewards against the relevant Ofgem Incentive mechanism
17. ICE determination expected in Q4 2021
18. Northern Powergrid target
19. Business Carbon Footprint including contractors
20. 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(c): LICENSEE PERFORMANCE (YORKSHIRE)

Yorkshire		Unit	2019/20 Actual	2020/21 Actual	2020/21 Target[1]	RAG	2022/23 Forecast	Trend [2]
Revenue (and key financial metrics)								
Total annual revenue		£m	£323.9m	**£321.2m**	N/A	N/A	£350.3m	N/A
Customer bill[3]		£	£62.24	**£66.14**	N/A	N/A	£69.93	N/A
RoRE[4]		%	6.9%	**7.2%**	N/A	N/A	N/A	N/A
RAV	Opening balance	£m	£1,578m	£1,600m	N/A	N/A	N/A	N/A
	Closing value	£m	£1,600m	**£1.618m**	N/A	N/A	N/A	N/A
Totex	Allowance	£m	£214.9m	**£204.5m**	N/A	N/A	£1,736.1m[5]	N/A
	Actual	£m	£226.7m	**£221.0m**	N/A	N/A	£1,721.9m[5]	N/A
	Difference	£m	£11.8m	**£16.5m**	N/A	N/A	(£14.2m)[5]	N/A
		%	5.5%	**8.1%**	N/A	N/A	(0.8%)[5]	N/A
Incentives[6]								
IIS		£m	£11.6m	**£11.3m**	£13.5m	N/A	£10.6m	▼
TTC		£m	£0.1m	**£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	£3.3m	**£3.2m**	£4.5m	N/A	£4.4m	▼
Total		£m	£15.0m	**£14.5m**	£19.2m	N/A	£16.1m	▼
Innovation								
NIA Expenditure		£m	£2.0m	**£2.1m**	£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	24,267	20,224	31,986[8]	●	16,750	▲
	Business Carbon Footprint[9]	tC02e	17,472	16,492	30,043[8]	●	15,100	▲
	SF_6 emissions	kg	48.4	**49.0**	75.5[8]	●	37.1	▼
Customer service	Overall survey	Score	8.80	**8.97**	8.20	●	9.20	▲
	Interruptions survey	Score	8.87	**9.01**	8.20	●	9.18	▲
	Connections survey	Score	8.74	**8.81**	8.20	●	9.12	▲
	General enquiries survey	Score	8.82	**9.28**	8.20	●	9.42	▲
	Complaints metric	Score	2.14	**2.79**	8.33	●	1.80	▼
Connections	Time to quote (LVSSA)	Days	7.1	**6.4**	4.8	●	3.4	▲
	Time to quote (LVSSB)	Days	13.9	**14.0**	7.8	●	5.5	▼
	Time to connect (LVSSA)	Days	37.8	**46.8**	39.3	●	28.3	▼
	Time to connect (LVSSB)	Days	44.9	**71.0**	47.9	●	36.5	▼
Reliability	Customer Interruptions	CI	50.8	**52.4**	63.0	●	51.1	▼
	Length of Interruptions	CML	42.1	**40.0**	54.8	●	37.9	▲
Social obligations	SECV	Score	6.71	**5.01**	8.00[8]	●	8.00	▼
Secondary Deliverables								
Asset health and criticality index	**HI** Score	Points	5.4m	**6.5m**	7.0m[10]	●	9.4m	▲
	HI % of monetary risk target	%	57.5%	**69.6%**	75.0%	●	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 2020/21 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 2021
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 2020/21 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. For DNOs' overall Customer satisfaction RAG status: Both green = Green overall Both red = Red overall Any other combination – Amber overall
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)	
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 A2.1: *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		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	
RIDDOR					
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		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 Two or more red = Red overall Any other combination = Amber overall
Business Carbon Footprint					
SF6 emissions					
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	
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 3rd or 4th = Amber 5th or 6th = Red
PSR Powercuts	BMCS	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	
	< 6 hours				
	< 9 hours				
School pupils engaged through safety education					
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 A2.2: *Northern Powergrid RAG approach for measures where no guidance is set by Ofgem*

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 2020/21, 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 2020/21 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 £15.5m (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 £22.1m of additional costs, partially offset by rephasing or timing differences of -£6.6m which we expect to unwind over the ED1 period.

After making an enduring value adjustment to remove the effect of the rephasing/timing differences, the £22.1m 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 -0.5% at notional gearing and -0.4% at actual gearing.

Our forecast expectation is to spend £14.2m 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 £49.5m (after taking into account expected allowance updates affecting those years, which are not yet reflected in the PCFM). We attribute £24.1m of this underspend to re-phasing or timing differences which we expect to unwind over the ED1 period.

After making an enduring value adjustment to remove the effect of the re-phasing/timing differences, the remaining £25.4m underspend against allowances shows as a TIM outperformance for the period to date, equating to an average RoRE impact of 0.4% at notional gearing and 0.3% at actual gearing.

Our forecast expectation is to spend £14.2m less than allowances over the ED1 period. We forecast that our efficiency savings and the impact of external factors will fund 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.

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%	0.72%	0.34%
Allowed	2.55%	2.42%	2.29%	2.09%	1.94%	1.78%	1.62%	1.47%
Difference	1.20%	0.32%	-1.19%	-0.64%	-0.11%	0.95%	-0.90%	-1.13%

Figure 4.1: *Cost of debt (Northeast)*

For 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. Overall ED1 forecast outperformance has increased, compared with our 2019/20 RFPR due to higher inflation forecasts in 2021/22 and 2022/23 more than offsetting lower inflation in 2020/21, which has reduced the real cost of debt. It should be noted that, because this table is at a licensee level, higher-coupon debt held at holdco level is excluded.

For actual gearing we show a much 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, as noted in section 2.

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%	1.45%	0.63%
Allowed	2.55%	2.42%	2.29%	2.09%	1.94%	1.78%	1.62%	1.47%
Difference	2.28%	1.41%	0.06%	0.78%	0.99%	1.18%	-0.17%	-0.84%

Figure 4.2: *Cost of debt (Yorkshire)*

At notional gearing, Table R7 shows us underperforming the cost of debt allowance both for the ED1 period to date and 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 has been affected by low inflation, as noted above). Our overall ED1 forecast has improved, compared with our 2019/20 RFPR due to higher inflation forecasts in 2021/22 and 2022/23 more than offsetting lower inflation in 2020/21, which has reduced the real cost of 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 lower level of overall ED1 forecast underperformance against the cost of debt allowance, as our gearing (at 49% 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, as noted in section 2.

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 49%).

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.

Northeast's ED1 closing RAV forecast is approximately 1% higher than the closing RAV value per the latest PCFM (row 11) and Yorkshire's is also 1% higher, due to a combination of re-profiling of expenditure into later years of the period and expected additional allowances.

Taxation (Table R10)

Over the ED1 period, RoRE performance relating to tax is negligible at 0.0%.

We have not included a forecast of the impact of the March 2021 budget changes in respect of super-deductions or first year capital allowances, as we are currently assessing the likely impact. Any impact would be restricted to the value of the tax trigger dead band in the final two years of ED1 and therefore would not have a material impact on RORE.

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 2021 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 draft ED2 business plan which was submitted to Ofgem on 1 July 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 five 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 2020/21 is based on actual interventions in 2020/21. 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 five 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 2020/21 is based on actual costs incurred in 2020/21. 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 and for lane rental costs. 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. Our anticipated allowance update for Yorkshire relates to lane rental costs only. Yorkshire received additional allowances for new permit scheme costs as a result of the May 2019 reopener process and does not have to meet the materiality threshold again in order to apply for additional allowances at the end of the ED1 period.

d) Adjustment to remove impact of re-phasing/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 re-phasing/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:

By email

cus.serv@northernpowergrid.com

By telephone

0800 011 3332