



Business Plan 2023 - 2028

SA-04 Supplementary Annex We keep our promises

December 2021

SA-04 We keep our promises Contents

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1. Introduction

- 1.1.** The next regulatory price control review period, known as RIIO-ED2 is a five year period and is the second for electricity distribution to be determined using Ofgem's Revenue = Incentives, Innovation and Outputs framework. This price control period runs from 1st April 2023 to 31st March 2028.
- 1.2.** Western Power Distribution (WPD) is required to submit a 200 page Business Plan document, supplementary annexes, detailed cost tables, financial information and a range of other documents which form our submission under RIIO-ED2 to Ofgem, which will be used to determine allowed revenues for the price control period.
- 1.3.** Our RIIO-ED2 Business Plan has been produced and compiled in line with the following key principles:
- Co-created with our stakeholders and supported by them.
 - Our Plan – 'prepared with our stakeholders for delivery by us'.
 - Aligned with WPD's purpose and values.
 - Affordable for all of our customers.
 - Sustainable and will enable net zero before 2050
- 1.4.** Everything in our business plan submission is driven to achieve the following four strategic outcomes for customers:



- 1.5. The diagram below (figure SA-04.0) shows the structure of the full Business Plan submission with the red box showing where this document fits into the overall suite of documents.

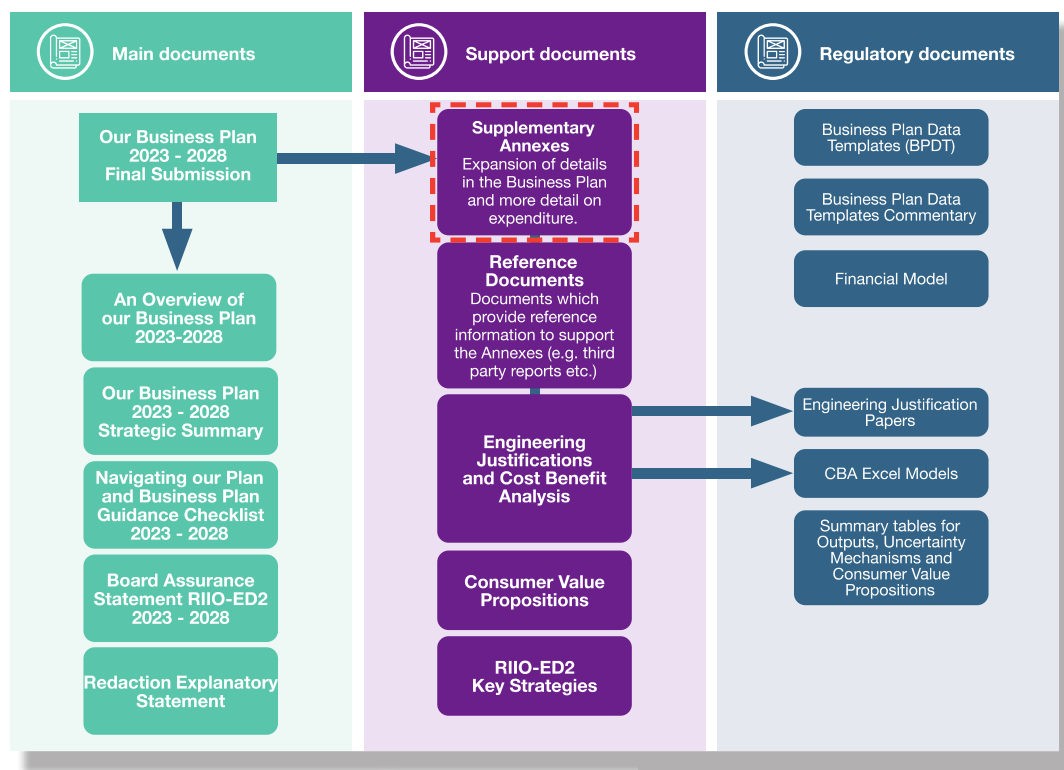


Figure SA-04.0 Business Plan submission structure

- 1.6. This document is a supplementary annex to Chapter 4 of WPD's RIIO-ED2 Business Plan document. Annex 4: We keep our promises provides more details what WPD has delivered within the current price control period RIIO-ED1 so far. It sets out the current delivery for the four WPD distribution licences of West Midlands, East Midlands, South Wales and South West.
- 1.7. We appreciate that the readers of the WPD RIIO-ED2 Business Plan suite of documents will range from regulatory experts and well informed stakeholders through to new customers who may have had little previous knowledge of WPD.
- 1.8. This document is aimed at readers who require a more detailed understanding of the commitments that will be delivered.

1.9. This document is subdivided into the following sections:

Chapter	Title	Content
2	We keep our promises	A summary of how we achieved the promises we made in RIIO-ED1.
3	Our performance in RIIO-ED1	This section provides details on how we performed against our RIIO-ED1 targets.
4	Our expenditure in RIIO-ED1	A summary of our expenditure against our RIIO-ED1 allowance.
5	Return on regulatory equity	Details on the Return on the Regulatory Equity (RoRE).
6	Financial returns to shareholders	A description of the dividends paid to our shareholders.
7	Appendices	A number of appendices containing links to supporting reports.

2. We keep our promises

- 2.1.** It is crucial that we build on our impressive track record during RIIO-ED1 to deliver even more for our customers in RIIO-ED2. By delivering on our current commitments, we continue to demonstrate to stakeholders our determination to achieve our future goals. We have learnt from our achievements and, as we approach RIIO-ED2 and the challenges of a rapidly-changing energy landscape, we are more ambitious than ever to exceed our customers' expectations and to deliver on our latest commitments.
- 2.2.** WPD has an enviable record of delivering on its commitments. For RIIO-ED1, we were the only Distribution Network Operator to be Fast Tracked by the regulator. This means that our Business Plan covering all four licence areas was judged by Ofgem to be of a sufficiently high standard and well justified to be accepted in full. Ofgem recognised WPD as the leading company for customer service and for our ability to reduce costs and operate efficiently. Throughout RIIO-ED1, we have continued to focus on fulfilling our commitments and are on track to deliver and, in some cases, exceed what we promised.
- 2.3.** We know that using in-house regional resources is key to cost effective and efficient delivery which is why we use local teams to serve each local area. Our staff are part of these communities - they know the area, network and many of our customers, enabling us to provide efficient, high quality customer service.
- 2.4.** This section explains not only why we are ahead of the majority of our targets for RIIO-ED1 but how we will go even further before the end of this period. Currently, WPD is the top DNO for customer satisfaction in the RIIO-ED1 period overall with an average score of 9.01 out of 10. We have also achieved many other successes, including significantly improving our network reliability and reducing our business carbon footprint (BCF).
- 2.5.** We have gone beyond the commitments we made at the start of the price control period. We were the first DNO to set up a Distribution System Operator function, which has helped to accelerate the move to local generation and flexible services. We have also supported local community projects through our £1m 'In This Together - Community Matters' fund during the Covid-19 pandemic and committed up to £59 million to the green recovery.
- 2.6.** We have achieved these outcomes by effectively using the allowances we received in RIIO-ED1, therefore at no additional cost to customers, while ensuring they receive innovative service improvements and exceptional value for money.

3. Our performance in RIIO-ED1

- 3.1.** We have a strong track record of delivering excellent levels of performance for customers and are confident we can build on the successes of RIIO-ED1 to deliver our RIIO-ED2 plan. Our Business Plan sets out how we intend to deliver core and wider commitments for RIIO-ED2 as efficiently as possible, ensuring it is cost effective and affordable for our customers.
- 3.2.** The customer service experience and the safety of our customers, contractors and staff are our top priorities. We are on track to deliver or exceed our original RIIO-ED1 targets and, as we continue to respond to the changing needs and expectations of our customers, our focus will be on outperforming these targets.
- 3.3.** In our RIIO-ED1 Business Plan, our commitments to our customers covered 28 key areas, supporting our aim to always ‘do the right thing’. We have already met, or are on track to meet, all of these commitments, as shown below.



Figure SA-04.1 RIIO-ED1 output performance

Proven delivery of excellent customer service

3.4. We understand how important excellent customer service is for our eight million customers and are determined to be industry leading in this area.

3.5. We have consistently been the top performer with a six year average result for customer satisfaction of 9.01 out of 10 during RIIO-ED1 – see figure SA-04.2.

3.6. Customers are at the heart of everything we do. Our staff and contractors are customers too, so we ask them ‘to treat customers as you want to be treated’, which we call the golden rule.

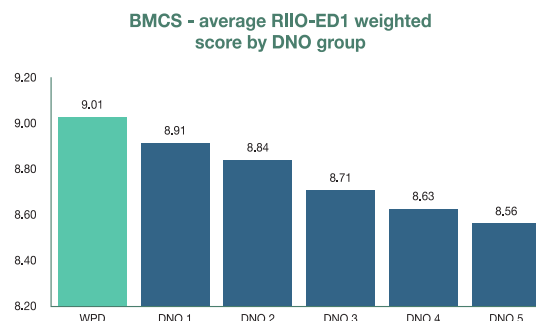


Figure SA-04.2 Broad Measure of Customer Satisfaction

An external view on our performance ...



Gold - Best Customer Service Team



Gold - Best Customer Contact Strategy in a Crisis



Gold - Best Innovation in Customer Engagement



Bronze - Best Use of Training

Steve Hurst, Chair of the International Engage Awards judges said: “Our winners came from a variety of industries, but we **must give a special mention to our triple winner Western Power Distribution**, who were named winners in ‘Best Customer Service Team’, ‘Best Customer Contact Strategy in a Crisis’ and ‘Best Innovation in Customer Engagement’. **This is a real testament to the team to achieve so much in such uncertain times.**”

3.7. We also aim to ‘get things right first time’ meaning that whoever is dealing with the customer takes responsibility for resolving that query to that customer’s satisfaction. We recognise that it is extremely frustrating for a customer to be passed around an organisation or, worse still, to be unable to speak to someone about their enquiry.

3.8. We believe in talking to our customers. We have regionally based, in-house Contact Centres, where we answer calls in an average of around two seconds. We ensure excellent customer service by regularly engaging with customers through a range of channels, including annual stakeholder workshops. Engagement helps us to understand and refine our approach in line with customer need. At the same time we are utilising digitalisation solutions to enable customers to interact with us in a number of digital ways, if that is their preference, but always retaining the options to speak to our call handlers direct if they prefer.

3.9. We won four awards at the December 2020 International Engage Awards for our outstanding customer service, fighting off stiff competition from the likes of Microsoft, Sainsbury’s, Coca-Cola, DPD, British Gas and Royal Bank of Scotland. We picked up three gold awards and one bronze and even received a special mention from Steve Hurst, Chair of the International Engage Awards judging panel.

3.10. We recognise that we are not perfect, and on some occasions things can go wrong. When this happens, we will resolve complaints quickly and use this as an opportunity to show our customers the excellent customer service we

Figure SA-04.3 International Engage Awards 2020

provide. This approach has enabled us to resolve 88% of complaints in one day in 2020/21. Ultimately, we aspire to turn every complaint into a 'thank you'.

Proven delivery of an industry-leading social obligations strategy

- 3.11. The scale of our activities has increased significantly during RIIO-ED1, with investment increasing to £12 million since 2015. In that time, we have expanded our activities, tailoring our approach in response to the outcomes of our growing stakeholder engagement programme.

Social obligations success



Figure SA-04.4 WPD's social obligations

- 3.12. WPD is committed to helping customers in vulnerable circumstances. We taken significant steps to improve our understanding of customer vulnerability during RIIO-ED1. As part of this, we have improved services for vulnerable customers, enhanced the data we hold on our Priority Services Register (PSR) and addressed fuel poverty issues by giving customers the support they need to access key information.
- 3.13. In February 2021, our efforts specifically to deliver an industry leading approach to maintaining high quality PSR data, providing hundreds of thousands of proactive power cut updates, spearheading data-sharing with water and gas companies and the largest fuel poverty support programme in the sector, saw WPD receive Utility Week's Customer Vulnerability Excellence Award.
- 3.14. We review and update our consumer vulnerability strategy on an annual basis. The success of our ongoing progress is tested against Ofgem's Stakeholder Engagement and Consumer Vulnerability (SECV) incentive. We have consistently demonstrated industry leading performance since the incentive was introduced.
- 3.15. The support we provide to vulnerable customers during a power cut is at the heart of our approach to our social obligations. Our PSR is continuously updated and now holds the details of 1.9 million customers in vulnerable situations, an increase of 600,000 over the course of RIIO-ED1. In spite of these growing numbers, we continue to ensure that we contact vulnerable customers at least once every two years to check that the details we hold are correct. We contact all customers who depend on a power supply for medical reasons every three hours during power cuts and we work with other organisations, such as the British Red Cross, to provide practical support.
- 3.16. At the start of RIIO-ED1, we established a network of around 20 partners with the aim of sharing knowledge, increasing awareness of the PSR and referring our customers for fuel poverty support. In the past six years, our fuel poverty support partnership network has expanded

significantly which means we now work with over 120 agencies, including lead partners in over 20 support schemes across our four each licence areas. We have developed robust criteria for working with these partners which include annual refresher training and regular updating of the key criteria which govern all projects. Our partner agencies have contributed to a growth in PSR registrations and have helped to boost the outcomes of the fuel poverty projects that we support.

- 3.17.** During the first six years of RIIO-ED1, we continue to proactively contact our PSR customers as soon as possible during power cuts, and outside of this, at least once every two years to update their details and offer advice. This enables us to keep customers informed during power cuts and provides an opportunity to update their records more frequently. WPD has also supported 92,000 fuel poor customers, helping them to save £37 million to date. Our achievements in these areas put WPD ahead of other DNOs by a considerable distance and reinforce our position as a leading network operator when it comes to our work with PSR customers.
- 3.18.** Feedback from customers is invaluable to ensure that we are supporting them effectively and providing an appropriate service. As well as surveys undertaken as part of Ofgem's Broad Measure of Customer Satisfaction (BMCS), we commission our own research to help us understand the views of vulnerable customers in four groups – those who have been contacted by our PSR data cleanse teams, those who have accessed a fuel poverty scheme (split into two groups – 'Power Up' and 'Affordable Warmth') and those who have accessed our PSR and accessibility pages online. Customers are asked to rate our services out of 10, scoring us highly in each category. The latest results of these surveys are shown below in figure SA-04.5.



Figure SA-04.5 WPD's customer satisfaction scores for year 2020/21

Proven improvements to network performance

- 3.19.** Our customers deserve a reliable electricity supply. A growing reliance on electronic equipment, the move to electric vehicles and heat pumps, and an increase in home working makes this supply more critical than ever. Our customers tell us that network performance is a high priority and that it makes a real difference to people's lives. We have a proven track record of improving network reliability and have made further progress during RIIO-ED1.

Reliability performance success

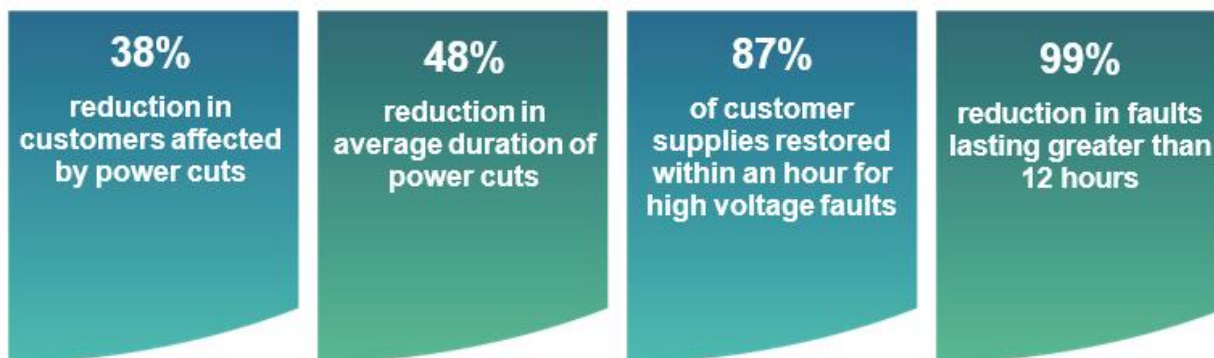


Figure SA-04.6 Highlights of our reliability performance

- 3.20.** We continue to invest in the network, completing all maintenance programmes and replacing poor condition assets to improve the reliability and safety of the network. During RIIO-ED1, WPD proposed challenging targets to reduce the risks associated with asset failure and the consequences of that failure. To date, we have over delivered on the programme and achieved 82% of the risk point reduction targeted for the RIIO-ED1 period; we expect to achieve all targets by the end of RIIO-ED1.
- 3.21.** Over the eight year RIIO-ED1 period, we committed to ensuring that, on average, customers would experience 16% fewer power cuts and see their electricity supplies restored 23% quicker. We have exceeded these targets; to date, we have achieved a 38% reduction in Customer Interruptions and a 48% reduction in Customer Minutes Lost.

Customer Interruptions (CIs)

CIs are a measure of how many times customers are without an electricity supply for any length of time over three minutes (measured per 100 customers). The performance trend for CIs is shown below. Our performance levels are significantly better than the targets we set, which were supported by our stakeholders and were more challenging than the targets proposed by Ofgem. As a result, we will be rewarded for our excellent performance through the Interruptions Incentive Scheme (IIS) and are on track to maintain this performance throughout the period, as shown in figure SA-04.7.

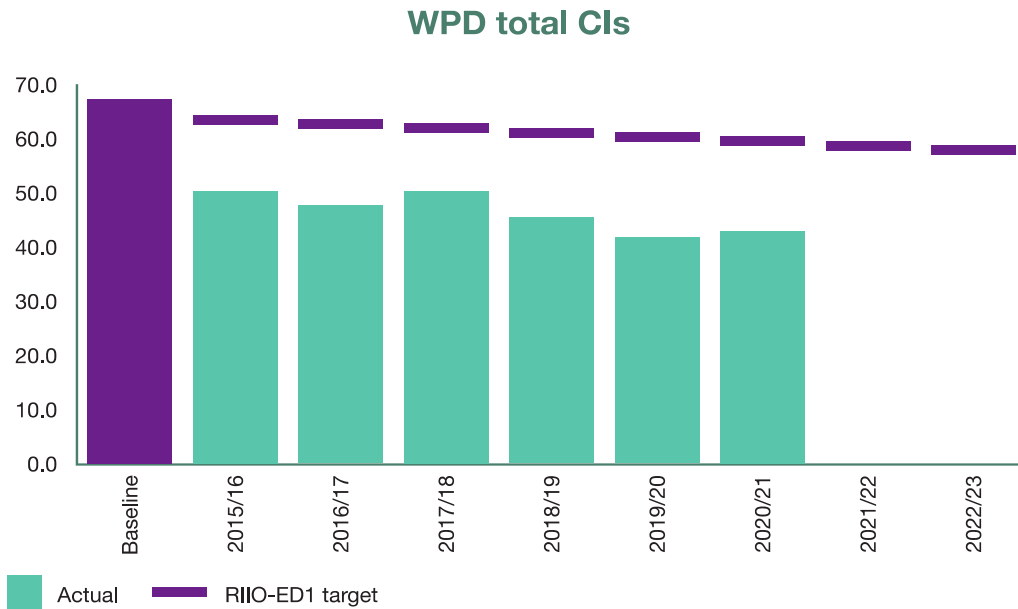


Figure SA-04.7 WPD's overall Customer Interruptions

Customer Minutes Lost (CMLs)

- 3.22.** Customer Minutes Lost (CMLs) refers to the average length of time in minutes that customers are without power for any period over three minutes (measured per 100 customers). The performance trend for CMLs is shown below. Our performance levels are again significantly better than the target we set for ourselves which was supported by our stakeholders and was more challenging than the target proposed by Ofgem. We are on track to receive a reward for our excellent performance through the Interruptions Incentive Scheme (IIS) and continue to reduce the duration of power cuts for our customers, as shown in figure SA-04.8.

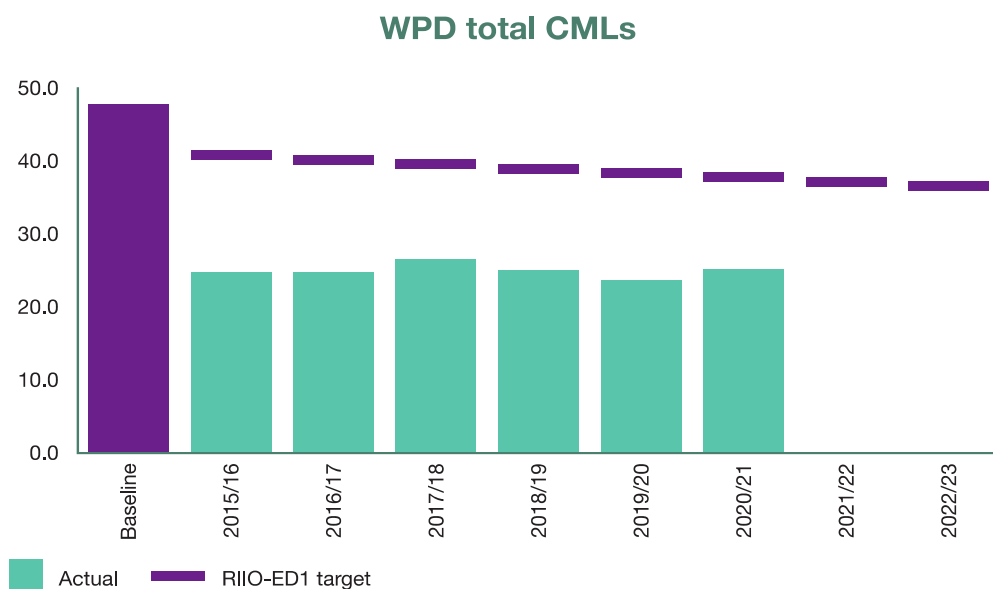


Figure SA-04.8 WPD's overall Customer Minutes Lost

- 3.23.** These performance improvements have been delivered, as a result of the WPD culture which makes it a priority to get customers back on supply as quickly as possible. A clear management focus on speedy restoration of electricity supplies in the event of a fault has led to significant improvements in performance over a number of years. Further details on our performance can be found in [Appendix A01](#).

Target 60

- 3.24.** WPD uses an internal measure to drive down the time to restore customers' supplies. This is known as 'Target 60' and sets an internal goal for the percentage of customers restored within 60 minutes of a high voltage (HV) fault.
- 3.25.** All of WPD's staff recognise the importance of getting the maximum number of customers restored in the shortest time that they can. Where Target 60 is not achieved for an individual incident, the local Team Manager investigates why this was not possible and produces a report by the following morning to identify the factors that contributed to the failure. This report is escalated to senior managers so that the learning points can be considered. In this way, we continuously identify opportunities to improve performance.
- 3.26.** During RIIO-ED1, WPD is the only DNO committed to restoring 85% of customers' supplies within 60 minutes of a HV fault occurring. As an industry-leading DNO, we have consistently outperformed Target 60 within all licence areas. Our track record against this target is shown below in figure SA-04.9.

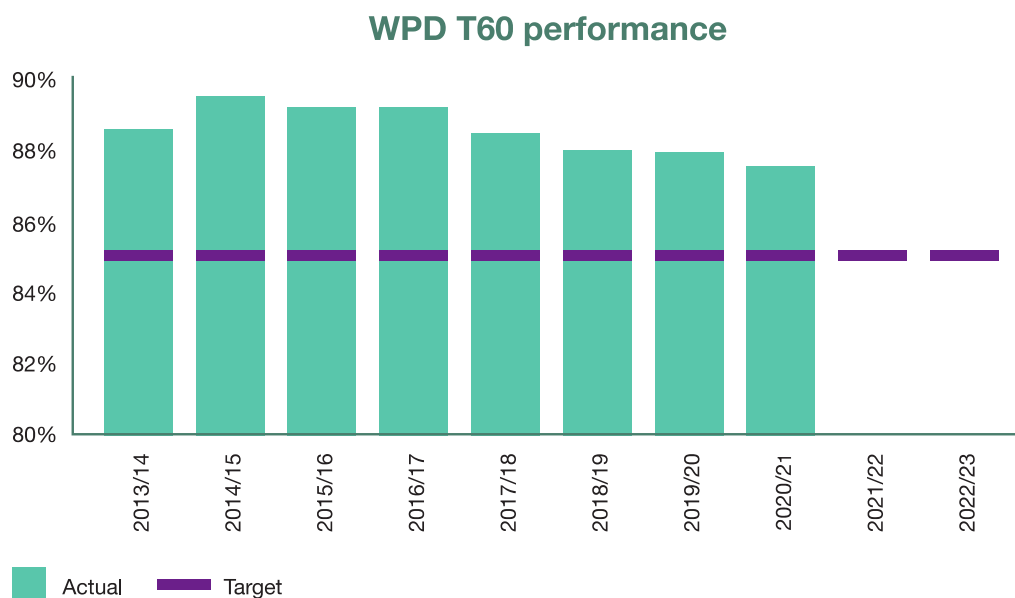


Figure SA-04.9 WPD's overall Target 60

Restoration of supplies within 12 hours

- 3.27.** Ofgem's Guaranteed Standards of Performance (GSOPs) require DNOs to restore customer supplies within 12 hours of an outage in normal weather. As part of the RIIO-ED1 Business Plan, we pledged to reduce the number of customers experiencing interruptions lasting 12 hours or more by an average of 20%. When asked to rank their priorities for network reliability, stakeholders consistently identify power cut duration as a top priority. At WPD, we recognise the

inconvenience of longer power cuts which is why we decided to go beyond this target, to further reduce the number of customers affected by these longer duration faults.

- 3.28.** As a result, we have reduced the number of customers off supply for more than 12 hours from 10,748 in 2012/13 to only 155 in 2020/21. This is an overall reduction of 99% which is an outstanding achievement and continues to support the excellent service we provide for our customers, as illustrated in the figure SA-04.10 below:

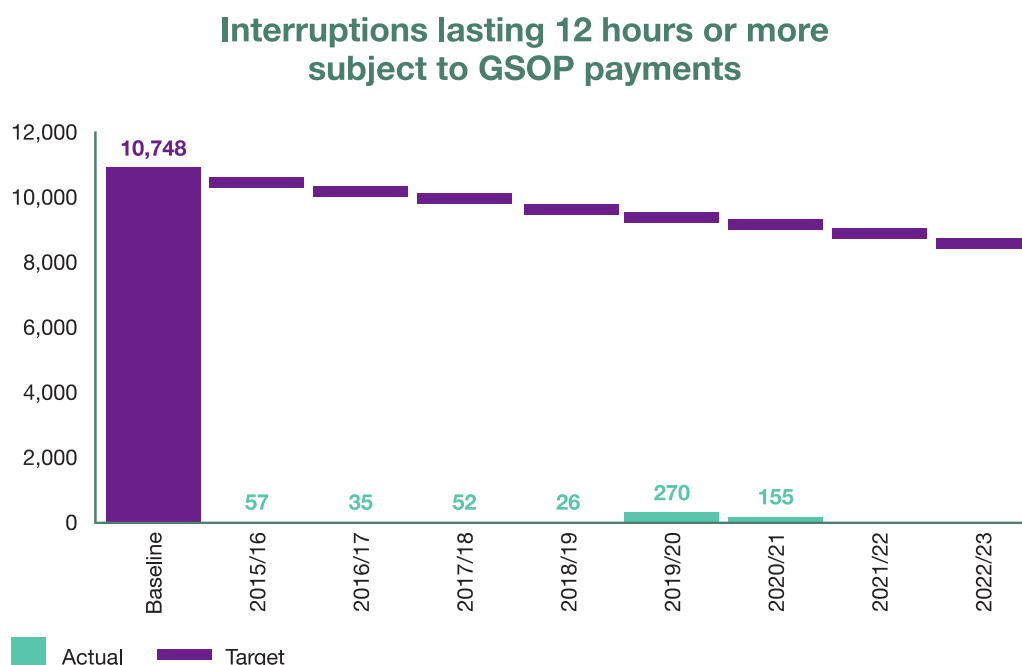


Figure SA-04.10 WPD's 12 hours Guarantee Standards of Performance payments

Asset health

- 3.29.** The electricity network is made up of a high volume of cables, overhead lines, transformers and switchgear. These assets progressively deteriorate over time until they reach a condition that necessitates their replacement. Programmes of asset replacement are well established, with the volumes of activity carried out being in response to the asset conditions identified through inspection and maintenance work.
- 3.30.** Since asset replacement has historically accounted for the highest proportion of capital expenditure, regulatory mechanisms have been introduced to ensure that DNOs are completing work programmes. Health Indices (HI), which only considered the condition of assets, were used in DPCR5; these evolved to Network Asset Secondary Deliverables (NASD) in RIIO-ED1 where both the probability of failure (represented by an asset's health) and consequences of failure led to a risk measure.
- 3.31.** The RIIO-ED1 deliverables are based on the risk reduction benefit delivered by specified asset replacement and refurbishment activities. The target risk reduction is derived by the difference between the network risk without intervention and the network risk with intervention. The actual level of risk of the population of the assets is not relevant to the targets. The target values were forecast prior to the start of RIIO-ED1 and rebased once the Common Network Asset Indices Methodology was agreed with Ofgem in 2016.
- 3.32.** WPD's targets for the whole of RIIO-ED1 and delivery in the first six years of RIIO-ED1 are shown in the figure SA-04.11 below.

- 3.33.** Figure SA-04.11 shows that, after the first six years of RIIO-ED1, more than 75% of the risk point targets have been delivered.
- 3.34.** We are confident that the NASD targets in all four licence areas will be delivered by the end of RIIO-ED1.

NASD Risk Point Actuals R110-ED1 to date (first six years)					
	Asset Replacement	Refurbishment	TOTAL	ED1 Target	%age of target
WMID	-12,631,510	-5,146,590	-17,778,100	-17,228,200	103%
EMID	-10,967,429	-1,396,147	-12,363,576	-12,530,218	99%
SWALES	-8,636,021	-1,012,637	-9,648,658	-9,816,502	98%
SWEST	-13,309,448	-1,066,791	-14,376,239	-16,310,684	88%

Figure SA-04.11 Network Asset Secondary Deliverables performance

NASD asset category analysis

- 3.35.** The risk metrics use a common measure across different asset types, which allow a different mixture of assets to be delivered compared to those used in setting the targets. This enables licensees to respond to new information about the assets. WPD's strategy is to deal with identified poor conditions and reprioritise activities accordingly. This means that the actual delivered outputs may be different to those included in targets.
- 3.36.** Figure SA-04.12 shows more details for each asset category. For each licence area, there are two values: the percentage of NASD risk points delivered relative to the risk points in the targets and the contribution to the total delivery to date.

- 3.37.** The table shows that there is higher than target delivery for most switchgear, transformers and fluid filled cables, but there is lower than target delivery for overhead line assets.

Delivery of NASD outputs by HI asset category (RIIO-ED1 first six years)								
HI Asset Category	WMID		EMID		SWALES		SWEST	
	%age delivery of asset category	%age contribution to total delivery	%age delivery of asset category	%age contribution to total delivery	%age delivery of asset category	%age contribution to total delivery	%age delivery of asset category	%age contribution to total delivery
LV Switchgear (at s/s)	208%	2%	282%	2%	152%	1%	179%	1%
LV UGB and LV Pillar OD (not at s/s)	163%	3%	320%	5%	412%	2%	282%	2%
LV OHL Support	65%	10%	87%	13%	59%	13%	77%	21%
HV OHL Support - Poles	44%	17%	69%	20%	97%	43%	76%	40%
HV Switchgear (GM) - Primary	168%	2%	95%	2%	133%	1%	103%	1%
HV Switchgear (GM) - Distribution	206%	6%	267%	10%	276%	4%	147%	5%
HV Transformer (GM)	210%	2%	269%	4%	179%	2%	166%	3%
EHV OHL Support - Poles	66%	2%	131%	3%	227%	7%	74%	3%
EHV OHL Fittings	10%	0%	78%	0%	80%	0%	2%	0%
EHV OHL Conductor (Tower Lines)	47%	0%	173%	0%	no target	0%	no target	0%
EHV OHL Support - Towers	190%	1%	254%	2%	86%	0%	42%	0%
EHV UG Cable (Gas)	no target	0%	no assets	no assets	0%	0%	42%	0%
EHV UG Cable (Oil)	2292%	5%	no target	2%	no target	0%	48%	2%
EHV Switchgear (GM)	113%	1%	132%	3%	65%	2%	78%	2%
EHV Transformer	194%	6%	91%	11%	128%	7%	136%	9%
132kV OHL Fittings	43%	0%	78%	2%	47%	0%	18%	0%
132kV OHL Conductor (Tower Lines)	5%	0%	46%	0%	3%	0%	0%	0%
132kV OHL Support - Towers	91%	3%	60%	5%	114%	7%	53%	2%
132kV UG Cable (Gas)	835%	1%	no assets	no assets	no assets	no assets	no target	no assets
132kV UG Cable (Oil)	163%	21%	no target	1%	no target	1%	733%	1%
132kV CBs	117%	5%	66%	3%	190%	1%	123%	2%
132kV Transformer	244%	11%	85%	13%	83%	10%	317%	6%
Submarine Cables	0%	0%	0%	0%	0%	0%	0%	0%
Total	103%	100%	99%	100%	98%	100%	88%	100%

Figure SA-04.12 Network Asset Secondary Deliverables asset category

- 3.38.** There has been some difficulty in delivering the overhead line assets such as poles. The targets are based upon high volumes of pole replacements. However, fewer poles have been identified for replacement, especially HV poles in the West Midlands and East Midlands.
- 3.39.** More positively, there has been a strong focus on removing poor condition switchgear and transformers from the network and, as these are generally on WPD land, the work is relatively straight forward to deliver.
- 3.40.** Additional outputs have been delivered by addressing poor condition cables, including refurbishment of joints of leaking fluid-filled cables.

Proven safety record

- 3.41.** We regard the safety of our staff, contractors and the general public as our highest priority. We strive to achieve the very highest safety standards and to nurture a strong safety culture.
- 3.42.** In our plans for RIIO-ED1, we made it our priority to deliver a 10% reduction in the Accident Frequency Rate (AFR), a measure of accidents per 100 members of staff. We outperformed this target in the first year of RIIO-ED1 and, thanks to the commitment of our staff, the accident rate in 2020/21 was 0.68 accidents per 100 staff.

Our safety performance during RIIO-ED1



Figure SA-04.13 Highlights of our safety performance

- 3.43.** To achieve these results, we have created a safety culture which goes beyond rule-setting and enforced compliance, by investing in a series of behavioural safety initiatives. This means staff are empowered to assume responsibility for their own safety and the safety of others. During RIIO-ED1, we have introduced a range of new activities to improve safety, including the delivery of behavioural safety training for every member of staff. We have also conducted our own assessment of the Safety Climate Survey to understand staff views of safety performance, and introduced annual conferences for staff and contractors, as well as developing a variety of iPad apps to support safety in operational working.
- 3.44.** Our focus on public safety has been paramount. To this end, we have delivered a total of 16,111 educational sessions to 386,672 schoolchildren and provided safety literature and information to over four million customers, again exceeding the targets set in our RIIO-ED1 Business Plan. We have used social media to promote safety messages to a range of groups whose activities close to our equipment may put them at higher risk of danger. We have used innovation to promote electrical safety, for example by developing virtual reality film experiences, allowing children to immerse themselves in a safety critical event, using a multi-media approach to support our existing school education programmes.
- 3.45.** We have worked cooperatively with the Health and Safety Executive to ensure that our practices and policies continue to be compliant with health and safety legislation, seeking out and applying best practice in our management of safety.

Proven reduction of our environmental impact

Reducing our business carbon footprint

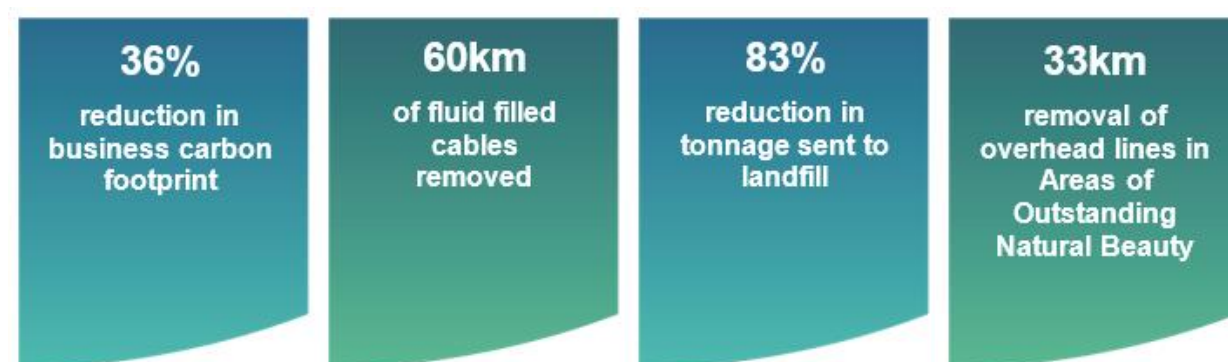


Figure SA-04.14 Areas where we have reduced our environmental impact

- 3.46. We fully embrace the part we can play to reduce the impact on the environment. During RIIO-ED1, we have focused on reducing our business carbon footprint (BCF) which is a measurement of the impact on the environment from our work activities. We now regard this as an even higher priority going forwards.

Reducing our environmental impact

- 3.47. During RIIO-ED1, WPD committed to reducing its BCF by 5%. To date, we have gone beyond this target and achieved a 36% reduction in our actual BCF performance in comparison to 2014/15.

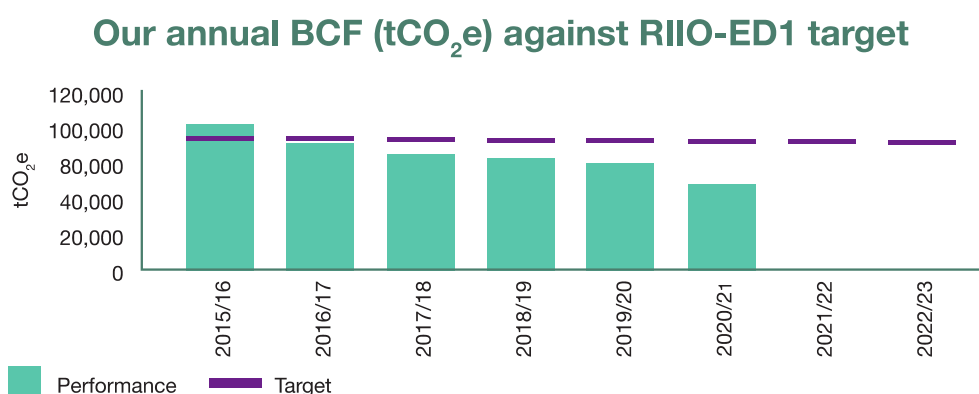


Figure SA-04.15 WPD's business carbon footprint reduction – excluding losses

- 3.48. BCF takes account of a range of operational activities, including emissions associated with operational transport. During RIIO-ED1, we have trialled both electric vehicles and vehicles converted to dual fuel hydrogen and diesel usage. These trials will enable us to make significant changes to our operational fleet during the remainder of RIIO-ED1.

- 3.49.** We are now working to replace our transport fleet with electric vehicles, and finding new innovative ways to increase our sustainability credentials. By the end of RIIO-ED2, we aim to replace 89% of our operational fleet with electric alternatives. However, while it is unlikely there will be electric vehicle alternatives for large specialist vehicles during this period, we must keep in mind the uncertainty of available electric vehicle technology, for example specialist 4x4 replacements. We will continue to consider the use of alternative fuels as the technologies become available, including green fuels and hydrogen.
- 3.50.** All of our depots will have two rapid chargers installed to facilitate electric vehicle charging by the start of RIIO-ED2.
- 3.51.** Progress in reducing operational vehicle emissions is shown below. As part of our drive to improve data accuracy for BCF, we also challenge our contractors to improve. As a result, a number of our larger contractors changed their data collection for operational vehicles during 2020/21, by introducing trackers and better monitoring systems. Figure SA-04.16 below shows how WPD's operational vehicle emissions have reduced.

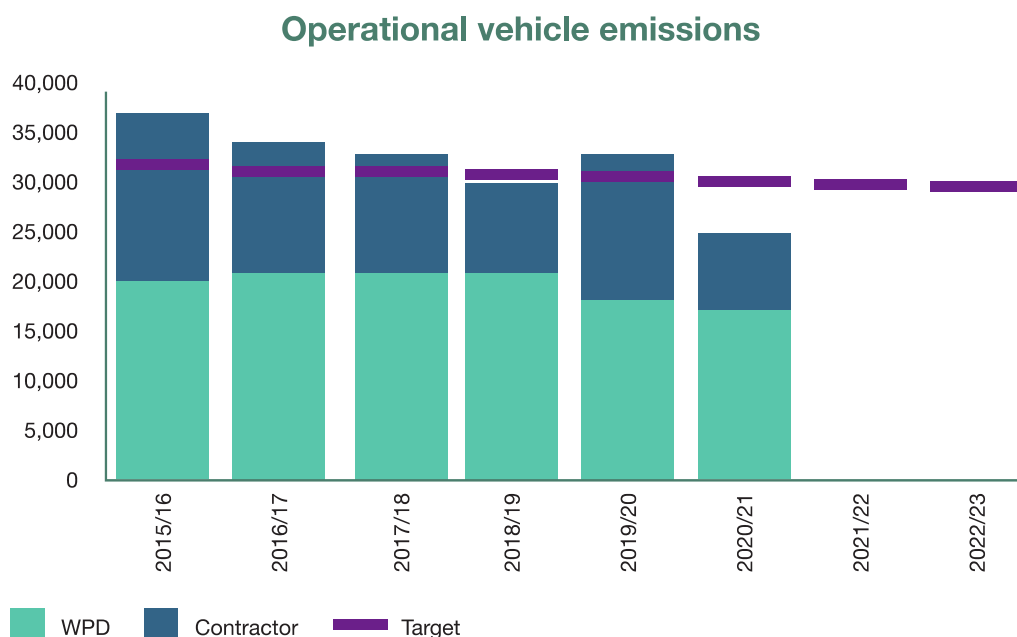


Figure SA-04.16 WPD's and contractors' operational vehicle emissions

- 3.52.** During RIIO-ED1, we committed to reducing the electricity used in offices and depots by 5%. To date, we have reduced electricity usage by 59% in comparison to 2014/15 as shown below in figure SA-04.17.

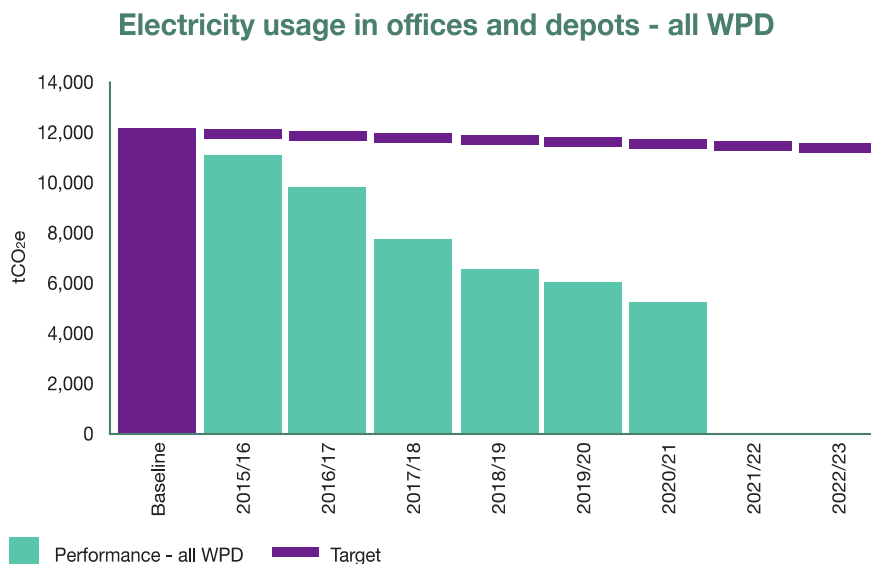


Figure SA-04.17 WPD's electricity usage in offices and depots

- 3.53.** Depots and offices have implemented a range of successful initiatives to save energy, including the replacement of standard lighting with energy-saving LED lighting and the installation of Photovoltaic (PV) generation systems. Site owners receive a monthly report of electricity usage to help them make continued, targeted improvements.
- 3.54.** In addition to these activities, WPD aimed to reduce the volume of waste being sent to landfill by 5% during RIIO-ED1. We work closely with our waste contractors to ensure that, where possible, waste is diverted from landfill. The proportion of waste sent to landfill as a result of our activities has decreased significantly as demonstrated below in figure SA-04.18.

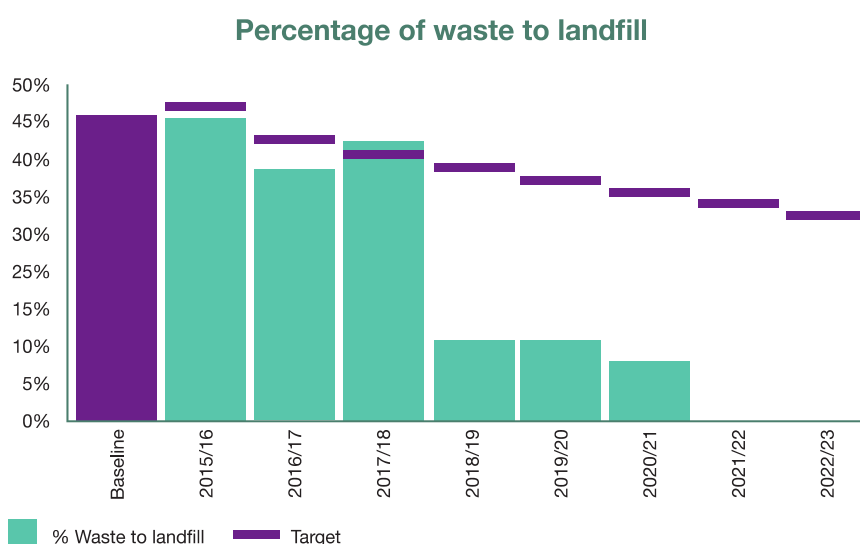


Figure SA-04.18 WPD's percentage of waste sent to landfill

Reducing the environmental risk of leaks from equipment

- 3.55.** WPD has committed to ambitious targets to reduce the risk of leaks from equipment, including oil filled cables and Sulphur Hexafluoride (SF₆), a gas we use to insulate our switchgear.
- 3.56.** To date, we are on track to achieve our RIIO-ED1 target of reducing the amount leaking from oil filled cables by 75%. So far, we have seen a 59% reduction in comparison to leakage levels recorded since 2014/15. To achieve this, we have proactively applied a chemical tracer to cables with a history of leakage to ensure that, when a leak occurs, we can quickly pinpoint the source and ensure a speedy repair or replacement process.
- 3.57.** In addition, during RIIO-ED1, we have removed 60km of our oil filled cables. In our RIIO-ED1 Business Plan, we committed to remove 1% of oil filled cables but have already achieved a 7.8% reduction through effective asset management.
- 3.58.** In RIIO-ED1, WPD committed to a 17% reduction in the leakage rate of SF₆ gas from switchgear. Since establishing these targets for SF₆ reduction, we have enhanced the data collected by including gas 'missing' from scrapped equipment and SF₆ contained in storage bottles; this led to an increase in the leakage being reported compared to the original benchmark. In the chart below, we have included both actual SF₆ reporting (which includes all the new data) and like for like, which removes the additional data so that we can make a comparison with our original commitments.
- 3.59.** Despite recording additional data for SF₆, we have achieved reductions in leakage from 2016/17, as shown below. To achieve these reductions, we have prioritised the replacement of switchgear affected by leaks and invested in equipment to identify leaking components quickly so that we can carry out repairs where possible. We are also working closely with manufacturers to prepare for the potential development of alternatives to SF₆ switchgear. We will continue to prioritise reduction in SF₆ leakage during RIIO-ED2.

SF₆ leak rates across RIIO-ED1

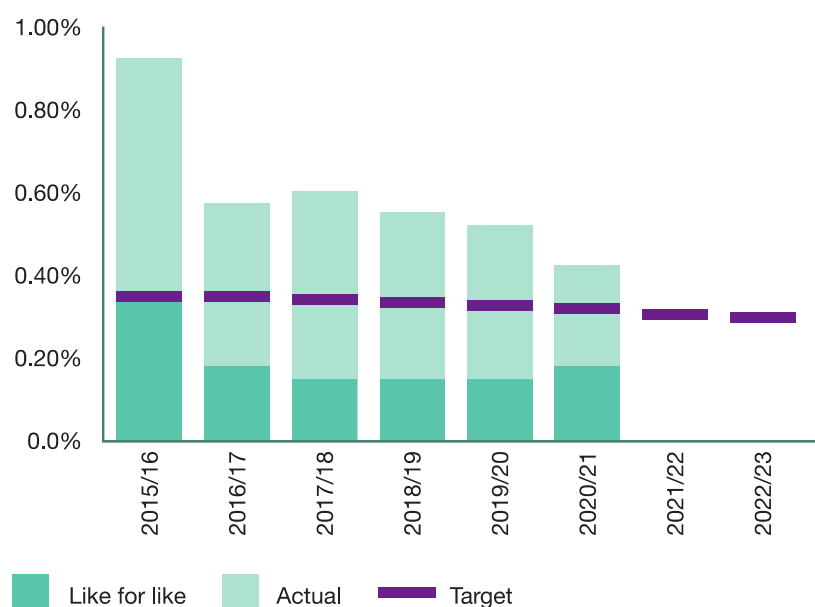


Figure SA-04.19 WPD's SF₆ leakage rate

Improving appearance in National Parks and AONBs

- 3.60.** Power lines can have a negative visual impact on the landscape, especially where they pass through iconic or scenic areas. During RIIO-ED1, we committed to improving visual amenity in National Parks and Areas of Outstanding Natural Beauty (AONBs), working with stakeholder groups to identify and replace overhead lines with underground cables. To date, we have removed a total of 33km and will complete a further 22km before the end of RIIO-ED1, as illustrated below in figure SA-04.20.

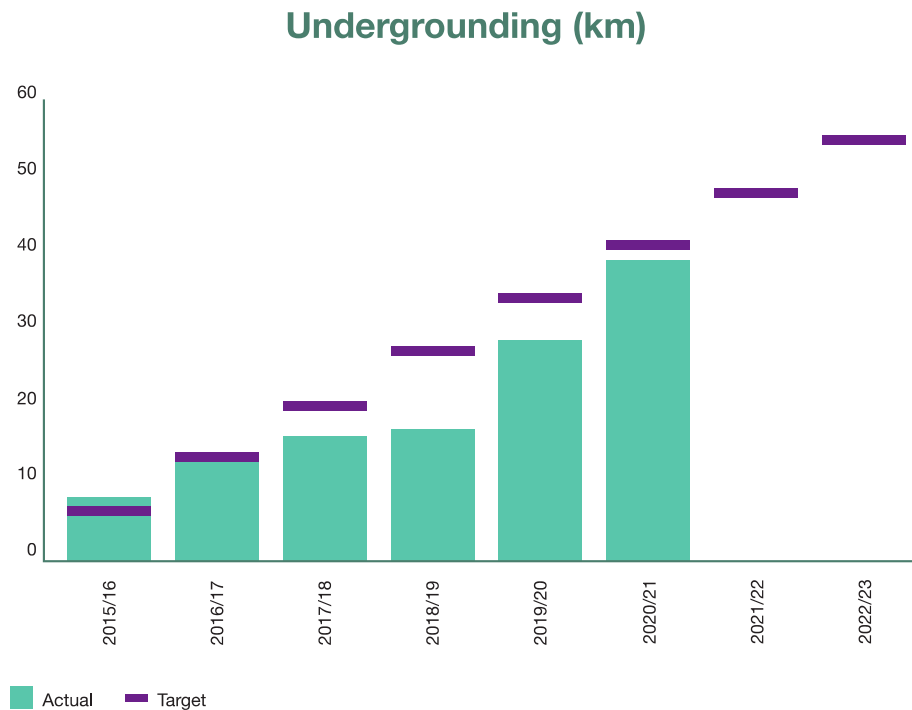


Figure SA-04.20 WPD's undergrounding in km for visual amenity

Reducing technical network losses

- 3.61.** During RIIO-ED1, we have focused on reducing ‘technical network losses’ (the losses associated with power flowing through the network). Losses activities have included the proactive replacement of assets with poor losses performance and discontinuing the use of smaller assets which result in higher losses.
- 3.62.** We review our Losses Strategy (see (www.westernpower.co.uk/RIIO-ED2/Losses-Strategy) annually to ensure we consider changes in technology and government approach as well as the views of industry experts and our stakeholders.
- 3.63.** We have seen a 45% reduction in losses so far over the course of RIIO-ED1. Losses are measured and reported using equivalent tonnes of carbon dioxide and each year Ofgem provides an updated scalar for the calculation of tonnes of carbon dioxide. These scalars take into account elements such as the increasing use of renewable energy, which is also factored into the losses reductions shown below in figure SA-04.21.

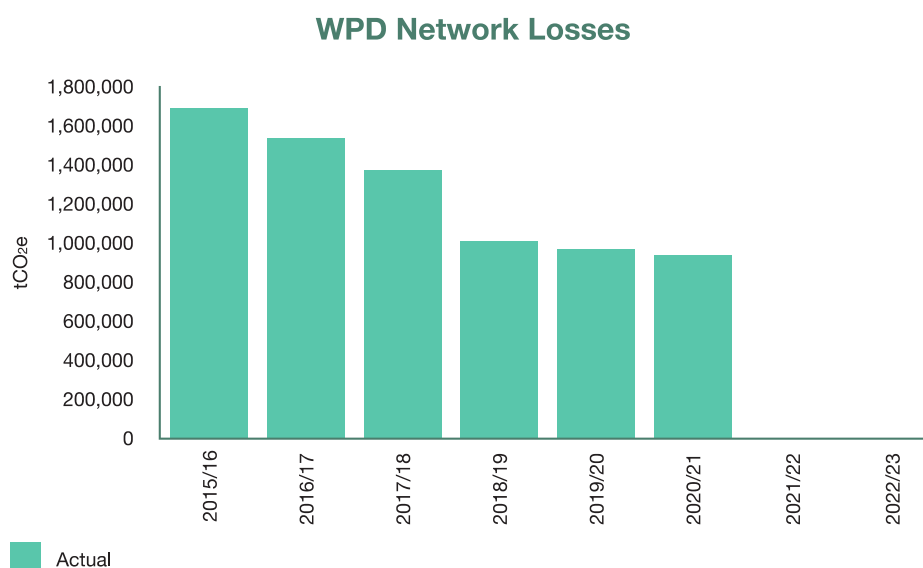


Figure SA-04.21 WPD's network losses

Going beyond our RIIO-ED1 commitments

- 3.64.** Over the course of RIIO-ED1, we have seen huge changes to the way that electricity is generated and consumed. As a result, the scope of our activities has developed beyond the commitments that we made within our RIIO-ED1 Business Plan.
- 3.65.** During RIIO-ED1, WPD has risen to the challenges posed by new and emerging technologies and opportunities to work differently and more efficiently and innovatively. We have evolved our practice in line with stakeholder expectations, taking an industry leading approach to embed new strategies and processes.
- 3.66.** WPD has undertaken extensive work in RIIO-ED1 which supports our aim to achieve a decarbonised network for our customers in the future. By starting the work ahead of RIIO-ED2, we have already made improvements to our network which will lead to cost savings for our customers in RIIO-ED2.

Establishing a Distribution System Operator (DSO) capability

- 3.67.** During RIIO-ED1, we have seen significant changes in the way electricity is generated, including the connection of more generators to the distribution network. At the same time, there have been changes in the way electricity is consumed, largely as a result of the growth of electric vehicles and the use of heat pumps for domestic heating. We have seen the development of emerging technologies such as large scale battery storage which can be used to store excess energy and release it back in to the network at times of high demand. As a result, we have changed the way we operate the network to manage different power flows across the distribution network.
- 3.68.** We were the first DNO to react to these changes by developing a DSO capability. This has enabled us to operate the network more flexibly, balance sources of supply and demand in real time and avoid the need for costly network reinforcement, where possible, by local management of generation output, load and power flows.
- 3.69.** WPD was the first DNO in June 2019 to publish a fully costed DSO transition plan. This outlined our strategy, implementation plans, costs and timescales for undertaking wider DSO activities. This plan is updated every six months, ensuring we have an up to date view of our energy future and the impact on our network plans.
- 3.70.** In 2018, WPD created a DSO and Future Networks team, which operates separately from our existing operational teams. Its role is to develop future energy scenarios, identify future network capacity needs, and assess whether third party flexibility is more economical than traditional asset solutions. It is also responsible for contracting for flexibility along with the development of flexibility products, developing and implementing operational and Supervisory Control and Data Acquisition (SCADA) systems to support a smart flexible network and the associated data, strategies, policies and innovation activity.

Highlights of our DSO activities

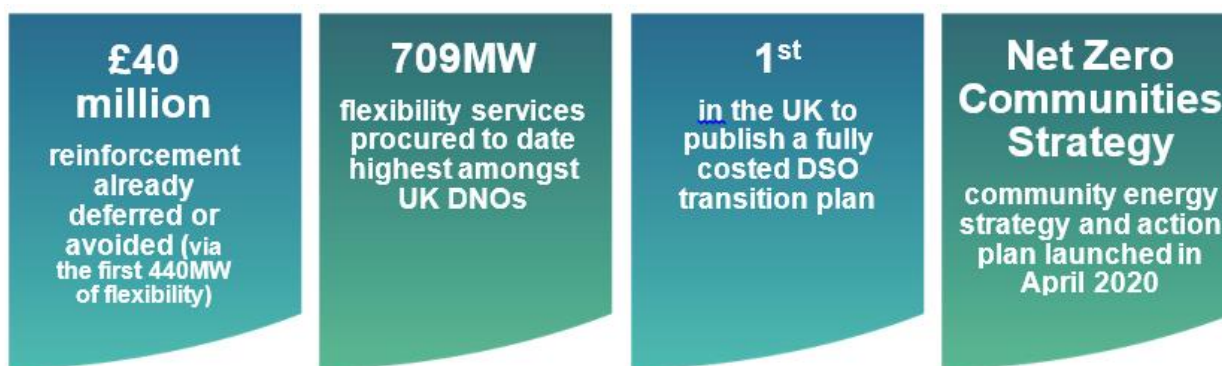


Figure SA-04.22 Highlights of our DSO activities impact

Distribution Future Energy Scenarios (DFES)

- 3.71.** In 2015, we were the first DNO to publish a DFES document, forecasting the volumes and regional distribution of low carbon technology uptake in our region. This uses stakeholder-informed 'bottom up' analysis to align with national 'top down' industry-developed future energy scenarios.
- 3.72.** DFES are key to our continual assessment of the distribution network, helping us to highlight potential network constraints before they arise.
- 3.73.** To enhance the quality of our DFES process further, our Distribution Managers work proactively with the local authorities in their areas to understand the authorities' strategic ambitions and delivery plans, allowing these to be factored into WPD's Best View of the future energy requirements.
- 3.74.** This additional engagement helps us to support external stakeholders develop their energy strategies and provides us with extra data that can be used to inform internal business decisions at all levels, during our RIIO-ED2 planning.
- 3.75.** We have developed a process called 'signposting' to forecast and publicise where flexibility may be required in the future. Our signposting map (see <http://www.westernpower.co.uk/network-flexibility-map>) highlights where flexibility may be needed over a five year period, across four future energy scenarios, directing the market to potential future opportunities ahead of procurement.

Procuring flexible services

- 3.76.** During RIIO-ED1, WPD implemented the first dynamic purchasing system for the procurement of demand side flexibility services. This system enables us to maintain a running register of potential flexibility providers and directly engage with them when procuring demand side flexibility services, while remaining compliant with EU procurement law.
- 3.77.** WPD was the first DNO to commit to a six monthly procurement cycle for flexibility services. Our customer-facing flexibility service, known as 'Flexible Power', uses an electronic, automated dispatch platform. Flexible Power has created an electronic API (application programming interface) which allows our platform to monitor, instruct and settle all flexibility services without any human interaction. Our work in this area again makes us an industry leader.
- 3.78.** To date, the Flexible Power brand has been utilised to contract flexibility services totalling 709MW.

Whole system outcomes

- 3.79.** WPD recognises that coordination across the electricity system is a high priority for stakeholders. At our 2020 stakeholder workshops, attendees named this as one of their top priorities for whole systems (second only to helping local communities to achieve their net zero carbon emissions targets). Whole system planning remains one of the core aims of our DSO forward plan. During RIIO-ED1, we have played an active part in the Energy Networks Association (ENA) Open Networks project, which seeks to understand the requirements and effects of moving to a more active distribution system.
- 3.80.** To support whole system outcomes, we have undertaken the following the activities during RIIO-ED1:
- Worked with National Grid to implement Regional Development Programmes (RDP) for each of our four licence areas. This involved a coordinated and detailed analysis of the transmission and distribution networks, to develop solutions that address each network's issues
 - Aligned the methodology of our DFES publications with the system operator, local authorities and Local Enterprise Partnerships.

Making our network data available to our stakeholders

- 3.81.** Digitalisation of the energy system is at the heart of WPD's transition to build a smart and efficient energy system and underpins our RIIO-ED2 strategy.
- 3.82.** Digitalisation is the process of using digital technologies to make fundamental changes to the way the network is operated. Over the course of RIIO-ED1, WPD has gradually increased the amount of digital technologies on the network – from automation to monitoring equipment.
- 3.83.** Digitisation is the process of collecting information about the network using sensors and control equipment. During RIIO-ED1, WPD has collected some of this information for the first time while also converting existing analogue information into digital formats.
- 3.84.** WPD has already introduced the principle of open data – the presumption that all data can be shared unless proven otherwise for privacy, security or commercial confidentiality reasons.

3.85. Key activities undertaken during RIIO-ED1 to support digitalisation in RIIO-ED2:

Key activities supporting Digitalisation	
✓	Publishing a Digitalisation Commitment in December 2019
✓	Making data available via our Energy Data Hub on the WPD website
✓	Using a wide range of external data from developers, government and local authorities to produce future energy scenarios
✓	Investigating the potential to automatically detect homes with solar panels or electric cars using shared data from ElectraLink, the central body responsible for sending energy data around the whole industry
✓	Allowing communities and energy service providers to access consumption data securely from their local distribution substation as part of our Open LV innovation project
✓	Launching the Carbon Portal to provide accurate real-time historic and future CO2 content for the actual electricity being delivered to our customers' homes.

Figure SA-04.23 Key activities supporting digitalisation

Cyber security

- 3.86.** The move towards digitalisation of our network has emphasised the need for an increasingly sophisticated approach to cyber security. The UK has seen the magnitude, frequency and impact of digital cyber attacks on computer networks and information systems increase rapidly during the course of RIIO-ED1, as reported by the UK's National Cyber Security Centre (NCSC). We take the protection of our assets, systems and data very seriously and design our systems to defend against attacks.
- 3.87.** During RIIO-ED1, WPD has worked closely with government departments, including the NCSC and other energy companies to ensure that the company is aware of, and can react to, the latest issues and threats. We have developed effective systems to ensure that we are in compliance with the Network and Information Systems (NIS) Regulations and expanded our cyber security team to increase specialist knowledge in this area. Our actions within RIIO-ED1 have proven our ability to adapt to these new risks and have prepared us to deliver a range of new activities to enhance our cyber security capability further during RIIO-ED2.

Supporting the green recovery and net zero

- 3.88.** The UK's 2019 commitment to reduce greenhouse gas emissions to net zero by 2050 (compared to 1990 levels) has presented new challenges for WPD. We must ensure that the development of our network supports the achievement of the government's net zero targets. To achieve net zero by 2050, there must be big changes in the way homes are heated and vehicles are powered. This will require a huge increase in renewable and low carbon electricity, particularly to meet new sources of demand such as electric vehicles. WPD will need to ensure that the energy system is ready to meet these challenges and that it can continue to deliver a safe and reliable energy supply when and where customers need it.
- 3.89.** To date, WPD has connected almost 10GW of distributed energy resources to the network. We have re-engineered our network, which was designed to supply 14GW of maximum demand, to accommodate up to 31GW of distributed energy resources. The work we have undertaken so far has informed our planning for RIIO-ED2 and confirmed our ability to play a key and active role in the delivery of net zero.
- 3.90.** We have committed to spend up to £59 million, already underway in RIIO-ED1, to support the green recovery. We will invest in our extra high voltage (EHV) network to boost network capacity, allowing low carbon technologies to connect to our system and accelerate the green recovery.

Electric Vehicles (EVs) and heat pumps

- 3.91.** We recognise that a growth in EVs and heat pumps has the potential to significantly alter daily load profiles and increase the amount of power used.
- 3.92.** During RIIO-ED1, WPD has introduced an EV strategy (see www.westernpower.co.uk/RIIO-ED2/Electric-Vehicles-Strategy), detailing our plans to support the development of an EV charging infrastructure which will enable EV drivers to charge their vehicles at a time and place that suits them. Our strategy was developed using learning gained from RIIO-ED1 innovation projects and designed to enable DNOs to identify the parts of their networks likely to be affected by plug-in vehicle uptake and domestic charging, see figure SA04.24.

Case study - Sharing the results of the industry leading Electric Nation Smart Charging trial

In July 2019, we held an event to share the results of our Electric Nation Smart Charging trial. We shared detailed data gathered from the trial and the conclusions reached, including the following:

- Customers can be flexible in the time of day they choose to charge their vehicles but without incentives, the demand for evening charging requires management
- Remotely managing customer charging is technically feasible, as well as being acceptable to participants
- 'Time of use' incentives appear to be effective at moving demand away from the evening peak

Figure SA-04.24 Our Electric Nation case study

- 3.93.** We have also published a Heat Pump Strategy (see www.westernpower.co.uk/RIIO-ED2/Heat-Pumps-Strategy) outlining our plans to support the expected rise in heat pump installations as part of the UK's transition to net zero.

Innovation in RIIO-ED1

- 3.94.** We recognise the importance of innovation to enhance the efficiency of our business and drive cost savings for our customers. During RIIO-ED1, more than 30 active innovation projects have been funded by Ofgem's innovation stimulus - but we recognise that the key to success is translating any learning into 'Business as Usual' efficiencies. We have also developed a culture where staff can not only see the benefits of making changes to improve our performance but are empowered to get on with it.
- 3.95.** Our extensive innovation programme provides solutions that help us to adapt the network to our changing environment and the requirements of our customers. These projects underpin our aim to provide flexible network solutions that are quicker, more effective and offer better value than those currently in place. The table below shows some of the outcomes that have been developed through our innovation programme during RIIO-ED1.

Innovation activities	Benefits
Adoption of 'Agile Auditing' techniques to enhance the audit process. The concept of 'Agile Auditing' represents an innovation in audit approaches and technique. The team has explored the opportunities that the concept provides to Internal Audit within WPD. The team has refreshed its methodology and approach to embed those aspects that help the team to deliver efficient and effective services. In particular we have revised planning and reporting templates to enhance service delivery	Quicker delivery of key audit findings to enable business manager to enact opportunities as soon as possible
	Enhanced and shortened templates that improve communication of audit results
Launched bespoke services for deaf and hard of hearing customers – Interpreter Now, including Video remote interpreting for engineers on site. NGT Lite	Improved access for our deaf customers, allowing them to contact us directly without an intermediary or interpreter and give the ability for our frontline staff to talk directly to deaf customers on site
Introduced the WPD support app, to specifically reach PSR customers	Allows PSR customers to update their details as circumstances change, obtain support from us 24/7 & quick access to power cut updates and provides an alarm to be used for this with sleep apnoea machines
Losses estimation tool for flexibility	Estimation of additional losses due to flexibility
Integration network model	Digitalisation, data quality
Vegetation management from light detection and ranging (LiDAR) data	Improved business efficiency, digitalisation, data quality
LV network investment forecasting tool	LCT connections, business efficiency, data quality, digitalisation
Customer enquiry tracker	Customer service, business efficiency, replacement of legacy system
Hazardous waste app	Regulatory compliance, business efficiency, digitalisation.
AR - Automatic CROWN refunds	The CROWN refund project has been implemented, automating cheque refunds in CROWN to improve efficiency, adding a dropdown box with predetermined narrative, routing to the appropriate authoriser online and adding an interface between CROWN and E5 and vice versa, updating CROWN with confirmation of cheque processing. Saving duplication of data entry and substantial time creating the manual payment request in e5
Company-wide automated workflow	Automate as many tasks to reduce man hours, delays and mistakes
LV Connectivity Model	Creation of an LV connectivity model in Electric Office enables:

Innovation activities	Benefits
	Users to simulate electrical traces on the network, simulation of feeder changes, association of customers to feeders and load analysis, supply of circuit based data to other products - e.g. LVConnect, essential for the development of our DSO capability
Tree species Identification	Using LiDAR and stills imagery to identify tree species. Trial being rolled out in ED1 with quick implementation if proved successful
Replacement GIS System	Productivity, interoperability between systems, asset tracking, system alignment/interfaces, reporting, network connectivity - creation of LV Connectivity model, future proof GIS system
Introduced GIS data to the helicopter camera system	Camera using inertial navigation system recognises the asset it is looking at and displays this on the screens within the aircraft
Use of LiDAR data for engineering	LiDAR system tested for accuracy on 132kV line refurbishment. Saved the company approximately £20K
Continual development of Active Network Management (ANM). ANM was rolled out in 2014, but full scale business roll out required significant further development, including working with the ANM suppliers to develop their systems to work more efficiently	Allows more customer connections without reinforcement
WPD field team work instructions issued electronically	Paperless approach. Immediate access to job information. Reduced travelling to office to collect which reduces carbon footprint and increases efficiencies
Network changes sent to Mapping Centre electronically direct from site by jointers	Immediate update, paperless, reduced admin process
Introduction of 'What's App' & 'What3words' in Contact centre	These applications give greater flexibility and clarity to passing on emergency information for call takers, Control and field staff. Particularly useful for network damage, and fault incidents
Automation of the production of health indices	The production of Health Indices requires processing of data about 1.7 million discrete assets and 7700 km of linear assets, through around 100 CBRM models that carry out the calculations to implement Common Network Asset Indices Methodology (CNAIM). The data extraction, combination of data from different systems and running of models was previously manual and would take around a month to complete. All the processes have been automated which allows the health indices to be refreshed every month allowing operational teams to have more up to date information for the selection of assets to replace or refurbish. It also speeds up the end of year processes for population of regulatory returns, providing more opportunity for checking and review
Targeting support with social indicator data	Social indicator mapping tool. Comprises 67 datasets which are used by WPD and our referral partners to better identify potentially vulnerable or fuel poor households and therefore better target support and outreach services. Open sourced for anyone to use and drive further innovation and partnerships, with ability to filter data by 28 different criteria, from traditional areas of DNO concern including 'PSR eligibility' and 'fuel poor households'.
IRIS - The new incident reporting information system (IRIS) was implemented in 2020. This replaces the old National Fault and Interruption Reporting System (NAFIRS) system but with the capability to track the impact of network incidents down to individual customers	Our external auditors said this was the first reporting system they had seen in the UK that was able to report down to this level of detail
App developed for communications engineers for fault reports	Allows communications engineers to update fault reports from site rather than having to return to offices to complete paperwork. Also allows monthly Key Performance Indicators (KPIs) to be produced online rather than having to use paper methods

Figure SA-04.25 Innovation activities undertaken during RIIO-ED1

Supporting community energy

- 3.96.** Community energy groups offer an exciting opportunity to transition to a decentralised system through collaboration and partnerships and are expected to play an important part in our work to achieve net zero. Their ambition and passion will enable future networks to be smarter and more flexible and pave the way for further innovative projects.
- 3.97.** Our approach to engaging community and local energy stakeholders has been developed over the course of RIIO-ED1. We have been working with community energy experts since 2014 and have developed a robust engagement programme, delivering a range of initiatives in line with the needs of these groups.
- 3.98.** During RIIO-ED1, we have:

Key activities supporting Community Energy	
✓	Launched a range of innovation projects focused on community energy projects from early stage Demand Side Response trials to large scale demonstration projects such as Open LV, providing distribution substation data in real-time to help communities to understand their energy use and increase their flexibility
✓	Created easily accessible online information for community energy customers covering a range of topics from connections to flexibility markets
✓	Enabled shared learning between community groups, including site visits
✓	Created a forum for stakeholders to discuss innovation project ideas and seek feedback

Figure SA-04.26 Key activities supporting community energy

Proven delivery of connections service

- 3.99.** We continue to enhance the connections service that we provide to our customers by meeting Ofgem targets for Time to Quote (TTQ) and Time to Connect (TTC), improving communication through the Incentive on Connection Engagement (ICE), enhancing engagement to ensure we meet stakeholder needs, delivering GSOP and facilitating a competitive connections market. We have achieved excellent levels of customer service at a time when there have been greater constraints on the network, as a result of the increase in low carbon technology, high volumes of distributed generation and the installation of electricity storage.
- 3.100.** Over the course of RIIO-ED1, we have outperformed against the targets set by Ofgem for Time to Quote and Time to Connect, this is shown in figure SA-04.27.

Licence Area	Time to Quote (average number of days)		Time to Connect (average number of days)	
	LVSSA	LVSSB	LVSSA	LVSSB
West Midlands	1.10	2.13	31.98	38.00
East Midlands	1.56	2.91	31.69	37.59
South Wales	1.06	2.39	29.81	39.31
South West	2.79	3.63	36.80	45.60
Ofgem target	4.84	7.84	39.28	47.94

Figure SA-04.27 WPD's performance against the Ofgem Time to Quote and Time to Connect targets for LVSSA and LVSSB market segments in 2020/21

- 3.101.** During RIIO-ED1, we have worked to provide a faster and more efficient connections service, improving communication and engagement with our customers, introducing a range of new initiatives through our ICE work plan. Further details on our performance on ICE can be found in Appendix A03
- 3.102.** We continue to provide excellent customer service for our connections customers, as demonstrated by our scores for the Connections Customer Survey in Ofgem's Broad Measure of Customer Satisfaction. We have consistently been the top performer with a six year average result for connections customer satisfaction of 8.87 out of 10, see figure SA-04.28. In 2020/21, we scored an average of 9.08 out of 10 for our DNO group.

RIIO-ED1 average connections BMCS score by DNO group

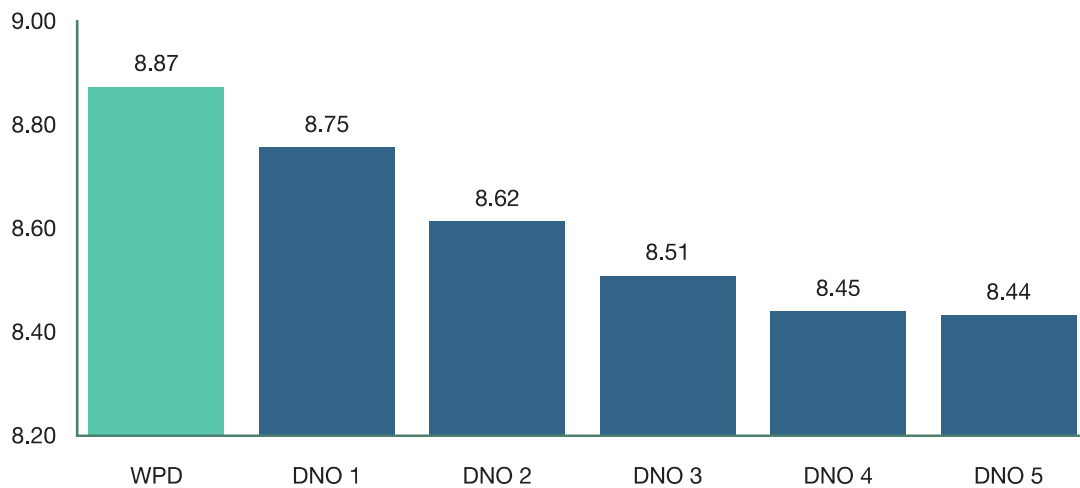


Figure SA-04.28 Broad Measure of Customer Satisfaction - connections survey for DNO groups

- 3.103.** During RIIO-ED1, we have worked hard to ensure that the needs of our connections customers are met. These efforts are reflected in our performance against Ofgem's GSOP. We have recorded only six failures against these standards, which cover all aspects of connection provision during the first four years of the RIIO-ED1 period. This means we experienced the lowest number of failures across all DNOs, along with the highest number of connections where GSOPs would apply, confirming our position as a leading network operator.
- 3.104.** We work alongside third party connection providers to develop processes that facilitate competition within the connections market. We have carried out trial processes for contestable works and will continue to develop the options available according to stakeholder requirements.

4. Our expenditure in RIIO-ED1

- 4.1.** Our total expenditure includes capital investment in the network (e.g. building new network and replacing poor condition assets) and operating costs for maintenance, fault repairs, planning and project management.
- 4.2.** We invest the money we receive from our customers effectively and efficiently to make our network more reliable, and to ensure we have the capacity to meet future customer needs.
- 4.3.** In the first two years of RIIO-ED1, we spent more than our allowances to get ahead in our work programmes and deliver significant benefits for customers. Expenditure has progressively been brought in line and at the close of 2020/21, our expenditure was 2% below our Totex allowances for RIIO-ED1 to date as shown in the table below. Although the Covid-19 pandemic restricted some of our activities, we expect that most of this work will still be completed by the end of RIIO-ED1. We will also deliver increasing levels of reinforcement to aid the green recovery.
- 4.4.** We are proud of our track record in RIIO-ED1 to date. As well as being on track to deliver the 76 commitments established in the RIIO-ED1 Business Plan, we have also adapted to emerging activities and challenges including establishing DSO capabilities, strengthening defences against cyber threats, continuing to serve our customers to exceptional performance levels during Covid-19 and initiating significant investment in support of the green recovery. We are also proud of our achievements in innovation, which have driven real change. Our expenditure plans have adapted and we currently forecast that we will outturn just under our Totex allowances by the end of RIIO-ED1. Without the inclusion of the green recovery programme, we would have outturned at just under 1% of our Totex allowances. Our overall Totex performance in RIIO-ED1 is shown in figure SA-04.29.

Totex									
2020/21 prices	2015/16 Actual	2016/17 Actual	2017/18 Actual	2018/19 Actual	2019/20 Actual	2020/21 Actual	2021/22 Forecast	2022/23 Forecast	ED1 Total
Expenditure £m	1,117	1,166	1,004	933	959	1,026	1,107	1,090	8,401
Allowance £m	1,091	1,087	1,026	1,052	1,035	1,026	1,044	1,068	8,429
Variance £m	26	79	- 21	- 119	- 77	- 0	63	22	- 28
Cumulative variance £m	26	105	83	- 36	- 113	- 113	- 50	- 28	
Cumulative variance %	2%	5%	3%	-1%	-2%	-2%	-1%	0%	

Figure SA-04.29 Our Totex performance during RIIO-ED1

- 4.5.** The expenditure in each of our four DNOs reflects the specific needs of the individual customers and the network assets. Hence why there are differences in the variance in over/underspend. We are actively managing these challenges and opportunities in each area to forecast an overall outturn just under Totex allowances. Figure SA-04.30 shows the position for each DNO.

Totex by DNO				
£m	Expenditure	Allowance	Variance	Variance %
West Midlands	2,558	2,515	43	2%
East Midlands	2,546	2,549	- 3	0%
South Wales	1,266	1,311	- 45	-3%
South West	2,031	2,054	- 23	-1%
Total WPD	8,401	8,429	- 28	0%

Figure SA-04.30 Our Totex performance during RIIO-ED1

- 4.6. Figure SA-04.31 below and the following section, highlights the main areas of our expenditure and explains how these have contributed to our overall Totex performance through this chapter.

Totex			
£m	Expenditure	Allowance	Variance
Network reinforcement	730	807	- 77
Non load investment: Replacing and repairing equipment	2,681	2,851	- 170
Network operating costs, including network faults	1,930	1,709	220
Operational support	2,758	2,413	345
Business support	892	979	- 87
Other	76	0	75
Total expenditure	9,067	8,760	307
Indirect allocations	- 526	- 355	- 171
Totex adjustments	- 140	24	- 164
Totex	8,401	8,429	- 28

Figure SA-04.31 Overall Totex performance during RIIO-ED1

Network reinforcement

- 4.7. Network reinforcement is expenditure incurred when providing additional capacity on the network to facilitate new connections as well as general load growth. We currently report a 17% underspend against allowances in the first six years of RIIO-ED1 and forecast that this will be 10% underspend by the end of RIIO-ED1. This is shown in figure SA-04.32.

Network reinforcement									
2020/21 prices	2015/16 Actual	2016/17 Actual	2017/18 Actual	2018/19 Actual	2019/20 Actual	2020/21 Actual	2021/22 Forecast	2022/23 Forecast	ED1 Total
Expenditure £m	106	71	76	51	52	113	140	121	730
Allowance £m	104	98	69	95	96	103	121	121	807
Variance £m	2	- 27	7	- 44	- 44	11	19	- 1	- 77
Cumulative variance £m	2	- 25	- 17	- 62	- 106	- 95	- 77	- 77	
Cumulative variance %	2%	-12%	-6%	-17%	-23%	-17%	-11%	-10%	

2020/21 prices	ED1 variance £m
West Midlands	- 22
East Midlands	- 44
South Wales	- 0
South West	- 11
Total WPD	- 77

Figure SA-04.32 Network reinforcement expenditure

- 4.8. We submitted our plans for RIIO-ED1 in 2013, forecasting out to 2023. A number of economic factors have impacted the wider UK economy, reducing and deferring some of the anticipated investments included in our original plan. However, the impact of other government policy changes, in particular with regard to distributed generation, have countered some of this downturn.

- 4.9. As a result of the greater focus on net zero carbon by 2050, we are starting to see a strong public response leading to a ramp up in the use of low carbon technologies. For example, Ford

announced early in 2021 that every passenger car model they produce will have an electric or plug-in hybrid option by 2026, and the company will stop selling cars in the UK and Europe with any form of internal combustion engine by 2030. In light of these significant changes, we are expecting to see a fourfold increase in the number of EVs by 2023, by which time we will have around 548,000 electric vehicles connected to our network. Similarly, following the latest government proposals for heat, with proposed changes to new build housing, we expect 265,000 heat pumps will be connected to our network by the end of 2023. Growth of this scale would normally result in substantial reinforcement, but our approach to utilise flexibility first is leading to cost effective alternatives to traditional approaches.

- 4.10.** Since 2017, we have been procuring flexibility services to defer or avoid reinforcement expenditure, and launched Flexible Power in 2019. To date, we have procured 709MW of flexibility services. During 2020/21, we had procured 441MW of flexibility services, and achieving £40 million (in 20/21 prices) of deferred/avoided reinforcement in areas where flexibility has been successfully implemented. Flexible Power is now embedded within our business processes to ensure that flexibility is considered and adopted (where appropriate) as an alternative to conventional network reinforcement. This approach is also fully factored into our RIIO-ED2 business plan.
- 4.11.** In the East Midlands there are higher volumes of large connection developments taking place with numerous large scale connections along the M1 and M40 corridors. Connection customers select the location of their developments by considering a variety of factors including land availability, road infrastructure, business subsidies and local planning conditions. At some locations there is insufficient capacity in the existing electricity infrastructure and therefore the connections require network reinforcement. The amount of reinforcement required, the additional capacity installed and capacity required by the customer dictate the proportion of the costs that the connection customer will fund. The remainder is funded through DUoS. These costs are largely outside the control of a licensee, being influenced by economic conditions and business development.
- 4.12.** The volume of distributed generation connections has surpassed all DNO, regulatory and government forecasts available at the time of submitting RIIO-ED1 Business Plans. The financial opportunities for developers from government subsidies such as feed in tariffs, have led to a proliferation of distributed generation, especially large scale solar farms. The volumes of connections have been further influenced by government mechanisms such as Feed-in-Tariff Degression which intended to temper the volume of activity, but caused a perverse reaction of developers rushing to get connections made ahead of tariffs being reduced. While the volumes of new larger scale distributed generation are easing, they have left a legacy of constraints on the networks, which are now being addressed. The South West in particular has seen significantly higher than forecast connection reinforcement costs due to further growth in the volumes of distributed generation connections, as well as significantly higher than forecast primary reinforcement costs dealing with distributed generation related constraints and to provide export capability from the Cornwall and Devon peninsular (which has been partly offset by savings on deferred/avoided projects due to the procurement of flexibility).
- 4.13.** These external influences have led to different reinforcement requirements across WPD networks, but our plans are adaptable and we have ensured we can address network constraints in an efficient way embracing the opportunities offered through flexibility, ANM, innovation and all DSO initiatives. These will form a strong base for RIIO-ED2. These trends and opportunities have been fully factored into the processes that have informed the development of our RIIO-ED2 business plans.
- 4.14.** We have committed to spend £59 million to support the green recovery, of which £44 million will be spent before the end of RIIO-ED1. We will invest into our EHV network to boost network

capacity, allowing low carbon technologies to connect to our system and accelerate the green recovery

- 4.15. We are now forecasting we will spend around £730 million on reinforcement in RIIO-ED1, including green recovery projects.

Non-load investment: Replacing and refurbishing equipment

- 4.16. Non load investment encompasses a broad range of activities linked to the replacement and refurbishment of assets, as well as improving safety, reducing environmental impact and improving network performance. We are currently forecasting 6% underspend against allowances, and underspends are forecast in all four licence areas. This is shown in figure SA-04.33.

Non load investment: Replacing and repairing equipment									
2020/21 prices	2015/16 Actual	2016/17 Actual	2017/18 Actual	2018/19 Actual	2019/20 Actual	2020/21 Actual	2021/22 Forecast	2022/23 Forecast	ED1 Total
Expenditure £m	358	398	353	272	303	298	351	349	2,681
Allowance £m	399	393	381	362	344	325	315	332	2,851
Variance £m	- 41	4	- 28	- 89	- 41	- 27	36	17	- 170
Cumulative variance £m	- 41	- 37	- 65	- 155	- 195	- 223	- 187	- 170	
Cumulative variance %	-10%	-5%	-6%	-10%	-10%	-10%	-7%	-6%	

	ED1 variance £m
West Midlands	- 74
East Midlands	- 19
South Wales	- 47
South West	- 30
Total WPD	- 170

Figure SA-04.33 Non load investment expenditure

- 4.17. Our asset replacement programme remains focused on removing assets in poorest condition, informed by data collected during inspections. It is on track to deliver and exceed regulatory Network Asset Secondary Deliverables targets.
- 4.18. Asset replacement expenditure is lower than allowances in each of our four DNOs, with volumes across asset categories varying where network requirements have been identified to be different to forecast. For example:
- West Midlands - higher volumes of Ring Main Units (RMUs) and LV cable with lower than forecast volumes of LV poles, HV poles and overhead conductors
 - East Midlands - higher volumes of RMUs and 132kV underground cable with lower than forecast volumes of LV poles, HV poles and 33kV underground cable
 - South Wales - higher volumes of ring main units being offset by lower than forecast volumes of LV poles, HV poles and HV overhead line conductor replacement
 - South West - higher than forecast expenditure on RMUs and LV pillars offset by lower expenditure on overhead line conductor across various voltages.

4.19. Areas where there are overspends include:

- Refurbishment (no secondary deliverable impact) where we have carried out more standalone replacement of protection relays
- Refurbishment (secondary deliverable impact) where we have carried out refurbishment of leaking fluid filled cable joints and replacement of tap-changers on transformers
- Overhead line clearances where we have been dealing with ground clearance issues identified on the network.

4.20. These additional costs have been offset by underspends on major civils work (noting that more has been spent on civils repairs and maintenance). All these factors have been incorporated into our processes for developing the RIIO-ED2 plans.

4.21. There has also been a reduction in diversions associated with rail electrification where changes to government plans have delayed or cancelled electrification projects, causing an underspend in the first six years of RIIO-ED1. We have previously agreed with Ofgem that £93 million (20/21 prices) of our Totex allowance related to rail electrification will be 'handed back'; this is factored into the revised allowances in the last three years of RIIO-ED1. There continues to be uncertainty on rail electrification heading into RIIO-ED2 and therefore, we are not requesting any new ex-ante allowances in RIIO-ED2 and propose that future requirements are addressed under uncertainty mechanisms.

4.22. For Operational IT and Telecoms, there is lower expenditure in RIIO-ED1 to date. This is partly due to re-phasing due to ongoing re-evaluation of requirements as a result of work on DSO functions and work required to address internet based cyber threats. By the end of RIIO-ED1, we expect to outturn in line with allowances in this activity. Our programme for the remainder of RIIO-ED1 will ensure our operational IT and telecoms systems are ready to respond to the investment, challenges and opportunities at the start of RIIO-ED2.

Network operating costs, including network faults

4.23. Network operating costs are collectively associated with faults, severe weather response, inspection and maintenance, and tree cutting activities. We are currently forecasting 13% overspend against allowances, as shown in figure SA-04.34.

Network operating costs, including network faults									
2020/21 prices	2015/16 Actual	2016/17 Actual	2017/18 Actual	2018/19 Actual	2019/20 Actual	2020/21 Actual	2021/22 Forecast	2022/23 Forecast	ED1 Total
Expenditure £m	269	245	237	231	235	226	245	241	1,930
Allowance £m	212	214	215	216	216	215	210	211	1,709
Variance £m	58	31	22	15	19	11	35	30	220
Cumulative variance £m	58	88	111	125	144	155	190	220	
Cumulative variance %	27%	21%	17%	15%	13%	12%	13%	13%	

	ED1 variance £m
West Midlands	108
East Midlands	69
South Wales	11
South West	33
Total WPD	220

Figure SA-04.34 Network operating costs

- 4.24.** We have an excellent track record of minimising the impact of faults on customers. This is achieved by responding quickly, with adequate resources and utilising mobile generation to provide temporary supplies. We have enhanced our fault response processes to virtually eliminate the number of customers affected for more than 12 hours. This has involved using more teams to respond to faults, a requirement for excavation contractors to provide a faster response and greater use of mobile generation. The receipt of revenues through the IIS incentive in RIIO-ED1 is important to us for funding the additional costs associated with this level of excellent network performance that our customers value highly.
- 4.25.** We use contractors for tree clearance activities. RIIO-ED1 cost forecasts were based upon historical costs, but market conditions have changed. Across utilities and rail companies, there is a higher demand for skilled tree clearance operatives driving contract prices higher, especially in the Midlands. While contract negotiations have sought to minimise the impact, there have been inevitable cost increases. We remain committed to fulfilling tree clearance programmes and will seek to gain efficiencies to offset contract costs increases. We are developing and adopting alternative ways of managing tree clearance, making use of LiDAR technology to reduce overall costs while still delivering comprehensive tree clearance activities.
- 4.26.** Inspections costs are above allowances. There are a number of changes to policy that have been introduced which will lead to costs that are higher than allowances. These changes include dedicated programmes of assessment of LV overhead line clearance across roads, more frequent inspection of LV link boxes, especially where there is a greater chance of people being near them, and additional condition data collection to enhance the range of data collected.
- 4.27.** Repairs and maintenance costs are also above allowances. While we carry out routine cyclical maintenance ensuring that all maintenance is completed in the year it is due, there has been a focus on remedial actions to remove defects from the network leading to higher than forecast costs. In addition, approximately 60% of the additional costs are attributable to civil repairs and maintenance.
- 4.28.** The smart metering rollout programme has been driven by government and supplier policy and programmes. Where necessary, we are carrying out repairs to service positions to enable smart meters to be installed. The actual service position defect rate is higher than the rate used for the RIIO-ED1 forecasts (noting that Ofgem required DNOs to use a defect rate of 2%). This programme will now continue until 2024 and is also subject to Ofgem volume driver assessment to adjust allowances to reflect the volumes of defects encountered.
- 4.29.** We are also seeing an overspend against allowances for Occurrences Not Incentivised (ONI) costs. ONI costs relate to asset and safety related issues that are dealt with urgently, but are not classified as incidents reported under faults. This includes cutout faults, street lighting faults as well as emergency disconnections, responding to safety calls and abortive visits. The increased activity under the smart meter rollout is leading to higher volumes of service position defects being reported. Where these cannot be positively associated with a smart meter install they are reported under ONIs. We are also seeing increasing costs associated with emergency disconnections for illegal abstraction, in many instances associates with the illegal growth of cannabis.
- 4.30.** All these factors have been incorporated into our processes for developing the RIIO-ED2 plans.

Operational support

- 4.31.** The physical work we deliver on the network can only be delivered with the support of indirect activities and the associated capital investment. Such activities include network planning, project management, system records, stores, and the purchase and management of our commercial vehicle fleet. We are currently forecasting a 14% overspend against allowances, as shown in figure SA-04.35.

Operational support									
2020/21 prices	2015/16 Actual	2016/17 Actual	2017/18 Actual	2018/19 Actual	2019/20 Actual	2020/21 Actual	2021/22 Forecast	2022/23 Forecast	ED1 Total
Expenditure £m	350	354	351	344	327	324	363	347	2,758
Allowance £m	300	304	284	302	304	307	311	300	2,413
Variance £m	49	50	67	42	22	17	52	47	345
Cumulative variance £m	49	99	166	208	230	246	299	345	
Cumulative variance %	16%	16%	19%	17%	15%	14%	14%	14%	

	ED1 variance £m
West Midlands	119
East Midlands	125
South Wales	54
South West	48
Total WPD	345

Figure SA-04.35 Operational support expenditure

- 4.32.** There are overspends in core engineering support activities, including design and planning, project management, engineering management and clerical support. In the last few years, WPD has been reviewing the expenditure in this activity to identify potential efficiencies which will reduce this expenditure as RIIO-ED1 progresses - the focus on this activity means that costs have already fallen since the start of the price control, and these efficiencies have been embedded into our RIIO-ED2 plan.
- 4.33.** Examples of such efficiencies are:
- Introducing an electronic resource programme boards (STARS) to enhance the utilisation of staff time.
 - Development of iPad applications to provide ease of access to critical information/functionality which helps to get the job done more effectively.
 - Implementing a wide range of management information dashboards which provide timely information to managers across the business to aid business monitoring and decision making.
 - Implementing a work instruction portal, to manage day to day work instruction issues, as well as invoicing and approval for payment and so modernising and improving our contract management during RIIO-ED1 and in readiness for RIIO-ED2 through digitisation.
- 4.34.** The overspend on operational training reflects additional recruitment of resource into engineering trainee roles rather than craft apprentice roles, as well as required refresher courses in the early years of RIIO-ED1. We will always continue to adapt our workforce resilience and training plans to ensure we have an appropriately skilled and diverse workforce, capable of delivering on the opportunities in the closing years of RIIO-ED1 and into RIIO-ED2.
- 4.35.** There have also been overspends in non-operational property capex. New properties have been built and developed in RIIO-ED1, across all four DNOs, which were not anticipated at the time of the Business Plan. There has also been an internal policy to bring vehicle repair and

maintenance in-house (South West only at the time of the Business Plan), so additional property expenditure has been spent on obtaining land and building garages at depot sites.

- 4.36.** These areas of overspend in RIIO-ED1 to date have been partly offset by underspend in vehicle capital expenditure. This has been driven by a change in strategy to a more condition-based replacement strategy, which ensures maximum benefit is gained from our vehicle assets. We have recently installed driver behaviour systems in all our vehicles which monitor and communicate with drivers to improve driving performance and therefore improve fuel efficiency and safety. By adopting an in-house approach for vehicle maintenance and repairs, including installation of tyre fitting equipment, we are obtaining a range of benefits, including direct control over legal compliance of the fleet, while ensuring a swift response for the operational teams and reduction in driver waiting time. These benefits have also been factored into our RIIO-ED2 plans.
- 4.37.** For non-operational IT & Telecoms, there is lower expenditure in RIIO-ED1 to date. This is partly due to re-phasing due to ongoing re-evaluation of requirements as a result of work on DSO functions, plus review of investment to ensure we adapt and react to cyber threats. Our programme for the remainder of RIIO-ED1 will ensure our IT systems are ready to respond to the investment, challenges and opportunities at the start of RIIO-ED2.
- 4.38.** Proposed expenditure in 2021/22 and 2022/23 is higher than recent years. This is because there is the additional non-operational IT expenditure as we complete our RIIO-ED1 IT programmes, as well as additional recruitment of staff to build up our DSO capabilities and resources to support the development and delivery of our RIIO-ED2 work programmes.

Business support

- 4.39.** Business support activities include a number of central functions across all licence areas, including human resources, finance and regulation, procurement, corporate communications, legal services and executive functions. We are forecasting a 9% underspend in this activity in RIIO-ED1, as shown in SA-04.36.

Business support									
2020/21 prices	2015/16 Actual	2016/17 Actual	2017/18 Actual	2018/19 Actual	2019/20 Actual	2020/21 Actual	2021/22 Forecast	2022/23 Forecast	ED1 Total
Expenditure £m	114	110	109	107	107	109	113	123	892
Allowance £m	121	122	122	122	122	123	124	124	979
Variance £m	- 7	- 12	- 13	- 15	- 16	- 14	- 10	- 1	- 87
Cumulative variance £m	- 7	- 19	- 31	- 46	- 62	- 76	- 86	- 87	
Cumulative variance %	-6%	-8%	-9%	-9%	-10%	-10%	-10%	-9%	

	ED1 variance £m
West Midlands	- 24
East Midlands	- 31
South Wales	- 11
South West	- 20
Total WPD	- 87

Figure SA-04.36 Business support expenditure

- 4.40.** Business support costs have been lower than allowances, and future years will be consistent with current levels of costs. Efficiencies are continually sought, but there will be some offset with increased regulation costs in the later years associated with developing the Business Plan. The efficiencies identified and delivered in RIIO-ED1 have been embedded in our RIIO-ED2 Business Plan.

- 4.41.** Additional insurance premium costs of £3 million have been forecast in 2022/23. These primarily relate to Directors and Officers Liability insurance and cyber insurances due to changes in charging between us and our old and new parent companies, and have been validated by our insurance broker, Gallagher.
- 4.42.** Business Support IT and operational technology (OT) costs have also been underspent in the first part of RIIO-ED1. Costs are forecast to increase in the last few years of RIIO-ED1 to support the forecast capital investment in IT and OT and to address the growing requirements in areas such as cyber security and DSO, as detailed above.

Proven efficiency in the cost of delivery

- 4.43.** We were the only fast tracked DNO in RIIO-ED1, highlighting our long proven record of efficient and effective delivery.
- 4.44.** Our approach demonstrates our commitment to providing a value for money service without compromising the high standards which our customers have come to expect. We believe efficiency is about more than the cost of delivery and will continue to emphasise the importance of customer benefits in our decision making processes. Stakeholder engagement is extremely important to us and will continue to be, as we work together with stakeholders towards delivering our RIIO-ED2 plan.
- 4.45.** We continue to lock in the efficiency improvements introduced through RIIO-ED1 and to benefit from them into the future.
- 4.46.** We will always flex the plan where necessary, investing where there is greatest value. We emphasise that delaying expenditure and not completing work does not equate to real 'efficiency' or real 'outperformance'.
- 4.47.** Through this approach, we are the market leader in DSO and flexibility and will strive to continue to be a top performing and innovative network operator in RIIO-ED2.

5. Return on regulatory equity

- 5.1.** Ofgem assesses overall financial performance of network operators using a measure called Return on Regulatory Equity (RoRE). RoRE performance is compared to the cost of equity allowed at the start of the price control. It is a key financial and regulatory performance measure used by Ofgem to assess overall financial performance of network operators against the price control settlement.
- 5.2.** WPD was allowed a 6.4% cost of equity as part of its Fast Track settlement. Drivers of RoRE include performance under the Totex Incentive Mechanism (TIM) and performance against output incentives. Totex underspends and incentive rewards increase network operators' returns, while overspends and incentive penalties decrease returns.
- 5.3.** Figure SA-04.37 below presents WPD's RIIO-ED1 to date RoRE, using 65% notional gearing, based on six years of actual data under RIIO-ED1.

RIIO-ED1 to date RoRE - notional gearing basis, including financing and tax

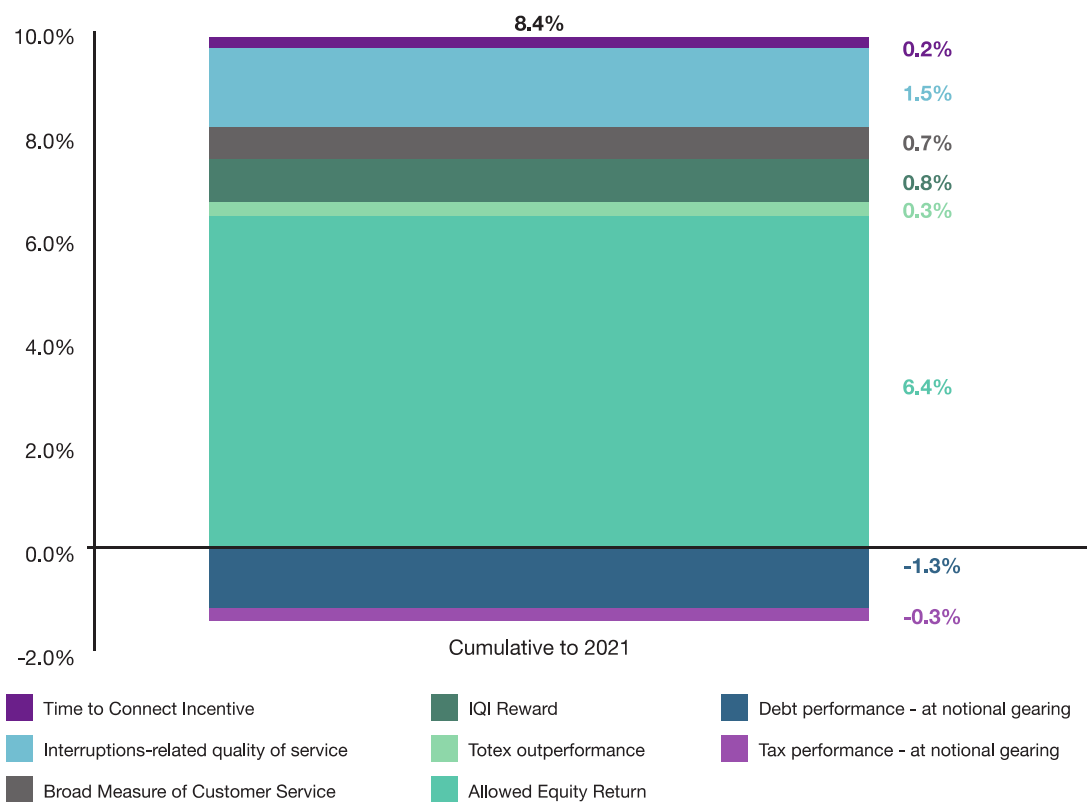


Figure SA-04.37 WPD's RIIO-ED1 to date RoRE

Note: Incentive on connections engagement, Losses discretionary reward scheme, Network Innovation and Penalties and fines have a value which rounds to 0.0% and are therefore not shown above.

Data source: [WPD's 2020/21 RFPR submission](#)

5.4. WPD's RIIO-ED1 to date RoRE, including financing and tax, on a notional gearing basis, is 8.4%. This is taken from our Regulatory Finance Performance Reporting (RFPR); further details can be found in [Appendix A04](#). RoRE represents the level of WPD's returns to shareholders. Ofgem's RIIO-ED1 allowed cost of equity is 6.4%, and the key drivers of WPD's returns above this level are the rewards for our performance under:

- Ofgem's Interruptions Incentive mechanism (1.5%);
- Ofgem's Time to Connect Incentive (0.2%), and
- The Broad Measure of Customer Service (0.7%).

These reflect the excellent levels of performance from which our customers have benefited.

Further contributions to RoRE outperformance are:

- The Fast Track reward that WPD was awarded for its RIIO-ED1 Business Plan (0.8%), and
- The RoRE impact of WPD's Totex outperformance (0.3%).

These are offset by:

- A -1.3% underperformance on the cost of debt, partially due to Ofgem's use of a 10 year trailing average cost of debt index to calculate WPD's RIIO-ED1 allowed cost of debt, which differs from the Slow Track approach; and
- A -0.3% RoRE impact representing additional taxation WPD has paid that is not covered by Ofgem allowances.

6. Financial returns to shareholders

- 6.1.** In its 2017 presentation [A Fair Return](#), Ofgem stated that ‘In RIIO-ED1, with a 6% cost of equity a well-performing company could earn double digit returns’¹. This statement echoed words from Ofgem’s RIIO-GD1 Final Proposals².
- 6.2.** Under the RIIO-ED1 Fast Track settlement, WPD was given a base level of return for equity investors of 6.4%. This return is earned on notional regulatory equity, which was set at 35% of the Regulatory Asset Value (RAV). WPD was also given a fast track reward (‘IQI reward’ in the chart above) of 2.5% of Totex, equivalent to an additional 0.8% of RoRE.
- 6.3.** WPD then earned further rewards through our performance against the incentives outlined above. These incentive rewards reflect WPD’s delivery of our network commitments, our high levels of customer satisfaction and the fact that WPD has consistently been number one for stakeholder engagement and customer vulnerability initiatives. It is clear from the chart above that it is WPD’s excellent performance that has driven returns higher than the allowed cost of equity; an outcome that was not unforeseen by Ofgem but part of the calibration of the RIIO-ED1 price control and, as in a competitive environment, is commensurate with our excellent level of performance, and the excellent results WPD has delivered for customers.

¹ Ofgem, “[A Fair Return](#)” Stakeholder workshop slides, 24 October 2017:

Note that the RIIO-ED1 slow-track cost of equity is 6%.

² Ofgem, RIIO-GD1: Final Proposals – Finance and Uncertainty supporting document, 17 December 2012. Paragraph 3.37, p.21 states:

“...in RIIO price controls our intention is that companies should be able to achieve an upside return on (notional) equity in the low double-digits”.

- 6.4.** Figure SA-04.38 compares the average RoRE returns WPD has earned in RIIO-ED1 to date, based on notional gearing, to the actual dividends paid to shareholders. So far, we have paid out an average annual dividend of £209 million compared to an average annual RoRE return to date of £211 million.

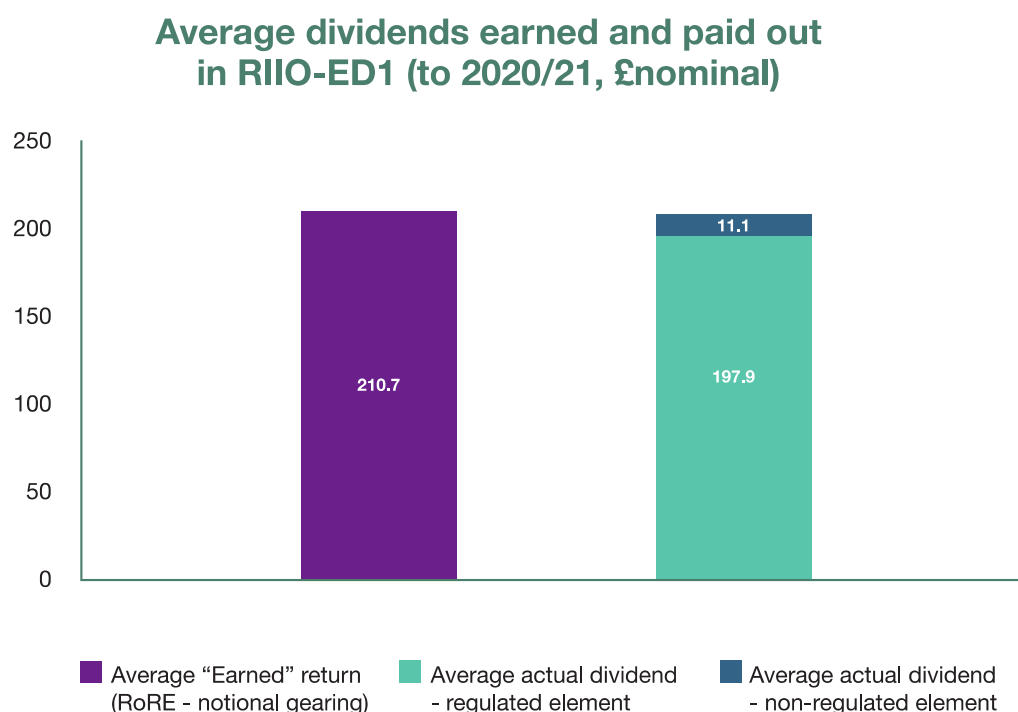


Figure SA-04.38 WPD's average dividends earned and paid in RIIO-ED1 (to 2020/21, £million in nominal prices)

- 6.5.** It should be noted that Ofgem's RoRE measure only considers regulated returns and it is therefore more appropriate to compare RoRE returns to the regulated element of dividends WPD has paid. Figure SA04.38 presents RoRE returns and also shows the element of dividends not related to the regulatory business, as reported in WPD's RFPR, separately. Note that the presentation of dividends above also includes cash paid out of the WPD DNOs to finance interest and debt maturities for loans taken out elsewhere in the WPD group for use by WPD DNOs. Similarly, cash paid down to WPD DNOs is netted off dividends.

Total RIIO-ED1 RoRE, including forecast years 2021/22 – 2022/23

- 6.6. Figure SA-04.42 sets out a provisional view of WPD's Total RoRE for the RIIO-ED1 period. Figures SA-04.39 - SA-04.41 provide a provisional breakdown for each of the WPD licensees.

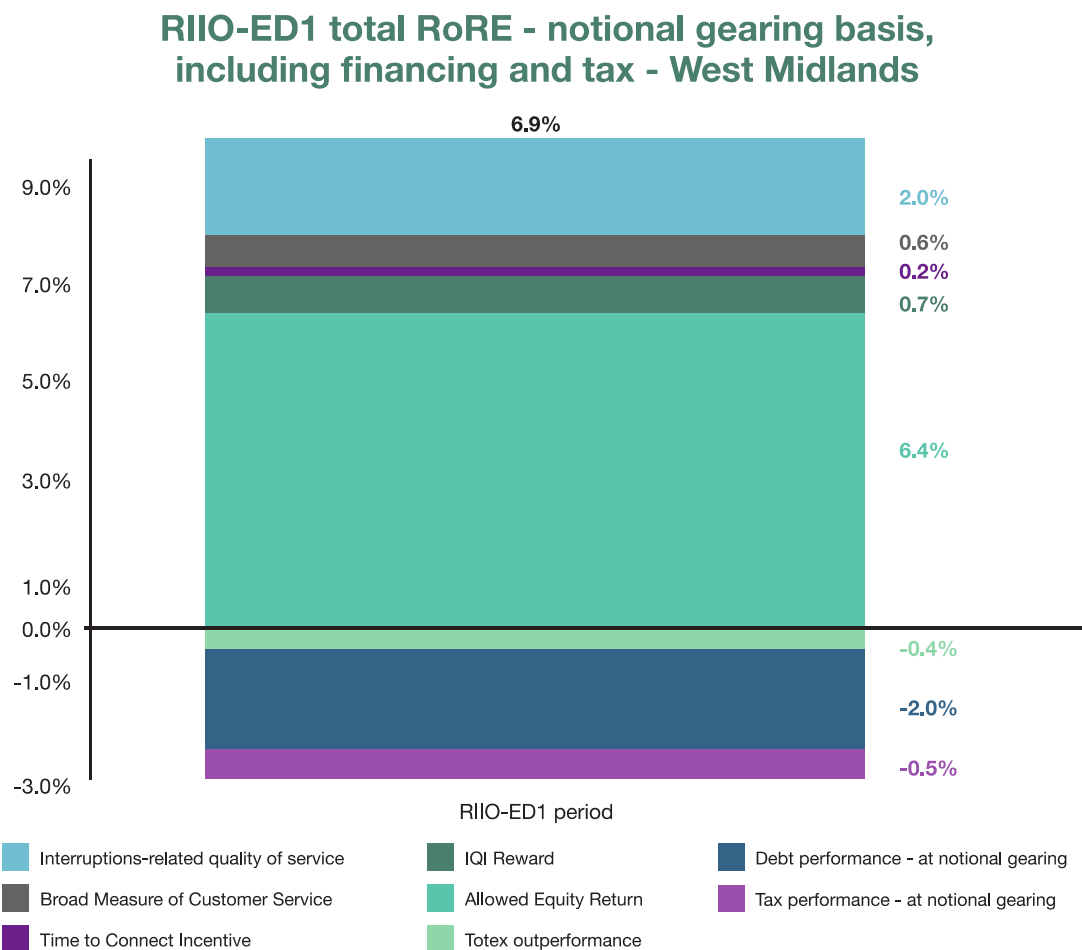


Figure SA-04.39 Forecast RIIO-ED1 RoRE – West Midlands

RIIO-ED1 total RoRE - notional gearing basis, including financing and tax - East Midlands

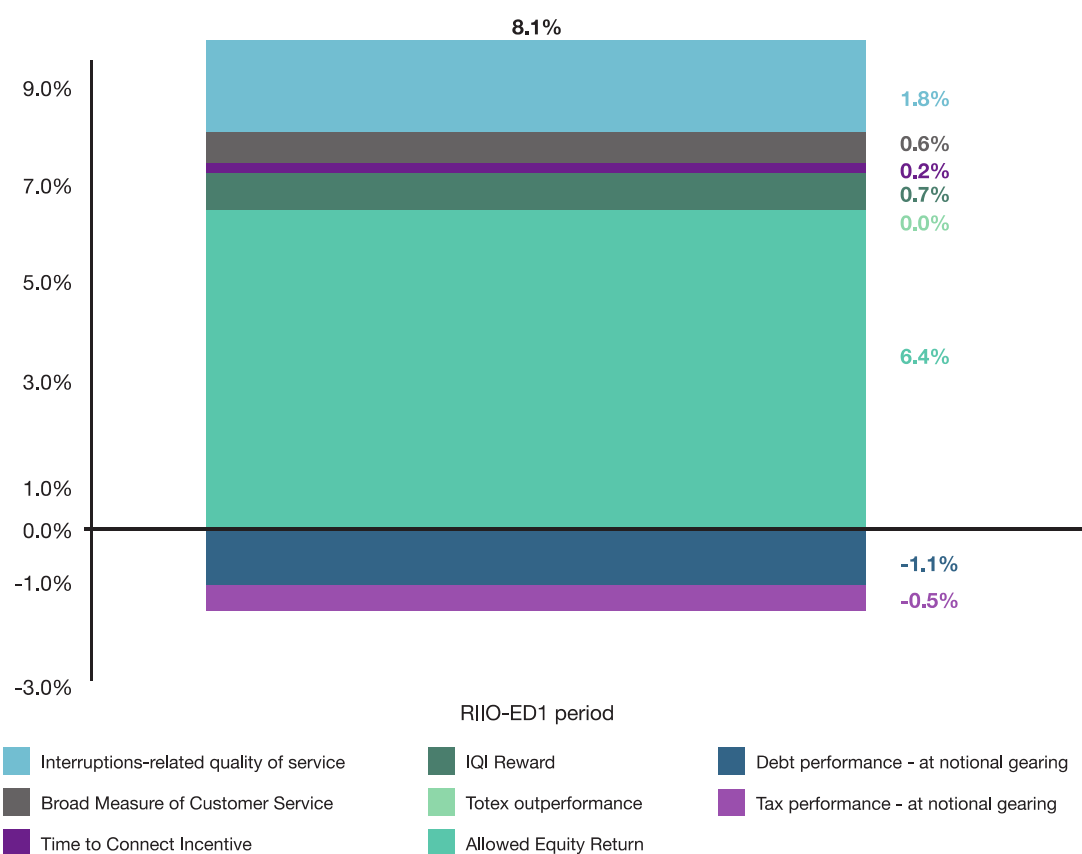


Figure SA-04.40 Forecast RIIO-ED1 RoRE – East Midlands

RIIO-ED1 total RoRE - notional gearing basis, including financing and tax - South Wales

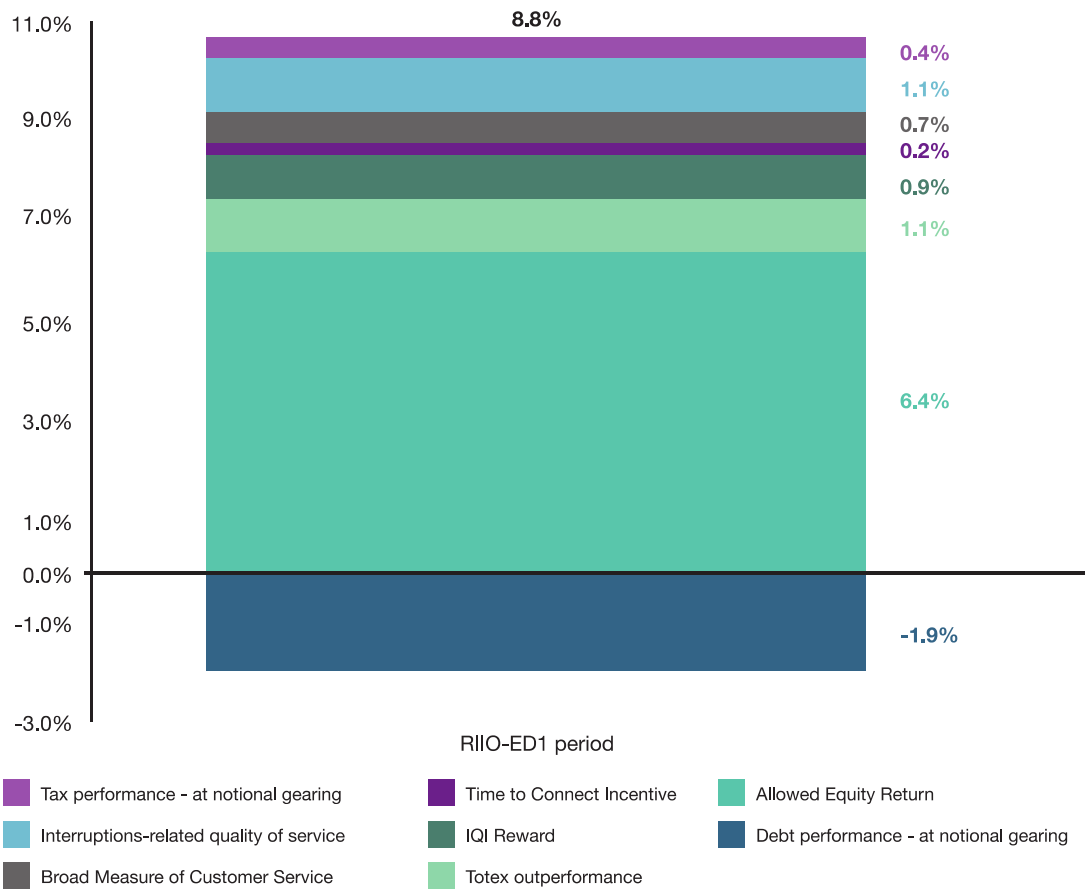


Figure SA-04.41 Forecast RIIO-ED1 RoRE – South Wales

RIIO-ED1 total RoRE - notional gearing basis, including financing and tax - South West

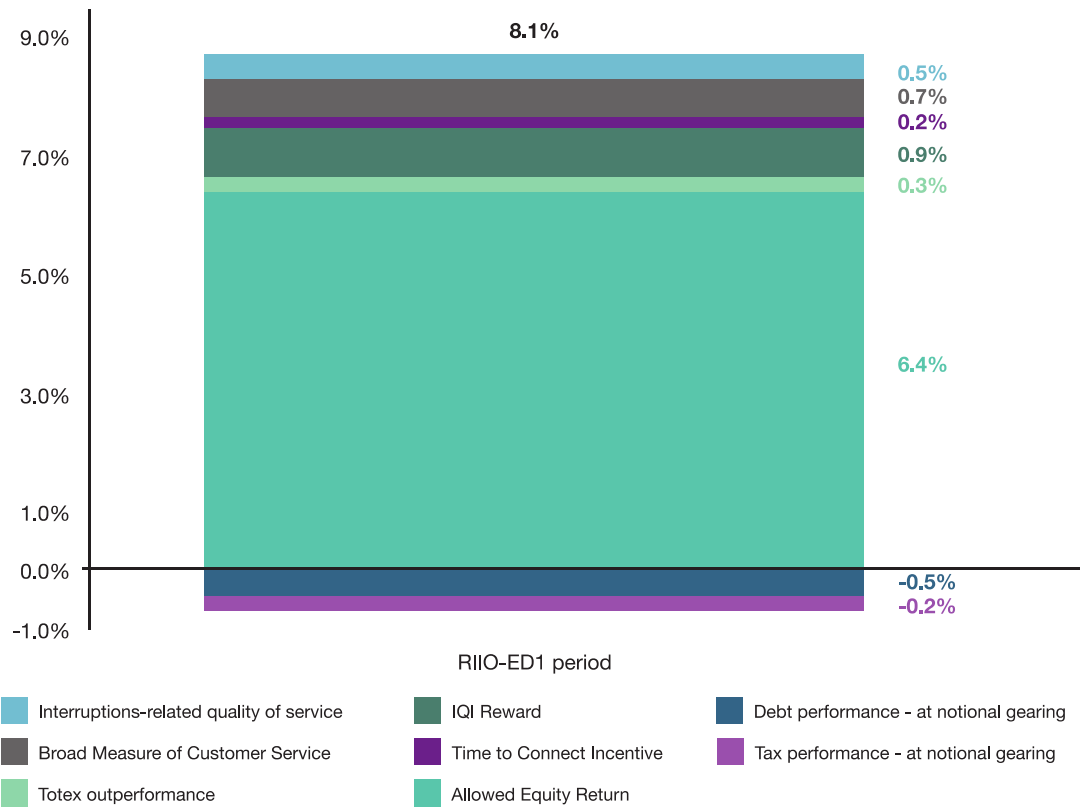


Figure SA-04.42 Forecast RIIO-ED1 RoRE – South West

RIIO-ED1 total RoRE - notional gearing basis, including financing and tax - WPD Total

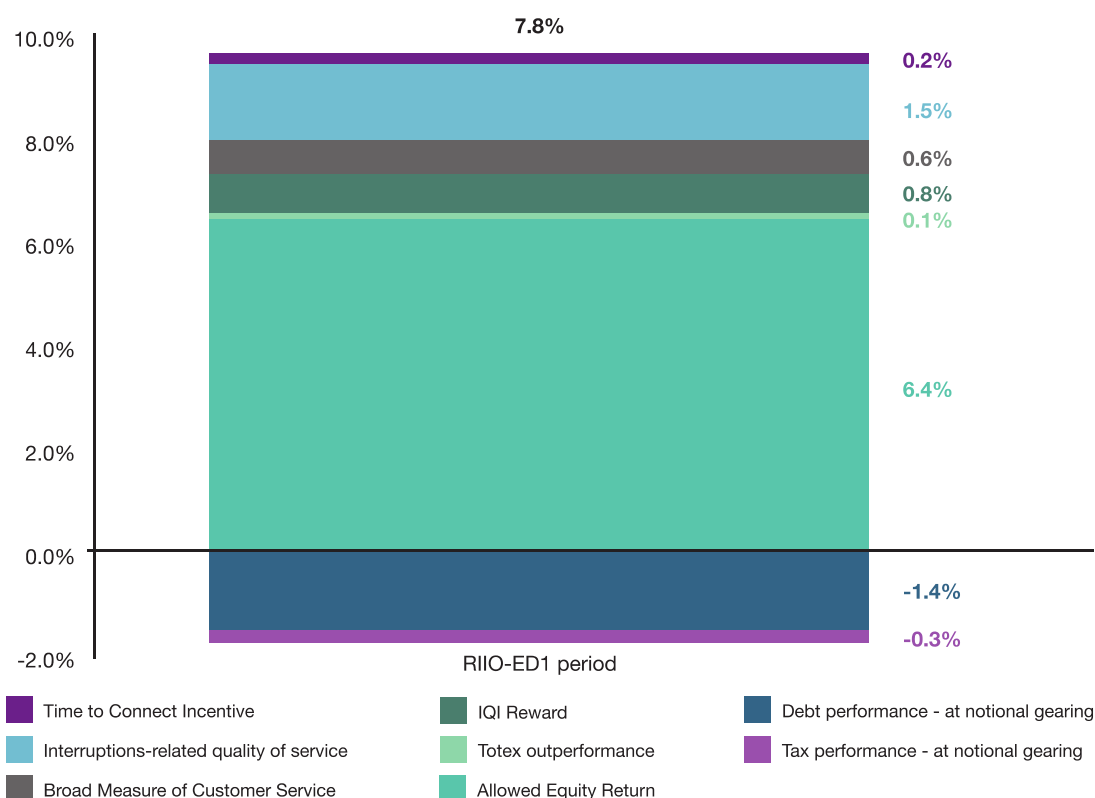


Figure SA-04.43 Forecast RIIO-ED1 RoRE – WPD Total

Note on RoRE charts above: Incentive on connections engagement, Losses discretionary reward scheme, Network Innovation and Penalties and fines have a value which rounds to 0.0% and are therefore not shown above.

Total RoRE may not match the sum of the individual components due to rounding to the nearest 0.1%

Data source: [WPD's 2020/21 RFPR submission](#)

6.7. WPD's forecast RIIO-ED1 RoRE returns included in our July 2021 RFPR submission reflect:

- Our stable financing structure over the RIIO-ED1 period, with levels of gearing kept close to Ofgem's notional level of 65%. Based on our July 2021 RFPR submissions, the average gearing for the WPD DNOs for RIIO-ED1 is forecast to be 60.5% over the RIIO-ED1 period.
- Our consistent investment in the network. WPD's RoRE returns above the 6.4% allowed return on equity are largely driven by rewards under Ofgem's performance incentives, rather than our failure to spend our cost allowances; at the close of 2020/21, on a WPD Total basis, our expenditure is 2% below our Totex allowances for RIIO-ED1 to date, and we forecast that Totex will remain slightly under the costs we included in our RIIO-ED1 Business Plan, resulting in a 0.1% RoRE benefit in the WPD Total chart above.
- Our better than target network performance; our excellent network availability in RIIO-ED1 to date is reflected in our RIIO-ED1 total RoRE returns of 1.5% under the Interruptions-related Quality of Service (QoS) incentive on a WPD Total basis.
- Our voluntary return of £96.7 million (nominal prices) of unspent forecast regulatory Totex allowances associated with curtailed rail electrification projects in RIIO-ED1, with a WPD Total RoRE impact of -0.3%.
- The absorption of costs associated with WPD's establishment of a DSO.

- The expenditure WPD has made supporting 92,000 fuel poor customers to make £37 million of savings since 2015/16.
- The impact of WPD's cost of debt allowance being £178 million (nominal prices) lower than the Slow Track equivalent, with a WPD Total RoRE impact of -0.6%. As part of WPD's Fast Track settlement our cost of debt allowance uses a 10 year trailing average cost of debt index, which differs from the Slow Track approach.
- Further shortfalls on the cost of debt allowance. Further to the difference from the Slow Track cost of debt, even on a Slow Track basis, the cost of debt allowance is significantly below WPD's actual cost of debt. Over the RIIO-ED1 period, WPD anticipates a shortfall on its cost of debt allowance compared to actual cost of debt of £305 million (nominal prices) on a WPD Total basis.
- As a result of the underfunding of WPD's cost of debt, a significant proportion of WPD's total earned equity return is therefore being used to fund interest payments. The impact of this is that WPD's shareholders are funding £305 million of interest payments which should have been covered by Ofgem's cost of debt allowance.

Customer bills in RIIO-ED1

- 6.8.** Our aim is always to deliver an excellent and affordable service to our customers. In RIIO-ED1, we have not only delivered our outputs and continue to invest in the network to improve our services but are going beyond these commitments. Our efficient approach to operating the business has enabled us to do a lot more than we planned, while keeping customers' bills at a consistent level throughout RIIO-ED1. Overall, our average domestic customers pay £98 a year for our service.

7. Appendices

Appendix A01 – RIIO-ED1 Business Plan Commitments Report 2020/21

- 7.1. This report describes the progress made towards delivering the 76 commitments made within the WPD Business Plan. It also provides details of further initiatives and new developments since the publication of the Business Plan.
- 7.2. The report can be found on our website at:
<https://yourpowerfuture.westernpower.co.uk/downloads-view/41586>

Appendix A02 – RIIO-ED1 Business Plan Commitments Summary Report 2020/21

- 7.3. A summary report for interested stakeholders which provides an overview of our performance in key areas.
- 7.4. The report can be found on our website at:
<https://yourpowerfuture.westernpower.co.uk/downloads-view/41589>

Appendix A03 – Incentive on Connections Engagement – ICE Plan 2021/22

- 7.5. An annual report on our ICE 2021/22 Plan, which includes a range of initiatives developed in line with our connections strategy, using the input from our broad range of connection stakeholders, through our ongoing programme of stakeholder engagement activities.
- 7.6. The report can be found on our website at:
<https://yourpowerfuture.westernpower.co.uk/downloads-view/41592>

Appendix A04 – Regulatory Finance Performance Reporting (RFPR) 2020/21

- 7.7. This report provides clear and transparent reporting on WPD's financial and operational performance, including WPD's performance against incentives under the RIIO price control arrangements.
- 7.8. The report can be found on our website at:
<https://yourpowerfuture.westernpower.co.uk/downloads-view/41583>



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