

# Our Performance 2019/20

## nationalgrid

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## Welcome-Executive Summary from Nicola Shaw, Executive Director



The aim of this report is to highlight the work that National **Grid Electricity Transmission** (NGET) has carried out in 2019/20 and share our plan for the future. 2019/20 was a huge vear of stakeholder interaction for us – indeed we had more interaction with you than we ever have before and are grateful for the contributions you made. In December 2019 we submitted our business plan to our Regulator which reflected these stakeholder views and received the draft determinations from the Regulator, Ofgem, in July 2020. We are disappointed with the draft, which does not reflect stakeholders' views and risks network resilience, the move to net zero and investment in the business. We are therefore responding strongly to Ofgem, providing more evidence where we can, and making detailed proposals for changes to avoid these problems and ensure that stakeholders priorities are reflected in what we deliver in the future. Many stakeholders have also expressed their views to Ofgem directly and I am grateful for that too. Thank you all.

This report focuses more on what we have done to keep our network safe and reliable during 2019/20 and what steps we are taking to meet challenging environmental targets to achieve a lower carbon future. I am proud to report our Electricity Transmission business has continued to perform solidly for our customers and ultimately for end consumers by delivering safe, efficient, and reliable transmission services in 2019/20.

On 9th August 2019, the UK was severely affected by a number of unforeseen and coincidental outages to the electricity system. Whilst this event was due to a rare and exceptional combination of circumstances, we were able to restore power within 7 minutes. The system did the job that it was designed to do – by protecting many more millions of customers nationwide from potential loss of power. This highlighted the need to continue our coordinated approach to keeping the lights on, working with the Electricity System Operator, other Transmission Owners, and the Distribution Network Owners.

The report details the work we have done to improve customer service during the year including further embedding our behavioural principles of Care, Agility, Transparency, earning Trust, and delivering Value into our customer journey delivering improved customer and stakeholder satisfaction. As part of our customer transformation programme we continue to improve our performance in all areas, whilst expanding our reach across more customers and stakeholders than ever before. We have also seen an increase in the number of new applications to connect to the system - and the requirements of these new customers are very different from those who wanted to connect previously - they tend to be

requesting smaller connections, have less experience in the electricity industry, and want to achieve their connections faster than we have seen previous customers requiring. We have therefore increased the resources in our connections team and been developing new digital tools to help the process.

We've continued to play a central role in the decarbonisation agenda, making investments that support the connection of new generation technologies, and responding to changing patterns of demand. For example, the East Coast development has seen some good progress this year, working closely with the Scottish TOs to complete an initial need case submission to Ofgem. This project will deliver networks supporting the connection of renewable generation, primarily wind, in Scotland onto the transmission network and delivering the power they generate to customers who need it in the south. This generation is forecast to increase year on year as part of the Future Energy Scenarios analysis, contributing to our net zero target and reducing costs for our customers. Our work leading and supporting Government in developments in electric vehicle (EV) charging has continued apace, including writing policy for Government and developing the motorway network charging network.

We have continued to invest in the network for the benefit of current and future consumers. This has meant that through improved understanding of our assets and how they will be used to serve customers we have optimised our investment plans to deliver cost savings now, and into the future, replacing our assets only when there is both a solid economic and an asset health need case. These investments will also help secure long-term system reliability, which our customers have told us they value. Further detail on our customer feedback is in the outputs section of the report.

We have developed innovations and efficiencies in delivering our plans so far in RIIO-T1. These have been embedded as business as usual for the rest of T1 and into our plans for future price controls. We have improved our understanding of our assets' health, carried out targeted replacement programmes, driven down costs in our supply chain and are strengthening the electricity network with an innovative "no build" technology. You can read more about this in the outputs section of the report.

We could not have achieved all of this without our team — a diverse and inclusive group of skilled employees. Thank you all. Although this report covers 2019/20 I am writing in September and hence cannot let it go without also thanking their team for their swift response to the pandemic and all the changes to the ways of working that have had to be put in place to ensure that we protect ourselves and the NHS. Teams in operational roles, in our critical control rooms and all of the support teams have worked differently — with new PPE and testing, living away from their families, working from home for example — and have enabled us to continue to achieve **our** 

**purpose of bringing energy to life** during this critical time. I hope you find this report informative and welcome your feedback on how we can improve our reporting in the future.

Nicola Shaw Executive Director



## The infographic below highlights how we are performing compared to the primary outputs in the RIIO-T1 framework.

#### Safety

Met all legal and health and safety requirements. Injury frequency rate world class

#### Environmental

SF<sub>6</sub> leakage below allowed lev in each year of RIIO to date. Business carbon footprint reducing

**Network Availability** Network Access Policy (NAP) in place delivering efficiencies in system outage planning. Our costs contribute to c.3% of average domestic customer bill 8 year spend - £10.08bn 8 year allowances - £12.56bn

#### **Customer Satisfaction**

Increase in both customer and stakeholder satisfaction scores for 2019/20 to their highest in RIIO-T1 so far.

#### Reliability

Minimal Energy Not Supplied - over 99.99997% system reliability. Network Replacement Outputs of network risk on target for 2021.

#### **Generation and Demand**

Both generation and demand connections for new customers are lower than we forecast at the start of RIIO. Reductions in allowances led to lower than forecast impact on customer bills.

#### **Customer Connections**

Met all customer requirements to connect to the transmission network so far in RIIO.



Content

Detail

## High level review of 2019/20

This year our electricity transmission business has again continued to deliver strongly on our five primary RIIO output areas: Safety, Reliability, Customer Satisfaction, Connections and Environment.



**Safety** - This continues to be our number one priority. We are proud to report that our injury frequency rate (IFR) has improved once again to 0.05 (compared to 0.07 in 2018/19) which is

world class performance. This continued improvement has been delivered through working closely with our contractors to deliver further improvements in their safety performance, whilst keeping up a focus on staff safety programmes and process improvements. In June 2019, we received a fine relating to the serious incident in 2016 where one of our employees, tragically died while carrying out his work. His death sent shockwaves through our business and we have made changes to our working procedures. We live our safety ambition every day, challenging ourselves to stop tragedies like this from happening again.



**Reliability** - the total energy not supplied in 2019/20 was 54.5MWh. This result is slightly above our average loss of 37.3MWh over the RIIO-T1 period. This result represents an overall level of **network**  **reliability** of **99.99997%.** Our stakeholders tell us this high level of reliability continues to be important to them. The loss of power on August 2019 led to an investigation by Ofgem looking at the causes and the response of licenced parties. This concluded that following the initial lightning strike and subsequent loss of generation, that our network acted as expected and that we had met our obligations.

Page



**Customer satisfaction** - we are extremely proud that our continual improvements in customer service have again led to an increase in customer satisfaction ratings. Each year, our customers and stakeholders are surveyed by an independent provider. The score has increased to 8.21 from last year's 7.92 (and a T1 average of 7.57). This improvement reflects the focus and hard work across our whole business to improve the way we provide the experience our customers value. Our stakeholder satisfaction score has also increased from 7.92 to 8.64 and now reflects the opinion of a much broader set of stakeholders than ever before.



**Connections** - working closely with the Electricity System Operator (ESO), we have continued to deliver all contracts within the required timeframe. We sent out 176 offers in 2019/20 compared to 186 in 2018/19. We are proud that we have been able to successfully deliver this level of connection requests on time alongside improving customer satisfaction levels.

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**Environment** - work has begun on site on the first major visual amenity project approved last vear. This will remove 22 pylons from the landscape in the Dorset Area of Outstanding Natural Beauty (AONB) and replace them with an underground cable to enhance the visual amenity of this protected landscape with completion planned for 2022. We are continuing to develop two other stakeholder prioritised projects in the Peak District National Park and Snowdonia National Park. Work has also begun on a similar project in the North Wessex Downs AONB as

requested by the VIP Stakeholder Advisory Group.

On the other hand, we are disappointed that we have had our worst year in RIIO-T1 in SF6 leakage from our equipment, albeit still less than the forecast. This is important because we want to reduce our emissions of greenhouse gases due to the environmental damage that it causes. The increase was caused mainly by pre-emptive actions taken by our operational staff as the likelihood of lockdown due to COVID-19 became evident. We are confident that the initiatives and process improvements that we have in place will return us to the much lower levels of leakage that we had in the first five years of RIIO-T1.



Financials - We plan to invest almost £10.1bn in our network over the RIIO-T1 period. This investment maintains or replaces our assets to keep reliability high, as well as improving the network to facilitate our customers' connections to it, and to pay the operational costs of the business. These costs are recovered from our customers; electricity Suppliers, Generators, large electricity users, and distribution companies and the costs are then passed onto the end consumers' bills as network charges. When customers' needs change and investments are no longer required, we amend our plans accordingly. One of the ways that we are funded is via an uncertainty mechanism, this automatically reduced allowances

by £2.4bn over RIIO-T1 as customer needs changed and we changed our planned investments.

On top of this reduction, we have voluntarily deferred almost £0.7bn of allowances into future price controls. We deferred the allowances because there are pieces of work that are no longer required in RIIO-T1, but will be in the future. This provides further savings on bills. We also deliver value through the totex incentive mechanism (a way of sharing savings or overspend with customers) which has meant we have strived to innovate to drive down costs for customers and end consumers. For instance, we have used our engineering expertise to find ways to increase the lifespan of our assets. We are spending less money than we forecast at the start of RIIO-T1 whilst still delivering the output agreed. These innovations, along with the other initiatives and efficiencies, will reduce customer charges by a further £1.32bn which will lower the consumer bill.



#### £10.1billion

The amount we are spending in RIIO-T1 to maintain and improve the electricity network

Around 3% or **£23.17** of a domestic electricity bill is attributable to NGET's costs

#### £4.8billion

The amount that is returned to customers through efficiencies, output reductions or deferred allowances in RIIO-T1

## **Looking forward**

We submitted our RIIO-2 business plan in December 2019. This submission was the culmination of 3 years of effort, working with stakeholders, customers, and consumers in building our well justified plan for over £7bn of investment in the electricity network over the 2021-2026 period



We have worked for seven years during RIIO-T1 on delivering the right outputs (e.g. connecting customers or replacing assets), at the right time, while improving the way that we work with our customers and stakeholders. The efficiencies and innovations that we have successfully managed in T1 are 'baked into' the T2 plan so consumers will continue to benefit from these in the future:

- We commit to continue giving stakeholders and consumers a stronger voice. We've used their input to build our plans. By broadening the scope and reach of our engagement, we can be more confident than ever before that we are being a purpose led, stakeholder focussed organisation.
- We want to enable the energy system of the future. Embedding innovation in the way we work when we

reinforce the transmission system will help us achieve net zero targets, at the lowest cost. Collaborating across organisational boundaries, enabling competition in network solutions, and proposing options that enable the decarbonisation of power, transport and heat are all key to this transformation.

- We want to become a more customer centric business, helping our many customers connect and use the transmission network. We will innovate in what and how we plan connections and meet our customers' needs to achieve this.
- Our stakeholders value how we maintain a safe and reliable electricity system. Our network needs to be available to our customers when they need it so they can provide secure power supplies to consumers. This means that we will monitor our assets' condition, and intervene at the right time to maintain. refurbish, or replace them. We also want to protect our network from external threat, whether physical attack on our assets, the effect of extreme weather events, or cyber attacks.
- We believe in a future that is clean, green and thriving. We are a responsible business and want to improve the environment and serve communities and society. We want to contribute to tackling climate change, reduce waste, improving the natural environment, and improving the visual impact of our assets.
- We have developed our innovation strategy with our stakeholders to find a better way to deliver cleaner and cheaper energy. Everything that we do, from continuous improvement, through to step



change technological advances are focussed on delivering on this stakeholder priority.

 Overall, we want to deliver value for money. We are embedding the innovations and efficiencies from T1 and are committing to find future efficiency. Our costs have been independently benchmarked and are in line or better than current benchmarks.

> **£7.1 billion** - the amount that we are **committed to investing** in RIIO-2 to maintain and improve our electricity system and drive toward net zero

Watch videos and read more about our business plans at

## A message from the independent user group



Trisha McAuley OBE Chair of Independent User Group

It is now over two years since I became Chair of the Independent User Group for National Grid Electricity Transmission (NGET). Most of the group's work todate has been focused around National Grid's RIIO-2 business plan, and making sure it reflects what stakeholders, including consumers, need from the network. We are content that it is a stakeholder-led business plan with a good focus on outcomes for consumers, notwithstanding a few areas where we felt improvement was required and for which we raised specific challenges.

More recently, our attention has been focused on Ofgem's RIIO-2 draft determination consultation. Again, our role here has been to help ensure that stakeholders' needs will be properly, and efficiently, met by the RIIO-2 framework and allowances.

With Ofgem's final determination still a couple of months away, we continue to be involved in the RIIO-2 price control process, but our focus during the past few months has also started to switch to our enduring, businessas-usual role. This performance report, although mainly focused on RIIO-T1, is a timely opportunity to share details of how we have been working with NGET this year and how we will work with them going forward.

Firstly, we were pleased that NGET took the early decision to make the group's role an enduring one. We see this as a positive indication of their commitment to being a stakeholder-focused organisation. We have worked with them over the past months to agree the nature of our enduring role, establish the appropriate governance and commence the discussion on forward agendas. One of our first topics is their digitalisation strategy, which we are reviewing in October.

Alongside this, we've been recruiting to refresh the membership of the Group, especially as a few members completed their tenure with the



Group following the submission of the User Group report to Ofgem in December 2019. Changing members from time to time helps keep the group fresh and brings new perspectives. I'm incredibly grateful for the contributions of those who have left and I'm also very pleased to welcome some new faces – we continue to have a good, representative balance of NGET's stakeholders.



A key requirement of the group is ensuring we continue to have an independent role, challenging NGET and holding them to account against the commitments they make. We should never become 'their' group – keeping our independence and continuing to be the voice of stakeholders is vitally important.

We've also spent time since the start of 2020 reviewing and appraising NGET's proposed enduring approach to stakeholder engagement. We're pleased they remain committed to enhanced engagement, and we're currently agreeing metrics with them so we can hold them to account on all of their RIIO-2 commitments. Our role is not to duplicate that of Ofgem, but we expect National Grid to deliver on the promises it has made to its stakeholders. Starting next year, we will publish an annual report to share details of our assessment.

## Who we are and what we do NGET

#### We are now solely a

Transmission Owner (TO) since we legally separated the System Operator (ESO) from the business. This means that National Grid Electricity Transmission (NGET) owns the electricity transmission network in England and Wales that's the high-voltage network connecting electricity generators to distribution networks and largescale consumers. Other TOs own and operate the Scottish, offshore, and interconnector networks that make up the rest of Great Britain's transmission network. The separate ESO operates Great Britain's entire electricity transmission system, including the Scottish and offshore networks.



We take electricity from power stations across the country, many in remote areas, and transport this to centres of demands. We then transform this high-voltage electricity at our substations that then connect into other companies' substations to transmit into **local distribution networks (DNOs)** to deliver electricity at a lower voltage to homes and business. Finally, there are companies that send end consumers their bills, these are the **suppliers** and

consumers can choose who they get their electricity from and pay their bill to.



Our role is to connect people to the energy they use – whether it's heat and light for their homes or to keep factories and offices running. As society continues to become ever more reliant on electricity for every aspect of modern life, we have a central role to play in meeting one of Britain's biggest challenges: providing secure and affordable energy while also meeting ambitious low-carbon energy targets and connecting new sources of energy to the people who use them. The unprecedented rate of change in the energy landscape means we must be adaptable and responsive. That's why we invest efficiently to provide world-class reliability and to enable customers to connect to the network. We also promote the development and implementation of sustainable, innovative and economical energy solutions that will help us achieve security of supply.

At the heart of our business plan is the delivery of an affordable electricity transmission network that meets our stakeholders' needs in terms of energy security and environmental considerations.

Over the next decade, we expect to continue our work to modernise the country's energy infrastructure. We know that building new assets or refurbishing existing ones will have an impact on our customers and stakeholders and so we believe the best way forward is to involve them as soon as possible in the decision-making process.



## Components of a power system

Component	What part it plays in the power system
Generators/Power Stations	The conversion of low grade energy (coal, gas, wind, solar etc) into electricity
Transmission	The process of moving large volumes of energy across long distance at high voltage. In England and Wales, this voltage is mainly 275kV or 400kV. We are the Transmission Owner (TO) in England and Wales. There are a further two TOs in Scotland. There are also offshore TOs that own the network connecting offshore windfarms to the onshore system
Distribution	Distribution Network Owners (DNOs) are companies that distribute power to homes and businesses through local networks at 132kV and below
Transformer	These step up or down the voltage of the electricity as it is transmitted from power stations through the transmission and distribution networks for use in homes and businesses. Using transformers to transmit power at high voltage allows us to reduce 'losses' on the system. We have almost 800 transformers on our network and are replacing 80 of them during RIIO-T1 to maintain a reliable system
Reactor	Similar in construction to transformers although these are used to control voltage of the power system to keep it within stable levels. There are 180 reactors on our network and we are replacing or adding over 30 during this price control
Switchgear	Equipment that is used to switch transmission and distribution equipment in and out of service. Under fault conditions these react within milliseconds to remove equipment to maintain a safe and secure system. We have almost 3000 on our network and are refurbishing or replacing over 1000 during this price control
Underground cable	Used in built-up areas, subsea, or to reduce visual impact. Cables transmit the electricity. They can be either directly buried in the ground, or in specially constructed tunnels. We have over 600km of cable on the network and are replacing almost 100km of this during RIIO-T1
Overhead line (OHL)	These are wires used for transmitting electricity that are suspended from pylons. These are normally much more economical than underground cables because the majority of insulation and cooling is provided by air. We have over 14,000km of OHL in England and Wales and are refurbishing or replacing over 1,200km of this in RIIO-T1
Substation	Where our cables and OHL circuits connect with transformers to supply DNOs or connect power stations, or with each other for onward transmission of electricity to areas of higher demand
Protection and control	Protection systems automatically remove faulted equipment to prevent system instability. Our control systems also allow us to switch equipment in and out of service manually, so we can direct power flows and maintain our network



## Fundamentals of RIIO. Revenue =



## **RIIO** introduces a range of new principles that are relevant to our performance

RIIO-T1 started in 2013/14 and lasts for eight years. Under this regulatory framework, we have a set of outputs to deliver that we have agreed with stakeholders. We deliver these outputs in return for an efficient revenue allowance that we have been set by Ofgem, our regulator. RIIO also introduced a range of new principles which drive our performance, so we've outlined them below.

## Risks and benefits are shared with customers

One of the principles of the RIIO framework is to align the interests of National Grid with those of consumers through the sharing of risks and benefits. This means that, for every pound we save, 53p of the benefit is promptly passed on to end consumers through lower network charges. This ensures National Grid is driven to find efficiencies to reduce costs and consumers benefit in both the short and long term.

## Incentives are encouraging better ways of working

We are encouraged to improve our work across different areas of our operations through a range of incentives agreed as part of the RIIO framework. For instance. stakeholders want us to improve how we work with them and our customers and we receive rewards or penalties depending on how we perform. There are other incentives to improve our environmental performance (SF<sub>6</sub> leakage) and the reliability of our supply to the distribution networks and other customers (Energy Not Supplied). We are changing the way that we work to meet the outputs that our stakeholders tell us are important to them.



## Finding a way to innovate in everything we do

The RIIO framework provides a stimulus package to support innovation: The Network Innovation Allowance (NIA); the Network Innovation Competition (NIC); and the Innovation Roll-out Mechanism (IRM). Innovation is not only at the heart of the RIIO regulatory framework but also at the heart of everything that we do. There are many examples where we have identified improvements because the innovation funds are exploring and driving benefits for consumers through innovation projects.



#### Flexible and fixed allowances

In some areas (like connecting customers to the electricity system) the costs to be incurred and outputs to be delivered over the current RIIO period were uncertain at the start because the extent of the work involved wasn't clear at that time. So, our allowances flex using an "uncertainty mechanism" reflecting changing customer requirements. There's also a fixed allowance for the maintenance and asset replacement work that's needed to continue to provide a safe and reliable electricity network, and to keep the current level of network reliability.



## Customer bill - how RIIO revenue affects the domestic electricity bill

So what does this mean for the end consumer? Our revenues are recovered through the ESO charging our customers for the services we provide. Ofgem reports that Network costs for both transmission and distribution make up about 23% of the domestic electricity bill that consumers receive from their supply company. Of this total bill only 4% or £23.17 is attributable to National Grid's TO costs. For less than the average cost of a High Street cup of coffee each month, consumers get the benefit of almost £1bn of transmission network investment each year.

Ofgem's RIIO framework has ensured over half of the efficiency savings that we have reported on are passed to customers resulting in lower network charges, and therefore lower electricity bills. In 2014, we estimated that the bill impact would be £22.50 at the start of RIIO-T1 rising to over £27 by 2021. Therefore, the impact of £23.17 is approximately a £3.20 saving on the original forecast estimate for 2019/20. This is due to the savings that we have made along with the effect of the uncertainty mechanisms that are in place.

The customer bill infographic shows the cost of the different parts that make up the average domestic electricity bill. As mentioned above, only a fraction of the network costs are attributed to National Grid, some 3% of the overall bill. The table below shows our actual and forecast contribution to the customer bill. There is some fluctuation in the total costs because of changes to the timing of our developments, the mid-period review adjustments, and the impact of changes to how much generators pay us to use the system.



#### Breakdown of an average domestic electricity bill



#### National Grid TO costs in an electricity bill - to date and forecast

Year	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
£	20.25	22.49	24.96	25.13	24.30	24.20	23.17	23.19

<sup>1</sup> Overall network costs account for approximately 23% of the domestic electricity bill, almost 20% of which is distribution network costs not transmission. Source

## Our RIIO-T1 Outputs in detail

#### On the following pages, you can read about in-year, and RIIO-T1 performance to date.

We have included details of how much we are spending to connect customers (our load related portfolio) and to maintain and replace our assets (our non-load related portfolio).

Safety Outputs	Target	Status
<b>Comply with Health &amp; Safety Executive (HSE) legislation</b> We continually review our processes to reduce the risk of accidents to the public, our staff, and our contractors.	To meet all safety legislation requirements.	100% met
<b>Injury Frequency Rate</b> While the RIIO target is compliance with relevant HSE legislation, we use Injury Frequency Rate (IFR), an industry standard measure of safety, to track our performance. The 2019/20 performance has improved since last year with a significant improvement in contractor safety.	To reduce our overall IFR to below 0.1 to show world class safety performance. NB this is not a specific RIIO target.	IFR of 0.05

The chart below shows our IFR results so far in RIIO-T1. The measure is number of injuries per 100,000 hours worked.





## **Reliability and Availability**

Reliability and Availability Outputs	Target	Status
Minimise how much electricity is lost to our customers because of failures to the assets on our network. There were nine Loss of Supply incidents in 2019/20, totalling 54.5MWh of energy not supplied against an annual neutral point of 316MWh.	We have an incentive to minimise 'energy not supplied' against an annual neutral point of 316MWh.	54.5MWh of unsupplied energy
This performance will result in an ENS incentive scheme payment of $\pounds$ 3.64m in 2022.		
This performance equates to 99.99997% overall reliability of our network.		



Reliability and Availability Outputs	Target	Status	
<ul> <li>Non-load related network replacement outputs</li> <li>Network risk is the key measure of a reliable and available electricity system. It is measured by the number of our assets that we believe need to be replaced within certain timescales. Non-load related describes the work to refurbish or replace assets as they get older and could become more unreliable.</li> <li>We are on track to meet the RIIO-T1 target. Delivery is costing less than allowances and we are sharing savings with customers.</li> </ul>	Compliant with network risk level at end of RIIO-T1. This means that the right number of assets have been replaced to keep the network safe, secure, and available.	On target to deliver target level of network risk.	

## Non-load related investment portfolio

In 2019/20 we have continued to increase the volume of asset replacement and refurbishment, with switchgear, overhead lines conductors and fittings volumes delivered being the highest since the beginning of RIIO-T1. We are confident in our forecast that these interventions will deliver savings over the remainder of RIIO-T1 and deliver good value to customers.

The 2019/20 non-load related plan shows a forecast spend of £3.8bn over the RIIO-T1 period. We forecast to deliver a difference between spend (our costs to complete the work) and what revenue we are allowed to recover (allowances) of £1.94bn. These savings over the RIIO-T1 period will return £1bn of allowances to consumers, lowering future through lower bills.

### Non-load related cost reductions drivers

There are a range of drivers behind the cost reductions that we have achieved and are forecasting for the remaining programme. The overall difference between forecast cost and allowance is driven by four significant categories:

- Refining our asset intervention plans. For example, for protection replacement we have developed a more efficient approach in which we target replacement of higher-risk, lifeexpired components (e.g. fault detection relays) whilst retaining lower-risk, reliable infrastructure (such as fixed wiring).
- Improving our understanding of asset condition. For example, by better understanding the deterioration of our transformers and linking this to how network use is changing, coupled with procurement savings from bulk supply of transformers, we have driven efficiencies in transformer replacements over RIIO-T1. We have also been able to extend the anticipated life of some overhead line conductor types and fittings. We have developed industry leading condition monitoring and collection of data. undertaken research into failure modes, created models to predict failure which now gives us the confidence to extend the time before we forecast to replace them.
- Finding more efficient ways to deliver work. For example, we

have fundamentally reviewed our entire approach to switchgear replacement. By collaborating with our supply chain, we have reviewed and reduced scope, changed methods of working and requirements, reducing both delivery time and cost for end consumers. The reduced system access and resource requirements means more units can be replaced within a single outage season. This has helped us increase our annual delivery volume and this new way of working and innovations have delivered benefits in this category.



 Driving competition in our supply base. For example, we have driven improvements in the sourcing and procurement of transformers by using new suppliers in lower-cost countries to purchase these assets in bulk.

Reliability and Availability Outputs	Target	Status
<ul> <li>Protect our critical assets to minimise disruption (physical security).</li> <li>Keeping our critical assets safe from physical attack is important in keeping the nation's lights on.</li> <li>We're working hard to deliver the programme agreed with Ofgem and BEIS in 2015 and have a plan to complete the majority of upgrades by the end of March 2021.</li> <li>Due to the sensitive nature of the programme, we cannot share numbers or locations of assets that are part of the programme.</li> </ul>	Agreed programme of work to be delivered	On target
<ul> <li>Protect our critical assets to minimise disruption (cyber security).</li> <li>There is an increased risk of cyber attack on our assets and so we are investing additional costs to keep the business safe from cyber attacks and to keep the lights on.</li> <li>We are working to implement the new requirements of the National Cyber Security Centre directive about network and information systems (NIS).</li> </ul>	Agreed programme of work to be delivered	On target

## **Environmental performance**

As a Group, we have set a voluntary target to reduce our Scope 1 and Scope 2 Green House Gas (GHG) emissions across our UK and US businesses to 'net-zero' by 2050. The 'net-zero' target set in November 2019, replaces our previous target of an 80% reduction by 2050 from a 1990 baseline. Our baseline emissions level was set, at group level, at 21.6m tonnes of carbon dioxide equivalent. We have an interim target to reduce our GHG emissions by 70% by 2030, which we are on track to achieve, and are reviewing our interim targets in light of our netzero goal. All our business units, including Electricity Transmission,

are developing pathways to achieve net-zero Scope 1 and 2 emissions.

Almost all our emissions are from the fugitive leakage of SF6 from our switchgear, with SF6 emissions higher  $-284 \text{ kTCO}_2\text{e}$  in 2019/20 compared with 272 kTCO<sub>2</sub>e in 2018/19.

 $SF_6$  is used extensively within high voltage switchgear as it is an excellent insulating medium, and is pressurised to ensure no air contaminates it. This leads to a small amount of leakage. The harmful effects of  $SF_6$  upon the global environment continue our focus on the effectiveness of controls around our management of this essential gas and finding alternative insulating gas.



Environmental Outputs	Target	Status
<ul> <li>Minimise greenhouse gas emissions, especially SF<sub>6</sub></li> <li>The incentive scheme neutral point varies depending on the total inventory of SF6 on the system. This neutral point in 2019/20 was 12486kg. Actual leakage (measured by how much SF<sub>6</sub> is topped up) increased to 12441kg.</li> <li>The current year performance has been impacted by COVID19 leading to delayed intervention plans and increased usage to provide protection if site access was restricted for a prolonged period.</li> <li>Our performance will derive a value of £0.05m for this incentive scheme.</li> </ul>	The target changes annually to reflect the additions and removals of equipment that uses $SF_6$ from the electricity system. The chart shows the neutral point c12000kg at the start of RIIO-T1, rising to c12500kg now.	Actual leakage of 12441kg.



Environmental Outputs	Target	Status
<ul> <li>Going above and beyond to deliver low carbon solutions</li> <li>Each year we make a submission detailing the efforts that we have made to find ways to reduce our impact on the environment.</li> <li>We have listened to the feedback from previous submissions and sought to improve our performance. Our score in 2018/19 was slightly down from the previous year and we continue to work hard to find ways to improve in this area.</li> <li>Environmental Discretionary Reward process has been revised this year although we are still expecting the outcome to be known by January 2021.</li> </ul>	A score of 50-70% is proactive and 70%+ is leadership. Only leadership scores receive a financial reward.	2018/19 score of 63%

The graph below shows our scores for the Environmental Discretionary Reward. We had a fair result last year. We listened to the feedback from the panel from previous submissions, built on what we were doing and changed our behaviours.





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## Customer and Stakeholder outputs <

Environmental Outputs	Target	Status
<ul> <li>Measure the way that we have satisfied our customers and stakeholders</li> <li>We carry out independent surveys with our customers and stakeholders which gives an annual score of their overall satisfaction with us.</li> <li>This year we have seen a noticeable increase in the scores compared to both last year's score and the longer-term average score and reflects the increased focus that we have applied in this area. This will provide an incentive payment, in 2022, of £13.34m.</li> </ul>	Customer satisfaction survey neutral point 6.9/10 Stakeholder satisfaction survey neutral point 7.4/10	Customer survey = 8.21 Stakeholder survey = 8.64
<b>Go above and beyond in the way we engage with our stakeholders.</b> This is a submission of a report to Ofgem who then use an independent panel assess our performance. The increase in the score for the 2018/19 submission is encouraging as it arrested the decline of the previous year. We took on board the feedback and have acted to improve performance. The 2019/20 result hasn't been decided as the submission was at the end of May 2020 and the decision won't be made until September.	Stakeholder engagement incentive scheme upside only from 4 out of 10.	2018/19 score of 5.54

The chart below shows how we have performed so far during RIIO.



We recognise the importance of listening to our customers and stakeholders so that we fully understand their needs and the impact our actions have on them. This is the only way we can

continue to fundamentally improve their experience. In 2019/20 we built on the success of the previous year and continued to deliver a positive impact. This materialised in achieving an excellent 0.29pts improvement on last year for customer satisfaction and a fantastic 0.72pts for stakeholder satisfaction. In 2019/20, we achieved a customer satisfaction score of 8.21 against a baseline of 6.90. The stakeholder satisfaction score was 8.64 against a baseline of 7.40.

In 2019/20, our customers and stakeholders remained a key priority as we continued our focus on putting them at the heart of everything we do. After separating from the ESO, transmission teams were directly engaging with customers for the first time in some cases. They have been changing their approach to the service they provide through learning from their feedback, whether in our operations and BAU activities - as part of RIIO-T1, or engagement and collaboration throughout finalising our RIIO-2 plans. Through the customer feedback received to date,

our Customer Experience Governance Board sponsored a new agile approach for initiating solutions to underlying issues raised. We continued to monitor our performance against our five Customer Principles (Care, Agility, Transparency, Value and Trust). As part of our customer transformation programme we made inroads to improving our performance on key areas such as outage management, and we have done this whilst expanding our reach across more customer and stakeholder contacts than the transmission business has done ever before.

We listen to our customers and stakeholders so that we fully understand their needs and the impact our actions have on them. This is the only way we can continue to fundamentally improve their experience. In 2019/20 we continued to build on the success of the previous two years and continued to deliver a positive impact.

In 2019/20 we focused in particular on collaborating, transparency and understanding our impact as part of our RIIO-2 engagement and as a result it had a positive effect on our performance against the remaining principles overall. In doing so we achieved the largest improvement to our stakeholder satisfaction score since introducing this measurement and strong improvements in our customer satisfaction for a third year in a row.



## **Connecting customers**





Our load related capital plan is informed a Future Energy Scenario (FES) that we have developed using a combination of market insights and intelligence on specific customer projects. This utilises the four FES scenarios published by the System Operators (SO) as a benchmark, but also takes into account a number of key changes since the FES publication, including:

• The announcement of the government agreeing a sector deal for offshore wind, signalling increased growth in this area;

- The suspension of the Capacity Market, casting doubt over the timing of a number of new projects, and increasing the likelihood of potential closures of existing thermal plant;
- The government's publication of the Clean Growth Strategy and car manufacturers' commitment to producing electric vehicles, signalling increased growth in the decarbonisation of transport; and
- The suspension of the development of new nuclear power stations at Moorside and Wylfa.

As part of our RIIO-T2 engagement, we have tested our energy scenario. Stakeholders broadly supported our view of how the energy landscape will evolve, providing assurance that our plan delivers what they expect from us.



The following tables, charts, and narrative describes how we are performing in connecting customers and dealing with uncertainty during RIIO-T1.

Customer Connection Outputs	Target	Status
Sending out customer contracts. We have worked closely with the ESO to send customer offers within 90 days. All new or modified offers were sent to customers within the 90 days. We sent out 176 in 2019/20 compared to 186 in 2018/19, a small decrease year on year in contracts sent out.	All offers to be sent within 90 days of application.	100% sent on time.
Connect new generation customers to our network. We delivered all our customers' requirements for 2019/20. Our 8-year forecast, based on customer needs, is for 12.6GW of transmission connected generation (baseline: 26GW), the same as our view in 2018/19. We are forecasting to complete almost 8GW of the original business plan, but because of customers' changing needs, this number is substantially lower than our original estimate. Meanwhile we are forecast to complete almost 5GW of new customer connections that weren't anticipated at the start of RIIO T1.	To connect all customers in line with their available for commercial load date – the time that the can start generating electricity onto the high-voltage electricity network.	All connections completed on time.

#### Electricity Transmission - Our Performance 2019/20

The chart below shows what amount of new generation was forecast at the start of RIIO-T1, how much of that has actually connected, and how much unanticipated generation has connected. We also show how much we forecast will complete in the final year of this price control.





## Load related investment portfolio

On load related (LR) investments we anticipate spending £3.28bn, a £236m reduction compared to our forecast last year. This compares to allowances of £3.92bn, which decreased by£279m compared to last year. The decrease in allowance reflects the different outputs we forecast to deliver to the end of RIIO-T1 and the first two years of RIIO-T2. Optimisation of the plan, innovation, efficiencies in delivery, and changes to projects' timing has resulted in forecast expenditure being £636m lower than forecast allowances.

We are investing only where we have a clear signal to do so and, as this changes, we are responding accordingly. These adjusted allowances show that the uncertainty mechanisms are working broadly in the right way, albeit with occasional yearon-year changes as customer requirements develop. We are working closely with stakeholders to improve these uncertainty mechanisms in RIIO-T2.

Over and above the automatic reductions in allowances (of £2.4bn), the key factors influencing the difference between spend and allowance to reduce costs and deliver benefits to end consumers are:

- An innovative technology reducing the need to reconductor or build new overhead lines to deliver increased boundary strengthening,
- Activities to drive down costs within the supply chain,
- Changing industry codes to allow more efficient solutions,
- Value engineering and lean engineering design,
- Design variations negotiated with customers to allow lower

cost investments while still meeting customers' needs, and

 Improvements in our management of uncertainty associated with customer projects.

Each year we refresh our plans to take account of the actual and anticipated requests for customer connections, changing customer needs, and our latest view of the most efficient investments to meet these needs. The continual optimisation of our plans protects our customers, ensuring that we invest only where and when it is supported by signals, and responding to changes of those signals.

Across the eight years of RIIO T1 the major influence on the difference between expenditure and allowances has been the changing requirements of our customers in terms of the contracted generation and demand connections, and the associated wider works. The changes that we have faced have been in both volume and timing

of customers connecting to the system. When our customers' requirements have changed, we have changed the investments that we have made compared to our original plans.

Customer Connection Outputs	Target	Status
<b>Connect new demand customers to our network</b> We delivered all the demand connection requirements that our customers contracted us to complete. This volume was lower than the baseline amount forecast (72) in our business plan due to changes in customer requirements. We forecast that we will need to connect 39 new supergrid transformers (SGTs) and 5km of OHL (baseline 27km) over the RIIO-T1 period.	To connect all customers in line with their available for commercial load date – the time that the can start taking electricity from the high-voltage electricity network.	All connections completed on time.

The graph illustrates the level of churn in our customers' requirements. This is shown by the volume of new connections that weren't anticipated at the start of RIIO-T1.





Customer Connection Outputs	Target	Status
Incremental Wider Works (IWW) to strengthen specific boundaries on our network Three baseline IWW schemes were completed in 2019/20, totalling 840MW of capability increase, as well as the second part of baseline wider works WHVDC commissioning. We currently forecast 12.4GW of boundary capacity increases to be delivered compared to the business plan forecast of 23GW. We are finding innovative new ways to increase boundary capability and are delivering significant improvements to the network in the last year of RIIO-T1 and in the first years of the next price control.	To complete all required network upgrades in line with signals from the Networks Options Assessment (NOA). This economic assessment recommends the least cost option that will reduce customer constraint payment required by the ESO.	All upgrades completed on time.

IWW investments are required to upgrade or strengthen the network to ensure that new generation customers aren't constrained from producing electricity for the grid. There are technical limitations on the substations and overhead lines on our network and so we need to upgrade these assets to allow electricity to move from where it is created, to where it is needed. We use three primary methods for increasing the bulk transfer capability of the transmission system - investing in new assets (e.g. Eastern HVDC Link, Hinkley-Seabank new overhead line): increasing the capability of existing assets (e.g. reconductoring schemes); and/or introducing new technologies devices that allow



the control of power flows on the network so that use of the existing network can be improved (e.g. Quad Boosters, new electronic devices). Allowing this generated electricity to flow onto the network reduces costs to consumers as the ESO doesn't need to make payments to the generator to stop generating - a constraint payment.



## Innovation

Our work is driven by stakeholder feedback, future technological developments and business objectives. We're constantly seeking new people and organisations who are willing to learn about our industry and help us develop our network for the future.

Our innovation focuses on four main areas of our business:

- Managing assets: developing ways to manage new and ageing assets more effectively to extend their operational lives
- Service delivery: developing stakeholder and customer focused capabilities through exploiting existing assets and developing new service-based business propositions
- Efficient build: developing techniques, ways of working or procurement strategies to build new assets faster and at lower capital and whole life costs
- Corporate responsibility: doing the right thing, including social responsibility, safety and sustainability, in all new developments.

The pace of change in the energy industry shows no sign of letting up and we recognise that we have a crucial role to play in making sure the UK has a sustainable energy future. Innovation is at the forefront of that challenge.

As part of RIIO, Ofgem introduced two new funding mechanisms for network innovation; the Network Innovation Allowance (NIA) and the Network Innovation Competition (NIC). Both mechanisms enable us to take forward ground-breaking new ideas and technologies that will make a tangible difference to customers and communities.



NIA and NIC tell only part of the innovation story within National Grid; innovation is central to the work we do every day to keep the energy flowing to homes and businesses across Great Britain, to drive down costs, and to improve the service we provide to customers and end consumers. We are finding a better way to improve our internal processes to deliver a better customer experience. We are innovating to understand more about our assets every day, so we know the best time to replace, repair or refurbish

them. We are choosing new ways of delivering the outputs that we have agreed, and we are using innovative contracting and procurement methods to reduce costs when we are completing the construction. The key NIC project that has continued to develop this year is detailed in the case study below

#### **The Deeside Project**

Using funding from Ofgem's NIC, National Grid is converting an existing 400kV substation into a high voltage innovation centre.

The Deeside Centre for Innovation (DCI) is the first facility in Europe where assets associated with electricity networks can be investigated, tried and tested, prior to being rolled out on live transmission and distribution systems.

The overhead line (OHL) test area was completed in April 2019. This is an important milestone for the facility bringing the first operational area into service so that innovation trials can begin. The centre is due to become fully operational in 2021.



As construction progresses, we'll be running innovation projects; these will deliver benefits in three key service areas:

- accelerating innovation
- research and development
- extending asset life.

The project aims to research, deliver and demonstrate a platform that allows the acceleration of the development of new, innovative technologies and concepts into business as usual. This increase in speed will deliver benefits to consumers faster and allow the de-risking of more complex, disruptive innovations. The project modifies an existing 400kV substation into an easily reconfigurable facility capable of replicating a live substation environment to overcome operational barriers. The project is managed through a technical advisory board, which comprises industry stakeholders.

The project remains on track to deliver the construction works and innovation project trials by October 2021 and due to the delays in starting the work is forecast to slightly exceed the project budget. Technical advisory board meetings have been held





regularly and the next phase of construction has been approved. The construction programme has been re-phased to manage risks related to site availability. The changes to the construction programme do not impact the innovation and delivery of consumer benefits.

There have been changes to the timeline in the construction of the overhead line test area due to high amounts of asbestos and other contamination found on site. Further surveys have also identified the ground to be unstable and has required us to conduct some reinforcing works prior to any construction activity. These timeline changes have had a knock-on effect and have also delayed the procurement of the equipment for the test area. The biggest delays have been caused by aligning the works schedule to the Connah's Quay Substation delivery as part of the Western HVDC project.

## RIIO-2 can make an even bigger impact.

National Grid's overarching strategy is to 'exceed the expectation of our customers and our communities today and make possible the energy systems of tomorrow'. We are currently prioritising communication with our customers and stakeholders to explain what we do and how we do it, and clearly demonstrate the value for money that we are creating for them. In RIIO-2 we aim to build on our strategy and focusing on three proposal areas:

- Delivering cleaner energy through reducing our carbon footprint and helping others reduce theirs and accelerating the testing; rollout of new technologies at our Deeside Centre for Innovation.
- Delivering cheaper energy through a long-term innovation programme to deliver a net-zero whole energy system solution at minimum cost.
- Creating the future by embedding innovation into our culture and increase collaboration with other organisations, enabling us to deliver maximum value from our innovation programme. We have submitted two new proposals for the NIC. One is to investigate how to improve system capability by retrofitting our pylons with an innovative insulated cross arm. The aim is to make savings through reducing the number of new towers that may need to be built to deliver the energy requirements of the future. The second project is to investigate innovations in how system security and stability can be maintained in a future where renewables like wind and solar will play a much larger part in the generation mix. We hope that these bids are successful and can start these projects in early 2021.

## Financial performance - spend

Our overall total expenditure forecast for the RIIO T1 period is £10.08bn against forecast allowances of £12.56bn. This total is a £2.48bn reduction of costs below allowances. The graphic below shows the eight-year totex forecast for the Transmission Owner business and highlights how the price control mechanism has worked for end consumers. When customer needs change and investments are no longer required, we amend our plans accordingly and an uncertainty mechanism automatically reduces allowances (by £2.4bn). This means that consumer bills will not be as high as they were forecast to be at the start of RIIO-T1. We also made a voluntary deferral of allowances for Outputs deferred into future price controls (£647m) and intend to make a further adjustment to reflect liquidated damages receipts relating to the Western HVDC link (£87m). In addition, the totex incentive mechanism has incentivised us to innovate and deliver more efficiently. This will reduce customer charges by a further £1.3bn which will lower the consumer bill.



Our initial allowances were set at the start of RIIO-TI to deliver against the Gone Green background.	Allowances are automatically reduced as customer driven requirements change. <b>100%</b> <b>returned to</b> <b>consumers</b>	Voluntary allowance adjustments: £647m deferral for work that will move to future price controls; and £87m Liquidated Damages receipts. <b>100%</b> <b>returned to</b> <b>consumers</b>	Additional allowances on Hinckley ISS & VIP. These were uncertain at the start of the RIIO-TI. Funding is agreed when we have certainty of need, output, and costs.	Excluded Services True-up	Our projected adjusted allowance for the RIIO-TI period. The allowance will fund the delivery the outputs required to connect customers and keep	The difference between spend and allowance have resulted in 20% net savings compared to allowances. Savings shared with customers (53/47%)	The projected spend is our estimate of costs to deliver the required outputs.
Initial Baseline Allowance	Uncertainty Mechanism		£0.8bn Additional Allowance	£0.3bn Allowance returned	our network reliable. £12.6bn	£2.5bn	
LR-£6.55bn NLR - £6.28bn		Voluntary Adjustment			Adjusted restated allowance	savings	£10.1bn
							Spend
Non-Op Capex - £0.2bn					LR - £3.92bn		Spend LR - £3.28bn
Capex -					LR - £3.92bn NLR - £5.71bn		LR - £3.28bn NLR - £3.65bn
Capex - £0.2bn Opex -					LR - £3.92bn NLR -		LR - £3.28bn NLR -
Capex - £0.2bn Opex -					LR - £3.92bn NLR - £5.71bn Non-Op Capex -		LR - £3.28bn NLR - £3.65bn Non-Op Capex -

We publish a table below showing what we have spent to date and what we forecast to spend in the rest of RIIO-T1 in the transmission business. This looks slightly different to the waterfall chart above. The allowances are less because the waterfall shows the "true" picture, i.e. it shows Totex allowance minus the Western HVDC liquidated damages and excluded services true up.

The first part of the table is called total expenditure (Totex) as it includes both our capital expenditure (Capex) and our operational expenditure (Opex). The next part of the table shows our adjusted allowances for the first 7 years of RIIO and our forecast allowance for 2020/21. The final part of the table shows the difference between costs and adjusted allowances with negative numbers meaning costs exceed allowances.

Actual/Forecast Expenditure (£m, 2019/20 Prices)	Actual	Actual	Actual	Actual	Actual	Actual	RIIO-T1	Forecast	Total
	2014	2015	2016	2017	2018	2019	2020	2021	Total
Load Related Capex	764	589	540	402	271	244	180	292	3,283
Asset Replacement Capex	296	214	245	339	375	290	227	299	2,285
Other Capex	244	79	173	146	148	186	291	496	1,762
Non Op Capex	41	33	42	55	41	53	64	58	388
Total Capex	1,346	915	1,000	942	836	773	763	1,145	7,718
Total Opex	277	304	309	284	292	311	301	285	2,363
TOTEX	1,623	1,218	1,309	1,226	1,128	1,084	1,064	1,430	10,082

Total Allowances	RIIO-T1 Allowances								Total
(£m, 18/19 Prices)	2014	2015	2016	2017	2018	2019	2020	2021	Total
Load Related Capex	1,186	879	587	428	214	315	316	354	4,281
Asset Replacement Capex	631	625	618	623	805	936	789	681	5,708
Other Capex	35	44	31	63	83	86	89	97	528
Non Op Capex	38	38	27	25	23	14	18	16	199
Total Capex	1,891	1,585	1,264	1,139	1,126	1,351	1,212	1,149	10,716
Total Opex	259	265	275	278	280	281	284	284	2,205
TOTEX	2,150	1,850	1,539	1,417	1,405	1,632	1,495	1,433	12,921

Variance to	Variance to Allowance								
Allowances (£m, 18/19 Prices)	2014	2015	2016	2017	2018	2019	2020	2021	Total
Load Related Capex	422	290	48	26	-57	72	136	62	998
Asset Replacement Capex	335	411	373	284	430	647	561	381	3,422
Other Capex	-209	-35	-142	-83	-64	-101	-202	-398	-1,234
Non Op Capex	-3	5	-15	-30	-18	-40	-47	-42	-189
Total Capex	545	670	264	197	290	578	449	4	2,997
Total Opex	-18	-39	-34	-6	-13	-30	-18	-1	-158
TOTEX	527	631	229	191	277	548	431	3	2,839

We wrote in earlier sections about the load related and asset replacement capex spend and allowances, and the reasons for differences between the two. Below is some further detail on other areas from the table above.



#### **Non-operational Capex**

The TO Non-Operational capex spend in 2019/20 was £64.4m, which was £10.9m higher than last year. This predominantly reflects £8.3m increased IT expenditure and an increase of £5.6m in Fleet investment. Our 8-year forecast is £388.1m which is £118.1m higher than allowances. This mainly reflects the additional costs of IT transformation projects and cyber security improvements.

#### Opex

Our current year ETO controllable operating expenditure was £301m against restated allowances of £284m, reflecting an overspend of £17m. Year on year controllable costs have decreased by £9.8m mainly due to savings captured through a cost efficiency and restructuring initiative. Over the 8 years of RIIO-T1, controllable Opex is forecast at £2,363m which is £156m higher than restated allowances of £2,207m. Some of the reasons for this increase include; higher IT costs from the IT transformation project which will deliver efficient decision

making and data reporting and costs incurred in the restructuring programme which will lead to a lower head count and leaner structure in future periods, these costs but have been partially offset by efficiencies though our cost reduction programme. Both programmes will deliver benefits in the short and medium term, making us fit for the future challenges.

### Return on regulated equity (RoRE)

The Return on Regulatory Equity (RoRE) figure is a key measure by which Ofgem compares operational and financing performance across Network Operators. This encompasses the costs and allowances associated with a RIIO regulated business, including totex, financing, tax, incentive performance and company funded innovation costs. A key concept in the RoRE calculation is enduring value. This aims to show the full value the regulated company has earnt during the price control period and therefore adjusts for allowances and incentives that are not related to T1 performance and known true ups that will impact T1 performance during the T1 close out process



We forecast our eight-year average RoRE to be 9.52% for the Electricity TO. The increase in RoRE of 0.07% from last year reflects the change to totex performance due to the re-phasing of allowances within the RoRE. This shifts allowances from the early to later years of T1 to better align with actual spend profile. We are showing the effect of reflecting performance when it will be delivered, e.g. the IWW outputs to be delivered in the first two years of RIIO-T2. As noted, however this number will remain subject to several external factors (e.g. timing of customer driven projects) and the impact of the anticipated adjustment to allowances for the Western HVDC Link to reflect the removal of any timing benefit arising from the delay to this project.



## How to contact us and other useful links

If you have questions or opinions on this performance summary, please get in touch with us:

by emailing us at gary.stokes@nationalgrid.com

To find out more about customer bills and the impact of network costs, visit

For information on our Innovation activities, visit

To find out more about our electricity business and the market we operate in, visit

For further information on our financial performance, visit our dedicated website at

## Legal disclaimer

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section and the 'Risk factors' in National Grid plc's latest Annual Report and Accounts. Copies of the most recent Annual Report and Accounts are available online at

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