

Northern
Powergrid
Stakeholder
Annual Report
2015-16



A word from our Chief Executive

'We're pleased with the start we've made to the ED1 period; we're already delivering some very strong results with more still to come"

Phil Jones, Chief Executive



Our business plan set challenging targets for the 2015-23 period. The overall aim is to deliver more for less – and our engagement with you, our stakeholders, helped us to direct our attention towards the things that you value most in the services we provide.

Our commitments included delivering 20% shorter and 8% fewer power cuts, reducing the time it takes to connect new customers by 30%, achieving 50% lower accident rates, reducing oil leakage to the ground by 15% and our carbon footprint by 10%; all whilst reducing our price. In short, that meant improving the quality of our services across the board whilst doing everything we can do to keep the cost of those services down. Ofgem set us a tough set of cost targets. The fact that we didn't think those targets were set consistently across the sector is water under the bridge so far as our commitments to deliver for our customers in this price control period are concerned.

This annual report for 2015-16 serves a checkpoint at which we account to you for how we're progressing.

I'm pleased to report that we've made a strong start to the 2015-23 period. The vast majority of our commitments and associated key measures are either on or ahead of target. And in those few areas where we have met some headwinds, we are not seeing any reason why we won't be able to come through and deliver as promised.

The page opposite sets out our one-page performance snapshot for the year. In providing it, our aim was to go the extra mile and respond to the request for greater transparency that has been made by the stakeholding community of all companies in our sector. To that end we have gone further than the minimum requirements. We hope that you find what we have done useful. We would welcome feedback to improve what we provide next time.

Our year one performance is a positive story.

- ▶ The safety of the public and our staff remains at the heart of everything we do at Northern Powergrid. 2015-16 equalled our best-ever performance on accident rates achieving one of our headline measures and narrowly missing our second. We remain on track to halve our accident rate by the end of the period.
- ▶ In 2015-16 we achieved our best-ever network reliability and availability performance hitting all four of our Ofgem targets across our operating area. That came in a year when our regions were hit by severe winter storms including Storms Desmond (gale-force winds) and Eva (severe flooding). I'm pleased to say our operational response stood firm and we were there when you needed us the most.
- ▶ Our customer satisfaction goal is to become one of the leading network operators. We're pleased with the progress we are making. Whilst we ranked fifth¹ out of the six network companies overall in the year, by the final quarter of the year our scores were improving fast and that has continued in the time since then.
- ▶ We promised to transform our connections business and that is what we are doing. On smaller connections, we've seen a big improvement in customer satisfaction and there's more to come. On the large works side we completed 67 actions in our Incentive on Connections Engagement (ICE) plan. We have also established a standalone team to serve Independent Connections Providers (ICPs) with the services they need from us in order to operate in the competitive connections market.

- ▶ Whilst we were disappointed with our relative position (fifth out of six) in Ofgem's Stakeholder Engagement and Customer Vulnerability (SECV) incentive, our commitment to fulfilling our social obligations and caring for our customers is unwavering and we have continued to develop partnerships to strengthen our approach.
- ➤ Our environmental protection performance was particularly strong with all of our headline targets achieved including oil loss to the ground and carbon footprint.
- ▶ Innovation remains a very important part of how we operate, particularly in terms of achieving our low carbon objectives. We are supporting the smart meter roll-out and we are underway with work to lay smart grid foundations on our network to create a smarter powergrid that can adapt to the changing needs of our customers.
- And finally **financially**, we know prices are front and central for our stakeholders. In April 2015 we implemented a price cut of 14%. In terms of cost efficiency we have set improvement targets for every area of our business in order to live within the allowances that Ofgem set. I'm pleased to report that in 2015-16 our total expenditure of £410.7m was equivalent to 97% of allowances and we delivered a little more than one eighth of the outputs that were set for us to achieve over the eight-year period. As such, we are off to a good start and although there is more to do, we remain on-track to meet or beat our output targets.

We are proud to operate and serve the communities in our area and remain committed to playing our part in bringing the Northern Powerhouse to life by supporting growth and development in the region. Our shareholder has a long-term vision which gives us enviable stability to re-invest and improve the services we provide. Year one of an eight year journey is really just the start, but I'm pleased to say we've made a good one.

Phil Jones, Chief Executive

1 Broad Measure of Customer Satisfaction (BMCS) rank indicative only based on monthly data. Final ranking to be confirmed by Ofgem

Performance Snapshot²

This is our one-page performance snapshot for the year. In providing it, our aim is to respond to the requests from stakeholders for greater transparency and simplicity in how all network companies report their performance. Snapshots for the Northeast and Yorkshire licensees are on pages 27 and 28 and a glossary explaining the measures on this page can be found on pages 25 and 26.





Reliability and Ava	ilability		Actual 2015-16	Target ⁴ 2015/16	Status	Trend ³
	Northeast	Excluding exceptional events	55.4	59.8	Achieved	A
Customer intermedians	Northeast	Including exceptional events	63.8			A
Customer interruptions ⁵	Yorkshire	Excluding exceptional events	51.2	66.7	Achieved	A
YORKSHIRE		Including exceptional events	52.8			A
	Northeast	Excluding exceptional events	43.3	54.8	Achieved	A
Customer	Northeast	Including exceptional events	56.8			A
minutes lost ⁵	Yorkshire	Excluding exceptional events	38.0	57.5	Achieved	A
	YORKSHIFE	Including exceptional events	42.8			A
Incentive performance reward/(penalty) – IIS ⁶		£	£21.0m			
		£/domestic customer bill	£2.67			

Ø	Customer Satisfaction		Actual 2015-16	Target ⁴ 2015-16	Status	Trend ³
	Overall Broad Measure of Customer Satisfaction score out of ten (rank out of six) ⁷		8.37 (5th)	8.20	Achieved	A
	In the second se	£	£1.35m			
	Incentive performance reward/(penalty) – BMCS ⁸	£/domestic customer bill	£0.17			

Connections		Actual 2015-16	Target⁴ 2015-16	Status
Time-to-quote (days) ⁹		5.85	8.21	Achieved
Time-to-connect (days) ⁹		42.22	42.08	Missed
Incentive performance reward/(penalty) –	£	£1.25m		
connections lead time	£/domestic customer bill	£0.16		
Incentive on Connections Engagement (ICE) penalty	£	Nil		
(if applicable)	£/domestic customer bill	Nil		

Social Obligations		Actual 2015-16
Stakeholder Engagement and Consumer V	ulnerability (SECV) score out of ten (rank out of six)	6.5 (5th)
to continue account	£	£1.35m
Incentive reward	£/domostis customor hill	£0.17



Innovation

Our innovation projects have grown this year from the platform established by our ground-breaking Customer-Led Network Revolution (CLNR) programme of work that concluded at the end of 2014-15. Our four priorities of smart grids. smart meters, digital-enabled services and issues of affordability continue to be most relevant to our stakeholders.



Safety

We equalled our best-ever performance on safety. We complied with Health and Safety Executive (HSE) legislation, hit our Occupational Safety and Health Administration (OSHA) accident rate target (0.25 against our target of 0.36) but narrowly missed our RIDDOR target measure (0.16 against our target of 0.1)



Environmental Impact

2015-16 was our best-ever year on environmental protection, achieving our headline targets for both oil losses from cabling and carbon footprint. We were awarded £350k in the Losses Discretionary Reward Submission (coming in a disappointing 5th place out of 6) which will be reinvested in the coming years to further reduce losses



Financials		Northeast	Yorkshire	Overall
Unrestricted domestic tariff charge for a typical domestic customer ¹⁰		£86.50	£77.20	
	£	£176.9m	£233.8m	£410.7m
Total expenditure	% of cost allowances	97%	97%	97%
experiantare	% of allowed revenue	68%	70%	69%
Dividends paid	11	£20.6m	£27.6m	£48.2m
Gearing ¹²		51.6%	51.2%	62.2%
Credit rating ¹³		A3/A/A-	A3/A/A-	Baa1/A/BBB+
	On Regulatory Equity – n assumption of 6%)	8.1%	8.6%	8.4%

- 2 All financial figures in 2012-13 prices. Northern Powergrid overall performance snapshots for each licensee shown in the Appendix to this report (page 27 and 28) Trend ▲ getting better ▼ getting worse since 2014-15
- 4 Ofgem target (see commentary in the main body of the report for performance
- against our own targets)

 5 Unweighted figures. Indicative figures as at July 2016, final figures still to be confirmed by Ofgem
- Excluding guaranteed standards payments
 Broad Measure of Customer Satisfaction (BMCS) rank indicative only based on monthly data. Final ranking to be confirmed by Ofgem

- Does not include SECV reward
 LVSSA (single minor connections)
 Excludes the domestic customer rebate
- 11 Dividends paid figures for Northeast, Yorkshire and Overall relate to dividends from the licensee companies in the year
 12 Gearing figures for Northeast and Yorkshire relate to gearing of the licensee
- companies. Overall gearing relates to the Northern Powergrid group and includes debt over and above the licensee companies that was utilised to fund the distribution
- 13 Credit ratings for Northeast and Yorkshire relate to scores for three credit rating agencies (Moody's/Standard and Poor's/Fitch) for the licensee companies. Overall relates to Northern Powergrid Holdings Company

Introducing Northern Powergrid

"We're open for business every hour of every day of the year no matter what the circumstances"



Northern Powergrid is the electricity distribution company for North Lincolnshire, Yorkshire and the North East. We operate 24 hours a day, seven days a week, and 365 days a year – no matter what the circumstances – to maintain a safe, reliable and efficient electricity supply. In this report we update you on the progress we've made against the commitments we made in our RIIO-ED1 well justified business plan for the period 2015-23, during the first year (April 1st 2015 to March 31st 2016).

In this report¹⁴ we take you through each of the main areas of the business – from the engineering and customer service teams that provide our services today through to the innovation and low carbon projects that are looking at the long term future of the electricity network. Each section sets out the commitments we made and our progress against them – where we've hit our targets but also where we've missed them. We describe what new things we have done in the last year and how we're going to build on them next year to improve our performance further.

Our plan is a living document. Over the eight years of the ED1 period it will need to change in the light of our experience and our stakeholders' expectations and requirements. We shall continue to engage with stakeholders as we move through the period making the changes that are necessary to our plan.

Our customers

As a customer, you pay an energy supplier for the electricity that you use. A small part of that bill comes to us to cover the cost of keeping the network running safely, reliably and efficiently, and investing in the network for the future. We value your feedback on the service we provide and where we could improve it. There are several themes that run through this report, none more so than our commitment to improving customer service and caring for vulnerable customers when they need us the most. We've made a lot of changes in the last year to better understand what our customers want from us, and how we can improve the services we provide.

Our stakeholders

Our stakeholders are important to us in helping to develop our business plans and initiatives. They help us understand the challenges ahead and work with us in planning our response.

A stakeholder, for us, is anyone who is touched by our service or business, and we use a variety of techniques to reach out and discuss what our priorities should be. We're proud that we've secured accreditation for the last five years against the AA1000 Stakeholder Engagement standard – an internationally accepted measure that helps organisations become more accountable, responsible and sustainable.

Each year we produce reports that explain more about particular parts of our business and go into more detail than this report. Our other reports cover:

- ▶ Environment;
- ▶ Connections Engagement; and
- ► Stakeholder Engagement and Consumer Vulnerability.

You can find these reports and much more about the information in this report on our stakeholder focused website, www.northernpowergrid.com/yourpowergrid. In addition, our original business plan for 'RIIO-ED1', against which our targets through to 2023 were set, is still available at www.yourpowergridplan.com.

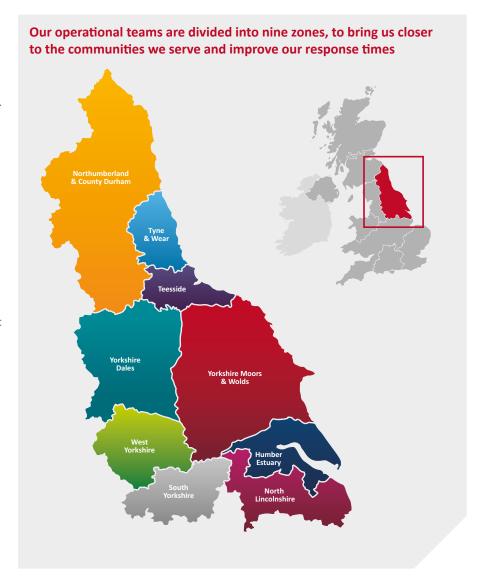


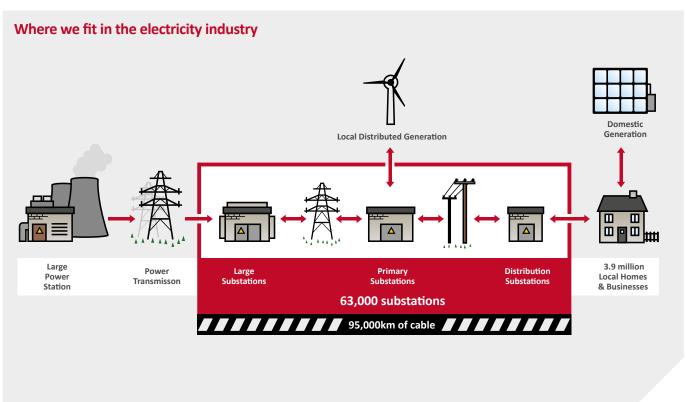
14 Produced in accordance with Standard Licence Condition 50 of the Electricity Distribution License: Business Plan Commitment Reporting

Our region

We are proud to be an integral part of the infrastructure in the North of England and it is a responsibility that we take very seriously. We are committed to caring for our region and our local communities. We work with our counterparts in the other utilities – Northern Gas Networks, Northumbrian Water and Yorkshire Water – through the Infrastructure North partnership to learn from each others' best practice, improve services for our customers and explore ways in which our innovation projects can work across more than one utility.

We are also keenly interested in the economic development of our region and as such we are enthusiastic supporters of the Northern Powerhouse initiative. It is a welcome initiative and we know it needs all of us – central government, local government and business – coming together to make it work. We are one of the leading players behind Business North, a new collaboration of businesses of all sizes, on both sides of the Pennines, coming together to make sure we play a strong and positive role in the development of the Northern Powerhouse.





Running a safe and secure network

Our goal is for our network to be safe for everyone – neighbours and communities; staff and contractors. We are absolutely committed to improving our safety practices year-on-year"

Geoff Earl,Director of Safety, Health and Environment



We are on-track to halve our accident rate

Our commitments

We aim to reduce accidents year-on-year and by 2023 to have cut our accident rate in half. It is an objective that permeates through everything we do as a company.

We also aim to reduce occupational ill-health amongst our employees and we run safety campaigns to raise awareness of the danger of electricity if it is not handled properly.

How we've done

We equalled our best-ever year in 2015-16, with six recordable safety accidents and only 29 preventable vehicle incidents from a fleet covering over 22.2 million miles per year.

There are two recognised safety standards that we use to set our targets – OSHA¹⁵ and RIDDOR¹⁶. We achieved our OSHA target but just missed our RIDDOR target.

We are on-track to achieve all of our long-term commitments including to halve accident rates.

Our safety campaigns

We're committed to ensuring that the public stay safe around our overhead cables, substations and other equipment. We run regular safety campaigns, for example aimed at the farming community, to raise awareness of the importance of staying alert around our assets.

We have a school safety visit programme which each year reaches tens of thousands of children in schools. They are designed to be interactive and hands-on and include quizzes and discussions about real-life risk scenarios. We also continue to partner with other organisations around the region through the 'Crucial Crew' and 'Prison Me No Way' events, to raise awareness of the importance of safety.

In our Business Plan we promised to	Status
Remain a leading safety performer, meeting all requirements and halving our accident rate by 2023	On track
Increase awareness in our communities of the dangers of electricity if not handled properly	On track
Promptly resolve any network safety issues arising from the smart meter roll-out	On track
Reduce the impact of metal theft, including improving substation security	On track
Keep safety as a central driver of investment decisions and appraisals	On track

Performance measures	2015-16 actual	2015-16 target	Status	2016-17 target	2022-23 target
OSHA rate ¹⁵	0.25	0.36	Achieved	0.36	0.22
RIDDOR rate ¹⁶	0.16	<0.1	Missed	<0.1	<0.1

¹⁵ In the USA the Occupational Safety and Health Administration (OSHA) records reportable work-related accidents including major incidents leading to absence from work and also less severe injuries where employees may experience restricted work duties or have prescription drugs issued as treatment or therapy. The OSHA rate is presented as reportable cases per 200,000 man hours. See www.osha.gov

¹⁶ The major accident rate measures the number of accidents we have that are reportable under the UK's Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR). These accidents are reportable to HSE and include fatal, major injury and lost-time accidents resulting in over seven days' absence from work. See http://www.hse.gov.uk/riddor/index.htm

Last year we kept safety at the heart of everything we did, including...

- ▶ **466** safety site visits made by our executive team and senior managers
- ▶ 1,419 enhanced safety audits on our field activities
- Replacing 30,172 service cut-out units, locating and replacing 617 ESQCR¹⁷ non-compliant fuses
- ► Completing all of our known ESQCR¹⁷ ground clearance remediation work on our mains overhead lines
- ▶ Making substantial progress in replacing overhead service lines to properties to insulate conductors and improve clearances to buildings
- Retraining over 2,000 authorised and senior authorised persons to refresh their knowledge and competencies
- Retaining our safety management certificate following two successful independent audit visits (OHSAS 18001)¹⁸

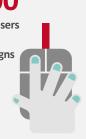
Our public safety campaigns



29,400 children heard our school safety message

60,000

social media users have seen our safety campaigns





240,000

page views on our 'fusebox' children's safety website



We showcased public safety at seven agricultural shows

We have run targeted campaigns and implemented extra security to tackle metal theft



50% fewer metal theft incidents



We halved strikes to our network on farmland with targeted campaigns

Our commitment to safe driving

We invest heavily in improving driving and cutting the number of driving accidents



814

fleet vehicles had telematics installed providing location tracking and improving driver performance

2,300

of our drivers were upskilled via our online driver training programme





29

vehicle accidents across a fleet covering over 22 million miles

Looking ahead we will...

Continue to actively engage to promote safety with our leaders undertaking over 500 site visits per annum

 $Upgrade\ our\ critical\ infrastructure\ sites\ and\ control\ rooms\ with\ the\ highest\ level\ of\ security\ protocols$

Issue a company security booklet along with training to all staff on both physical and cyber security

Continue to improve our cyber security to provide even better protection for our network against this increasing threat

Double our attendance at agricultural shows and run more public safety campaigns

Expand our network of partners who present safety messages to children

Engage with the Road Haulage Association to reduce the number of safety incidents where HGVs make contact with our overhead lines

Invest in further alert driver training for all of our drivers

17 Electricity Safety, Quality and Continuity Regulations (ESQCR) enforced by HSE

18 Occupational Health and Safety Specification (OHSAS 18001: 2007) is an audit investigating personnel, processes, systems and operations

Keeping the lights on

Our investment in the network as well as new technology has helped us achieve our best ever performance on power cuts, despite the major winter storms of 2015-16"

Mark Drye,
Director of Asset Management



We achieved our best-ever year for power cuts and we are on-track to deliver our commitments

Our commitments

We have made a strong start this year towards achieving our long term commitments of 20% shorter and 8% fewer power cuts, continuing the improving trends of recent years. Our decision to reshape our operational teams into nine zones, bringing them closer to the communities we serve, has contributed to this improved performance.

How we've done

We have delivered one of our nine headline commitments in the year (implementing enhanced payments against our 12 hour power cut standard), and we are on-track for the remainder, with one not yet started as we await the central system for the smart meter roll-out. Our network performance was very strong in the year beating all four Ofgem reliability and availability targets.

Our investment in innovative new technology is delivering benefits, we are using equipment that automatically reconfigures the high-voltage network when there is a fault and installing intelligent fuses that carry out automatic restoration when a fuse blows as well as locating faults on our low-voltage network.

We continue to support the roll-out of smart meters and have resolved defects identified in equipment within acceptable and improving timeframes. Additional details on the smart meter programme can be found in the our smart energy programmes section of this report.

All of our performance measures were achieved in 2015-16 with the exception of the number of flood defences we installed. We have had to re-let our delivery contract which was not anticipated and has caused a delay. We are also assessing all of our major sites in line with the updated standard (ETR138).

Although we've had to re-phase our flood defence programme, delivery of our overall output commitment remains on-track.

Winter storms of 2015-16

Storms Desmond (36 hours of gale force winds) and Eva (severe flooding) put our major incident response to the test and we are pleased to say it proved its resilience.

In the case of Desmond, 37,000 customers experienced power cuts (mostly in the North East) due to overhead line damage caused by the wind, with 85% restored within 12 hours.

Storm Eva caused severe flooding interrupting supplies to 37,000 customers across West and North Yorkshire. 94% of customers were restored within 12 hours with the remainder restored as soon as the floodwaters receded and essential repairs could be made.

In our Business Plan we promised to	Status
Restore electricity within 12 hours – and if we don't, make enhanced and automatic payments to all customers (with extra for our vulnerable customers)	Delivered
Reduce the average length of unplanned power cuts by 20% by 2023	On track
Achieve 8% fewer unplanned power cuts by 2023	On track
Maintain the underlying health of the asset base and report on it annually	On track
Ensure adequate network capacity for customers wanting to connect	On track
Planned power cuts to leave customers without power for less time, particularly during winter	On track
Target network improvements for our worst-served customers	On track
Increase the resilience of the network to flooding	On track
Use smart meter alarm information to improve network performance and the information we provide to customers	Not started

Performance measures	2015-16 actual	2015-16 target	Status	2016-17 target	2022-23 target
Unplanned customer minutes lost – Northeast ¹⁹	43.3	54.8	Achieved	53.7	47.9
Unplanned customer minutes lost – Yorkshire ¹⁹	38.0	57.5	Achieved	56.3	49.9
Unplanned customer interruptions - Northeast ¹⁹	55.4	59.8	Achieved	58.9	57.1
Unplanned customer interruptions – Yorkshire ¹⁹	51.2	66.7	Achieved	65.7	60.0
Planned customer minutes lost – Northeast ¹⁹	6.8	11.1	Achieved	10.4	9.2
Planned customer minutes lost – Yorkshire ¹⁹	4.0	5.6	Achieved	5.3	5.0
Planned customer interruptions – Northeast ¹⁹	3.0	3.9	Achieved	3.8	3.6
Planned customer interruptions – Yorkshire ¹⁹	1.5	1.8	Achieved	1.8	1.7
Average length of a high-voltage wide-area power cut (minutes)	54	60	Achieved	59	45
Average length of a low-voltage local power cut (minutes)	178	200	Achieved	194	160
Performance guarantee success rate for power cuts	99.8%	>99.5%	Achieved	>99.5%	>99.5%
Cumulative number of permanent flood defences installed	9	40	Missed	82	141

Bold: Headline measure, Non-bold: Supporting measure

Our investment in the network to improve reliability and availability



£88.4m invested in the reliability of the network

1,500 items of new technology

installed including intelligent fuses and fault monitors



34 substations

equipped with automatic restoration technology – serving more than 400,000 customers 9 sites
protected from floods



Our improvements for planned power cuts to put customers first



During the colder months planned power cuts are scheduled for daylight hours and aimed to last no longer than 4.5 hours

mobile generation

when vulnerable customers are experiencing an outage or in longer running permanent fault scenarios





No planned power cuts go ahead if the temperature drops

D°C

88%

of planned power cuts started on time and

90%

finished on time





We now provide SMS and email reminders

72 and 24 hours before a planned power cut starts

Looking ahead we will...

Continue our targeted investments and improvements in our restoration operations with a priority on increasing network automation

Support energy suppliers in rolling out smart meters

Continue our targeting of 'hotspots', prioritising areas that cause our customers the most problems

Ensure that the development of smart grids is at the heart of our long term investment decisions

Continue to work with customers (both demand and generation) who have surplus capacity that can be freed up to benefit other customers

Complete our flood defence programme in line with our plan through a suite of new contracts

19 Targets set by Ofgem. Excluding exceptional events. 2015-16 actual based on Ofgem's Indicative figures as at July 2016, final figures still to be confirmed by Ofgem

Improving our services to our customers

Our service to our customers defines us as a business. We have made great strides this year in improving how we provide that service"

Neil Applebee, Head of Shared Services



We've overhauled our processes and made it easier than ever to contact us

Our commitments

Our goal is to close the gap to the leaders in customer satisfaction by providing excellent customer service and putting our customers in charge of how they engage with us. Customer service is measured through the Broad Measure of Customer Satisfaction (BMCS), which compares customer satisfaction across a range of services for all six distribution network operators²⁰ and produces a score out of ten and a ranking.

How we've done

We're working on turning our contact centre from being mostly inbound to mostly outbound. If we contact our customers when there's a problem, there's no need for them to contact us. We've invested heavily in digital technology delivering one of our commitments already for general enquiries and are on-track for all others. Informed by our engagement with customers we are implementing a model that puts customers in control in terms of how they want to communicate with us.

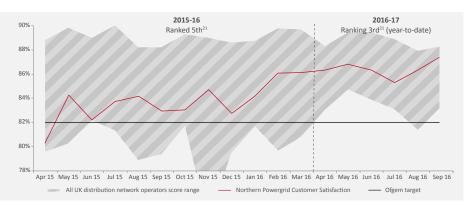
We achieved our headline performance measures for customer satisfaction whilst narrowly missing a number of our other supporting measures for the year. We did miss our very challenging complaints resolution targets that were set in our plan that was eventually not funded, our performance continues to improve and we are ahead of Ofgem targets. We have revised them in the short-term and will continue to review our targets to align with leading performance during the period.

Introducing 105 CALL 105

We played a leading role in the project to introduce 105 – the new national power cut number. It will transform the way customers communicate with us at the time we're most needed, with the same number available and promoted throughout the country.

Broad Measure of Customer Satisfaction performance April 2015 − September 2016 ▶

For the year 2015-16 we ranked fifth²¹ out of six overall on customer satisfaction but have improved significantly over the course of the period so far and as of September 2016 we are ranked third²¹ (for 2016-17).



In our Business Plan we promised to	Status
Use web-based technology to upgrade our process for general enquiries and minor engineering works	Delivered
Make customer service more reliable, better communicated and backed by slicker processes. Be faster, at no extra cost	On track
Provide better information to customers experiencing power cuts through voice or digital communication channels	On track
Continue to improve the quality and speed of our complaint resolution	On track
Make it easier for our customers to keep in touch – via internet, mobile, meetings, phone, email, social media, or text	On track
Use technology to enable our contact centre to move from being largely reactive to mostly proactive	On track

- 20 The survey and our targets don't just cover how we deliver electricity to people, but also include some of our wider interactions with our communities
- 21 Broad Measure of Customer Satisfaction (BMCS) rank indicative only based on monthly data. Final ranking to be confirmed by Ofgem

Performance measures	2015-16 actual	2015-16 target	Status	2016-17 target	2022-23 target
Rating for overall customer satisfaction	84%	82%	Achieved	83%	>85%
Customer satisfaction rating for power cuts	87%	81%	Achieved	82%	>85%
Customer satisfaction rating for general enquiries	89%	81%	Achieved	82%	>85%
Percentage of unplanned power cuts contacts answered	97%	99%	Missed	99%	99%
Percentage of unplanned power cut calls answered within 20 seconds	89%	90%	★ Missed	90%	90%
Percentage of customers notified 10+ days before a planned power cut	78%	>80%	Missed	>80%	>80%
Performance guarantee success rate for notification and other services	99.8%	>99.6%	Achieved	>99.6%	>99.6%
Percentage of complaints resolved within 1 day	52%	80%	Missed	60%22	80%
Percentage of complaints resolved within 31 days	91%	95%	Missed	95%	95%

Bold: Headline measure, Non-bold: Supporting measure

Last year we provided better service to our customers by...

- ➤ Revamping our telephone system so that callers that need us most, get through to us the quickest
- ▶ Expanding our proactive text messaging service, keeping customers up-to-date during power cuts or when they're receiving our services; helping us switch our contact centre into providing predominantly outbound services
- ➤ Rolling-out bespoke messaging on our telephone system so that only relevant information is given to customers.

 Messages are recorded in-house, real time, using information from our systems to give customers the latest information
- ➤ Restructuring our customer care team and revising our complaint resolution processes helping us exceed both of Ofgem's complaint resolution targets²³ albeit missing the more stretching targets that we set ourselves
- ► Enhancing our customer contact data records
- ▶ Implementing our customer relationship management (CRM) IT system letting customers log requests and complaints into the same system that our contact centre and contractors use the system that will hold all of our customer data in one place

Improvements to our outbound services



41%

of power cuts now logged by customers themselves through self-service channels



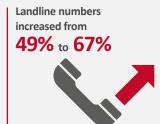
2.1m

of annual services subject to performance guarantees

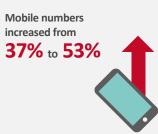




Customers for whom we hold no data reduced from 25% to 11%



Email addresses increased from 34% to 57%



Looking ahead we will...

Introduce a recognition scheme for our contact centre employees to reward great customer conversations

Drive performance levels in our customer service operations to deliver the missed targets for call handling, power cut notification and complaints resolution

Improve the quality of the customer data we hold to enable pro-active communication

 $Implement\ further\ functionality\ in\ our\ customer\ relationship\ management\ (CRM)\ IT\ system-including\ improvements\ for\ power\ cuts\ and\ other\ services$

Explore live web chat as a new contact channel for our customers

Introduce a new web application for safe-dig requests, letting customers download safe-dig records securely 24/7

22 Target adjusted for 2016-17 from 80% to 60% (in excess of Ofgem's target of 50%)

23~ Ofgem's target for complaints resolved within 1 day is 50% and within 31 days is 90%

Caring for our customers

Caring for our customers is fundamental to our business. We know that there are many different ways customers can be vulnerable and we have been tailoring our support to match their needs"

Siobhan Barton, Head of Customer and Stakeholder Engagement



We've improved our care for vulnerable customers and worked closely with our partners to deliver better services

Our commitments

We are on track to deliver our ten commitments with one completed this year. We were disappointed with our fifth position (out of six) in Ofgem's Stakeholder Engagement and Consumer Vulnerability incentive for 2015-16 and remain focussed on delivering an enhanced support programme for our vulnerable customers.

Our social issues expert group helped us develop our 'five pillar approach' to community investment. This strategy²⁴ provides a structured approach to our engagement with local communities by focussing on five main themes:

- ▶ Vulnerability to power cuts
- ► Energy affordability
- ▶ Strengthening communities
- ▶ Public safety and education
- ▶ Employee engagement

What we have done

Through pilot programmes, strategic partnerships, collaborative working and stakeholder engagement, we have delivered various initiatives and activities this year that have helped us support vulnerable customers.

Our Green Doctor pilot project supported **65** households and **236** beneficiaries and provided more than **£13,000** worth of increased disposable income for households through energy affordability advice and measures.

We supported the delivery of Energy Heroes in **10 schools**; with estimated energy savings to families of **£42,900** per year.

During the last year our 'Make the Grade' programme engaged with **9,473 young people** in **47 schools** to help raise aspirations and employability prospects.

Through our Infrastructure North partnership we engaged with over **122** people from community organisations to help us better understand our vulnerable communities.

In partnership with Trussell Trust our food bank grants supported **nine** different food banks to either start or expand their operations to support those most in need.

We began to use social return on investment using the 'social value network's' framework to better understand the impact of our projects. Our average return was £22 for every pound invested for the projects put through the framework.

In the second year of sponsoring a fuel debt adviser at Newcastle Citizens Advice they have helped address more than **1,600** customer issues.

In our Business Plan we promised to	Status
Route calls from Priority Service Customers directly to contact centre advisors, bypassing automated messaging	Delivered
Introduce friends and family register and 'good neighbour' scheme to support vulnerable customers	On track
Build partnerships with organisations to help us deliver our social programme	On track
Promote and raise awareness of our Priority Services Register to other organisations	On track
Enhance our training for front-line staff providing additional support for Priority Services Customers	On track
Provide more customer support vehicles along with more services in them	On track
In conjunction with local authorities, identify socially-deprived areas and prioritise our support towards them during a power cut	On track
With others, explore the feasibility of community-level aggregated-demand response in return for a community rebate	On track
Explore the possibility, with Northern Gas Networks, of upgrading to electrical connections in high-rise tower blocks for safety reasons	On track
Explore solutions to connect rural communities to the network	On track

24 Community investment strategy can be found at http://www.northernpowergrid.com/asset/0/document/2014.pdf

Performance measures	2015-16 actual	2015-16 target	Status	2016-17 target	2022-23 target
Stakeholder Engagement and Consumer Vulnerability score ²⁵	6.5	-	-	7.5	8.5
Contact Priority Services Customers with more information prior to a planned power cut	100%	>90%	Achieved	>90%	>90%

Bold: Headline measure, Non-bold: Supporting measure

Listening to feedback from our stakeholders and working with a wide range of partners to help deliver services to our communities...



 Based on teacher feedback, we extended the 'make the grade programme' to include more elements of the curriculum to link with the world of work





➤ The success of our Energy Heroes pilot has led to its expansion, targeting 21 schools in fuel poor areas, with anticipated combined energy savings of £90,090 for families



► Food bank grants have been extended with Trussell Trust to offer broader services to tackle food poverty including cooking healthy and money management



- ➤ The success of our pilot Green Doctor programme has led to an expanded 'comfortable living scheme' which will engage with 350 households with anticipated combined increased income of £65,000 for beneficiaries
- ▶ Based on stakeholder feedback our comfortable living scheme now incorporates training for up to 80 participants in 'Green Doctor' basics, with the opportunity to reach an additional 2,000 vulnerable members in our communities



- ▶ Based on the feedback from our Infrastructure North stakeholder engagement sessions, we have created a social sub group that is focussing its attention on four main areas: communications, education, data sharing and volunteering
- Our stakeholders wanted a more joined-up approach in how we can help with energy advice, so we created our Infrastructure North 'Energy at Home' Booklet; 3,000 of which have been distributed to community organisations



- An additional fuel debt advisor sponsored in Leeds Citizens Advice. They will visit
 11 different community organisations per month and train up to 20 volunteers to undertake professional legal advice qualification to help reach out to more vulnerable people
- ▶ Based on feedback from our partners, we are now offering information sessions on our Priority Services Register and services for community organisations that we are working with

Robust data on our Priority Services Register enables us to target our support to our customers who need us the most



Major data cleanse of our Priority Services Register Targeted marketing campaigns to raise awareness of our Priority Services Register across press, radio, social media and in our communities







Priority Services Register to be updated at least every

2 years

Looking ahead we will...

Provide enhanced training to our staff, giving them up-to-date knowledge on how to identify vulnerability and the ways we can help

Clearly communicate and promote the services we can offer to our vulnerable customers

Use socio-economic data to help us prioritise the delivery of our social programme and recruitment to our Priority Services Register

Extend the services in our social programme that have delivered expected outcomes to more customers across our operating area

Measure our monthly performance against our Priority Services Register support targets

²⁵ The Stakeholder Engagement and Consumer Vulnerability score out of ten is an annual Ofgem assessment of our performance in this area. You can find our submission on our stakeholder website <a href="https://www.northernpowergrid.com/yourpowergr

Connecting our customers

"We've transformed our connections business this year, to help us deliver better services to our customers"

Andy Maclennan,Business Development Director



We've redesigned our connections processes and undertaken a major reorganisation to provide our customers with a higher quality service

Our commitments

In our Business Plan we committed to transform our connections business to improve the services we provide our customers.

This year we have engaged extensively with our customers, carrying out an in-depth review of what they value the most. This has culminated in a reorganisation of our teams and our processes to provide customers with a single point of contact and the support they need throughout their full customer journey with us.

How we've done

We have delivered two of our headline commitments in the year and are on-track for the remaining four including reducing routine end-to-end connections lead times by 30%.

We have been delivering against our Incentive on Connections Engagement plan (ICE). This plan, built with our major connections stakeholders, was made up of 72 actions to meet our customers' needs. We delivered the 67 that were in our direct control with the remaining five to be completed this year.²⁶

Enabling competition

Facilitating competition in the connections market is important to us. In July 2015 we established an independent team to serve Independent Connection Providers (ICPs) with the services they require from us. We have introduced independent quality assurance inspections for all new connections work for both our own work and that of ICPs. To improve transparency we now issue quarterly quality assurance performance reports to all ICPs, in which their performance is presented alongside that of their peers (anonymously) as well as alongside our work.

Connections Customer Satisfaction performance April 2015 – September 2016 ▶

Whilst our other key measures were achieved in the year, we very narrowly missed our LVSSA time to connect target and our small works connections customer satisfaction targets for quotations and delivery for 2015-16 (ranking fifth²⁷ out of six); however, we made a step-change improvement which has continued into this year (2016-17) where so far we are ranked second²⁷.

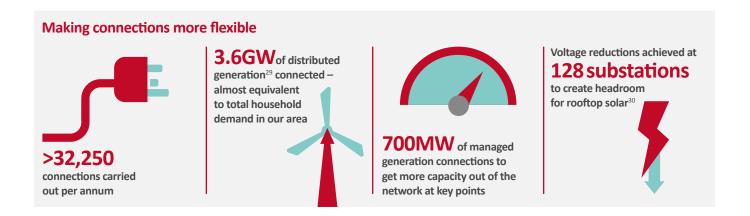


In our Business Plan we promised to	Status
Better payment terms – customers will not need to pay as far in advance	Delivered
Provide a better service for non-contestable elements of work – regularly publishing key indicators	Delivered
Reduce end-to-end connection timescales for small works by more than 30%	On track
Provide more flexible quotations, including online self-service and faster quotes	On track
Implement a tailored service for large projects, including 'account management' where needed or requested	On track
Introduce a web-based system to help customers understand the capacity on our network and the likely cost of connection	On track

- 26 You can find out more about our work in this area through our ICE Plan and our 'Get Connected' webpage at http://www.northernpowergrid.com/get-connected/
- 27 Broad Measure of Customer Satisfaction (BMCS) rank indicative only based on monthly data. Final ranking to be confirmed by Ofgem

Performance measures	2015-16 actual	2015-16 target	Status	2016-17 target	2022-23 target
Customer satisfaction rating for connections quotations	79%	84%	Missed	>85%	>85%
Customer satisfaction rating for connections delivery	82%	>85%	Missed	>85%	>85%
Average time to quote – single minor connections (LVSSA) (days) ²⁸	5.9	8.2	Achieved	8.2	8.2
Average time to quote – two to four minor connections (LVSSB) $(days)^{28}$	9.1	11.7	Achieved	11.7	11.7
Average time to connect – single minor connections (LVSSA) (days) ²⁸	42.2	42.1	Missed	42.1	42.1
Average time to connect – two to four minor connections (LVSSB) (days) ²⁸	47.6	52.7	Achieved	52.7	52.7
Performance guarantee success rate for connections quotations	99.9%	>99.8%	Achieved	>99.8%	>99.8%
Performance guarantee success rate for connections delivery	100.0%	>99.9%	Achieved	>99.9%	>99.9%

Bold: Headline measure, Non-bold: Supporting measure



Last year we improved our services to our connections customers by...

- ► Investing in our IT systems our new CRM³¹ and eAM systems³² will transform the way we work with our customers to provide better services
- ▶ Running a well-attended workshop for ICPs to discuss challenges and opportunities
- ▶ Reducing the period customers have to pay in advance of small works being carried out
- Running Connections Customer Forums twice a year, holding monthly surgeries for connections and ICP customers and providing an online Ask the Expert service
- ▶ Reducing quotation times to less than an hour where on-line self-service is used for small-to-medium jobs
- Granting permission to two ICPs to carry out connections on our high voltage network. Three projects have been completed and others are planned
- ▶ Actively engaging with Ofgem's Quicker and More Efficient Connections work, to improve queue management and get more customers connected to our network

Looking ahead we will...

Provide a single point of contact for small works customers throughout the connections process to drive improved customer service in quotation and delivery

Make it even easier for customers to refresh their quote if it goes beyond the 90 days validity period

Improve the way we provide information to our customers by regularly updating our generation and demand capacity heat maps, stakeholder updates and launch our new jargon buster

Create more opportunities for competition, run a reinforcement trial, an ICP metered disconnections pilot and implement metered disconnections for ICPs

Continue to run workshops for ICPs and metered connection customers

Improve the speed at which we respond and reconnect knocked-down street lighting

Review payment terms to improve the service we provide for charging services

Implement more tailored approaches to delivering medium and large projects, including single points of contact (account management) where appropriate

- 28 Minimum incentive targets set by Ofgem
- 29 Distributed Generation covers a wide range of generation basically everything other than the large power stations that have historically been the bedrock of generation in our country, around which the electricity network was designed; 3.6GW excludes microgeneration
- 30 This was a learning from our recent Customer-Led Network Revolution (CLNR) innovation project, also see pages 17-18 for Our smart energy programmes
- 31 CRM is our new Customer Relationship Management system, which will hold our customer records and improve our services and communications
- 32 eAM is a new geographic information system (GIS) system for our assets, which will allow teams from ICPs and our own staff and contractors to access up to date information online

Financing our business

Our shareholder's long-term approach has allowed us to make record levels of investment in the business so that we are resilient, flexible and ready to meet the challenges ahead"

Tom Fielden, Finance Director



Our long term approach is focused on reinvestment to drive performance improvements across the board

Our commitments

We are on track for our commitments and we have implemented an average 14% price cut at the beginning of the ED1 period. In our business plan we committed to a 10% price cut. Prices in this period are impacted by:

- ▶ a reduction in our annual average total expenditure by 2.8%;
- ▶ a reduction in our allowed cost of capital; and
- ▶ the lengthening of the period over which our investment is repaid from 20 years to 45 years.

Managing our costs

In order to do the best we can for all of our stakeholders under our regulatory settlement, we are carrying out cost reduction exercises across the business to find more efficient ways of working.

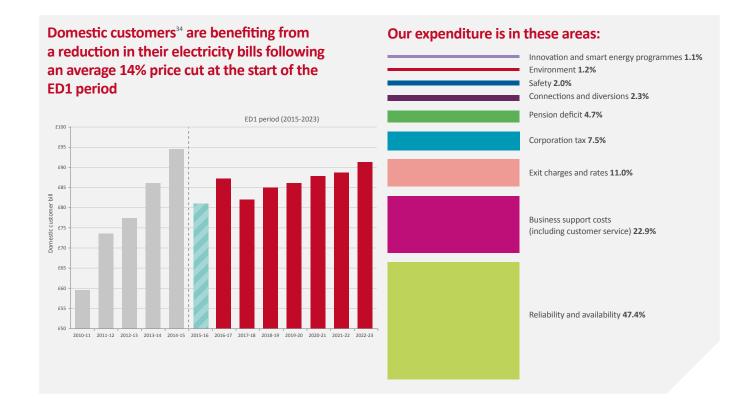
Savings we identify can then be reinvested in our business and in making our network more efficient, so that customers benefit in the long run. Our shareholder, Berkshire Hathaway Energy, takes an ultra-long term view of this and has supported this over a number of years by choosing to leave the bulk of profits within the Northern Powergrid group to fund further investment.

Financing our business

Northern Powergrid's strong credit ratings were confirmed by two agencies and upgraded by one agency to A based on their review of all Berkshire Hathaway Energy companies. Northern Powergrid retains the strongest credit ratings available to wires-only businesses in the sectors. We are able to use this strong credit rating and the backing of Berkshire Hathaway Energy to obtain debt finance at competitive rates. This year we raised £400m at an average interest rate of 2.54% fixed for 10-12 years. This low cost of finance means we can efficiently fund our investment programme.

In our business plan we said							
We will deliver an immediate 10% price reduction at the start of the period							
We expect to create 1,000 job opportunities in the organisation during the ED1 period							
Performance measure 2015-16 actual 2015-16 target Status							
New job opportunities	101	Up to 100	Achieved	Up to 100			

Some of our financial figures at a glance... 14% Price cut at the start of the year Credit rating with Standard and Poor's Cryoration tax the company paid to the UK Government VAT £58.51m R8.4% Actual Return on Regulatory Equity (RORE)³³ Employers NIC £111.97m and Employees NIC £8.43m PAYE Income tax £22.92m



Looking ahead we will...

Outperform our regulatory and internal targets

Invest in our network to drive ever-increasing performance and flexibility for the future

Maintain tight control over discretionary expenditure to retain our position as one of the most efficient DNOs

Create opportunities to grow our business and create opportunities beyond the regulated network

- 33 Actual RORE defined and explained in the glossary on page 26
- 34 Average Northeast and Yorkshire domestic unrestricted tariff charge

Our smart energy programmes

"In response to changes in the market we have flexed our smart energy programmes to improve our service to our customers"

Jim Cardwell, Head of Trading and Innovation



Our work this year has set us up well for the future with smart grids and smart meters

Our commitments

Energy companies and policy makers alike continue to try to deliver the competing priorities of security of supply, decarbonisation and cost. We have a role to play in this, centred on developing and implementing smart grids and ensuring that the benefits from smart meters are maximised for customers.

A smarter network makes use of real-time information on network performance and energy consumption, to respond to and manage demand and maintain a more efficient, affordable and low-carbon flow of energy. By doing so, a smarter network will also enable the growth of new customer technologies such as electric vehicles, renewable generation, heat pumps, amongst others.

We are on-track for all of our business plan commitments with the exception of two which have not started as we await the central system for the smart meter roll-out. Work in the year has largely been focussed on specifications as we mobilise these significant programmes of activity.

The take-up of renewable generation continues at pace

Generation showed itself to be highly sensitive to government policy when during the year feed-in tariffs and renewable heat incentives were scaled back. There has been more extra-high voltage generation (for example solar farms) but less small-scale domestic generation than forecast. Take-up of electric heating and electric vehicles has also been behind forecast. As such, so far there has been less demand than expected for both new smart solutions and for conventional reinforcement.

Smart meter foundations

The smart meter roll-out is being led by energy suppliers, but network companies have a key role in both supporting the roll-out and using smart meters as the foundation of a future smart grid to deliver enhanced services for customers. Our industry milestones have been achieved in the year and we have started work to change our business processes to deliver benefits for customers.

In our Business Plan we promised to	Status
Invest £52m in smartgrid network reinforcement that pays back by 2023 through avoiding £86m of traditional reinforcement – a net saving of £34m compared with traditional reinforcement methods	On track
Provide opportunities for customers to participate in demand-side response to reduce the cost of running the network	On track
Establish a dedicated team of technical staff to perform timely modifications to our equipment when they are needed to enable the smart meter installation to proceed	On track
Modify our trading and customer service systems to realise benefits from the new smart meter data	On track
Invest £83m in smartgrid enabling technology that, as a minimum, pays for itself by 2031 – the more likely result will be a much larger saving, possibly as high as £400m-£500m	On track
Use smart meter data to optimise network investment and reduce losses	Not started
Trial the potential for combining smartgrids and smart meter data to provide additional information services	Not started

Last year, to make our grid smarter, we...

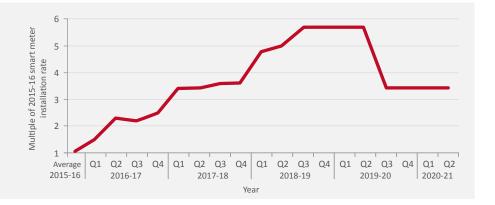
- Delivered £3.8m of cost savings to customers through provision of flexible connections
- ▶ Released spare capacity through commercial agreements and queue management. We worked with customers already connected or in receipt of connection offers to free up an additional 26MW of load and 170MW of generation capacity
- ▶ Released 160MVA for roof-top solar photovoltaic (PV) panels through voltage reduction actions at 18 primary substations
- Updated our interactive heat maps, to include demand as well as generation, and provide more visibility of capacity on the network
- ➤ Developed the capability toolkit to deliver industrial and commercial customer demand-side response as an alternative to conventional reinforcement should an opportunity become available
- ▶ Issued our first 236MW connection offer for the new replicable active network management solution at Driffield seeking to release savings of over £10m to customers

We continue to support the the smart meter roll-out by...

- Building a new data interface and meeting all industry milestones required by the central system service provider (the Data Communications Company)
- ► Improving our service level for defect resolution to deliver compliant performance from the new obligation
- in July 2016 to resolve safety defects and non-urgent faults with our equipment
- ► Having secured service contract resources through to 2020 to respond to a forecast increase in network defects adjacent to meters
- ▶ Identifying improvements in our internal business processes to deliver benefits for customers from smart meters

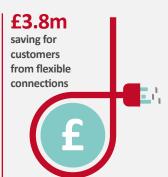
Smart meter roll-out acceleration >

Over the next few years, the installation rate of smart meters will increase. We've made preparations to ensure we can support suppliers in their installation and make best use of the data as it becomes available.



Our support for smart energy







179,000

energy supplier smart meters installed (5% of the total roll-out)

7,821
defects resolved within agreed timeframes in support of the smart meter roll-out





Looking ahead we will...

Move more people into our smart grid development unit to accelerate the roll-out of our enabling smart grid technology

Bring forward more smart solutions as alternatives to our standard business processes in order to connect more renewables at least cost

Focus on voltage control solutions that allow more renewable generation; and the development of flexible connections to assist in constrained areas of our network

Start installation of the Driffield active network management system as required by customers

Continue to offer operational support for the smart meter roll-out programme as the number of supplier installations rise

Expect to achieve fully compliant smart meter system operation status, and commence processing of data as the first full specification (SMETS2) meters come on-stream and deliver improved customer service

Protecting the environment

"We're determined to minimise our impact on the environment and in so doing we have reduced leakage from our cables as well as reducing our carbon footprint"

Geoff Earl,Director of Safety,
Health and Environment



Environmental respect is a core principle of our business and we are on track to deliver our commitments in this area

Our commitments

In our business plan we set challenging environment protection targets including delivering a 15% reduction in oil leakage from our underground cables and achieving a 10% reduction in our business carbon footprint, and we've made very good progress so far. During the year we've replaced some of our worst performing cable assets on the network to improve environmental performance, deployed innovative solutions such as cable leak tracing technologies and installed driver telematics to all our fleet vehicles.

How we've done

We're on track to deliver all of our environmental commitments with the exception of the continued provision of a revenue protection service which we have had to withdraw. In December 2015 we informed our stakeholders that we intended to cease providing a revenue protection service for energy suppliers following the decision from the key provider in our region to withdraw from this activity which meant that it was no longer practical for us to provide this optional service cost-effectively for suppliers. We received no objections and we stopped providing the service in April 2016.

In terms of our performance measures, nearly all key outputs have been achieved in the year. We made a relatively slow start to our cable replacement programme which was behind in the year and can be seen in our performance measures but we expect to have caught up and to have moved ahead of target with the year two projects that we are currently delivering. All other performance measures were achieved.

Improving visual impact

We work with National Park stakeholders and Areas of Outstanding Natural Beauty to put cables underground in some of the most attractive and environmentally sensitive parts of our operating area. From the Northumberland National Park to the Peak District, we are lucky to serve communities within some of the most beautiful and spectacular landscapes in the country.

Minimising the impact of our overhead lines on these landscapes is a priority and we are on schedule to deliver our commitment in full. Putting these assets underground is very expensive so there is a limit to how much we can do each year. To make sure we select the most suitable assets for under-grounding, we ask stakeholders to identify their preferences and priorities and to actively work with us to achieve the necessary landowner consents to successfully deliver our projects.

In our business plan we promised to	Status
Reduce oil/fluid leakage to ground by 15% by 2023	On track
Reduce our business carbon footprint by 10% by 2023	On track
Underground around 100km of overhead line in areas of outstanding beauty	On track
Make sure reduction of electrical losses is explicitly factored into investment decisions for a wider range of assets	On track
Maintain sulphur hexafluoride (SF ₆) losses as the volume of gas in our switchgear assets increases	On track
Deliver faster and higher quality street works reinstatement when we dig up the street	On track
Replace 134km of fluid-filled cables and use perfluorocarbon tracers (PFTs) to quickly replace leaks	On track
Continue to operate a full revenue protection service	Withdrawn

Performance measures	2015-16 actual	2015-16 target	Status	2016-17 target	2022-23 target
Cumulative kilometres of overhead lines undergrounded in protected landscape	16.9	12.2	Achieved	24.4	97.9
Carbon footprint (tonnes)	48,394	59,700	Achieved	59,104	53,730
Oil loss from all sources (litres)	31,753	53,245	Achieved	52,104	45,258
SF ₆ (potent greenhouse gas) lost to atmosphere (kg)	108	112	Achieved	112	112
Cumulative kilometres of fluid filled cables replaced to reduce oil losses	15.5	26.8	Missed	51.0	133.6
Street works inspection compliance (%)	94%	>90%	Achieved	>90%	>90%
Number of Environment Agency reportable incidents each year	9	29	Achieved	28	22

Bold: Headline measure, Non-bold: Supporting measure

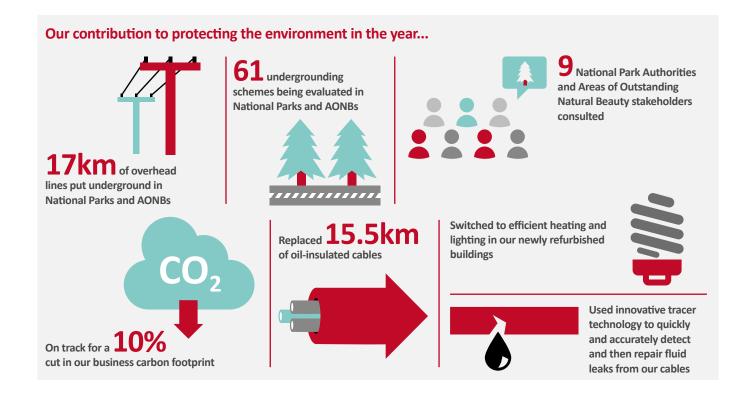
Losses

Losses are an unavoidable feature of operating an electricity network. We are committed to improving our understanding of where they occur to help us tackle the problem.

Our proposals focus mainly on improving understanding of technical or engineering

losses as opposed to those that arise due to theft or apparent losses.

Our work this year has already saved 967MWh of losses (a lifetime value of over £2.8m) following changes to our cable sizes. We were disappointed to come in fifth place out of six in Ofgem's Losses Discretionary Reward submission; however, we were granted £350,000 over two years to work with our stakeholder to deliver initiatives that will reduce electricity losses from our network.



Looking ahead we will...

Target a fuel saving of 2mpg (equivalent to a 400kg reduction in carbon) from our vehicle fleet

Continue to work with stakeholders to determine their priorities for our undergrounding projects

Continue to deliver environmental awareness training to all our employees

Catch up on our programme to replace fluid filled cables

Implement strategies that will lower the rate of electricity losses from our network

Catch up on our delivery of fluid filled cable replacement in line with targets

Innovating for now and the future

Innovation is visible across all areas of our business. Of course the introduction of smart grids is a key component of our innovation portfolio but our actions are wider and customers are benefitting in many ways"

Jim Cardwell, Head of Trading and Innovation



Our aim is to introduce new thinking and technologies to improve services to customers today and in the future

Our priorities

Most of the value created by our innovation program is the result of activity that develops new understanding and allows us to introduce new assets and processes that deliver customer benefits across all aspects of our services – both today and for the future.

Our project portfolio has grown this year, building largely on the platform established by our ground-breaking Customer-Led Network Revolution (CLNR) programme that concluded in 2014-15. We have consulted with various stakeholder groups including our stakeholder forum and connections customer forum and our four headline priorities remain the most relevant: smart grids; smart meters; digitally enabled services; and issues of affordability.

Benefits for today

Most of our innovation activity this year has focused on delivering benefits for today's customers. Digital transformation is at the heart of our ED1 business plan, so we have been investing in the capabilities that will make that happen including state of the art customer-facing, asset and smart meter systems. On the network, automation and deploying our CLNR project outcomes to release capacity are delivering further innovation benefits for today's customers.

Our separate environment report for stakeholders identifies benefits from innovation deployed this year worth £7.5m. In terms of the specific innovation funding, we spent £1.5m (of our £29m ED1 innovation allowance) with the rest of our activity funded out of our overall expenditure plans.

Benefits for the future

Looking to the future, a top priority for us in our innovation programme is to support the transition of distribution network operators (DNOs) like Northern Powergrid to a role in which we provide more local balancing through becoming distribution system operators (DSOs). To that end, we have launched a number of activities this year that focus on potential new market designs and building capabilities for the DSO role. Our projects include trading storage from our CLNR large battery unit and trialling new ways to stimulate demand-side response from domestic customers in exchange for community rewards.

Innovation is embedded in every area of our business. The table below provides references to our innovative activities that are set out in other sections of this report:

Our key innovation outputs – described throughout this report	Section of the report	Page (s)
Installation of vehicle telematics equipment in 814 fleet vehicles	Running a safe and secure network	6 and 19
Deployment of equipment that reconfigures the network in response to faults	Kaaring the Lighte on	7-8
Investment in low-voltage intelligent fuses and distance-to-fault equipment	Keeping the lights on	7-8
Digital capability increased through investment in customer service and asset systems	Improving service and connecting customers	10 and 14
Supporting the smart meter roll-out and using the new data flows		
Specification work in respect of smart grid enabling investment		
Releasing unused capacity from customers and connection offers	Our smort energy programmes	17 – 18
Delivering flexible connections and active network management	Our smart energy programmes	17-18
Developing demand side response capability		
Increased capacity for roof-top solar through voltage reduction		
Use of PFT gas to detect the source of oil/fluid filled cable leaks	Protecting the environment	19-20

Our four innovation priorities have each seen good steps forward during the year

- ➤ Smart grids development is increasingly focussed on introducing flexibility to accommodate more intermittent renewable energy. We:
- built on our CLNR project by agreeing contracts to trade the output from our large battery to build capability and understanding of provision of the services between distribution and transmission
- undertook work during the year to better understand how the local energy market might continue to develop, actively engaging with new players such as local authorities
- successfully implemented smart fuses on our low voltage networks and developed thinking to revolutionise the way in which we manage future replacement and repair work
- started new ways of managing flexible connections for generation and the low cost creation of network capacity

- ➤ Smart meter work has been focused on establishing solid foundations for some exciting new services and benefits that should be made possible by the national programme as a result of the data that will be made available. We have:
 - established a secure system to manage the data
- established a platform to make the business changes required to capture benefits for customers from go-live of the national central systems and also follow-on innovation activity to realise benefits from the new data
- ► Our main activity on the digital-enabled services agenda has been to improve our data to benefit customer service. We have:
 - enhanced the customer data we hold and improved our management of it

- worked with other energy networks through the Energy Innovation Centre to explore how we collaborate to improve data through cross-utility actions
- ► Affordability work has focussed on fuel poverty and energy efficiency
- The Alternative Investment Strategy project explored barriers to the use of energy efficiency interventions to manage peak demand instead of conventional reinforcement
- Work with Northern Gas Networks is examining the sustainable options for a community living in a multi-storey building in Newcastle
- Our social responsibility strategy has explored an ambitious set of new ways to engage and help people who suffer from multiple deprivation. More information is available on pages 11 and 12 in our Caring for our customers section

Driving benefits from innovation



Specific innovation investment in 2015-16

£1.5m



Innovation benefits in 2015-16

£7.5m

Activating Community Engagement

Our innovation projects study a wide range of issues, including looking at how technical advances and customer behaviours can combine. At any one time we have a number of projects running, and one of our most high profile in the last year has been ACE – Activating Community Engagement. This is jointly funded from our innovation allowances and Innovate UK.

Based in County Durham, ACE rewards people for making small changes to how and when they use electricity. It is testing a concept known as Demand Side Response (DSR), where residential electricity customers are rewarded if they reduce their energy usage at certain times in the day – usually when demand for electricity is at its highest.

By being flexible with their energy use, using a smart plug that receives signals through the electricity network and can be turned off, they can win individual prizes and funding for a community group or good cause.

Demand for electricity usually peaks between the hours of 4:30pm and 7:30pm. This peak demand is even higher in the winter when more lighting and heating is needed to combat the long, dark nights. Adding to this is the rising popularity of low-carbon technologies such as electric cars and heat pumps. There could be one million electric cars on Britain's roads by 2020 and if everyone on a single street simultaneously charges their vehicles or uses them to help power the grid then this could significantly change the demand on the network.

Understanding how to make the existing electricity network more flexible will keep costs down and help prepare us for the low-carbon future.



Our ACE programme works with communities in County Durham to help us understand customers willingness to reduce electricity demand in return for funding for community projects.

Looking ahead we will...

Commence innovation projects to explore the role of the future DSO which will involve collaboration with other network companies and other stakeholders to create new solutions that fit within the wider energy system

Take learnings from our initial contract to trade the ex-CLNR large battery unit to inform our DSO work as well as how to set up subsequent contracts

Commence a low voltage cable innovation project to develop enhanced condition data on low voltage cables to predict faults before they occur, reduce power cuts and reduce response costs

Working near our assets

"We provide help and advice to those customers who need it when working near our assets"

Nick Gill, Operations Director



There are times when people need our help to work near or around our assets when undertaking their own projects. This ranges from individuals working on their houses to companies making big investments in new infrastructure. Typically they make requests:

- ▶ for physical covers for overhead lines (shrouding)
- ▶ to physically move our assets (either temporarily or permanently)
- ▶ to share one of our wood poles (e.g. for a telephone line)
- ► for safety advice about working near our assets, including where our underground cables are
- ▶ to temporarily switch off the power while work is undertaken near our assets

We have been asked to specifically highlight this area as part of our annual reporting, since it has previously received less attention than core regulated services across utility companies.

What our objective is...

When giving help and advice for work taking place near our assets we aim to meet all our statutory duties and to give excellent customer service.

How we've done...

Most of these interactions form part of the general enquiries category of the customer satisfaction measure (BMCS), which we use to monitor our performance and to help to develop targeted improvements. Those who need to work near our assets rated us for four major service lines: cable plans; disconnections; diversions; and shrouding.

The scores (shown on the graph on page 24) show that our customers give 9/10 ratings, on average, for the services we can deliver quickly and responsively, like cable plans and shrouding.

Our customers give us lower ratings for more complex services, with longer lead-times, like diversions and disconnections. Using connections services as a comparator, since it involves similar quotation and delivery processes, the second best electricity distribution group scored 8.4/10 in 2015-16. But our best performing peers still achieve scores at or above the Ofgem target for similar services, so we are targeting to improve.

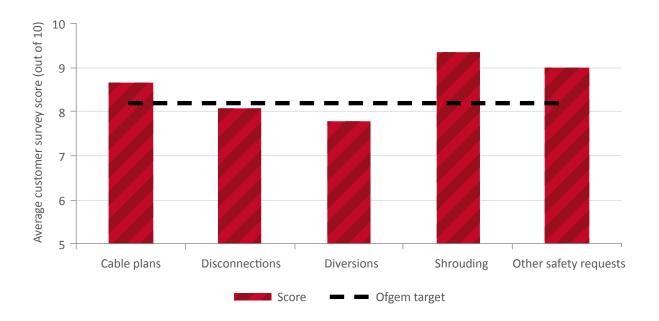
More specific feedback from our customers tells us that:

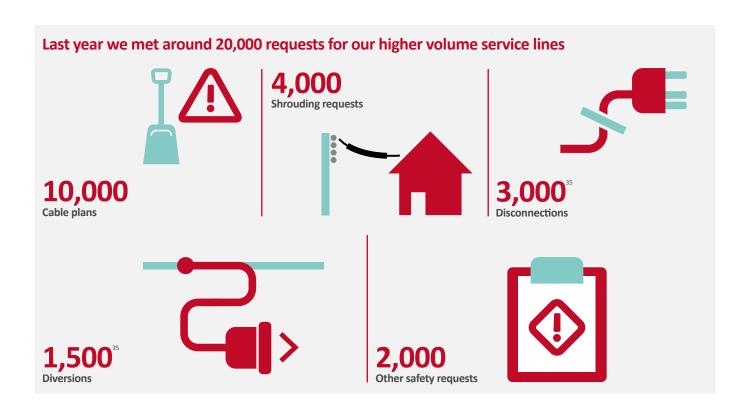
- our shrouding service almost always works very well;
- ▶ we could make our cable plan service even better through improved online access; and
- the worse scores in disconnections and diversions could be improved through many of the actions we are putting in place for our connection services.

During the course of the year we've improved our service to these customers by:

- improving our routine customer communication during interactions for most of our higher volume service lines, as well as improving our internal tracking, using our new CRM IT system;
- making targeted improvements to lead-times for our services lines;
- ▶ implementing a freephone 0800 number for all general enquiries; and
- implementing a daily management call to track disconnections performance, to manage issues more responsively and effectively.

How our customers scored us





Looking ahead we will...

Improve web-based access to our underground cable information to enable safe excavation

Make web-based appointment booking processes available for more of our service lines

Make targeted reductions to our lead times

Continue our programme of improving our diversions and disconnections processes

35 Includes quotations, estimates and delivery

Appendix

Our performance snapshots on pages 2, 27 and 28 set out one page summaries of our key measures of performance in the year.

Based on engagement with our stakeholders we have gone further than the minimum requirements in our disclosure and presentation of information to rise to the challenge of greater transparency in our performance reporting. For example, in addition to reporting our actual performance against targets, we have included our relative ranking position amongst the other British distribution network operators, our performance trends, the financial incentive rewards/penalties we have earned/incurred along with the impact of those incentives on an average domestic customer bill. We hope you find what we've done useful.

Below is a glossary explaining the meaning of each of the measures included in our performance snapshot.

Glossary		
Number of customers	3	Number of customers electricity is distributed to in Northern Powergrid's licensee areas: Northeast and Yorkshire
Total DNO network le	ngth	The total kilometres of overhead lines, underground lines and subsea cables used to distribute electricity to Northern Powergrid customers in its two licensee areas: Northeast and Yorkshire
Customer interruptions	Including exceptional events	The number of customers whose supplies have been interrupted per 100 customers per year over all incidents where an interruption of supply lasts for three minutes or longer, excluding reinterruptions to the supply of customers previously interrupted during the same incident, including any interruptions caused by exceptional events. An exceptional event is an event which is beyond the reasonable control of the licensee but does not include weather conditions which are reasonably expected to occur
	Excluding exceptional events	As above, but excluding any interruptions caused by exceptional events
Customer minutes	Including exceptional events	The duration of interruptions to supply (or the average customer minutes lost per customer per year) where an interruption of supply lasts for three minutes or longer. It includes any interruptions caused by exceptional events. (see exceptional event description above)
lost	Excluding exceptional events	As above, but excluding any interruptions caused by exceptional events
Incentive performance	£	Electricity distribution companies are incentivised on the number and duration of network supply interruptions versus a target derived from benchmark industry performance. This figure represents the financial reward/(penalty) earned or measured on network interruptions in Ofgem's Interruption Incentive Scheme (IIS)
reward/(penalty) – IIS	£/domestic customer bill	How much the above incentive reward (or penalty) will add to (or take off) the bill for an average domestic consumer in 2017-18
Overall Broad Measur Satisfaction Score	re of Customer	Northern Powergrid's Broad Measure of Customer Satisfaction (BMCS) score and rank on Ofgem's customer satisfaction measure. It is based on a customer satisfaction survey and is designed to drive improvements in the quality of the overall customer experience by capturing and measuring customers' experiences of contact with their electricity distribution company
Incentive performance	£	Value of the Ofgem Broad Measure of Customer Satisfaction (BMCS) reward/(penalty), a financial incentive on customer satisfaction, excluding stakeholder engagement rewards
reward/(penalty) BMCS	£/domestic customer bill	How much the above incentive reward (or penalty) will add to (or take off) the bill for an average domestic consumer in 2017-18 $$
Time-to-quote (days)		The average number of days from a connection application being received to a connection quote being issued for single low-voltage minor connections (LVSSA)
Time-to-connect (day	rs)	The average number of days from acceptance of a connection quote by a connectee to the completion of the necessary electrical works, to the point it would be possible to energise (subject to installation of an appropriate meter), for single low-voltage minor connections (LVSSA)
Incentive performance	£	Value of the time to connect financial incentive for single low-voltage minor connections (LVSSA) and two to four minor connections (LVSSB)
reward/(penalty) – connections lead time	£/domestic customer bill	How much the above incentive (or penalty), will add to (or take off) the bill for an average domestic consumer in 2017-18
Incentive on Connections	£	Value of the Ofgem ICE penalty: a connections engagement financial incentive for major connections customers (metered demand connections, metered distributed generation and unmetered connections)
Engagement (ICE) penalty (if applicable)	£/domestic customer bill	How much the above incentive penalty will take off the bill for an average domestic consumer in 2017-18
Stakeholder Engagem Consumer Vulnerabili		Northern Powergrid's Stakeholder Engagement and Consumer Vulnerability (SECV) score and rank as part of Ofgem's customer satisfaction measure

Glossary (continued)		
	£	Value of the Ofgem SECV reward, a stakeholder engagement financial incentive
Incentive reward	£/domestic customer bill	How much the above incentive reward will add to the bill for an average domestic consumer in 2017-18
Unrestricted domestic	•	The distribution element of the bill for an average domestic consumer in 2015-16, excluding the cost of a special rebate given by some electricity distribution companies in 2014 and 2015 (in accordance with the government 2013 Autumn statement) to help reduce energy bills. The average domestic consumer is assumed to use 3,100kWh per annum. The calculation assumes 365 days in a year
	£	This is Ofgem's regulatory total expenditure (or 'totex') measure, which includes many of the costs incurred by electricity distribution companies, but excludes costs over which companies have no control, and which also nets off proceeds from the sale of assets. This measure is used as the basis for calculating how much the company has spent on operating and investing in its distribution business, and companies are incentivised to minimise it whilst at the same time delivering all the required outputs
Total expenditure	% of cost allowances	How much the company has spent of its totex allowances for the year. If the percentage is lower, a company has either been successful in reducing how much it costs to deliver its outputs, or has not delivered some of its outputs (which would lead to a reduction in its future allowed revenues)
	% of allowed revenue	How much of its allowed revenues a company used to fund its totex expenditure, before covering other day-to-day costs that are excluded from totex and repayments of previous investments
Dividends paid		Dividends paid in the year
Gearing		A ratio measuring the extent to which a company is financed through borrowing. Ofgem calculates gearing as the percentage of net debt relative to the Regulatory Asset Value (RAV)
Credit rating		An evaluation of a potential borrower's ability to repay debt. Credit ratings are calculated from financial records including and current assets and liabilities. There are three major credit rating agencies (Standard & Poor's, Fitch and Moody's) who use broadly similar credit rating scales, with D being the lowest rating (highest risk) and AAA being the highest rating (lowest risk). The companies regulated by Ofgem typically have a credit rating of BBB, BBB+, A- or A
		The return on regulated equity (RORE) measures how much a company has earned on previous investments in its regulatory assets (RAV) that have been funded by shareholders in the regulatory settlement. This starts with the base return which Ofgem allowed, to reflect the cost of equity in capital markets, and is adjusted for the value earned via any incentive schemes to reflect performance, and any difference between how much the company's debt finance cost compared to Ofgem's assumption. This is stated in real terms, i.e. before inflation is added
Actual Return On Regu	ulatory Equity	Actual RORE, refers to the view of return on regulatory equity calculated using the actual debt and gearing level of the network company, as opposed to Ofgem's notional assumptions. Ofgem assumed a real rate of return on equity of 6% during the year. We arrive at our overall return of 8.4% by:
– RORE (vs Ofgem assumption of 6%)		▶ Performing well on restoring supplies to our customers which under the IIS incentive mechanism (explained on page 25) generated a return of 2.3% in the year
		▶ Achieving a reward under the Broad Measure of Customer Satisfaction (also explained on page 25) which provided an additional return of 0.5%
		▶ Our totex for the year being very close to allowances. We are currently projecting to spend in line with ED1 allowances over the price control
		▶ Legacy debt that we hold means we are unable to match Ofgem's cost of debt assumptions, reducing our return by 0.4%

Performance Snapshot

Northeast





Reliability and Availability		Actual 2015-16	Target ³ 2015-16	Status	Trend ²
Contain a sinta mandian a	Excluding exceptional events	55.4	59.8	Achieved	A
Customer interruptions ⁴	Including exceptional events	63.8			A
Customer minutes lost ⁴	Excluding exceptional events	43.3	54.8	Achieved	A
	Including exceptional events	56.8			A
Incentive performance reward/ (penalty) – IIS ⁵	£	£7.50m			
	£/domestic customer bill	£2.43			



Customer Satisfaction	Actual 2015-16	Target ³ 2015-16	Status	Trend ²	
Overall Broad Measure of Custome score out of ten (rank out of fourted		8.41 (10th) 8.20 📀 A		Achieved	A
Incentive performance reward/	£	£0.66m			
(penalty) – BMCS ⁷	£/domestic customer bill	£0.21			



Connections		Actual 2015-16	Target ³ 2015-16	Status
Time-to-quote (days) ⁸		5.72	8.21	Achieved
Time-to-connect (days) ⁸		40.15	42.08	Achieved
Incentive performance reward/ (penalty) – connections lead time	£	£0.55m		
	£/domestic customer bill	£0.18		
Incentive on Connections	£	Nil		
Engagement (ICE) penalty (if applicable)	£/domestic customer bill	Nil		



Social Obligations	Actual 2015-16	
Stakeholder Engagement and Consumer Vulnerability (SECV) score out of ten (rank out of six) 6.5 (5th		6.5 (5th)
In continuous and	£	£0.55m
Incentive reward	£/domestic customer bill	£0.18



Innovation

the end of 2014-15. Our four priorities of

to be most relevant to our stakeholders



Our innovation projects have grown this year from the platform established by our groundbreaking Customer-Led Network Revolution (CLNR) programme of work that concluded at smart grids, smart meters, digital-enabled services and issues of affordability continue



We equalled our best-ever performance on safety. We complied with Health and Safety Executive (HSE) legislation, hit our Occupational Safety and Health Administration (OSHA) accident rate target (0.25 against our target of 0.36) but narrowly missed our RIDDOR target measure (0.16 against our target of 0.1)



Environmental Impact

2015-16 was our best-ever year on environmental protection, achieving our headline targets for both oil losses from cabling and carbon footprint. We were awarded £175k in the Losses Discretionary Reward Submission which will be reinvested in the coming years to further reduce losses



Financials		Total
Unrestricted domestic tariff char	£86.50	
	£	£176.9m
Total expenditure	% of cost allowances	97%
	% of allowed revenue	68%
Dividends paid ¹⁰		£20.6m
Gearing ¹¹		51.6%
Credit rating ¹²		A3/A/A-
Actual Return On Regulatory Eq (vs Ofgem assumption of 6%)	uity – RORE	8.1%

- 1 All financial figures in 2012-13 prices
- Trend ▲ getting better ▼ getting worse since 2014-15
 Ofgem target (see commentary in the main body of the report for performance against our own targets)
 Unweighted figures. Indicative figures as at July 2016, final figures still to be confirmed
- Excluding guaranteed standards payments
- Broad Measure of Customer Satisfaction (BMCS) rank indicative only based on monthly data. Final ranking to be confirmed by Ofgem
- Does not include SECV reward LVSSA (single minor connections)
- Excludes the domestic customer rebate
 Dividend paid figure relates to dividend from the licensee company
- 10 Gearing figure relates to gearing of the licensee company
 12 Credit rating relates to the scores for three credit rating agencies (Moody's/Standards and Poor's/Fitch) for the licensee company

Performance Snapshot

Yorkshire





Bulliote Manager Associated Manager		A -1 -12045 46	T 13 204 F 4 C	Clark	-
Reliability and Availability		Actual 2015-16	Target ³ 2015-16	Status	Trend ²
	Excluding exceptional events	51.2	66.7	Achieved	A
Customer interruptions ⁴	Including exceptional events	52.8			A
Customer minutes lost ⁴	Excluding exceptional events	38.0	57.5	Achieved	A
	Including exceptional events	42.8			A
Incentive performance reward/	£	£13.50m			
(penalty) – IIS ⁵	£/domestic customer bill	£2.83			



Customer Satisfaction		Actual 2015-16	Target ³ 2015-16	Status	Trend ²
Overall Broad Measure of Custome score out of ten (rank out of fourted		8.33 (12th)	8.20	Achieved	A
Incentive performance reward/	£	£0.70m			
(penalty) – BMCS ⁷	£/domestic customer bill	£0.15			



Connections		Actual 2015-16	Target ³ 2015-16	Status
Time-to-quote (days) ⁸		5.93	8.21	Achieved
Time-to-connect (days) ⁸		43.40	42.08	Missed
Incentive performance reward/	£	£0.70m		
(penalty) – connections lead time	£/domestic customer bill	£0.15		
Incentive on Connections	£	Nil		
Engagement (ICE) penalty (if applicable)	£/domestic customer bill	Nil		



Social Obligations		Actual 2015-16
Stakeholder Engagement and Consumer Vulnerability (SECV) score out of ten (rank out of six) 6.5 (5		6.5 (5th)
In a setting record	£	£0.80m
Incentive reward	£/domestic customer bill	£0.17

Safety



Innovation

Our innovation projects have grown this year

from the platform established by our ground-

breaking Customer-Led Network Revolution

the end of 2014-15. Our four priorities of

smart grids, smart meters, digital-enabled services and issues of affordability continue

to be most relevant to our stakeholders

(CLNR) programme of work that concluded at



We equalled our best-ever performance on safety. We complied with Health and Safety Executive (HSE) legislation, hit our Occupational Safety and Health Administration (OSHA) accident rate target (0.25 against our target of 0.36) but narrowly missed our RIDDOR target measure (0.16 against our target of 0.1)



Environmental Impact

2015-16 was our best-ever year on environmental protection, achieving our headline targets for both oil losses from cabling and carbon footprint. We were awarded £175k in the Losses Discretionary Reward Submission which will be reinvested in the coming years to further reduce losses



Financials		Total
Unrestricted domestic tariff cha	£77.20	
	£	£233.8m
Total expenditure	% of cost allowances	97%
	% of allowed revenue	70%
Dividends paid ¹⁰		£27.6m
Gearing ¹¹		51.2%
Credit rating ¹²		A3/A/A-
Actual Return On Regulatory Ed (vs Ofgem assumption of 6%)	quity – RORE	8.6%

- 1 All financial figures in 2012-13 prices
- 2 Trend ▲ getting better ▼ getting worse since 2014-15
 3 Ofgem target (see commentary in the main body of the report for performance against our own targets)
 Unweighted figures. Indicative figures as at July 2016, final figures still to be confirmed
- Excluding guaranteed standards payments
- Broad Measure of Customer Satisfaction (BMCS) rank indicative only based on monthly data. Final ranking to be confirmed by Ofgem
- Does not include SECV reward LVSSA (single minor connections)

- Excludes the domestic customer rebate
 Dividend paid figure relates to dividend from the licensee company
- 11 Gearing figure relates to gearing of the licensee company
 12 Credit rating relates to the scores for three credit rating agencies (Moody's/Standards and Poor's/Fitch) for the licensee company



Contact us regarding our report

We always 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

yourpowergrid@northernpowergrid

On twitter

@northpowergrid (for power cut information and advice)

@powergridnews (for information about the company and the work we do in communities)

■ Via our online community

northern-power grid. explain on line. co.uk

And online at:

www.northernpowergrid.com

Connections enquiries

Sy telephone 0800 011 3433

By email

getconnected@northernpowergrid.com

General enquiries

S By telephone 0800 011 3332

By email

cus.serv@northernpowergrid.com

