



Destination: Net Zero Business Innovation and Efficiency Strategy

December 2021

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How this strategy impacts other areas of our plan

Our focus is to achieve the best possible positive outcomes for our customers, by utilising innovative solutions and smarter working practices to drive efficiency in all we do. This strategy forms part of a suite of wide ranging, ambitious and interconnected strategies that we will be implemented in RIIO-ED2. Each one is designed to contribute towards the delivery of the same four overarching strategic outcomes we will achieve for customers:



1. Sustainability
Lead the drive to net zero as early as possible.



2. Connectability
Customers can easily connect their electric vehicles, heat pumps and renewable generation.



3. Vulnerability
First class vulnerable customer support programme where everyone benefits in a smart future.



4. Affordability
Maintain excellent customer service, safety and network performance and transform the energy grid for future generations, while keeping bills broadly flat.

Each of our strategies is embedded across our operations and never delivered in silos. This will lead to joined up delivery, utilise opportunities to share knowledge and expertise across WPD teams, and achieve maximum benefits for customers. By doing so we will ensure each of our strategies has a far reaching impact and identifies opportunities to improve our service, performance and efficiency in every possible area of our business. Our strategies are therefore highly interrelated and co-dependent.

The following table provides a snapshot of some of the extensive impacts of this Destination: Net Zero Business Innovation and Efficiency Strategy, and signposts to other areas of our plan upon which its successful delivery will be dependent.

Strategy	Reference within the strategy:		
Climate Resilience	-	-	-
Customer Vulnerability	✓	Using innovation to efficiently identify vulnerable customers and deliver a range of accessible, tailored services to meet their bespoke needs	Page 11
Destination Net Zero: Business Innovation and Efficiency			
Digitalisation Strategy and Action Plan	✓	Digitalisation action plan driving efficiency and smarter ways of working across all the key service delivery areas in our business	Page 12
DSO	✓	Facilitating neutral markets and competition to help to maximise the utilisation of the existing network before further conventional reinforcement is needed	Page 16
Environment & Environmental Action Plan	✓	Delivering a granular understanding of the environmental impact of our activities and identifying a range of innovative solutions to improve our approach	Page 11
Innovation	✓	Taking a collaborative approach to innovation and ensuring there is a business wide culture that always seeks out opportunities to work smarter	Page 10
Major Connections	✓	Developing innovative new connection products that meet the changing expectations of our customers in a smart future	Page 11
Network Visibility	✓	Enhancing network performance by developing a highly visible and controllable network	Page 17
Net Zero Communities	✓	Supporting community energy groups to connect to the network in high volumes and supporting them to use innovation to maximise the ambition and benefits achieved by each scheme	Page 10
Social Contract	✓	Ensuring vulnerable customers have access to the support services we provide through omni-channel communications	Page 14
Whole Systems	✓	Working across the energy and wider sectors to identify and resolve potential blockers to net zero and always take forward the optimum solution for customers	Page 17
Workforce Resilience	✓	Pursuing a step change in delivery excellence, ensuring we have a workforce with the skills needed to deliver innovative new services in a smart future	Page 15

Destination: Net Zero

– transformation through tireless innovation

Overview – An ambitious vision for the future

We are a highly adaptive and innovative business. We have been proactively transforming our network since 2015, ready to connect more than 31GW of distributed, local and green generation on a network conventionally designed for 14GW of demand. But this is just the start. RIIO-ED2 presents an opportunity to deliver unprecedented digitalisation and innovation to deliver an electricity network to meet the rapidly changing needs of our customers in a zero carbon future.

Business innovation, digitalisation improvement and transformation are central to delivering net zero. Whilst this will involve significant cultural and potentially significant organisational change, we are confident in our plans and have the expertise and track record to make this initiative a success. There are several external factors, detailed below, which will assist with implementing such change.

UK and Welsh government are showing leadership, ambition and determination on net zero. Although the exact route to net zero is highly uncertain, the pathways we will follow are becoming clearer. Electric vehicles will almost entirely replace petrol and diesel lighter vehicles. Many heavier vehicles will also be electrically propelled.

Many customers will replace home gas heating with heat pumps, although there may still be a role for the gas network in delivering lower carbon hydrogen in some circumstances. Although overall demand will be offset by microgrids and embedding flexibility into energy service markets, the risk of building assets that turn out not to be needed has never been lower.

In most cases investment in smarter solutions and bigger assets is needed regardless of the pathway we follow. This means that we will be operating in a supportive political environment where the government acknowledges our critical role and may be prepared to introduce legislation or policy where we make such a case.

The industry regulator has been tasked by the government with ensuring network companies support net zero ambitions. We welcome many of the emerging regulatory frameworks and licence conditions.

Our customers are expecting change. Distribution Network Operators (DNOs) often refer to the connection from local substation to homes as the last mile. But in a customer's mind, and ours, that is the first mile. Automation, digital pathways and partnering are the only feasible ways to deliver the majority of the forecast volumes of connection enquiries and network alterations.

This is consistent with the experience customers are demanding and is already commonplace in other sectors. Customers support us in delivering modernisation and online services and trust us to deliver what they want, when they need it.

Technology constantly becomes more powerful and telecommunication is everywhere. Advanced and affordable information technology platforms will enable a massive deployment of network visibility, control, data analytics and digital innovation. The technological revolution has matured just in time to support our energy revolution.

We know that the electricity network is the key enabler for net zero. We see that the best solutions will be those that optimise for customers across the whole energy system.

We can see how our role is evolving in the long term, from one of Distribution Network Operator to electricity platform provider. This is why we will continue to support innovation in regulation, markets and business models. We see a future where eventually electrons, data and money flow together, making use of transactional energy and distributed ledger techniques all for the benefit of customers.

Our goal is simple:

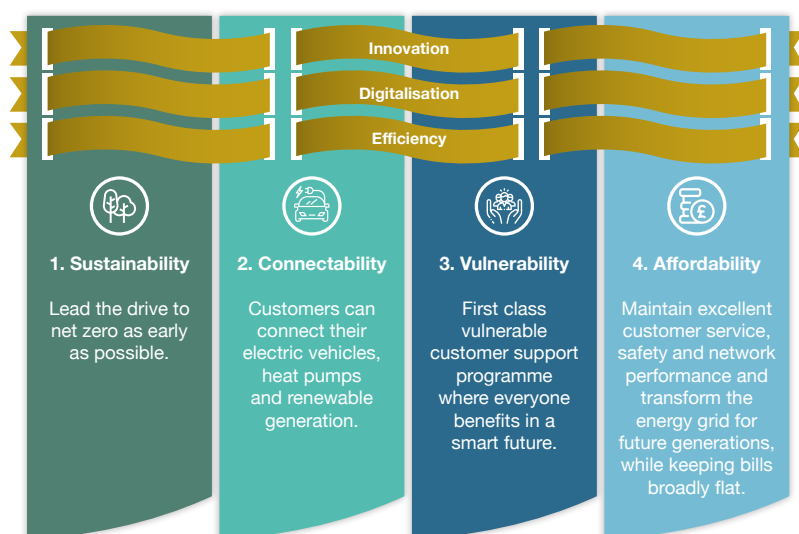
To ensure every customer has the power they need, wherever they are, when they need it, whilst keeping bills affordable. We are excited to be at the heart of the energy transition and drive to net zero success.

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Introduction

Serving 8 million customers across 27% of the UK, Western Power Distribution (WPD) is a critical driving force in leading the UK towards net zero - ensuring businesses, households and communities can live and work more sustainably. We are committed to ensuring all our customers can benefit from a smart future, leaving no one behind in the shift to low carbon technologies (LCTs).



WPD is leading an energy revolution, delivering a smart, digitalised electricity grid by 2028. Delivering against our ambitious goals will necessitate the transformation of every part of our business, touching every asset on our network.

Our Destination: Net Zero Business Innovation and Efficiency Strategy will span all our innovation and business improvement activities, revolutionising the way we interact with customers and how they interact with the energy system.

It will modernise our operations through digital transformation, strategic partnerships and redesigning business process. Our staff will learn new skills, especially in digital technologies, and our workforce will become even more diverse as we recruit and develop talented individuals even more reflective of our customer base.

Crucially, our Destination: Net Zero Business Innovation and Efficiency Strategy will form a central tenet in how we meet our four interdependent ambitions for the regulatory period ahead, as laid out in our ground breaking Business Plan for RIIO-ED2.

Our company vision is 'Power for life, power for future generations' for a reason. We understand the essential role we play in everyone's lives. These 'golden threads' that drive every one of our commitments have been co-created with more than 25,000 stakeholders – to ensure we deliver what customers want, when they want it.

Case study 1: Artificial Intelligence (AI) and Machine Learning (ML) Applications

As the operation of the networks becomes more complex, more automated processes will be required. The adoption of AI and ML techniques is anticipated to drive value from a Data Platform. Some examples of applications include automated optimised outage planning solutions and real time network optimisation and system configuration.

Investment: £5 million

Value delivered to customers: £64.12 million

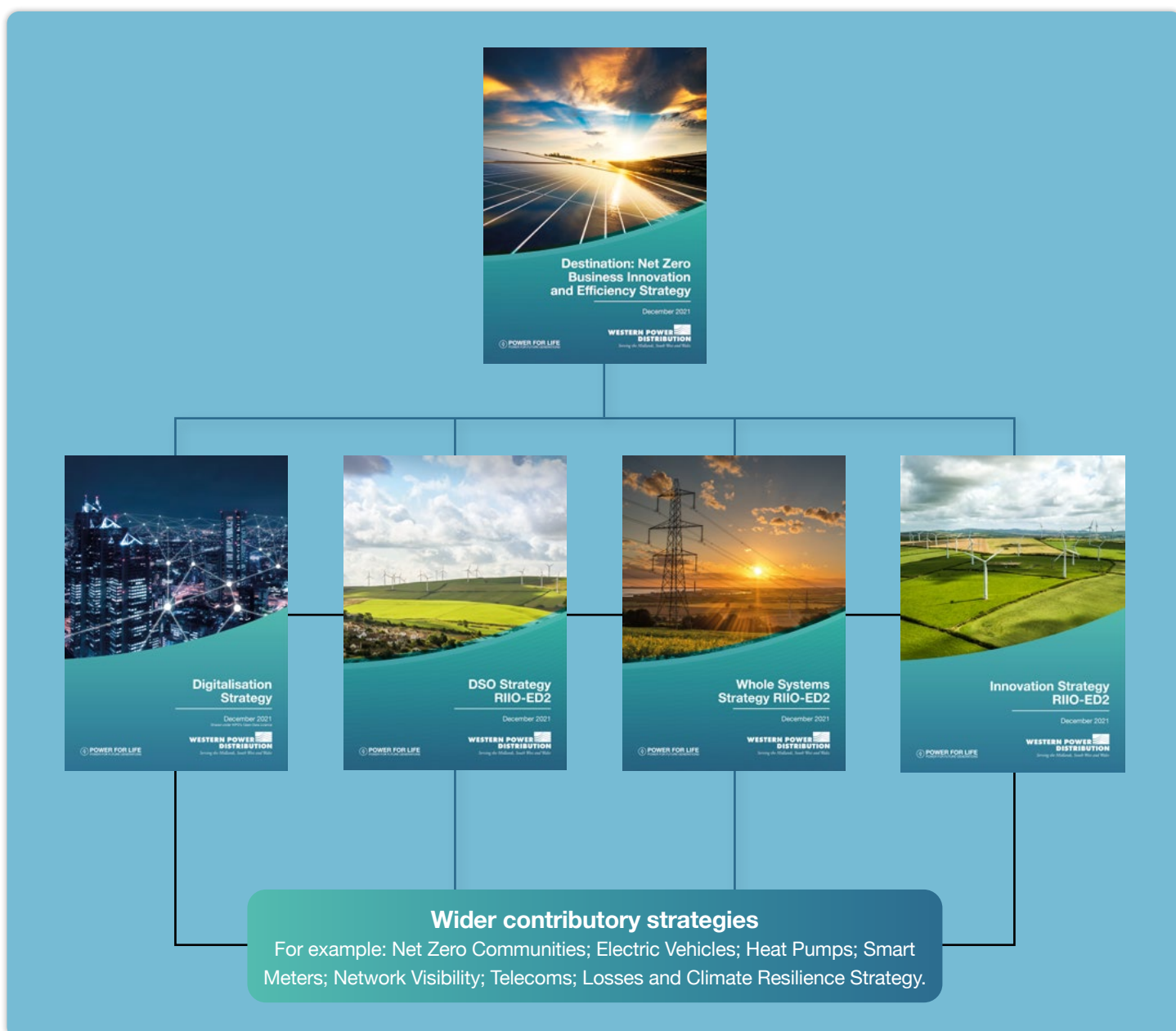
(see Digitalisation Strategy and Our final submission Business Plan 2023-2028 Annex SA-03: Delivering a smart and flexible electricity network for more detail)

Destination: Net Zero – transformation through tireless innovation

Our Strategies to deliver Destination Net Zero

Our overarching document is this ‘Destination Net Zero: Business Innovation and Efficiency Strategy’ which details our commitment to transformational change within the business to deliver net zero in our own business and for stakeholders across our regions.

It details how we will use innovation and digitalisation to drive efficiencies across every aspect of our business operations, continually improving our processes and services, including entirely new ways of working. This vision is supported by a range of dynamic major strategies in Digitalisation, Distribution System Operator, Whole Systems and Innovation which are all interdependent and have cross business impact.



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Purpose and aims of the strategy

WPD is renowned for consistently delivering an exceptional customer experience. We have led the industry for many years in providing exceptional performance, first class reliability and open, proactive communication. Now, as millions of our customers want to connect their electric vehicles (EVs), heat pumps, battery storage units and solar panels to their homes, we know that our enduring reputation will be dominated by their experience of adapting their connection to the network, and how easily they can make the transition to using low carbon technologies.

We are about to enter a period of high volume, lower complexity connections, many of which will involve direct engagement with our customers. They expect a seamless, intuitive and quick digital customer experience, just as they enjoy for shopping, travel, banking and in other sectors. Customer expectations are rightly high, and we anticipate they will grow even higher.

Our local team organisational model, with decision making authority devolved to the lowest possible level, serves customers well. It allows for a perfect blend of localised innovation and problem solving within a coordinated centrally managed policy framework. This model will not change for lower volume, highly unique and complex work and will continue to deliver crucial benefits for all our customers. For example, when designing new connections to business and industrial customers, local knowledge and freedom of decision making are critical. Having people nearby, with local knowledge, also helps us to deliver on our industry leading record for disruption resolution.

For other tasks, we will make incremental changes. For example, using a network of sensors to build data that can be analysed to better determine which assets are approaching the end of their lives or when maintenance is needed. Digitalised work programming will allow us to further drive productivity, allowing for less rigid geographic boundaries where that is sensible. New tools, machinery and asset types will facilitate efficiency and be more sustainable.

However, we also recognise that delivering new or adapted connections for domestic customers and small commercial customers is a step change. We are working hard to transform our business processes in order to scale to these unprecedented demands, and to ensure we can meet the needs of organisations and individuals who need our help.

In addition to the end customers, we expect to be supporting private and social landlords, community groups, multi premise businesses, energy service providers, energy suppliers, electric vehicle charge point developers, car dealers, local authorities and more. Over time we expect to see the global tech companies such as Google, Apple, Microsoft and Amazon contacting us on behalf of our shared customers who will opt to use them as a one stop shop rather than dealing with us directly.

New rules on access rights will mean that a connection is no longer a static capacity. Instead, customers will be able to choose not only the times they want to use our network but the degree to which they will do so. A myriad of commercial offerings will emerge which will be customer led. We anticipate a marketplace akin to those in telecommunications, where customers choose the times, volumes and speed of their network links, usually opting for one of many bundles which best suits their need. As with telecommunications, we expect this to be led by a vibrant market of energy service providers, meaning that we will integrate our systems into theirs.

We will use innovation, digitalisation, collaboration and competition as the route to successful and enduring business transformation. We have a track record of leading the industry in adapting to change - since privatisation we have pushed the frontier on efficiency and service.

Over the last decade we have revolutionised the way we design and operate networks with, (at times), more renewable generation feeding into the grid than we have demand. We are now embarking on the next chapter. We will help our regions to be at the forefront of the net zero transformation, whilst continuing to offer a first class customer experience at the lowest possible cost.

We will 'horizon scan' the energy sector and wider industry to ensure that we identify great initiatives, not just from inside our business but also from shared learning from outside whether that is from other DNOs, other energy companies or outside of the energy sector.

We will also challenge our own behaviours and processes - just because we have done an activity that way for years does not mean it is still the most efficient and effective way of performing that task.

We will establish innovation champions in each of our regions to ensure that the innovative culture is developed and to capture any ideas and progress the best ones for implementation.

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Our final submission **Business Plan 2023-2028** details our core commitments relating to innovation and the efficiencies it creates. These commitments are detailed below:

Core commitment 16

Keep bills for customers low by delivering an additional stretch efficiency saving of £95 million through RIIO-ED2 (on top of £723 million of efficiencies already included in the plan) by utilising innovation to improve our processes and show a positive carbon impact.

We have carried out industry leading innovation work for more than a decade. This has led to the development of a number of new processes and ways of managing the network that are now incorporated into our 'Business as Usual' activities. In many cases, a number of innovation projects have contributed to the evolution of these new processes and these efficiencies drive £723 million savings highlighted in the Business Plan.

We want to ensure that the innovation work is always delivering a cost and/or carbon benefit, or a customer enhancement. For this reason, we carry out a cost benefit assessment to identify the potential benefits of innovation projects. This may be a bespoke benefit arising from the project or a benefit that contributes to a wider innovation challenge.

Core commitment 17

Enhance access to data that is tailored to the individual needs of our customers, by making 60% of WPD's network data available via an interactive Application Programming Interface.

As networks become smarter, and more data is collected and processed, there are greater opportunities for third parties to make use of the data for their own purposes or to develop new ways of managing the networks.

The Energy Data Task Force has promoted the concept of presumed open data. WPD has been developing ways of making more network data available to third parties and the Energy Data Hub on our website currently allows various data sets to be accessed. We propose to continue to expand the range of data available as well as developing the systems for accessing this information.

We are looking at ways of cataloguing and organising the data to enable users to define their own specific requirements and extract user specific data sets to meet their needs. We anticipate that this access will be made through application programming interfaces.



We have a full range of wider commitments which we will deliver during RIIO-ED2 to ensure that we innovate to be cost efficient and provide the first class service that our customers deserve.

Destination: Net Zero

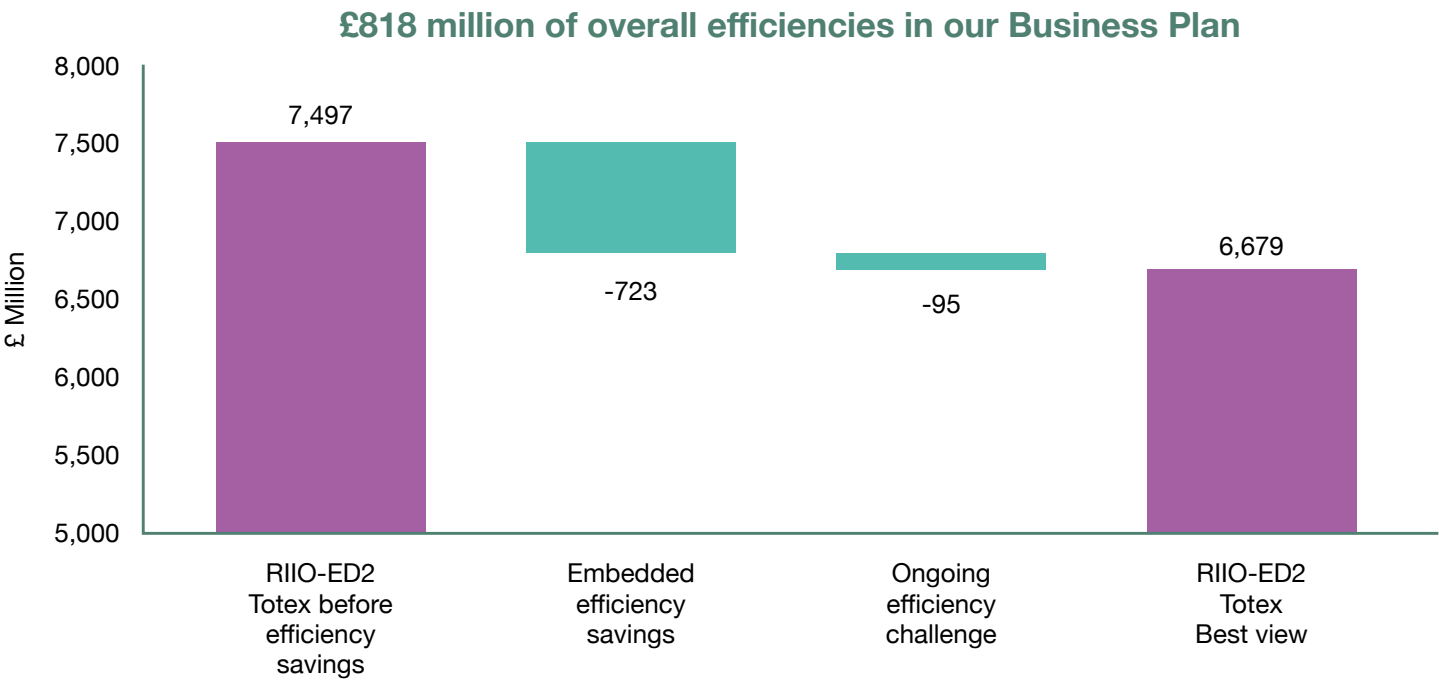
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Innovation driving efficiency

We will utilise innovative and digitalised solutions to enhance every aspect of our operations. We have already embedded £723 million of savings into our RIIO-ED2 Business Plan thanks to our proven track record of innovation development and rollout.

Our efficiency savings have been achieved by utilising digitalisation and smarter ways of working to improve services and processes within our business. This is achieved by initiatives identified by our staff - which we call our wider Business Innovation Programme, coupled with the rollout of learning from our Ofgem funded Innovation Programme.

The graph below shows that without these embedded efficiency savings, then the level of money we would require in RIIO-ED2 would be £7.4 billion, which would have led to increases in customer bills. Instead, by working smarter and embracing a culture of continual innovation, we will deliver our RIIO-ED2 commitments with a budget of £6.7 billion and keep bills broadly flat.



We have used innovation and digitalisation to enhance a wide array of business processes in order to reduce the cost of delivering those services and dramatically improve the customer experience. We have also established a comprehensive and functionally independent Distribution System Operator capability,

the first DNO to do so in the UK. We now operate the largest programme of flexibility services which is maximising the utilisation of the existing network and ensuring reinforcement is only undertaken where absolutely necessary, therefore unlocking capacity for customers and keeping costs low.

Destination: Net Zero – transformation through tireless innovation

The table below shows the details which make up the £723 million efficiency savings we are delivering for our customers.

Totex efficiencies	RIIO-ED2 benefit £million	Description	These efficiencies are embedded through our plan.
Digitalisation initiatives in connections.	189	Connections self design, connections application tracker.	Digitalisation Strategy and Plan, connections strategy, core commitments.
Flexibility and smartgrid developments.	181	Demand side response and flexibility, use of smart meter data, LV monitoring to deliver targeted investment.	DSO Strategy, Network Visibility Strategy, Chapter 5 and 6.
Updated managed wayleaves policies.	150	Clear termed wayleave based settlement strategy.	Chapter 6 non load expenditure.
Unit cost efficiencies.	110	Efficiencies embedded in our unit costs, especially in faults activities.	Chapter 6 faults expenditure.
Working smarter.	47	Investing in our business applications and improving our processes to allow staff to work more effectively.	Digitalisation strategy and plan, Chapter 6 engineering management expenditure.
Owning and operating a cleaner, safer and more efficient vehicle fleet.	34	Delivering savings from an electric vehicle fleet, investing in our vehicle monitoring and operating more efficiently.	Environmental action plan, Chapter 6 vehicles.
IT and system initiatives.	13	Reviewing our IT hardware, software and servers.	Chapter 6 IT expenditure.
Total embedded efficiencies.	723	Equivalent to 11% of our forecast Totex.	

But we refuse to stop there. At WPD we never rest on our laurels as we seek to deliver continual improvement and the very best outcomes possible for customers. We will therefore stretch ourselves to deliver an ambitious additional £95 million of efficiency savings over RIIO-ED2. This can only be achieved by continuing to embrace innovation and digitalisation to continually improve our services and use a whole system approach to ensure that our customers get value for money when connecting low carbon technologies.

A clear demonstration of how we will operate efficiently in RIIO-ED2 is the fact that we are undertaking a 108% uplift in the load related schemes with only an 8% increase in engineering management and support. Overall we expect to employ an additional 72 staff to deliver our full programme of works but had we not embedded efficiency into our Plan this would have required significant numbers of additional staff.

In addition, by adopting a flexibility first approach to all load related investment decisions, we have committed that by 2028 we will avoid £94 million of network reinforcement by operating the existing primary and low voltage networks more flexibly.



Destination: Net Zero – transformation through tireless innovation

An extensive approach to innovation

Unlike formalised innovation projects, where there is a discrete team leading defined packages of work, business innovation takes place throughout the business at all times. Such innovation can involve incremental improvement or more fundamental business change. Our senior managers in every department are specifically tasked with identifying opportunities for innovation, and encouraging our staff to identify improvements. Our ambition for cultural transformation is intertwined with business innovation.

Our teams work together - collaboration across the business is crucial to delivering success. Our business is never siloed, and we recognise that innovation is a holistic approach.

We know that in a diverse team, some people are more comfortable with innovation than others. That is the motive behind the creation of an innovation, coordination and rollout team during the next regulatory period, as outlined in the core commitments in our RIIO-ED2 Business Plan.

This team of business analysts and change project managers will support our senior managers by offering guidance, support and subject matter expertise. The team will also ensure best practice is shared across the company. They will measure business innovation progress, comparing performance across departments and set against external comparators.

We know that innovating is critical to delivering our commitments and adapting to yet unknown challenges as they emerge.

It forms a central tenet of all our work – as we work hard to deliver industry leading performance, a first class Customer Vulnerability Strategy and crucially, a drive towards net zero.

We have an industry leading track record in the field. For example, we have used first class innovation in the current regulatory period to outperform our competitors and deliver work, at no cost to customers, which was originally unforeseeable.

Case study 2: Planning State Estimation

We will develop a scalable state estimation platform which combines data from SCADA and measurement data to build a real time picture of our network. This state estimation will enable better long term system planning for connections, reinforcement and flexibility.

Investment: £4 million

Value delivered to customers: £55.93 million

(see Digitalisation Strategy and Our final submission Business Plan 2023-2028 Annex SA-03: Delivering a smart and flexible electricity network for more detail)

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An extensive approach to innovation (continued)

Our Innovation Strategy and our Digitalisation Strategy and Action Plan both set out in detail how these approaches will influence more efficient delivery in every strand of our business. It is vital that these strategies are not standalone and siloed, but have an extensive impact and are simply the driving force behind a cultural shift whereby innovative thinking underpins every business improvement action we take in RIIO-ED2 as we seek to quickly and effectively shift to the changing expectations and requirements of our customers.

Taking the three Ofgem output categories and the 12 business focus areas we have identified within these (against which our 42 core commitments are structured), the tables below shows some key areas where we will utilise innovation and digitalisation to make efficiency improvements across all areas of our business.

Ofgem output category	Business area	Innovation commitment
Delivering an environmentally sustainable network	A smart and flexible network	Building on our innovation work that designed and developed our first centralised, intelligent network operation systems, we will work with our control systems team to roll out those systems in our remaining areas. This will increase network efficiency and provide detailed visibility of network operation.
	Community energy	Working with our Community Energy Engineers, we will support community energy groups that have great ideas for innovation projects that can provide benefits to communities. This will also support our Social Contract and vulnerability commitments where we will rollout solutions proven in innovation.
	Environment and sustainability	Working with various internal teams such as Major Projects, Network Services, local planning, Engineering Design and Primary System Design teams we will develop methodologies that evaluate the environmental impact of our activities and refine the way we run those activities to improve and continuously measure our environmental impact.
	Innovation and digitalisation	By implementing our Innovation Strategy, we will develop the skills and tools we need to achieve net zero. Our Innovation Strategy supports all of the main outputs through the delivery of our two innovation programmes.
Meeting the needs of our consumers and network users	Customers in vulnerable situations	It is our priority to ensure that we offer the best support possible to our vulnerable customers and we will use innovation so that we can continue doing that in the future. Working with our social obligations team, we will run programmes that will make the way we identify vulnerable customers more efficient and create new ways of interacting with those customers to adapt to their changing needs. This will include assessing the customer journey of our vulnerable customers to ensure that it is suitable for them and tailored to their needs as per our customer service commitments. Our aim is to ensure all of our services are equally accessible.
	Social contract	Our programme of work with our social obligations team will look at how we can make the process of providing our customers referrals to the appropriate services that can help them, quicker, easier to understand and effortless for the customer. We will learn from other industries to adapt our process.
	Customer service	We will focus on understanding how customer needs and behaviour has changed and will continue to change, while at the same time identifying our internal functions that need to adapt to continue providing excellent customer service. This applies to every activity that involves interaction with customers including contact during power cuts, connections and general enquiries for example, working with our Contact Centre, Network Services and Network Planning teams. This will include all customers including those in vulnerable situations.
	Connections	Working with our connections policy, local planning, and Primary System Design teams, we will continuously assess what connection types our customers need and develop new connection products to meet those needs.
Maintaining a safe and resilient network	Network resilience	Building on our previous work on pre-fault detection and network monitoring, we will work with our Network Services teams to rollout systems and technologies that will prevent faults from happening while minimising the resource, time and costs required to do that.
	Safety	We will run a programme of work with our Safety Team which will embed within our business processes and policies our previous learning from the analysis of safety incidents.
	Business IT security and cyber resilience	Working with our Information Resources team and the world's best internet organisations, we will use our data and network as a platform to facilitate energy as a service by developing, deploying and trialling new solutions.
	Workforce resilience	Engaging with our staff from all departments, we will run campaigns to understand how our work environment needs to transform to enable our employees reach their full potential and implement cultural change. We will focus on continuous development of staff through novel opportunities, re-evaluate our roles and make changes to attract a new, diverse workforce.

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An extensive approach to innovation (continued)

Ofgem output category	Business area	Digitalisation commitment
Delivering an environmentally sustainable network	A smart and flexible network	We will provide highly accessible and visible data to drive DSO functions, digitalise our planning and forecasting using machine learning and artificial intelligence to optimise our decision making. We will utilise Application Programming Interfaces (APIs) to share network operational data, and flexibility data with the market to avoid operational constraints and encourage new innovation and services that are customer led.
	Community energy	Providing digital workshops to empower communities to maximise the value from data to deliver net zero. Highly granular and relevant data will be presented effectively to support local area planning processes.
	Environment and sustainability	Use of machine learning design activity to develop environmentally considered construction. We will minimise electricity lost by heat by analysing historical data patterns and adjusting network operations through machine learning processes. We will also use data insights to ensure that we build a 'green supply chain' and sharing more data with suppliers to help to reduce overall carbon footprint.
	Innovation and digitalisation	We will implement an Innovation Data Hub, including leading-edge data to be used by researchers and academics to speed up the transition to net zero. We will use digital tools to identify, plan, manage and assess business innovation and improvement.
Meeting the needs of our consumers and network users	Customers in vulnerable situations	Digitalisation can be used to offer new services for our vulnerable customers, for example offering voice activated apps (Alexa) that combat loneliness and help customers access energy efficiency advice, additional support and services. We will work with other parties (peer organisations and cross sector) to improve the data we hold on our vulnerable customers to ensure that we are able to offer them tailored services and additional support.
	Social contract	Use of digital solutions to build an 'early warning system' of areas that are at risk of being left behind in the energy transition, potentially due to network constraints, planned third party investment, housing stock etc. We can also digitalise aspects of our energy advice service including automated home surveys for energy efficiency and low carbon technology options.
	Customer service	Offer an Amazon style of digital engagement with immediate customer response across multiple channels, 24/7. Every customer facing process will have a fully digital pathway option. By the end of RIIO-ED2 we will use data, machine learning and analytics to predict why customers are contacting us and move them to the most appropriate channel to get them the quickest response.
	Connections	We will achieve full digitalisation of the customer connection journey, including self-assessment tools, automated cost estimating, online contract processing, tools to book and reschedule work, and automated customer satisfaction reviews.
Maintaining a safe and resilient network	Network resilience	We will use machine learning to utilise proactive and preventative fault identification before power cuts occur. Using insights from LiDAR technology we will reduce faults from vegetation and asset health assessment.
	Safety	Use data to provide the right information at the right time to staff, contractors, customers and stakeholders to support safe working practices. We will also utilise digital solutions to transform the approach to learning, e.g. immersive training using virtual reality headsets.
	Business IT security and cyber resilience	Use digitalisation to enhance risk management, defence, detection, and recovery from cyber threats.
	Workforce resilience	Data and digital applications will be used to improve employee engagement and also attract new talent. We will also use it to open up new career paths (e.g. data science) and new digital skill development for employees to ensure we are an inclusive employer.

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Existing innovation stimulus projects

Since 2003 WPD has delivered a first class innovation programme. This has generally comprised of discrete projects where specific topics have been researched, developed and new solutions tested to current and future challenges. These projects have been supported by our shareholders, government grants and Ofgem's innovation stimulus mechanisms. The outcomes have been regularly and comprehensively audited by independent parties who have concluded such projects are exceptional value for money. Naturally we plan to continue with this sort of innovation and have plans to scale up.

Our **Innovation Strategy** describes how we innovate across our business, leaving no process untouched. When projects conclude, the solutions we develop are reviewed. They are then either scaled up to get them ready for rollout, combined with solutions from other projects, archived pending a business need or discounted. We learn from the work we have done and use our past successes to influence our future strategies.

We are proud of our track record in delivering innovation and converting it to 'Business as Usual'. Some of our most significant achievements are shown below.



1st to develop and deploy Active Network Management

only DNO to expand to a suite of alternative flexible connections (many informing access SCR).



Leading edge of system operator capability

forecasting;
Flexible Power;
whole system interfaces.



World's largest smart EV charging trial

now at the centre of policy making; directly led to mandated smart functionality.



Largest dataset of network visibility data encompassing all voltage level

used by leading research organisations over the globe.

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Robust oversight and governance

The scale of the challenges from net zero, not least the uncertainty of the precise path, mean that we will need to innovate faster and deeper than ever before. And, as with all of our commitments and plans, we will work collaboratively with our stakeholders to ensure we deliver what they need, when they need it.

A 'Programme Board' will be chaired by our Operations Director with responsibility for oversight and tracking performance, ensuring we keep our promises on budget and on time, and deliver against the ambitious commitments we make to our stakeholders. Day to day management will be led by our Innovation Manager.

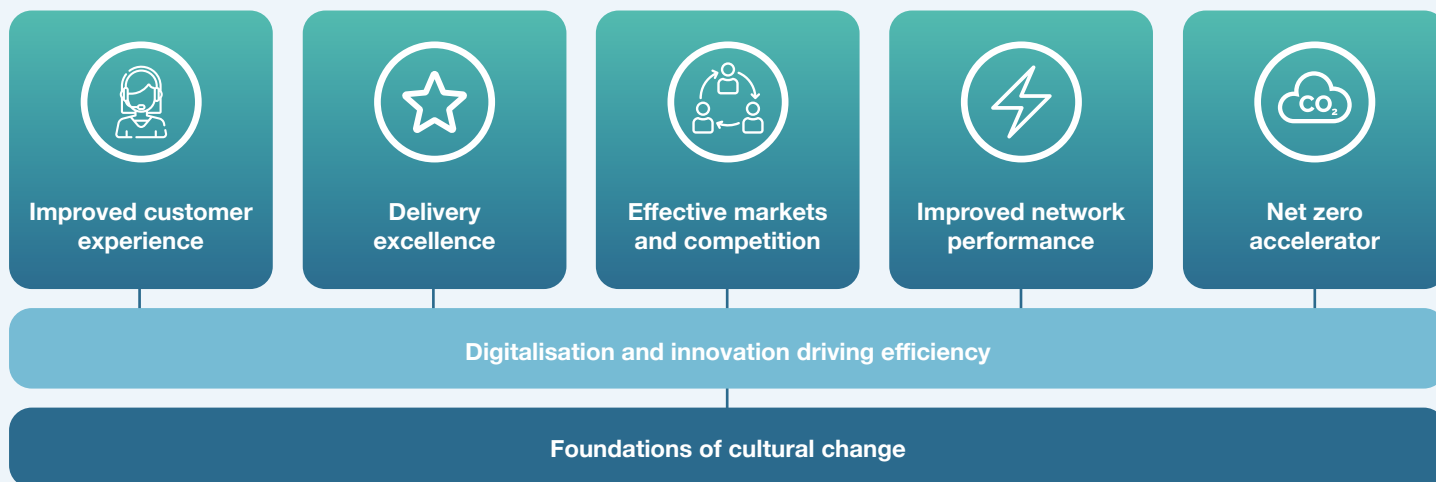
The Board will comprise of senior managers representing regulatory, financial, engineering, IT and customer service functions. In addition, we will appoint an advisory group of stakeholders and independent experts who will be able to question our activity and offer constructive challenge where it is required.

In order to provide a cohesive and structured approach, we have identified themes in which to group our core initiatives. Each business innovation project will be allocated to the most appropriate theme, with the projects in that theme managed as a project portfolio.

The themes are **customer experience, delivery excellence, markets and competition, network performance and net zero accelerator**.

Naturally, all of these themes are intertwined, and the success of one element is dependent on the success of the others.

Supporting net zero



These project portfolios will run alongside and complement our established programme of industry leading innovation projects. They will be primarily funded through the direct benefits they deliver, as incentivised under Ofgem's Totex mechanism. Each portfolio will have an assigned Director who will be accountable for progress.



Our vision is for a governance arrangement which is robust yet agile. More critical or risky projects will have more formalised governance.

Destination: Net Zero – transformation through tireless innovation

A holistic approach to delivering innovation

Whilst our ‘Destination: net zero’ Business Innovation and Efficiency Strategy will be managed in portfolio ‘themes’, it is important to recognise the interlinkage and co-dependencies of each of these portfolios on one another.

Business innovation, improvement and transformation is business wide, not siloed. Everything we do as an organisation seeks to inform and guide progress against our core initiatives: driving decarbonisation, a commitment to excellent customer service and network performance, and a industry leading Customer Vulnerability Strategy and Social Contract. The overall programme and each portfolio are facilitated by underpinning strategies. These include DSO, Network Visibility, Innovation, Digitalisation, IT and Workforce Resilience. These strategies, and in some cases have associated Action Plans, set out the detail of specific projects or investments already incorporated into our Business Plan.



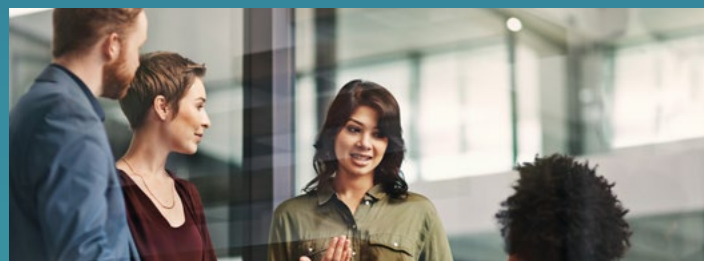
Customer experience portfolio

These projects and initiatives will primarily be focused on enhancing our already leading customer service and developing solutions to ensure we deliver what our customers need, when they need it. As the volumes of domestic customer connection requests increase, our existing business processes and systems will reach a tipping point. This will lead to the introduction of consumer focused mass market customer relationship management (CRM) systems.

Unlike more the traditional CRM systems of big businesses, we aim to use agile and dynamic cloud based services, utilising components to rapidly build and add functions that our customers need. We will provide a digital pathway for all customer interaction, for those customers that prefer this method. For those customers, including the vulnerable, who need a more human service, we will offer that too. We already make extensive use of social media to communicate with our customers on the platform they choose, when they want, but by further harnessing technology we can continue further on our path to becoming a truly omnichannel business.

We will use all of the data available from our multichannel presence and network visibility data to ensure we can track trends and can proactively offer advice and respond to need. For larger customers and energy industry partners GDPR and data protection compliant access can be given to our core asset and customer databases.

This process allows others to offer connection estimates or to report power cuts on their customer's behalf. Projects in this portfolio will ensure that WPD remains a first class performer for customer experience. Our goal is to continue our impressive track record, which benchmarks alongside the best UK and global companies, and ahead of others in the UK energy sector.



Delivery excellence portfolio

WPD's network services teams are our in-house workforce for network construction, maintenance, and operations. The four teams, one per WPD area, deliver high quality, great service at a highly efficient cost. The teams are predominantly made up of professional engineers and technicians who are experts in innovating and pushing boundaries every day.

Step change in delivery excellence can be delivered by cumulative incremental improvements or more fundamental process redesign. We have an impressive track record of delivering using both types of innovation. For example, small changes to cable jointing techniques which save a few minutes per task can significantly improve overall productivity. More significant changes, such as the introduction of a modern resource planning and optimisation system, also help to improve efficiency.

We will pursue more rapid incremental change to further optimise our delivery activities, for example through the integration of vehicle and crew tracking data, or deeper digital integration with our sub-contractors and supply chain partners.

More significant change is likely to come from a business process review, for example, by prioritising workflows to ensure we deploy highly skilled and scarce resource effectively.

Disaggregating workflows and redesigning roles will be a core enabler of increasing the diversity and changing the culture with our business.

Destination: Net Zero

– transformation through tireless innovation

Markets and competition portfolio

Delivery of a net zero network must be supported by high performing energy service markets. It would be hugely expensive and practically impossible to build a network of sufficient size for traditional passive operation. We are committed to facilitating neutral markets. Where necessary we will intervene early to build foundations which others will later adopt. Ensuring all our customers can access efficient markets for energy services is the key to keeping everyone's energy costs as low as possible.

Competition provides an important benchmark for our own internal delivery, not only providing us with commercial incentives to perform better, but also showing us which activities can be best delivered by others.

We have a track record of extending contestable works and allowing others to operate on our network. We will continue our industry leading work, pushing boundaries, extending contestability to operational network technology, whilst ensuring it remains high performing and cyber secure. We see competition in delivery as a large part of the solution to delivering much higher volumes of connections work.

Initiatives in this portfolio will include many of those relevant to extending the independence of the WPD system operator part of the business, building solutions which further enhance the transparency of our decisions. There will be initiatives to ring-fence and further separate people, systems and data for our DSO team. We have a track record of innovating as a system operator.

We developed the Flexible Power brand and a suite of demand side flexibility services, not only incorporating it fully into our business, but actively pushing it into the other Distribution Network Operators (DNOs). We will continue to dedicate a sizeable proportion of our innovation stimulus funding to the system operator. We aim to make markets for flexibility work for all customers and bring trading closer to real time. We will also optimise system operation between demand side flexibility and network led smarter solutions, including those controlling system access.

Competition will continue to drive performance across WPD. Through our system operator role, we can drive down the cost of demand side flexibility as the market becomes more liquid. Our purchasing strategy and commercial innovation will drive down the costs in the supply chain. Our delivery teams will make the best use of competition for construction. We will actively support IDNOs to ready their networks for net zero through data exchange and innovative commercial arrangements. We see ICPs as part of the solution for high volumes of low voltage upgrade work. Through our separate system operator, we are open to trialling early stage competition for construction and operation of high cost discrete assets.

Innovation initiatives in this portfolio promise to yield non-regulated business opportunities that have the potential to deliver value for customers and shareholders.

For example, as an operator of private microgrids, the provision of technology platforms or involvement in the EV or heat sectors. Such opportunities are uncertain but will be seized where beneficial.

Case study 3: LV Connected Data

Our Integrated Network Model (INM) combines data from each of our core systems of record (Asset, GIS and network management) and provides a '360-degree view' of our network.

We will enhance our INM during RIIO-ED2 with advanced LV modelling approaches and facilitate direct LV data provision routinely to customers and interested third parties. This will also enable the automation of appropriate data for external applications including self-service LV design tools and dynamic capacity maps.

Investment: £10 million **Value delivered to customers: £32.88 million**

(see Digitalisation Strategy and Our final submission Business Plan 2023-2028 Annex SA-03: Delivering a smart and flexible electricity network for more detail)

Destination: Net Zero

– transformation through tireless innovation

Network performance portfolio

The connection of millions of EVs, heat pumps and distributed generation resources necessitates the transformation of the electricity network into one that is highly visible and controllable. Having granular data on network utilisation (whether from sensors, smart meters or using data science) is key to knowing how many low carbon technologies can be safely connected to the grid before it needs upgrading. The data also drives the specification and efficient use of demand side flexibility. The same data will also allow for more agile system access arrangements, likely to include secondary trading by customers of these access rights, to help maintain high asset utilisation.

In addition to visibility, adding appropriate amounts of remote control capability will enable us to reroute load flows, further increasing asset utilisation. However, the cost of retrofitting visibility and control to existing assets is not insignificant. We therefore need to ensure maximum benefit from the investment across all our operations, not just connections. Our goal is to optimise the configuration and use of the network across other vectors. For example, using the technology to identify faults before they affect supplies, allowing for planned intervention that fits with our resource utilisation.

We already have a track record of using the visibility and control technology deployed to support larger generation connections in the restoration of supplies following a power cut. This will be extended to the lower voltage networks to reduce customer interruptions and the duration of outages. We can also use this smarter grid to ensure we get the best balance between high utilisation and lost energy from technical losses.

Initiatives in this portfolio will look to replicate solutions from the world's best DNO and DSO companies. Our aim is to be a global leader in actively managing a high availability and low cost distribution network through a combination of centralised systems and more devolved distributed intelligence at substations.

Net zero accelerator portfolio

WPD is leading an energy revolution; delivering a smart, digitalised electricity grid by 2028. Unlike the initiatives within the above portfolios, where the improvements relate to WPD activities, this portfolio is aimed at supporting potential blockers in other parts of the energy sector. Our unique position at the heart of the energy system means we can track progress to net zero across the whole industry. Being a natural monopoly provider also gives us unique access to public sector organisations, in particular local authorities, who have a critical role to play in net zero.

Initiatives and projects in this portfolio will use data and the expertise of colleagues to identify issues before they become a blocker to net zero. For example, we are already tracking the uptake of low carbon technologies in each of our local authority regions and can identify those that are performing well, and those who may need more support.

We recognise that during rapid change other companies in the energy system may experience issues with equipment standards, limitations in supply chain capacity and sometimes be victim to a failure of markets. Where we can intervene to support other part of the sector directly we will. For example, through the innovation stimulus we are already supporting switchgear manufacturers with the design of purpose built high voltage substations for EV charging hubs. We could see that the market was not delivering a solution, leading to the inefficient use of conventional substations.

Where we identify a more systemic failure we will raise this with policymakers. Our track record of doing this is strong. We lobbied government to allow WPD to use unspent price control allowances to strategically develop the future capacity for motorway service areas. This directly led to **Ofgem's Green Recovery mechanism**.

Should we identify even more fundamental issues, for example in the structure of the energy market, we will voice our concerns and work to form alliances with others to develop solutions. We have already successfully proven our record in this area, through initiatives such as our support of the groundbreaking **Reshaping Energy work**.

WPD has a markets first approach, but the speed of change to hit net zero may require elements of more direct intervention where markets are too slow to emerge or deliver inefficient outcomes. For example, we stand ready to play a larger role if necessary in EV charging, energy storage and smart metering sectors.



Destination: Net Zero

– transformation through tireless innovation

Measuring success

The Destination: Net Zero Business Innovation Strategy will deliver significant value for customers, staff, our regulator and shareholders.



For customers:

Exceptional service for all groups. Everyone is able to participate in, and benefit from, a smart future. Championing market access to help lower bills.



For employees:

Pride in their business, new skills, empowering entrepreneurs, embracing diversity.



For policymakers:

Efficient whole system outcomes, driving net zero, remain at the forefront of DSO.



For shareholders:

A high performing, data centric, efficient business which outperforms incentives.

We have a long history of keeping our promises, and will measure progress against targets through programme, portfolio and project level governance. Each project and initiative will be subject to a consistent benefits capture methodology and assessment process. Our governance arrangements will be within scope of continuous internal and external audits.

We will link projects and initiatives to specific Business Plan commitments. We will also assess how the programme is assisting with our performance against key metrics such as customer interruptions, minutes lost, broad measure of customer service and new connection target timescales.

This benefits framework will allow us to quantify the bill impact for customers and provide a direct saving through the regulatory sharing mechanism. We will also be able to qualitatively document and compare performance in our regions to those of other network operators, showing conclusively that we are helping drive net zero.

Case study 4: Open Cloud Data Platform

Providing customers with access to data will provide the opportunity for new processes, services and network activities to be developed. This project is for the development and implementation of an Open Data Platform, enabling customers to access raw data or WPD processed data.

Investment: £2.5 million **Value delivered to customers: £26.40 million**

(see Digitalisation Strategy and Our final submission Business Plan 2023-2028 Annex SA-03: Delivering a smart and flexible electricity network for more detail)



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