

EXECUTIVE SUMMARY

# POWERING COMMUNITIES TO NET ZERO

Our Business Plan for RII0-ED2 2023-2028



Scottish & Southern  
Electricity Networks



PRINCIPAL PARTNER SSE  
**UN CLIMATE  
CHANGE  
CONFERENCE  
UK 2021**

IN PARTNERSHIP WITH ITALY



## ABOUT US

We are the electricity Distribution Network Operator (DNO) responsible for delivering power to 3.8 million homes and businesses across central southern England and the north of Scotland. We serve some of the most diverse and unique geographies across the UK, and keep customers and communities connected whilst developing the flexible electricity network vital to achieving net zero.

Our network serves some of the UK's most remote communities and also some of the most densely populated. Our two networks cover the greatest land mass of any of the UK's DNOs, covering 72 local authority areas and 75,000km<sup>2</sup> of extremely diverse terrain.

Our 130,000km of overhead lines and underground cables, and 106,000 substations, are managed by more than 3,700 direct employees including skilled engineers, customer service teams and future energy experts, many of whom live and work in the communities they serve.

By enabling a smarter, more resilient electricity network, we're ensuring local communities from west London to Aberdeen continue to receive the reliable power they need. The five years from 2023 will be transformative for the UK's energy sector, and we're committing to an ambitious work programme that will deliver real and valued benefits during and beyond RII0-ED2.

Over **3.8 million** homes and businesses served by our networks

Over **3,700** employees across the country

More than **770,000** customers on our Priority Services Register

**130,000km** of overhead lines and underground cables

**106,000** substations

**100+** subsea cables powering island communities



# Scottish Hydro Electric Power Distribution (SHEPD)

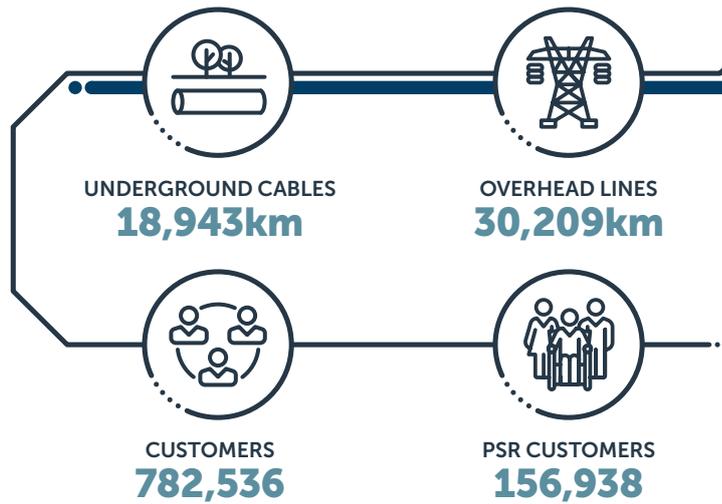
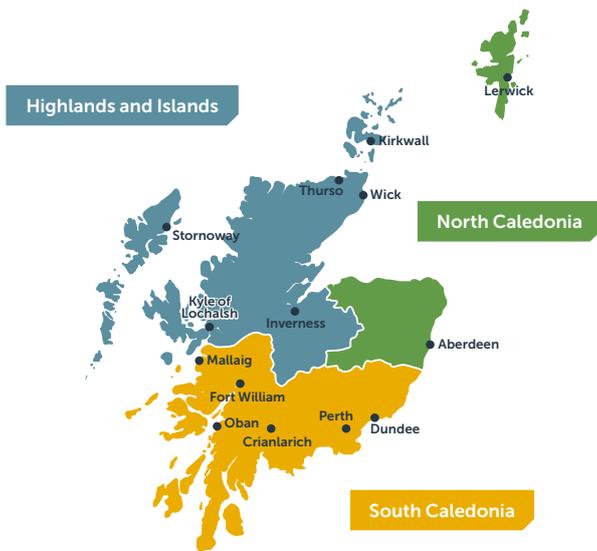
The electricity distribution network in the north of Scotland covers a quarter of the UK landmass, powering over 780,000 homes and businesses across 13 local authority areas.

The licence area stretches northwards from Loch Lomond and Dundee up to Orkney and the Shetland Islands. It is a unique region, containing the farthest western and northern mainland points in Great Britain.

Across this region we power towns and cities including Aberdeen, Dundee, Inverness and Perth alongside remote and rural locations spanning the length and breadth of northern Scotland. The rural areas we serve see our teams working in some of the most challenging terrains and conditions in the UK.

Many of our customers and communities are affected by fuel poverty, with 28.3% considered to be fuel poor. Collaborative partnerships with Citizens Advice Scotland, Home Energy Scotland, Warmworks and local charities help us to find new ways to support our customers affected by this issue.

As our communities strive to meet their net zero ambitions, we're also preparing our network to accommodate the uptake of low carbon technologies across the region and significant increase in local generation connections.



# Southern Electric Power Distribution (SEPD)

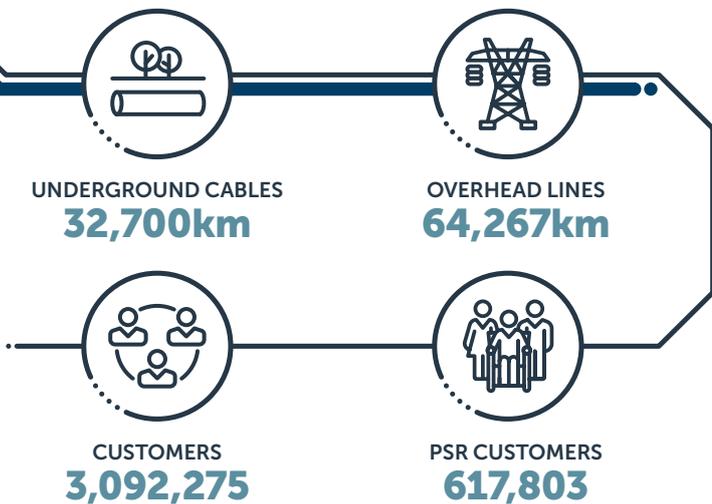
The central southern England electricity distribution licence area covers cities including Oxford, Swindon and Southampton, as well as national parks and rural areas, such as the South Downs, New Forest, Chiltern Hills and parts of the Cotswolds.

Over 7 million people live and work in our southern distribution network area, which serves 3.1m homes and businesses, across 67 local authority areas. This region has the most significant tree cover per km of any DNO region and as a result, a focus on tree management and maintenance is critical to ensure security of supply to our communities.

SEPD is a culturally diverse area with over 150 different languages spoken. We proactively collaborate with third parties such as Citizens Advice Hampshire, YES Energy Solutions and Thames Water,

to ensure that our customers have access to free energy advice and support and ensure that our 617,000 Priority Service Register customers have extra help and tailored assistance.

Low carbon technology adoption is already underway and increasing rapidly across the region, so we're preparing our network, flexibility strategy and customer service approach to support a significant increase in electric vehicles and heat pump installations.





# AN AMBITIOUS AND BALANCED PLAN TO POWER COMMUNITIES TO NET ZERO

## A MESSAGE FROM OUR MANAGING DIRECTOR

The RIIO-ED2 price control comes at a critical juncture for our sector and for society, as the way we use, manage and even think about energy evolves and adapts.

Action to address the climate emergency is increasing in priority and pace, from the high-profile negotiations in Glasgow for COP26, to the recent publication of the UK Government's Net Zero Strategy, which provided non-negotiable timescales on the delivery of decarbonisation. With aggressive pathways now set to deliver a net zero energy system by 2035, we must prepare for a rapid acceleration of renewable and distributed energy solutions, millions of new electric vehicles on our roads, a revolution in the way we heat our homes and a radical transformation in customer behaviour.

This accelerated transition will place additional requirements on our energy systems, particularly at a local level. Distribution network operators (DNOs), like SSEN, are taking on new system operation roles to facilitate the new technologies and emerging markets that best utilise our infrastructure, all while electricity demand grows rapidly. In addition, these changes will create new customer challenges and vulnerabilities that need to be both understood and addressed. We are already at the leading edge of this system change and are determined, as the pace accelerates, to ensure that our networks are an enabler for a smart, equitable transition to net zero, rather than a constraint.

Our five-year RIIO-ED2 business plan reconciles this need for network investment to power communities to net zero while ensuring efficiency and affordability for all. In planning our flexibility and network investment to meet generation and demand needs, we have proposed baseline funding consistent with a net zero trajectory in the first two years of the price control, taking a more conservative approach in the final three years, supplemented with uncertainty mechanisms in place to adjust spend as system demand becomes clearer. We believe this approach, led by our stakeholders, is both appropriate and responsible, giving confidence to our customers and allowing our supply chain and business to efficiently prepare, while not foreclosing future changes in trajectory.

Crucially, our plan also proposes enhancements to our core services, so that we retain our clear focus on reliability and customer service while we accelerate to net zero, protecting those most vulnerable.

### A strong voice for our customers and stakeholders

Over the past two years, our plan has been shaped by those who matter most; our customers and stakeholders. We have listened to over 25,000 diverse voices, seeking their views on every aspect of our plans and proposals, shaping 64 outputs, and engaging at a scale and depth far beyond anything we have conducted before.

Our plan is far richer for this engagement; from the co-design of our strategic outcomes, to exploring new trends, understanding views on future requirements, and managing the impact of Covid-19, rising energy costs, and other drivers – engagement is intrinsic within our business and has changed how we plan our network and serve our customers.

Since our draft plan, we have engaged even further, testing our proposals and inviting rigorous critique from our customers and stakeholders to ensure that our plan is both robust and ambitious in equal measure. This has added even more value and helped us be more tailored and specific in our plans with clear justification.

I'd like to extend my thanks to our Customer Engagement Group (CEG) for their role in this process. The CEG's expert scrutiny has provided real challenge and oversight to the development of our plan, often acting as a critical friend, and I look forward to their continuing role in RIIO-ED2 as we look to exceed our customers' expectations.

### Six stakeholder-led goals, delivering positive impact

Our plan demonstrates our commitment to deliver better services and greater value for our customers and communities than ever before. Our six clear goals, built around our strategic outcomes and shaped by our extensive engagement, provide stretching targets across each part of our business that we will deliver by 2028.

They are consistent with our core purpose, **powering communities to thrive today and create a net zero tomorrow**, and will be delivered through our ambitious vision – **to power change with every connection**.

 <h3>A SAFE, RESILIENT AND RESPONSIVE NETWORK</h3>	 <h3>A VALUED AND TRUSTED SERVICE FOR OUR CUSTOMERS AND COMMUNITIES</h3>	 <h3>ACCELERATED PROGRESS TOWARDS A NET ZERO WORLD</h3>
 <p>Create a <b>foundation for net zero</b> by investing <b>£1bn</b> in <b>strategic resilience</b></p>	 <p>Achieve <b>customer satisfaction of 9.2 or above</b> in every contact area</p>	 <p>Facilitate <b>1.3 million electric vehicles</b> and <b>800,000 heat pumps</b> on our network</p>
 <p>Reduce the <b>frequency and duration of power interruptions</b> by <b>20%</b></p>	 <p>Support <b>200,000 customers</b> in <b>fuel poverty</b> with targeted support and <b>energy efficiency measures</b></p>	 <p>Cut our <b>business carbon footprint</b> by <b>at least 35%</b> aligned to 1.5°C science-based target</p>
<h3>MAKE A POSITIVE IMPACT ON SOCIETY</h3>		

All our stakeholder-led goals, and the outputs that flow from them, are clearly set out and evidenced in our plan so that customers and stakeholders know and understand how we will deliver on their needs and, crucially, are able to track their delivery.

I am proud of the level of ambition shown in our plan, from demonstrating leadership on sustainability by becoming the first DNO to be accredited on a 1.5°C science-based target pathway, now recognised as essential in response to the climate crisis, to the extensive work to develop five Consumer Value Propositions (CVPs) that will deliver significant benefit to our society. Focused on sustainability, vulnerability, energy efficiency and whole system support, our innovative and collaborative CVPs demonstrate the areas where our customers and stakeholders have said we should go above and beyond.

#### An efficient and affordable plan

We recognise that to deliver the real step change required for a net zero energy system, an increase in investment is inevitable, but it is vital this expenditure is measured, timely and appropriate. Our plan proposes a total RIIO-ED2 base expenditure of £3.99bn, reduced from £4.14bn in our draft plan, and represents a 32% increase over an equivalent timeframe in RIIO-ED1. This reflects the additional requirements we must deliver for customers over the five years to 2028.

We are acutely aware that our investments are funded through consumers' bills and that it is our responsibility to always provide excellent value for money. That is why we will deliver more output for our customers and communities for less money, with no proposed increases in the distribution costs on customer bills as part of our plan<sup>1</sup>.

This will be delivered through embedded efficiency and a proposed 0.7% year-on-year efficiency gain in RIIO-ED2, alongside changes to financial parameters that will extend the cost recovery period for assets and reduce the return available to our shareholders.

While we are confident our base plan will provide the improved network, enhanced service and progress to net zero our customers expect, we know that uncertainties remain in terms of timing and scale of demand change in the later years of the plan. We have therefore proposed nine regulatory uncertainty mechanisms to help protect customers and provide the necessary flexibility, both upwards and downwards, as positions and policy evolves.

#### Supporting a just and fair transition

We fully understand the challenge ahead, but success in reaching net zero will only be truly achieved if we make it a reality for all our customers. Enabling net zero only for the few, for the early adopters, for the socially mobile and for big business is not an acceptable outcome.

Our plan therefore includes significant actions to actively promote inclusive service provision across our networks and protect our most vulnerable customers, particularly important at a time of rising energy prices. We want our plan to support sustainable growth of the economy, help consumers participate in the energy transition and create opportunities for people from all communities.

This includes building and developing the workforce required for the challenge ahead. At SSEN, we have always been proud of our role as a responsible employer and our RIIO-ED2 plan will create over 850 skilled roles, attracting people from across our regions, including those reskilling from other industries, to join a purpose-led company in a growing sector.

I am excited to present our final RIIO-ED2 business plan for the five-year period from 2023-2028, and I'm confident that, through our enhanced engagement programme, we have focused our plan on the right priorities and have appropriately balanced the need to tackle the climate emergency with the urgency it requires, while delivering an efficient value proposition for our customers.

**Our mandate to power communities to net zero has never been clearer and we look forward to continued collaboration with the customers and communities we serve, as we plot the best course to make our shared vision a reality.**

#### CHRIS BURCHELL

Managing Director  
SSEN Distribution



<sup>1</sup> Calculated using industry standard 8-year RIIO-ED1 average and 5-year RIIO-ED2 average.



# CHARACTERISTICS OF OUR PLAN

Decarbonisation will change how energy is used at a societal and individual level. This will sometimes be within our control, and in many cases it will not. Evolution in policy, regulation and consumer behaviour will impact how we invest in our network and support our communities. This includes changes in the role that we and others have in enabling new markets, facilitating connections to our network and providing flexible products and tariffs.

Our plan includes a commitment to continually engage with our customers and communities, as well as engaging with government, regulator and other interested parties across the energy system. Our business needs to be agile to respond to future developments, but we must also provide certainty to our customers, supply chain and employees. Our plan is carefully calibrated to strike this balance.

We have worked with stakeholders and customers to identify the key external drivers – economic, social, environmental and technological – that must be addressed as we develop our network, manage our organisation and serve our customers. In this final version of our plan, we have ensured that the characteristics that matter most to our customers and communities are present throughout all our investments and planned actions. The table below provides the eight characteristics that describe how customers' needs and preferences have been realised in our RIIO-ED2 business plan.



## STAKEHOLDER-LED

All aspects of our plan embody the extensive engagement with our customers, communities and local and national policy makers across our regions, with ongoing collaboration key to our approach.



### NET ZERO-READY

The UK and Scottish governments have committed to reaching net zero by 2050 and 2045 respectively, with the energy system targeted for earlier decarbonisation by 2035.

Our plan is built upon a core pathway to net zero, enabling us to respond to the climate emergency by connecting low carbon technologies as they are needed, and optimising utilisation of our network through flexibility services.



### FLEXIBLE AND ADAPTABLE

The communities we serve are diverse and each face different challenges. Our plan provides flexibility to adapt our proposals and activities to meet local needs.

Our plan also combines credible and robust growth scenarios with flexible uncertainty mechanisms, so as to not foreclose options to further accelerate decarbonisation.



### CUSTOMER-FOCUSED

Our plan commits us to measurable and stretching outputs and performance levels that our customers value, with transparency so we can be held to account for delivery.

Our plans for digitalisation will deliver a deeper understanding of our network and our customers. This means we can provide tailored services, including options for self-service, as well as improved customer experience across all contact points.



### SAFE AND RESILIENT

Climate change is normalising previously exceptional weather events that test network resilience. Cybercrime is growing and our increasingly digitally-enabled assets must be protected.

Our plan provides investment to ensure our customers benefit from improved levels of resilience that are critical as electricity plays an increasingly important role in transport and heating. We will deliver all this while ensuring our network remains safe for our customers and employees.



### EFFICIENT AND AFFORDABLE

We recognise there are existing and future pressures on affordability and we cannot deliver net zero at any cost. Through continued innovation, efficiency, balanced decision-making and stakeholder support, our plans keep bills affordable, while implementing the scale of change and investment required for net zero.

Our plan is fully costed following a robust and rigorous cost assessment with stretching efficiency targets, delivering no expected increase on consumer bills.<sup>2</sup>



### FAIR AND INCLUSIVE

Our plan proposes tailored investment to meet the needs of communities, with a core focus on supporting those most vulnerable through a just and equitable transition to net zero.

The social and economic impact of the Covid-19 pandemic is expected to be felt into RIIO-ED2. We will continue to plan and respond appropriately, particularly in our services for the most vulnerable, and by ensuring we continue to support a green recovery.



## FINANCEABLE AND DELIVERABLE

Our plan is financially sustainable in the short and long-term, protecting the interests of current and future customers.

Our plans deliver a transformation within our business to 'work smarter' by building and enhancing new workforce capabilities and technology while improving our carbon footprint and the sustainability of our supply chain.

<sup>2</sup> Calculated using industry standard 8-year RIIO-ED1 average and 5-year RIIO-ED2 average.



# EXECUTIVE SUMMARY

## 1 NETWORKS IN A NET ZERO WORLD

The climate crisis is driving unprecedented levels of change which requires an unprecedented pace and scale of response. Meaningful actions across the energy system are urgently needed to mitigate the impacts of climate change and make net zero a reality for our communities.

Climate change is a global challenge that requires local solutions, and our role as an energy network must be to enable local, tailored solutions for customers and communities that combine to deliver meaningful outcomes for the energy system and society. As a provider of critical national infrastructure, we play a stewardship role in accelerating the transition to a net zero world at a national and local level. We understand the responsibility we hold and are committed to being at the forefront of driving change.

The journey to net zero will involve a rapid acceleration in the deployment of distributed energy resources bringing millions of new electric vehicles onto our roads and a transformation in the way we heat our homes. Networks must deliver substantially greater volumes of electricity in a resilient way whilst enabling customers and communities to choose their net zero journey. It's our role to ensure customers have access to solutions that lower the energy costs for electric vehicles. We must also ensure they have the opportunity to utilise their own and community assets to decarbonise their heating and benefit financially from new markets and products.

As we look ahead towards the new 2035 target for a net zero energy system, we are now seeing an exponential rise in the uptake of new technology, the scale of new markets and in the ambition within government policy, particularly around the electrification of transport and heat.

**The pathway to 2035 is already accelerating at pace, as is demonstrated by policy changes since draft plan submission:**

Realising this vision requires us to take a greater role in coordinating and optimising energy use, attracting and connecting low carbon solutions and educating and empowering customers, communities and local authorities. Utilising innovation that accelerates decarbonisation at the lowest cost and digitalising our energy system to improve collaboration, participation and understanding is central to this. We have proactively invested in our ability to deliver this promise and have planned to sustain this investment to underpin continuous improvement and efficiency. We will also ensure our networks are responsive and resilient to the challenges that the energy transition and climate change brings.

All communities face unique challenges and opportunities, and these vary enormously across and within our north of Scotland and central southern England regions. As we move towards net zero, we have an essential role in supporting and enabling the same opportunities for all customers, especially those who may experience aspects of vulnerability. This includes those who are vulnerable today, but also those who may experience new or existing characteristics of vulnerability in the future.

In our **north of Scotland** region, we are a key part of the UK's renewable economy. Our network is part of the critical infrastructure enabling environmental and economic benefits to Scotland, our customers and across the UK. The north of Scotland has some of the most remote communities and vulnerable customers with some of the highest levels of fuel poverty in the UK. For these customers, the resilience and cost-efficiency of our network is vital to them and their communities. It's for these reasons our investment over the R10-ED2 period must ensure that the decarbonisation of heating and transport in Scotland progresses at a pace similar to anywhere else in the UK. We must also enable communities in the north of Scotland to maximise and preserve the enormous natural capital of the region, without burdening them with unsustainable energy bills.

Our **central southern England** region has the highest concentration of headquarters of global companies outside of London. It's one of the most culturally diverse areas in the UK with over 150 languages spoken and considerable population growth is predicted over the next 15 years. Our modelling forecasts the second highest deployment of district heating, electric vehicles and heat pumps of any region by 2035, changing what our customers require from the network to connect and realise the benefits of these technologies. It is critical that our network and the services we provide evolve at a rate to enable and not hinder the net zero journey in this vital region for our economy.

**NET ZERO POLICY**  
The UK Government **Net Zero Strategy** sets an accelerated target to **decarbonise the electricity sector by 2035**, and align pathways to the **6th Carbon Budget** recommendations.

**RENEWABLES AND FLEXIBILITY**  
**Smart systems and flexibility plans** called for 13GW of flexibility on the system by 2030. Scottish Government accelerating **local renewables** and plan for **six net zero islands by 2040**.

**TRANSPORT**  
UK Government announced a further **£620m of support for EV charge point rollout** and mandated charge point installations at **all new properties from 2022**.

**HEAT**  
**Heat and Building Strategies** from the UK and Scottish Governments set **accelerated targets for heat pump deployment** including consumer grant schemes and funding to reduce costs.



2035 IN CENTRAL SOUTHERN ENGLAND

- **c.318,000** new houses and **8.3 million square metres** of non-domestic floor space that will need heating
- Over **665 MW** of electricity demand from known new data centre sites coming online by the mid 2020s
- Between **1.4m and 3.8m** electric vehicles will be on the road
- **c.1.2m** domestic properties and **c.91,000** non-domestic properties operating a type of heat pump
- Energy efficiency measures in homes and businesses reduce baseload electricity consumption by **c.23%**
- Collectively, distribution network connected solar and wind generation capacity in the licence area increases by over **122%** from c.2.4 GW in 2019 to **c.5.3 GW in 2035**



2035 IN NORTH OF SCOTLAND REGION

- **c.63,000** new houses and **10.3 million square metres** of non-domestic floor space will need heating
- The capacity of hydrogen electrolyzers connected to the distribution network reaches **43 MW**
- Between **259,000 and 711,000** electric vehicles will be on the road
- **c.438,000** domestic and **c.39,000** non-domestic properties installing heat pumps
- Energy efficiency measures in homes and businesses reduces electricity consumption by **c.22%** mitigating the increased demand from electric vehicles and heat pumps
- Collectively distribution network connected solar, wind, hydro and marine generation in the licence area increases by **116%** from over 3.0 GW in 2019 to **c.6.5 GW in 2035**

As we deliver for each region individually, we strive to be a force for good in the communities we serve.

We are an active contributor to the local economies where we are a major employer in our two regions. This contribution will continue as we plan to grow our business by a further 850 jobs by 2028 and create sustainable opportunities across our supply chain.

We are committed to making a societal impact beyond simply providing power to our communities, extending ourselves to restoring habitats, increasing biodiversity and designing our business so that it is sustainable, all while helping make net zero a reality.

We're powering change with every connection

Our plan has been developed with our customers and communities to reflect and deliver their ambitions and provide them with the broadest set of options for realising their net zero future. It reflects the different requirements of our two distribution networks, while being responsive to the uncertainties and opportunities that will emerge. Our plan is centred around key consumer-led strategic outcomes, which have driven and influenced the direction of our wider business strategy, recognising the need for alignment and integration between our RIIO-ED2 business plan and the way we develop and transform our current business to deliver it. Having received feedback that our former outlook was too insular and lacked customer focus, we undertook an extensive co-creation programme with our customers, stakeholders and colleagues on our strategic approach, and subsequently redefined our company purpose and vision.

Our new purpose – **we power communities to thrive today and create a net zero tomorrow** – sets out our dual aim to support the communities we serve, beyond keeping the lights on, and work collaboratively with them to reach their net zero carbon goals.

Our new action-led vision – **powering change with every connection** – places the importance of service and engagement right at the heart of our business and makes clear that every connection we make, be it an infrastructure asset or connection with a customer, stakeholder or colleague, matters.

Our new purpose and vision will be delivered through four clear priorities directly linked to our strategic RIIO-ED2 outcomes. This means our short- and long-term decision-making is focused on the requirements of our RIIO-ED2 plan and what needs to be achieved for our customers.

OUR PURPOSE

We power communities to **thrive today** and create a **net zero tomorrow**

OUR VISION

We're **powering change** with **every connection**

OUR FOUR PRIORITIES



Delivering a safe, resilient and responsive network



Providing a valued and trusted service for customers and communities



Accelerating progress towards a net zero world



Making a positive impact on society



**Deliver a safe and resilient network that meets our customers' needs and that supports the greater electrification of heat and transport** by investing in the infrastructure and technology that provides a platform for the future. We recognise that consumer energy use will change in different ways, over different timescales across different regions. Our plans are based on a requirement that our network be responsive to this variety and uncertainty. We will reduce the frequency and duration of customer interruptions and will invest in ensuring our network is resilient to climate change and ageing assets.



**Provide a high quality, value-creating and trusted service for our customers and communities that evolves with their needs and expectations.** We will empower our customers with intelligent, self-service digital solutions designed to be inclusive and offer tailored support. We will make sure that net zero is available for all, whether communities want to support tourism through deployment of public rapid EV charging, individuals want to decarbonise their heating or if new businesses or local authorities require bespoke energy solutions. We will provide high quality customer experiences that enable their ambitions and deepen trust, and expand our services, reducing the impacts of fuel poverty and improving energy efficiency for customers in vulnerable situations.



**Accelerate the progress toward, and enable all customers to participate in, a net zero world.** It is essential that we demonstrate that markets and the role of flexibility will mean different things in different communities. However, they must be operated in a fair and transparent way that benefit consumers. We will do this by applying whole system thinking in a highly collaborative way to create and enable smart, flexible, local energy networks. This includes acting as a neutral market facilitator with the highest levels of transparency.



**We will make a positive impact on society by doing even more for our communities and environment.** We will expand and increase the diversity of our workforce to not just deliver the scale of activity we need to undertake, but also create economic and wider societal benefits in the communities within which we operate. We will increase our workforce by 20% adding over 850 jobs within SSEN and many more through our supply chain. This will be delivered by increasing our use of apprenticeships, graduate schemes, and trainee engineer programmes.

## What this means for our customers and communities

Our plan delivers value to the communities we serve, and society as a whole. It reflects a wide range of customers' and stakeholders' views of what is important now and in the future. It also recognises the key role we have to play in helping all of our customers and communities reach net zero and realise the benefits of doing so.

We are committed to delivering a positive impact and our will plan will ensure that:

<b>All of our customers can choose their path to net zero and connect low carbon technologies whenever and wherever</b>		<b>Customers and communities have access to enhanced services, with extra support to those most vulnerable</b>	
We will provide simple self-service opportunities	We will take an inclusive approach to local area energy planning	We will increase the reliability of our network	We will provide targeted support for those in fuel poverty
<b>Our services are tailored to specific local needs, and enabling new business models and markets, and that benefit our customers and communities</b>		<b>Our actions will drive long-term employment opportunities and sustainable economic growth in the regions we operate</b>	
We will create new community flexibility markets	We will enable the renewable ambitions of individual communities	We are creating over 850 sustainable career opportunities	We are enhancing our community funding and partnerships

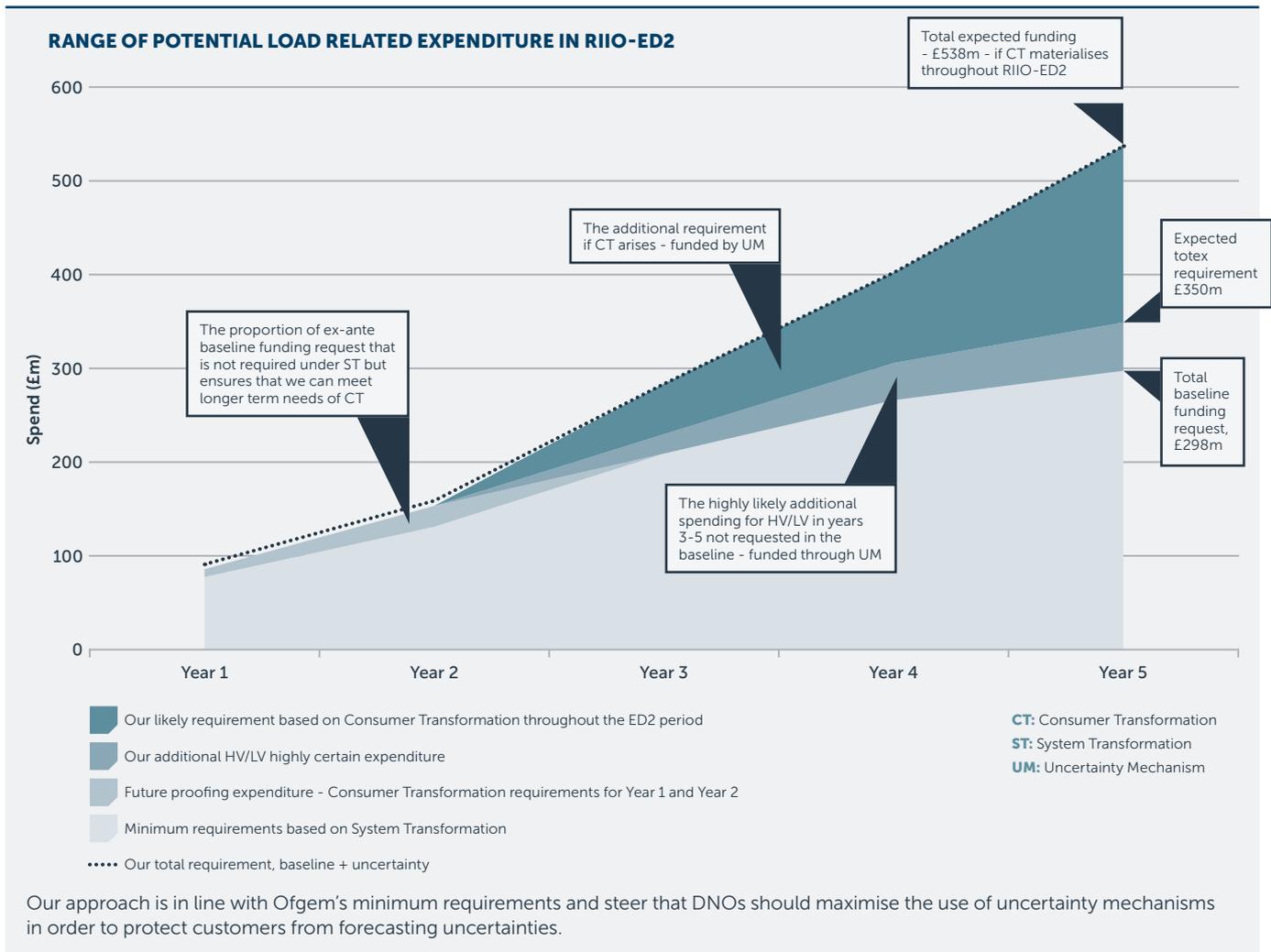
# A fair and flexible transition to net zero

There are a range of pathways to net zero, and our plan keeps all options open. We explored a range of potential future scenarios specific to our regions with stakeholders, including both national Governments, National Grid ESO, over 70 local authorities and 200 community groups. This work identified what is common and what is different across these pathways and the steps needed to ensure we do not foreclose options.

These pathways identify where we must make firm decisions on the level of investment to meet load growth and changes in demand profiles, and where we must proactively manage risk to keep options open. They inform where we need to invest to deliver a more responsive network, and provide requirements of how we must mature our ability to take on the role of Distribution System Operation (DSO). These decisions must be made while recognising that there is an immediate and future cost to consumers that must be considered and managed.

Our central planning scenario is based on a System Transformation pathway combined with future proofing investment based on the first two years of Consumer Transformation pathway. Combined, this defines the core of our baseline revenue request.

Based on our research and engagement, we believe Consumer Transformation is the likely outcome, but suitable protections for customers are required alongside reflecting the ambition and delivery commitment, consistent with our stakeholders' and communities' expectations.



We are confident that our plan strikes the right balance between the baseline funding and the use of uncertainty mechanisms, and serves to protect customers from an unnecessarily high baseline plan in a number of areas where there is significant uncertainty that is out of our control. Our baseline plan is based on robust evidence and designed to ensure that we, together with our supply chain, are able to plan and scale activity in the most efficient manner for the customer.

Importantly, our load baseline plan is specifically designed to ensure we do not foreclose any outcomes, in line with Ofgem's business plan guidance, but delivers the strategic investment that is essential in order to ensure we are capable of meeting expected demand growth in RIIO-ED2 and future price control periods.

We consulted extensively with our customers and other stakeholders to seek their views on what basis we should develop our RIIO-ED2 plan. They were very clear that we must enable net zero in a safe, reliable and resilient way, whilst also effectively managing future uncertainties. This includes changes in consumer electric vehicle behaviour and also uncertainty over approaches to decarbonise heating. Our stakeholders want us to actively enable decarbonisation, but they were also clear that our plan must be affordable and support the most vulnerable.

Our plan asks for £3.99bn to invest in our two regions for the five-year RIIO-ED2 period. Our plan is adaptable to multiple pathways but is affordable, recognising the challenges our customers face with increasing energy costs. Uncertainty mechanisms enable us to accommodate load growth above our baseline assumption, providing the right investment at the right time if it's needed. We will also enhance our workforce skills and enabling technology, so that we are 'working smarter' to deliver a responsive network to meet more uncertain aspects of future load growth.

An integral part is the ongoing investment to expand our DSO role to make sure we are continually increasing our options to defer or avoid traditional network reinforcement. This allows us to make

greater use of funding through uncertainty mechanisms as the combination of available flexibility increases alongside our maturing DSO capabilities. At the same time, we've rigorously challenged ourselves on cost efficiency and to find cost efficiencies that underpin our plan. This has reduced our funding ask by £269m.

Together, this provides our business and customers greater certainty on what we will invest in our network and supporting capabilities, in a way that balances the priorities of our customers today and tomorrow.

## 2 ENSURING A STRONG VOICE FOR OUR CUSTOMERS AND STAKEHOLDERS

The voice of our customers and stakeholders has been at the very heart of our plan. Our approach to enhanced engagement has evolved significantly through RIIO-ED1 and again through our RIIO-ED2 business plan process, driven by improvements to our strategy and processes, and our response to the challenging circumstances our customers and stakeholders experienced as a result of Covid-19.

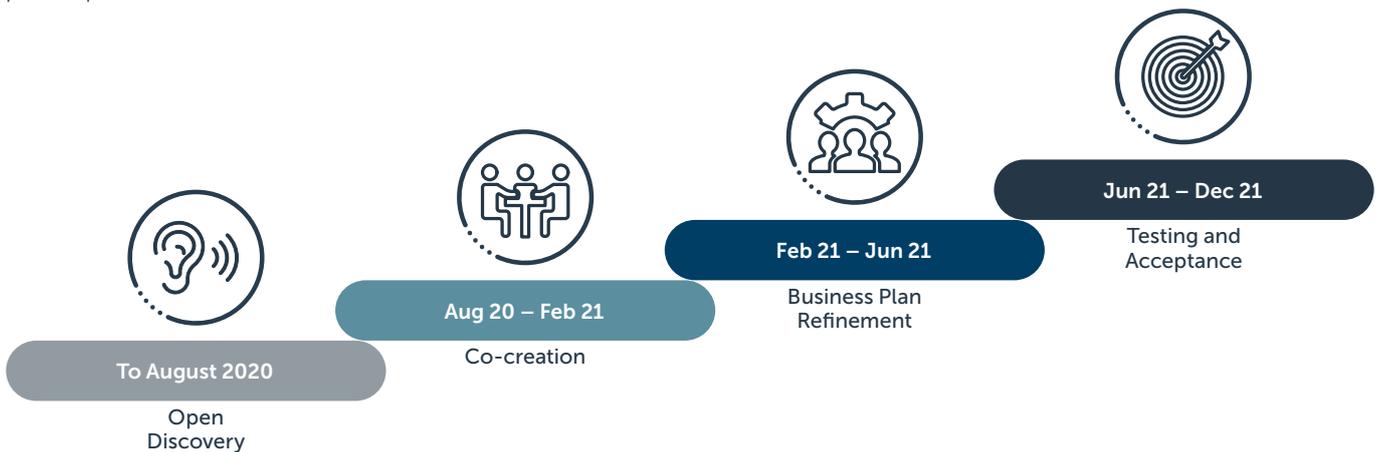
We have adapted our approach to include online methods to be as accessible as possible recognising that local restrictions and personal preferences are a potential barrier to engagement. Wherever possible, we have adopted a co-creation approach, an advanced form of interaction with stakeholders which goes beyond traditional transactional approach and co-designing solutions. We have also been careful to fully recognise the differences between our two licence areas, tailoring our approach to address regional specific issues.

A further innovation was thematic consumer research on topics identified as important to our stakeholders, including a deep dive into how we better support 'worst served' customers and a joint design process of a new connections journey. Addressing areas of importance and interest, we held a Citizens' Jury that gave consumers a role in shaping our final proposals for our innovation and sustainability plans through deliberative workshops and inputs.



Our final plan demonstrates how stakeholder and consumer insights have driven our business more than ever before, not only in the number and breadth of stakeholders engaged but through direct impact on our business plan strategies and outputs. Each of our strategies and outputs has a 'golden thread', mapping these to actionable insights gained from enhanced engagement and triangulated by senior leaders.

Our enhanced engagement programme has included four phases, with the testing and acceptance phase driving further refinements between submission of our draft business plan and this final version. In the last phase of the programme we had a significant focus on the cost of our plans, with each of our engagements in this phase displaying both the granular cost of our proposals alongside what this means in terms of pounds and pence on customers' bills. This included a targeted consultation and series of stakeholder events on our draft business plan outputs and costs.



Over 4,700 distinct feedback points were synthesised and built into the development of our draft plan and, through a two-stage triangulation process, 51 key refinements were made to strategies and proposals to better meet stakeholder needs. This included developing five new business plan outputs and refining the ambition for a further two outputs following the Phase 4 programme of events.

The strength and focus of our plan, and our engagement programme, has been improved by our Customer Engagement Group (CEG), established in 2019 as part of enhanced engagement requirements for RIIO-ED2. The group, chaired by Tracey Matthews and supported by ten members with expertise from across sectors and segments, has been a valuable critical friend providing scrutiny and challenge to all aspects of our plan and approach. Through 21 formal meetings, the group has been given regular access to the RIIO-ED2 project team and senior leaders, as well as three formal opportunities for engagement with our Board. This constructive dialogue has made our business plan even more reflective of stakeholder and consumer needs and a stronger and improved plan as a result.

It's our intention that the CEG will have an enduring role in our strategy for continued enhanced engagement during the RIIO-ED2 period, which is detailed in **Future Stakeholder Engagement Strategy (Annex 3.2)**. This strategy captures the improvements we will make in the next price control to further understand the needs of our stakeholder and customer base and conduct meaningful and innovative engagement. Key to our approach is to apply the learnings of the RIIO-ED2 business plan engagement process and ensure our engagement is built around delivery of our business plan outputs, while remaining responsive to changing stakeholder needs.

## ACCEPTABILITY TESTING

**We tested our final plan with consumers through a two-stage acceptability testing programme, using both qualitative and quantitative methods. For the qualitative phase in September 2021, we identified fuel poor customers, vulnerable customers, and future customers, as well as business customers, as we particularly wanted to understand the views of seldom heard groups.**

Based on their feedback, we made 21 refinements and enhancements to our final plan.

A large quantitative survey of customers and business was conducted in October 2021, showing high acceptability of our final plan expenditure and outputs of 78% with a small minority of 4% saying it was unacceptable. Of respondents who told us the plan was neither acceptable nor unacceptable, we identified that concern about their electricity bills in the context of rising prices was likely driving this result with 77% telling us it impacted their response. This is also reflected in an overall affordability score of 77%. However, when respondents considered the plan without reference to their own circumstances, over 86% rated the plan as value for money.

## 3 OUR RIIO-ED1 JOURNEY

**Our plan for RIIO-ED1 set ambitious targets to deliver improvements in customer service and safety performance, to reduce service interruptions and our business carbon footprint (BCF), and to connect more customers to our networks, more efficiently and with increased customer satisfaction.**

There have been a number of challenges and opportunities across the RIIO-ED1 period – the Covid-19 pandemic, Brexit, the increasing impact of climate change, advances in battery technology, cybersecurity threats and a growing ability to process and manage 'big data'. Many of these were unimaginable when we developed our RIIO-ED1 plan back in 2013/14. As a business, we have risen to, and adapted to, these challenges which have in some cases led to us choosing to invest more of our shareholders money in order to deliver on our priorities, deliver high class customer service and start to lay the foundations for delivering net zero.

**We have performed well against our outputs and delivered significant improvement levels for customers. Our achievements include:**

-  Improved customer satisfaction scores by 6% since 2015/16. Both our networks outperformed Ofgem's complaints related targets.
-  We have increased customer satisfaction for connections by 9% while managing a surge of connection requests (particularly in the south) and broadly meeting Ofgem's Time to Connect targets.
-  Became the first DNO to commit to a 1.5°C Science based Target.
-  Continue to have a strong safety record, building on our previous strong performance.
-  Reduced average customer interruptions (CI) by 17% and average customer minutes lost (CML) by 25% since 2012/13 for unplanned interruptions.
-  Made significant advances in our approach to supporting vulnerable customers. We have supported 7,500 customers with fuel poverty measures since 2016/17. This scaling up of activities was recognised through the Stakeholder Engagement and Customer Vulnerability incentive where we were the second place DNO in 2020/21 for the customer vulnerability element.
-  On track to deliver £89m in customer benefit through innovation and flexibility, maintaining our leadership position.

Delivering this level of performance, while managing some of the unforeseen challenges in RIIO-ED1, such as a requirement to replace strategic subsea cables, means that, at the time of publication, we are forecast to overspend our allowances by 3.4%. This additional investment has helped us deliver our outputs in RIIO-ED1 and has also seen enhancements in IT, systems and people which are helping to set us up for the start of RIIO-ED2.

## 4 A SUMMARY OF OUR BUSINESS PLAN

### 4.1 A Valued and Trusted Service for Our Customers and Communities

We have ambitious stakeholder-led proposals to build a customer centric and digitally-enabled organisation, improving our core service offering and targeting support where and when our customers need it.

We will provide enhanced support to consumers in vulnerable situations and help reduce fuel poverty through our vulnerability strategy. We also recognise we have a role to play in ensuring all our customers are able to benefit from the energy system transition, including through a self-financed £500,000 annual 'Powering Communities to Net Zero' fund.

We are broadening our focus on vulnerability to recognise how businesses can also become vulnerable as economic or social circumstances change around them.

We are investing in new technology to enable the activities that are key to delivering net zero for our customers and communities. Digitalisation and technology investments across our network and back office operations will enable many of the outputs across our plan and will provide a direct benefit of £175m.

Planned investment 2023-28	
Chapters in this section	Capex (£m)
Chapter 4: A Valued and Trusted Service for our Customers and Communities	£38.4m
Chapter 5: IT and Digitalisation	£264.1m
<b>Totex</b>	<b>£359.0m*</b>

\*Chapters only show direct investment required to deliver key deliverables and outputs, not CVPs.

#### DELIVERING OUR GOALS

We have clearly demonstrated where our proposals are a result of meeting expected standards, including regulatory and legislative requirements, and where we have sought to respond to the needs of our customers and stakeholders by delivering on shared ambition or going above and beyond expectations.

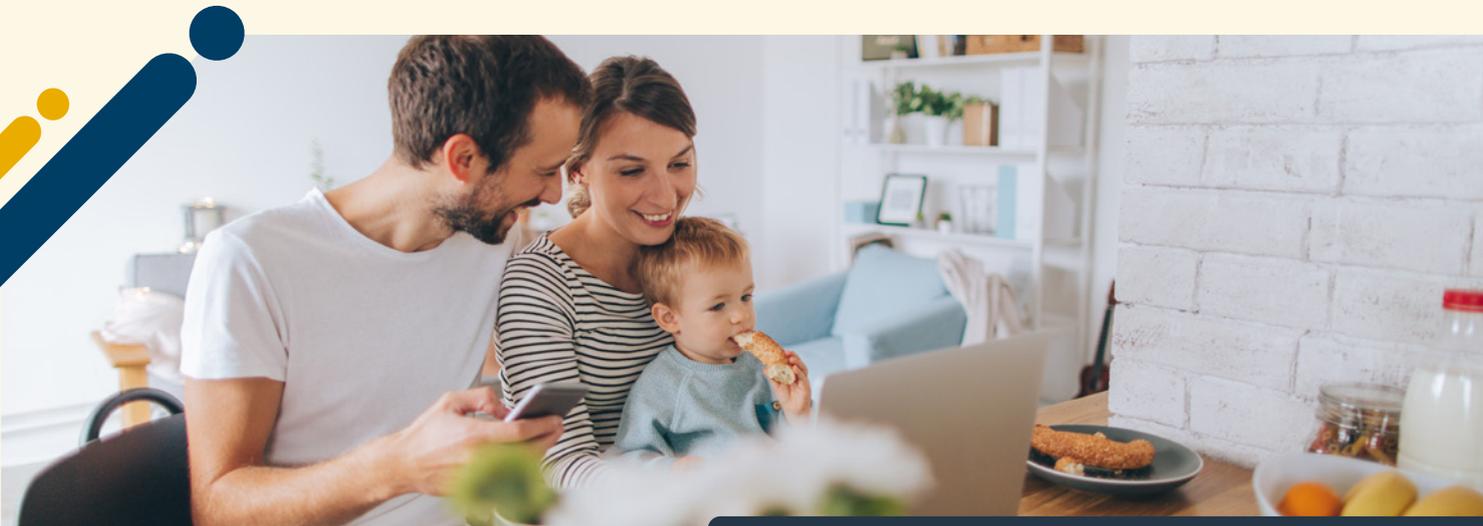
- Achieve customer satisfaction of at least 9.2 in every contact area
- Support 200,000 customers in fuel poverty with targeted support and energy efficiency measures, alongside benefit to a further 1 million customers and community members through resilience support and a shareholder-financed community fund
- CVP – introduce Personal Resilience Plans to proactively support consumers in vulnerable situations in power cuts and emergencies

#### WHAT STAKEHOLDERS WANT

- Targeted improvements in customer satisfaction with a focus on reducing complaints, and improved response to unplanned power cuts
- Do more to address vulnerability ensuring no one is left behind in the energy transition, and recognise and support vulnerable business customers
- We should leverage our scale to improve support for customer and community action on net zero
- We should employ smart tech to enhance our service but not leave 'generation landline' behind
- Keep pace with other sectors in digitalisation and data, responsibly investing in the future smart system and ensuring data remains safe and secure
- Data and cutting-edge digital tools used to improve asset and infrastructure visibility and ultimately help SSEN in the transition to DSO and net zero

#### DELIVERING IMPROVED OUTCOMES FOR ALL

- Improve customer satisfaction across both licences and all contact categories achieving a score of 9.2 or above and 9.3 for digital satisfaction
- Over 1 million Priority Services Register (PSR) customers reached by 2028 and PSR customer satisfaction scores at 9.4
- Introduce a new Business Support Register, providing tailored support to critical and essential customers during power cuts
- We will introduce a shareholder-financed £500,000 annual 'Powering Communities to Net Zero' fund to support LCT accessibility initiatives for those in vulnerable situations, and community-led environmental and resilience schemes
- Customers able to self-serve and we will provide support to those unsure of the switch to digital, whilst maintaining all traditional contact channels
- A holistic digitalisation plan that will transform our digital and data capability to support a net zero system
- Communities empowered to participate in flexibility markets, benefiting from the energy system transition



## 4.2 A Safe, Resilient and Responsive Network

A robust, resilient and reliable network is the bedrock of our plan to deliver the necessary improvements for net zero, in particular in the context of climate change and increased reliance on electricity.

We are realising customer benefits by prioritising investment to create the network our customers need today and, in the future, meeting compliance and legislative requirements and improving network and public safety.

Our two licence areas are dramatically different; climate, population density, infrastructure and the natural environment all factor in how we maintain service for customers. Our plan works as hard for some of the UK's most remote communities as it does for customers living in the more populated south.

Chapters in this section	Planned investment 2023-28
	Capex (£m)
Chapter 6: Safety and Compliance	£408.2m
Chapter 7: Maintaining a Resilient Network	£1,174.6m
Chapter 8: Supporting the Scottish Islands	£329.2m
<b>Totex</b>	<b>£2,212m*</b>

\*Chapters only show direct investment required to deliver key deliverables and outputs, not CVPs.

### DELIVERING OUR GOALS

We have clearly demonstrated where our proposals are a result of meeting expected standards, including regulatory and legislative requirement, and where we have sought to respond to the needs of our customers and stakeholders by delivering on shared ambition or going above and beyond expectations.

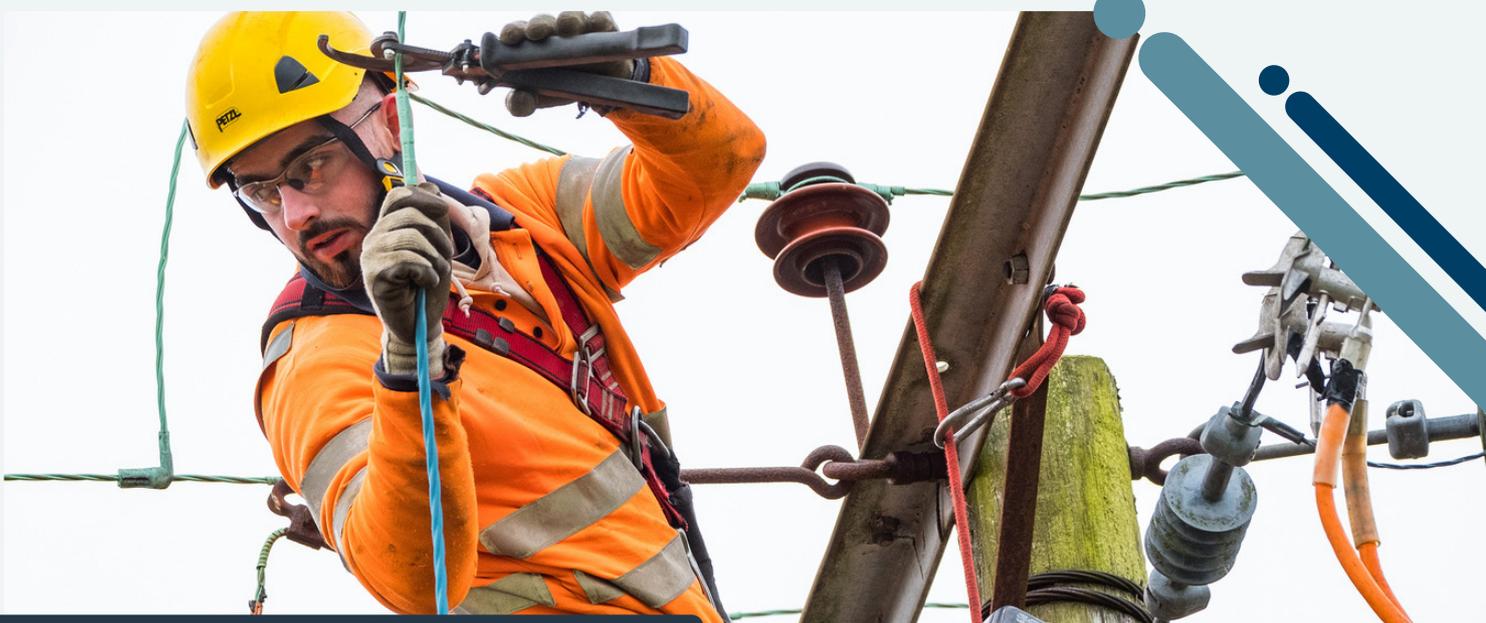
- Create a net zero foundation by investing **£1bn** in strategic resilience
- Invest **£296.2m** in keeping the public safe, in line with our obligations

### WHAT STAKEHOLDERS WANT

- Customers want a safe network, resilient to threats and ready for net zero
- Reliability is more important than ever as work/life patterns change in response to Covid-19, and heat and transport become electrified. But customers and communities have mixed views – it shouldn't come at any cost
- We should invest now to replace assets and avoid loading costs onto future consumers, prioritising assets with high likelihood of failure
- Network reliability is vital for our remote islands communities: stakeholders urged prioritisation of subsea cable replacement and want a low carbon whole system solution to ensure reliability in our transition to net zero

### DELIVERING IMPROVED OUTCOMES FOR ALL

- We will reduce the average duration of unplanned power cuts by 20%, for example through automation to over 620 circuits, also lowering long-term costs
- Over 250,000 fewer customers experiencing a power cut in RIIO-ED2
- We will reduce customers classified as 'worst served' by 75%, focusing our investments where it will have the highest impact, and using consumer vulnerability as a criteria for prioritisation
- Our core asset health and reliability investments of **£683.7m** will improve strategic resilience
- Target investment of **£329m** to reduce faults and improve reliability for island communities, including on 18 subsea cables and all seven island-based power stations
- Keep the public safe, deploying new technology to better target key activities such as tree-cutting and overhead line clearances
- Build on our extensive RIIO-ED1 safety engagement programme, reaching 50,000 partners and members of our communities by 2028



## 4.3 Accelerated Progress to Net Zero

We have worked alongside stakeholders to design and calibrate our plan for future changes in system operation and the pathway for net zero. We have built in the necessary flexibility to ensure we are future-proofed for changes but without imposing unnecessary costs on today's or future customers.

We will achieve this by investing over £500m on our network, taking a flexibility first approach to defer up to £46m and £417m of traditional investment through flexibility and flexible connections. Our plan is fully aligned to a 1.5°C Science Based Target (SBT) and will deliver at least a 35% reduction in our business carbon footprint (BCF) by 2028 from a 2020 base. Expected growth in flexible connections will offset a further 1.8 mtCO<sub>2</sub> by 2028.

We are stepping up to address our impact on the natural environment by delivering a £26.4m biodiversity net gain programme through local afforestation and programmes and solutions that will reduce our impact.

Planned investment 2023-28	
Chapters in this section	Capex (£m)
Chapter 9: Our Forecasting and Future Energy Scenarios	N/A
Chapter 10: Our Network as a Net Zero Enabler	£510.2m
Chapter 11: Distribution System Operation	£73.1m
Chapter 12: Whole Systems	N/A
Chapter 13: Environmentally Sustainable Network	£172.3m
<b>Totex</b>	<b>£1,039m*</b>

\*Chapters only show direct investment required to deliver key deliverables and outputs, not CVPs.

### DELIVERING OUR GOALS

We have clearly demonstrated where our proposals are a result of meeting expected standards, including regulatory and legislative requirement, and where we have sought to respond to the needs of our customers and stakeholders by delivering on shared ambition or going above and beyond expectations.

- **CVPs** – our whole systems CVPs will provide dedicated in-house support to empower local communities in net zero, and lead the way in infrastructure sharing to enable our most remote communities to benefit from digitalisation
- **CVPs** – our DSO CVPs will facilitate broad and diverse flexibility market participation, and accelerate the use of energy efficiency as a tool to reduce network constraints and customer bills

### WHAT STAKEHOLDERS WANT

- We should support the substantial growth in electric vehicles and heat pumps with no delays and simple connections processes
- Be an enabler for the net zero transition, working with local partners and across the 'whole system' to ensure pace and efficiency
- Prioritise early investment in the network for long term benefit using robust data and stakeholder insights
- Lead by example and reduce our carbon footprint aligned with recognised climate targets
- Work with communities to ensure that local renewables, flexibility and energy efficiency potential can be realised
- Develop DSO services that are transparent, data-driven and will deliver flexibility at scale

### DELIVERING IMPROVED OUTCOMES FOR ALL

- We will invest at least **£350m to support network capacity growth over RIIO-ED2**, with further funding to be provided through an agile and stakeholder led approach to uncertainty
- We will provide **dedicated support to develop Local Area Energy Plans for local authorities and key groups**, and set up an Information, Advisory and Whole Systems Liaison Service to support local authorities achieve their net zero ambitions
- We will introduce a self-serve process for domestic LCT and minor connections customers, **improving the customer experience and facilitating the significant increase in connections**
- Through our DSO strategy we will act as a neutral market facilitator, strengthening our approach to governance in RIIO-ED2. We will use flexibility services to deliver benefits across our plan
- **At least 35% reduction in our Business Carbon Footprint (BCF) by 2028 in line with 1.5°C science-based target**, and reduced reliance on diesel generation



## 4.4 Delivering an Efficient, Innovative and Financeable Plan

Our plan is ambitious, and at every stage we have considered its deliverability; to understand the implications for our workforce, skills base, infrastructure and cost.

We have taken a balanced approach towards innovation, conducting research on new technologies and thinking to shape the networks of the future, alongside practical trials that will have timely application into business as usual, delivering benefits for customers now.

Stakeholders have urged us to improve transparency around procurement and our supply chain, and our RIIO-ED2 Commercial and Deliverability Strategy approach focuses less on simple unit cost reductions to explore wider efficiencies available during the whole purchasing process. This will drive efficiencies through our contracting strategies and strategic relationships with our supply chain partners.

Understanding where we have opportunities to improve our efficiency as we approach the end of RIIO-ED1 allows us to target further improvement over the final years of this price control and into RIIO-ED2. In total, we have identified £269m of additional bottom-up efficiency savings which we have embedded into our baseline plan. In addition, we have committed an 0.7% annual efficiency ambition, which will reduce costs by a further £141m over RIIO-ED2.

We have also embedded and enhanced competition within our regulated activities and have introduced new mechanisms that will further enable innovation, flexibility and cost efficiency. We have not proposed any projects that meet Ofgem's threshold for late or early competition. In many instances, projects have been consolidated to enable the use of native competition to drive efficiency.

Deliverability of our plan is underpinned by a robust workforce resilience strategy. Stakeholders recognise that our people strategy

will need to evolve so we can deliver the outputs they have asked for. We're forecasting a 20% growth to our direct workforce and will improve diversity by proactively targeting the segments of the UK workforce who do not traditionally apply to work in our sector and will extend our mental health and wellbeing initiatives to help support employee confidence.

### Proposed expenditure in RIIO-ED2

Our business plan proposes a total base RIIO-ED2 investment of £3.99bn, to deliver a resilient network for the future and a service that customers and consumers can continue to depend on today. This is our current view of the most efficient costs necessary to meet the expectations of our customers and Ofgem and deliver our plan.

Across most of our network activities, we forecast expenditure will continue at levels equivalent to the current price control, securing existing high levels of service. In key areas, we will invest more to ensure safe network operations, address specific areas of environmental and reliability risk, and provide a network capable of connecting the volumes of low-carbon technology that a net zero future requires.

This targeted investment increases expenditure by £0.96bn on an equivalent five-year period in RIIO-ED1. Details of our £3.99bn investment proposals are fully outlined in each chapter and our supporting documents.

Our individual investments create benefits for stakeholders across a wide range of areas aligned around our three strategic outcomes.



In addition, we need the support of a skilled and professional workforce to deliver these strategic outcomes. General running costs are the cost of our back office functions and other general expenditure which do not easily align with one of our three strategic outcomes, but which benefit them all.

Totex by Plan section and Ofgem categories	Valued and trusted service	Safe and resilient network	Accelerated progress to net zero	Our RIIO-ED2 Plan
Load Related	0	0	528	528
Non-Load Capex	0	1,096	211	1,308
Non-Op Capex	0	42	42	83
IT/OT	199	0	53	252
Network Op Costs	0	735	0	735
Capitalised	160	339	206	705
<b>Subtotal</b>	<b>359</b>	<b>2,212</b>	<b>1,039</b>	<b>3,611</b>
			+ General running costs	525
			- less efficiency	-141
			<b>RIIO-ED2 totex</b>	<b>3,994</b>

Breakdown of our RIIO-ED2 investment plans (£m, 20/21 price base)

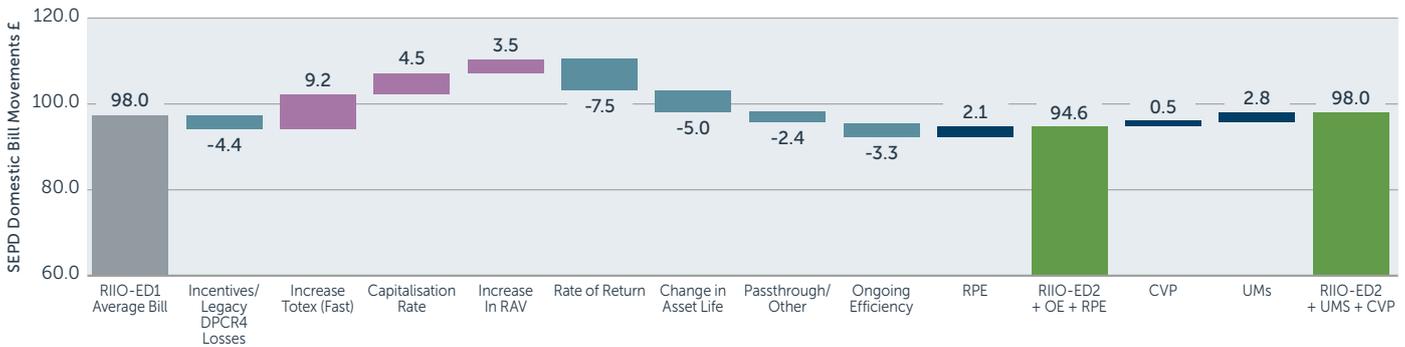
## Impact on consumer bills

We recover our allowed revenue from customers through distribution use of system (DUoS) charges, with tariffs calculated using industry standard charging methodologies. The average domestic DUoS charges for the eight years of RIIO-ED1 are £98 for SEPD (our central southern England network) and £160 for SHEPD (our north of Scotland network). DUoS charges are just one part of the overall electricity bill paid by homes and businesses. The electricity bill comprises wholesale, network, environmental, operating and other costs and is typically around £575 for an average home of which 16% is DUoS.

Delivering this step change in customer and net zero outcomes and associated increase in baseline investment, does not, result in higher costs for our consumers in the RIIO-ED2 period.

In the same five-year period, using Ofgem’s financial parameters set out in its guidance and taking account of our base cost proposals, average bills would fall by £9.70 and £3.30 per annum for SEPD and SHEPD respectively.

This is due to a combination of factors within our control – including increased efficiency and innovation – coupled with changes made by the regulator to the underlying financial framework, including an extension to asset lives in the treatment of capital depreciation and proposed changes to cost of capital. A combination of all these factors leads to this forecast reduction in the average domestic bill in RIIO-ED2 compared to RIIO-ED1 even allowing for significantly higher investment<sup>3</sup>. A breakdown of these factors, for our SEPD region, is displayed below.



SEPD Domestic bill movements (£ in 2020/21 prices)

Uncertainty mechanisms which allow for extra costs to be added to base costs in a range of circumstances, such as rapid load growth associated with decarbonisation, mean that the final bill reductions are likely to be smaller than these base numbers. In our central southern England licence area, even in the unlikely event of all the uncertainty mechanisms triggering to their full extent, the distribution element of bills will still remain at RIIO-ED1 levels. In our north of Scotland licence area, only in the most extreme circumstances relating to unavoidable subsea expenditure, do we see bills rise, with a high probability that the distribution element of bills will remain flat over the period. A detailed breakdown of bills can be found in **Chapter 19, Finance and Financeability**.

## Managing risk and uncertainty in the round

Our baseline funding requirement is proposed using a forecast of the latest robust and credible evidence available today. It meets Ofgem minimum requirements on needs case certainty and is inclusive of our ambitious efficiency savings. RIIO-ED2 will, however, be unprecedented as we deliver net zero against the backdrop of economic uncertainty. We must be balanced, yet agile in managing plan delivery and navigating changes which cause us to shift course.

Fundamentally we are required to manage both diversifiable and non-diversifiable risks and uncertainties. Non-diversifiable risks are correlated with the wider economy. They are managed through agreeing an efficient cost of capital, specifically setting the asset beta. Section F includes our proposals for financing parameters.

Diversifiable risks and uncertainties are specific to SSEN or our sector and our starting point is always that we should not seek to diversify all risks and uncertainties we face. We draw an important distinction between internal risks and external uncertainties. Internal risks need to be managed and mitigated by DNOs, such as supply chain delays due to Covid-19 and this will be managed in our approach to deliverability of our plan, detailed in **Ensuring Deliverability and a Resilient Workforce (Chapter 16)**. Internal risks matter because they encourage innovation and further efficiencies which can benefit consumers as savings are shared as defined in the price control.

External uncertainties are ‘known unknowns’ outside our direct control, which drive a significant change in investment scale. These uncertainties are dependent on policy, market, or stakeholder needs evolving. An example is decisions on net zero, which will lead to increased electric vehicle uptake. We manage external uncertainties through Uncertainty Mechanisms (UMs) which adjust specific investment areas (both up and down) triggered by distinct external shifts. In **Uncertainty Mechanisms (Chapter 17)**, we set out our proposals for nine additional UMs, building on the confirmed common UMs Ofgem will apply across the sector. Our UMs retain optionality and agility to deliver net zero and stakeholders’ evolving expectations. They are targeted at areas where need has a high probability of changing and the variance is significant. They are not designed to be a disincentive to finding efficiencies or managing risks we should otherwise absorb as internal risks – rather they protect customers from having to pay in advance for something that is not yet certain.

However, with UMs there remains a ‘regulatory process and administration agility risk’ with their use. It is important Ofgem supports the speed our stakeholders drive us to deliver net zero. This means Ofgem must prioritise resources to administer UMs and they need efficient approval processes. In **Uncertainty Mechanisms (Annex 17.1)** we outline further details of changes required.

### Uncertainty Mechanisms proposed in our plan

- Strategic investment
- Distributed generation monitoring
- Shetland
- Subsea cables
- Hebrides and Orkney whole systems
- Ash dieback removal
- Wayleaves and diversions
- Polychlorinated Biphenyls
- Opex adjustor

<sup>3</sup> Calculated using industry standard 8-year RIIO-ED1 average and 5-year RIIO-ED2 average.

## 5 OUTPUTS AND CONSUMER VALUE PROPOSITIONS (CVP)

Our plan contains 64 outputs including five Consumer Value Propositions (CVPs), distributed across the chapters in Sections B to E of our plan.

### 5.1 Outputs

Alongside our business plan goals, our outputs represent the ambition we share with our communities and have co-created with our stakeholders, responding to the opportunities and challenges driven by external factors including net zero and the climate emergency. They are aligned to the requirements of the regulatory framework and the obligations we hold under our licence.

The outputs are listed at the beginning of each chapter where they apply. In each case, we have identified the output category, cost of delivery, and what we will achieve for consumers and customers.

All of our outputs and our level of ambition will continue to be tested via our extensive and ongoing enhanced engagement programme.

We have applied the DNO joint social value framework and associated Social Return on Investment (SROI) model to quantify the consumer benefits of our five CVPs and 14 additional outputs. Our assessments have been independently measured and verified, providing assurance and confidence that the values presented are conservative, comparable and consistent with the industry standard approach.

### 5.2 Consumer Value Propositions

The current pandemic, climate crisis and outcome of COP26 have reinforced the urgent need to act. Our holistic package of CVPs is designed to bridge the gap between words and action, by going the extra mile to deliver value to consumers and wider society before it's too late.

These proposals have been developed and tested with our stakeholders and customers and are collectively designed to drive complementary value across different parts of our plan. We have established why, as a DNO, we are best placed to undertake these activities and how consumers will benefit.

Overall, our package of proposals will deliver over £50m in net consumer benefits and wider public value, from enabling those in vulnerable situations to better prepare and cope with unforeseen events, through to restoring ancient seagrass beds and biodiversity under the seas, and delivering a truly whole systems solution to bridging the digital divide.

Our proposals align with Ofgem's CVP categories of vulnerability, DSO, whole systems and environment. All of our CVPs meet Ofgem's requirements to deliver at least £3m in net consumer value, as outlined in the table below.

Further information on our proposals is available in relevant chapters and in our CVP annex, which also details our extensive stakeholder engagement and robust Social Return on Investment analysis.



Consumer Value Proposition	Chapter	Proposition	Aspiration	Costs £m	Gross Consumer Value, PV £m	Net Consumer Value, PV £m
Embedded whole systems support services for local authorities	Whole Systems	Providing embedded support and resource to enable 72 Local Authorities and up to 200 Community Groups to optimise their use of the electricity network and plan whole system opportunities to facilitate the net zero transition.	Deliver net zero capabilities at pace, helping build capabilities beyond SSEN and embed skills for societal benefit. Enable more efficient siting of infrastructure, such as Electric Vehicle charging hubs and heat pump trials, reducing long-term costs.	12.3	22.9	11.2
Energy efficiency accelerator for smarter networks and local and community flexibility market stimulation (combined)	DSO	Partnering to deliver energy efficiency at targeted points on our network supporting a reduction in bills and providing direct energy efficiency improvements to 112,000 households.  Facilitate up to 7,000 LCT installations as part of Market Flex Stimulation, supporting 50 Constraint Managed Zones across RIIO-ED2.	Reduce costs to customers by partnering to deploy energy efficiency measures where these are likely to have the most significant benefit on alleviation of network constraints, prioritising areas with high levels of vulnerability or fuel poverty.  Ensure all customers are able to access and benefit from the future energy system, including participating in flexibility markets, and benefiting from them.	36.8	40.9	7.1
Protecting marine biodiversity: life below water	EAP	Plant up to 17 hectares of seagrass meadows during RIIO-ED2, aiding biodiversity recovery, supporting climate adaptation pathways, and provide carbon sequestration as an alternative to offsetting.	Contribute to a 1.5°C Science Based Target pathway and recognise our role in supporting biodiversity and delivering wider societal benefits. Encourage other DNOs and large corporations in the UK to look at our waters as key environmental protection zones.	2.6	5.8	3.4
Supporting broadband to island communities through our assets	Whole System	Support the delivery of broadband services to 14 remote communities through a whole systems solution to utilise the fibre in our subsea cables, creating significant wider societal benefits.	Challenge typical limitations and look for lowest whole systems solutions, using our asset base for public good. Encourage wider customer benefits through using the fibre network to share data and enable systems, such as future flexibility markets. Empower customers to participate in the energy transition and make more informed decisions as the future market opportunities develop.	8.0	34.5	27.0
Personal Resilience Plans	Vulnerability	Targeted, personalised and proactive personal resilience support to a total of 420,000 new and existing PSR customers, providing up to 21,000 battery packs to new and existing PSR1+ customers.	Aspiration for all PSR customers to have a PRP. We want to help all customers with personalised advice relevant to them about what to do if there is an interruption or emergency situation. New base level PSR offering in RIIO-ED3.	7.3	10.7	3.9
<b>TOTAL</b>				<b>67.0</b>	<b>114.7</b>	<b>52.6</b>

Overview of our CVP package (net benefits)



## 6 KEY CHANGES SINCE DRAFT AND OUR UNDERLYING ASSUMPTIONS

Our draft plan has continued to evolve in response to feedback from our stakeholders and the further refinement of our analysis and evidence-base. We provide an overview of changes since our draft plan in the remainder of this section and outline the key assumptions which underpin our proposals.

Overarching Plan Changes	
<b>Overall reduction in our baseline ask</b>	<ul style="list-style-type: none"> <li>By refining our analysis, we have reduced our baseline ask by overall £151m. While in some areas we have increased our ask, for example in relation to PCBs, we have identified further savings and efficiencies elsewhere.</li> <li>As part of this, we have also considered the balance of costs funded through our baseline vs uncertainty mechanisms. In line with regulatory engagement, we have identified further discrete spend which can be funded through uncertainty mechanisms.</li> </ul>
<b>Efficiencies</b>	<ul style="list-style-type: none"> <li>While we consider a 0.5% p.a. ongoing efficiency target to be appropriate for the sector for the reason outlined in our draft business plan, we recognise that our current efficiency performance requires improvement. As such, we are proposing a more aggressive stretch ongoing efficiency assumption of 0.7% p.a., equating to £141m.</li> <li>We have developed an efficiency trace showing the detailed breakdown of efficiencies mapped to cost categories, which also shows cost avoidance and Closely Associated Indirect relationships. This totals £269m of cost reductions.</li> </ul>
<b>CVPs</b>	<ul style="list-style-type: none"> <li>We have further developed and refined our CVP proposals, in collaboration with our stakeholders. Our business plan now includes a fully-costed package of CVPs, supported by robust analysis on Social Return on Investment (SROI).</li> </ul>
<b>Incentives</b>	<ul style="list-style-type: none"> <li>Ofgem has yet to define key incentives such as the Strategy Delivery Incentives (SDIs). Recognising that final incentive design will need to be consulted on at the very latest as part of draft determinations, we have proposed our own detailed design for these incentives in our business plan.</li> </ul>

### Section B: A Valued and Trusted Service for Our Customers and Communities

	Key changes since draft plan	Business plan assumptions
<b>Vulnerability</b>	<ul style="list-style-type: none"> <li>We have increased our ambition in this space and provided more detail on key activities to support fuel poor customers and those in vulnerable situations as we transition to net zero.</li> </ul>	<ul style="list-style-type: none"> <li>Our business plan assumes a growing role for DNOs in supporting their communities as we transition to net zero, in line with Ofgem's Business Plan Guidance.</li> </ul>
<b>Digitalisation</b>	<ul style="list-style-type: none"> <li>Our IT, OT and digitalisation activities are central to delivering key outputs and consumer benefits across our plan. We have therefore clarified how our digital investments support our strategic outcomes and the outputs and activities we have co-created and/or tested through our enhanced engagement processes.</li> </ul>	<ul style="list-style-type: none"> <li>Our business plan is designed to ensure that we place digitalisation at the heart of our activities, from how we manage our assets to the services we provide to our customers.</li> </ul>

### Section C: A Safe, Resilient and Responsive Network

	Key changes since draft plan	Business plan assumptions
<b>Deliverability assessment and efficiencies</b>	<ul style="list-style-type: none"> <li>We have reduced specific work volumes based on a more detailed deliverability assessment and applied efficiencies of £184m in areas where we recognise there is more we can do to drive down cost.</li> </ul>	<ul style="list-style-type: none"> <li>n/a</li> </ul>
<b>Investment justification</b>	<ul style="list-style-type: none"> <li>We have improved the justification for our baseline investments based on feedback from our stakeholders, and provided greater transparency on how activities compare to RIIO-ED1.</li> </ul>	<ul style="list-style-type: none"> <li>n/a</li> </ul>
<b>Supporting the Scottish Islands</b>	<ul style="list-style-type: none"> <li>We have refined our strategy to ensure a reliable and sustainable service to the islands with a strong focus on identifying whole systems solutions.</li> </ul>	<ul style="list-style-type: none"> <li>Our business plan includes projects in the baseline, as it is vital we are able to upgrade our fleet of subsea cables in a timely manner where a whole systems solution cannot be identified, therefore ensuring customers and communities continue to receive a high-level of service.</li> </ul>
<b>Improving reliability</b>	<ul style="list-style-type: none"> <li>We have carried out a detailed assessment of the activities required to improve reliability for our customers and meet our Interruptions Incentive Scheme (IIS) targets. Our plan includes targeted investment supported by robust cost-benefit-analysis (CBA).</li> </ul>	<ul style="list-style-type: none"> <li>Incentive targets should always be set in such a way that drives efficient behaviour. The cost of meeting targets should not exceed the value to consumers. We have based our choice of investments in our plan on this principle.</li> </ul>

## Section D: Accelerated Progress Towards a Net Zero World

	Key changes since draft plan	Business plan assumptions
Enabling net zero	<ul style="list-style-type: none"> <li>Our evidence demonstrates that Consumer Transformation is the most credible scenario. Our approach to funding interventions (including reinforcement and flexibility) is based on ensuring that we do not foreclose credible net zero pathways, while ensuring customers are protected from unnecessary bill increases.</li> <li>We have moved an additional £52m of investments at HV and LV levels into uncertainty mechanisms. This is because the exact location of the required interventions is not yet known, and the shorter lead times at HV and LV levels mean that deliverability is not impacted.</li> <li>This will also enable us to work closely with our stakeholders to identify where interventions on our network are required at a local level, to be funded through uncertainty mechanisms.</li> </ul>	<ul style="list-style-type: none"> <li>Our business plan is net zero compliant and assumes that a sufficiently agile uncertainty mechanism will be available in RIIO-ED2 to fund the activities required to deliver on our communities' net zero ambition. We have proposed an uncertainty mechanism which we consider strikes the right balance between agility and protecting customers.</li> <li>Delivering net zero will require a shift in mindset from all parties, and greater collaboration to allow DNOs to act as true enablers to net zero.</li> <li>Our business plan is in line with Ofgem's minimum requirements relating to Access SCR and considers the impacts of Ofgem's 'minded-to' consultation in June 2021. Any significant departure from this position may have additional impacts on our business plan which we will not have been able to account for.</li> </ul>
Investment justification and deliverability	<ul style="list-style-type: none"> <li>We have improved the justification for our baseline investments based on feedback from our stakeholders.</li> <li>We have rephased our investment to take into account our deliverability assessment, and ensured we will be ready to ramp up activity as required.</li> </ul>	<ul style="list-style-type: none"> <li>n/a</li> </ul>
DSO	<ul style="list-style-type: none"> <li>We have provided additional information on how we will manage potential conflicts of interest throughout RIIO-ED2, based on the successful functional separation currently in place in RIIO-ED1.</li> </ul>	<ul style="list-style-type: none"> <li>Our business plan is based on current governance arrangements. Any changes to governance arrangements must be subject to consultation and be supported by robust evidence of genuine consumer benefit.</li> </ul>

## Section E: Innovation, Deliverability and Cost Efficiency

	Key changes since draft plan	Business plan assumptions
Uncertainty mechanisms	<ul style="list-style-type: none"> <li>We have further refined our proposals for uncertainty mechanisms, including removing a number of proposals and adding two new mechanisms: (i) a whole systems mechanism for the Scottish islands, and (ii) an opex adjustor (see below).</li> </ul>	<ul style="list-style-type: none"> <li>We have considered the suite of uncertainty mechanisms in its entirety when assessing potential impact on bills, noting that it is unlikely all uncertainty mechanisms will be triggered to their full amount, and some uncertainty mechanisms may be used to return unspent allowances to customers.</li> <li>While we have included the uncertainty mechanisms introduced by Ofgem in addition to our own proposals in our analysis, some of Ofgem's mechanism relate to significant policy changes which we cannot quantify at this stage.</li> </ul>
Deliverability	<ul style="list-style-type: none"> <li>We have refined the phasing of work in our RIIO-ED2 plan to ensure we are able to deliver on the net zero challenge. As part of this, we have revisited our work programme in RIIO-ED1 to ensure we are taking every opportunity to set up our organisation for the enhanced volume of work we expect in the RIIO-ED2 period.</li> <li>We have identified synergies across our plan, achieving over £5 million in saving and releasing 1,180 MVA of capacity by aligning core load and non-load activities.</li> </ul>	<ul style="list-style-type: none"> <li>The deliverability of our overall strategic outcomes assumes that we will receive the required funding to deliver key outputs and that the uncertainty mechanisms framework will enable an agile approach to funding, in particular for strategic investment.</li> </ul>
Closely Associated Indirects	<ul style="list-style-type: none"> <li>We have challenged ourselves to increase efficiencies within our closely associated indirect costs of £38m.</li> <li>We have also introduced a new opex adjustor uncertainty mechanism, with up to £131m of potential additional expenditure to support strategic load investment and environment-related uncertainty mechanisms.</li> </ul>	<ul style="list-style-type: none"> <li>n/a</li> </ul>

## 7 BOARD ASSURANCE STATEMENT

### Overview from Board

As Board Directors, we have taken an active role in the oversight and development of the RIIO-ED2 business plan. Our two Non-Executive Independent Directors have played a visible and active role in oversight and challenge of our plan.

Our plan has been the subject of extensive review by our customers, independent experts, our Customer Engagement Group (CEG), who have attended several Boards, and our Group Executive Boards. Recognising our responsibility to deliver a clear, transparent, and accurate plan, we, as a Board, have maintained focus on the

requirements set out by Ofgem in the delivery of our plan, including adherence to the Data Assurance Guidance, direct executive accountability and review over each plan section, and an independent assurance process, to ensure we are collectively confident in our submission.

We have taken a risk-based approach to our assurance framework based on best practice, adopting a 'three-lines of defence model'. This model provides a flexible and iterative view that allows us to adapt as our business plan develops.

We, as a Board, have considered the financeability of our RIIO-ED2 plan and are satisfied that the licensee is technically financeable on both a notional and actual capital structure, and that all applicable measures to aid financeability have been considered, including supporting evidence and justification, in support of this submission of our final plan. We do however see adverse impacts on credit financeability in RIIO-ED2 as a result of Ofgem's proposed Cost of Equity, which should be addressed in Ofgem's Determinations.

### Governance arrangements for developing our plan

Good governance and dedicated resource have been a cornerstone of our plan development. A RIIO-ED2 Executive Sub-committee comprised of our executive directors, each of whom has direct accountability for individual plan components, was established early in the process. This committee oversees the strategic direction, progress, management of risk, and assurance of our business plan. Reporting into this board is a team of experienced senior staff who have been dedicated to the development of our plan since early 2020, working in partnership with colleagues across the business to maintain a clear focus on accurate and robust proposals, a smooth transition from RIIO-ED1 into an ambitious RIIO-ED2 period, and to ensure our proposals are deliverable and meet the needs of consumers.

In addition to the RIIO-ED2 Sub-committee, our RIIO-ED2 leadership team has maintained regular engagement throughout the development of the plan with our Chief Executive in a dedicated RIIO-ED2 executive forum, as well as regular engagements with our PLC Board and Executive Committee. These additional governance forums have carried out deep-dive reviews on our plan alongside key areas of strategy, customer feedback, bill impact and financeability.

### Our approach to assurance

We recognise the importance of a robust assurance process to drive confidence that our plan is accurate, efficient, and one that shows ambition in meeting the needs of our stakeholders. Our business has a clear internal controls framework that was augmented for our business plan in an industry recognised 'three lines of defence approach'. We, as a Board, have maintained oversight of the assurance process, from its development for RIIO-ED2 through to its application for our draft and final submission. We also recognise the input of our Customer Engagement Group in their review, challenge and input into our assurance process.

Independent assurance and specialist insight in our plan has been an essential ingredient in producing an accurate, efficient plan that meets the needs of stakeholders. We have engaged independent assurance reviews in these key areas to provide a robust assessment in how we have addressed stakeholder feedback, provide assurance on the clarity, transparency and robustness of our investment proposals and accompanying justifications, assurance that our IT portfolio is based on a fair and reasonable cost profile, and assurance that our governance and controls are appropriate and in compliance with the requirements of Ofgem's Data Assurance Guidance (DAG).

### Board assurance of our business plan

We, as a Board, have maintained clear and regular oversight in the development, assurance and submission of our RIIO-ED2 business plan. The RIIO-ED2 team provided a detailed overview of the content of the final RIIO-ED2 business plan submission at a series of meetings in October and November 2021.

Members of the Board acknowledged and confirmed that the plan properly set out the level of assurance that has been provided by the directors, in terms of being satisfied that the associated costs have been tested for accuracy, ambition and efficiency, all in compliance with the Ofgem Business Plan Guidance for this submission of the RIIO-ED2 business plan.

The Board also acknowledged and confirmed that the Directors are satisfied that the licensee is technically financeable, but consider that Ofgem's proposed Cost of Equity shows an adverse impact on credit financeability. Members of the Board recognise that to ensure credit financeability over the short and long term will need to be addressed as part of Ofgem's Determinations, in order to support the significant investment needed to transition to net zero.

The Board acknowledged and confirmed that they were satisfied that the directors had provided the level of assurance required by and in compliance with the terms of the Ofgem Business Plan Guidance, and were satisfied that the accuracy and quality assurance processes in place ensures that the Board has had the opportunity for oversight and input throughout the development of the RIIO-ED2 business plan and that it is in the best interests of existing and future consumers.



*"Our ongoing engagement with the RIIO-ED2 project team provides me with confidence that our ambitious business plan has been built to deliver on the needs of our customers and stakeholders and allows us to take a leading role in delivering a sustainable net zero carbon future. I am confident we have produced a strong, financeable plan that our management team will successfully deliver in the years to come."*

#### DAVID RUTHERFORD

Senior Independent Director, SSEPD Board



*"The plan is founded on a robust governance framework with a comprehensive assurance programme around its accuracy, ambition and efficiency. As a Board, we have had close engagement with the RIIO-ED2 project team and are satisfied that the plan has been extensively challenged and reviewed. I particularly welcomed the input of the Customer Engagement Group and their regular interactions with the Board."*

#### GARY STEEL

Senior Independent Director, SSEPD Board

## FOLLOW US

---



Website  
[ssen.co.uk](https://ssen.co.uk)



Twitter  
[@ssencommunity](https://twitter.com/ssencommunity)



Facebook  
[/ssencommunity](https://facebook.com/ssencommunity)



LinkedIn  
[/ssencommunity](https://linkedin.com/company/ssencommunity)



Southern Electricity Networks is a trading name of: Scottish and Southern Energy Power Distribution Limited Registered in Scotland No. SC213459; Scottish Hydro Electric Transmission plc Registered in Scotland No. SC213461; Scottish Hydro Electric Power Distribution plc Registered in Scotland No. SC213460; (all having their Registered Offices at Inveralmond House 200 Dunkeld Road Perth PH1 3AQ); and Southern Electric Power Distribution plc Registered in England & Wales No. 04094290 having their Registered Office at No.1 Forbury Place 43 Forbury Road Reading RG1 3JH which are members of the SSE Group

[ssen.co.uk](https://ssen.co.uk)