

SSEN DISTRIBUTION RIIO-ED2

# COST EFFICIENCY PAPER

RIIO-ED2 Business Plan Annex 19



Scottish & Southern  
Electricity Networks

# EXECUTIVE SUMMARY

Our ambition is to deliver the change and investment in power networks that our customers require to benefit from a reliable net zero energy future. We believe that this will require expenditure of just over **£4.1bn** to achieve that outcome.

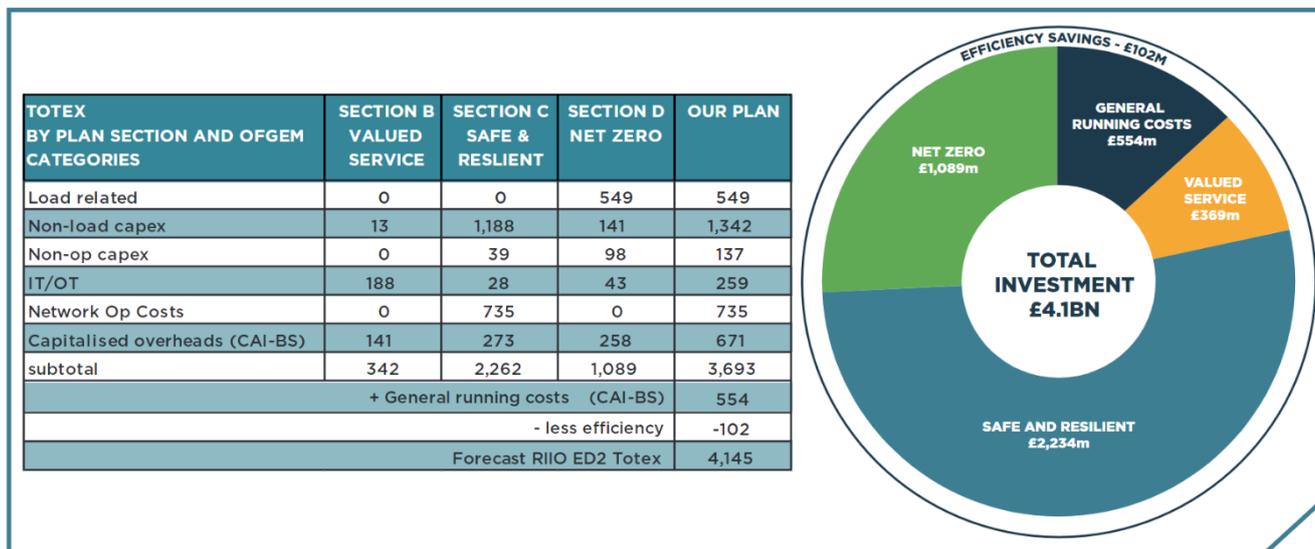


Figure 1: Breakdown of our ED2 investment plans (£m, 20/21 price base)

In many network activities we expect expenditure to continue at levels equivalent to the current price control, securing existing high levels of service. We are also targeting investment in key areas 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 £1.1bn on a like for like five-year period. Our commitment is to deliver this network growth more efficiently and our Plan sets out the measures we have already identified to reduce costs to customers by over £100m. Details of our £4.1bn investment proposal are included in each section of our Plan and summarised in this chapter.

In **chapter 2** of our Plan we clearly explain how costs in key RIIO ED2 categories compare to RIIO ED1 on a comparable price control period basis using both the five and eight-year RIIO ED1 average expenditure. When comparing individual areas of cost, we use the last five years of RIIO ED1 as these are more reflective of the cost drivers we will experience during RIIO ED2.

Delivering the step change in Net Zero outcomes within this plan necessitates increased investment. The combination of efficiency benefits, innovation, changes made by the regulator to the underlying financial framework (e.g. asset lives) and reductions in the Weighted Average Cost of Capital will reduce the average domestic bill in RIIO ED2 compared to RIIO ED1<sup>1</sup>. Using Ofgem’s financial parameters, average bills would fall by £5.80 and £5.30 for SEPD and SHEPD respectively. Using our justified financial parameters, average bills will be broadly flat.

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

In this annex we set out the evidence for the efficiency of our ex-ante investment proposals. We detail below: the efficiency of our current costs; the steps we to close the gap (in full or in part); an overview of our ED2 efficiency plan; our prudent and ambitious forward-looking cost efficiency assumptions; and the high confidence we have in our proposals.

### Efficiency of our current costs

We have benchmarked our current performance across all GB networks using the first five years of RIIO ED1. Industry experts, Oxera, **annex 20**, assessed the relative efficiency of our cost base against the other DNOs using outturn costs to 2020. They relied on industry standard cost drivers and replicated the cost assessment approach adopted for the RIIO ED1 price control. This includes both top down and disaggregated bottom up analysis of Totex.

Oxera examined the suitability of recent proposed changes to the regulatory cost assessment models. They have suggested limited justified revisions which more closely reflect real life operational and network characteristics. For example, they challenge whether affording increased weighting to customer numbers within assessment models (31%) can be justified given by the proportion of network activity and costs directly attributable to customer populations (8% for our DNOs). Other recommendations can be found in the Oxera report which has been published with our draft Plan.

Oxera combine the results from the Totex (top down) and disaggregated cost (bottom up) modelling, an approach which has been common to all recent price control cost assessment processes. The results of their combined benchmarking are summarised in the following figure.

Summary results of Oxera RIIO ED1 five-year cost efficiency modelling

		TOTEX model	Disaggregated model	Results
Efficiency score	SHEPD	86.4	91.8	89.1
	SEPD	92.5	98.4	95.5
Upper quartile (UQ)		92	93.5	94.2
Gap to UQ	SHEPD	-6.1	-1.8	-5.5
	SEPD	0.6	5.2	1.3

This assessment ranks SHEPD and SEPD as first and sixth respectively of the 14 DNOs, with relative efficiency gaps to the industry upper quartile level of -5.5% and 1.3% respectively. In these results the top (most efficient) 25% of DNOs, when ranked by efficiency score, will lie below the upper quartile level and

the remaining networks above. Upper quartile has been the threshold for setting previous energy price controls.

Oxera conclude that based on these results, SHEPD is an efficient company, while SEPD has an estimated inefficiency gap of 1.3%, or approximately £4m p.a. in Totex terms.

### *Closing the gap*

Understanding where we may have opportunities to improve on our efficiency as we approach the end of RIIO ED1 allows us to target improvement. We have included this targeted efficiency improvement in our draft Plan. This creates a robust foundation on which to forecast our RIIO ED2 investment programme and outputs. Efficiency measures have been targeted in the following cost activities. These adjustments are evidenced within our cost workbooks which are submitted as part of our cost confidence evidence with our draft Plan.

- **Asset Replacement efficiency** (unit costs). We know from standard peer to peer unit cost comparison, and the results of Oxera's cost efficiency report, **annex 20**, that our performance in asset replacement costs could be better. As part of the targeted cost improvement that brings SEPD to upper quartile we have targeted a 5.0% efficiency improvement in RIIO ED1 rates. To ensure we continue to challenge ourselves we have also targeted improvement in SHEPD through a 2.5%-unit cost improvement. **This flows directly into a reduction in RIIO ED2 forecast totex of £25m.**
- **Network Diversions.** We are experiencing continued increase in injurious affection claims across our networks. Each individual claim value is determined by the individual circumstances. However, as the volume of workload increases materially, we can realise economies of scale in legal and land agents' costs. **We have reduced the forecast costs of our claims in RIIO ED2 by £20m to reflect this.**

We are confident that our cost base as we enter RIIO ED2 is efficient. Our activity during RIIO ED2 aims to continue that trend and improve further.

### *Our ED2 efficiency plan*

RIIO ED2 provides us with a wide range of different challenges as we seek to meet our customer needs and deliver what our stakeholders require. We must be able to balance legally binding net zero carbon targets, increased requirements for network flexibility and capacity, rapid development of our DSO capabilities in a digital world while all the time maintaining the reliability of our networks for all our customers.

We are already planning for this rapidly changing future and how we deliver on our commitments while managing costs, and bills, down. Our approach to managing our workforce, assets, supply chain, as well as utilising innovation, digitalisation and competition provide the foundation to delivering efficiency.

### **Our workforce strategy**

Our people are at the centre of everything we do. We take pride in the work they carry out and our priority is ensuring they get home safely each day. The step change required in the electrification of heat

and transport facing industry and society in ED2 will challenge our business and our workforce as never before. In ED2 we will be proposing a workforce increase of 20% to support our business plan.

Our Workforce Resilience strategy outlines how we will keep our people safe and well, highly skilled and productive in order to meet our stakeholders' expectations and provide value for our customers and communities. We are blending our sourcing strategies to ensure we can meet the need for workforce growth. We are working to develop an insourcing/outsourcing model based on where we want to keep our core competencies in house and where we will get best efficiencies by outsourcing work. More detail can be found in **Workforce Resilience Strategy (Annex 27)**.

### **Our risk and asset management strategy**

Asset management is an integral part of everything we do at SSEN. We recognise the importance of our networks' infrastructure in the context of the wellbeing of all who use it. A defined and integrated risk-based asset management system leads to efficient, cost effective network solutions which will ensure that we meet our Asset Management objectives. Good stewardship of the whole lifecycle of our asset base delivers long term value for our customers.

### **Our commercial strategy**

We have Commercial Strategy principles which help us balance requirements for increased labour (due to rising work volumes across multiple investment drivers) with cost efficiencies realised through optimised Capital Delivery. These include the following:

- Exploration of **synergies within our Network**. Identifying downstream work from a GSP to maximise outage utilisation, touch the network once and reduce disruptions to our customers.
- Utilise System Planning in the **front-end development of work programmes** to understand where flexibility and network services can optimise customer impacts, network risk and plan deliverability.
- Consider and adopt different **contracting and commercial strategies** according to the risk, size and complexity of work programmes, reduce project numbers and increase programme level efficiencies.
- Increase **Data Analytics capability** to support work bank development and contracting strategy.

We will continue to refine the expected efficiency and deliverability impacts on our RIIO ED2 Business Plan ahead of final submission through ongoing engagement with our supply chain. You can find further detail in our **Supply chain strategy (Annex 21)**.

### **Harnessing innovation**

As detailed in the **Innovation Strategy (Annex 18)**, we have demonstrated genuine leadership in the innovation space and delivered significant benefits for customers. We will expand our innovation roll out with new deployments from our existing portfolio of innovation projects or from innovation activities undertaken in RIIO ED1 by other energy networks. As part of our RIIO ED2 preparations we have undertaken a systematic three stage assessment methodology of the available innovations from our own portfolio and those of other licensees to ensure that we identify those innovations with the greatest

potential to bring benefits in ED2. Further information is provided in our *Innovation Strategy* and a full justification for each project can be found in the relevant Chapters and Annexes. We have not sought totex allowance for ongoing innovation roll out but will fund this through the totex incentive properties which underpin the RIIO model.

### **Digitalising our Business and engagement**

We have invested in digital infrastructure during RIIO ED1 to provide us with the solid foundational IT systems and data sets necessary to meet the challenges of the Net Zero Transition. To meet our RIIO ED2 strategic outcomes and continue to drive efficiency we will continue to invest in the digitalisation of our business. This will become even more critical under the future energy scenarios as connections volumes and network interactions rapidly increase. Our IT Investment Decision Packs demonstrate the benefit of avoiding material increases in the cost of administrative overheads which would otherwise be required to meet our targets.

### **Optimising native competition**

We have developed our competition strategy to ensure that we are able to utilise native competition where there is opportunity. Throughout RIIO ED1 we have introduced new mechanisms that will further enable supplier innovation, flexibility and cost efficiency across our business plan throughout RIIO ED2. Full details of how we will use native competition to drive positive outcomes are included in our *Supply chain strategy (Annex 21)*.

In the remainder of this section we provide an overview of the key drivers of cost change and basis for our investment proposals. These are Load, Non-Load, Environmental, Non-Op Capex, NOCs and CAIs.

### *Ongoing efficiency through RIIO ED2*

We expect to identify ways of improving our productivity and efficiency on an ongoing basis. Our ongoing efficiency expectations reflect the degree to which we, as an efficient firm, can reduce costs through technological and process change over time. We have built in additional efficiency savings to our plan that are based on the level of efficiency frontier movement we believe is justified by market evidence.

We have reduced our proposed totex allowances by a **0.5% per annum** ongoing efficiency multiplier. This reflects the benefits we expect from our IT investments, embedding innovation into BAU, continuous improvement and our supply chain strategy. **Over the five years of modelled efficiency improvement (2023 to 2028), customers will benefit by over £102m through reduced totex allowances.**

### *RIIO ED2 Cost drivers*

RIIO ED2 represents a step change in the level of network workload, complexity and outputs. This means that direct cost comparisons are often no longer valid. RIIO ED2 will see new drivers of network costs and witness the expansion of many others. The incremental components of our cost base have a range of cost drivers. These are individually explained, evidenced and justified within our Investment Decision Packs and accompanying Plan annex documents. We have summarised some of the material cost drivers in this section.

### *High confidence in our costs*

Our cost forecasts have been derived using evidence from a combination of sources and the information included within accompanying cost books and cost confidence tables. This evidence includes: RIIO-ED1 actual costs; Cost information sourced from competitive tendering process; and Market cost data, where this better reflect the future costs for carrying out the work.

We are clear where and when we have overlaid further efficiency stretches or specific rates and the justification for doing so. This allows Ofgem to trace our cost forecast back to reported or independent data. It enables Ofgem to independently assess and verify where any adjustments have been made to actual outturn costs.

This costing methodology provides confidence in the accuracy, consistency and integrity of our costs. In this document, we provide details on the classification of cost confidence with a detailed cost book to provide transparency around our costing methodologies.

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# 1. STRUCTURE OF THIS DOCUMENT

Driving value for money, by efficiently delivering for customers, is at the heart of our plans. We will be showing throughout this document, and through our business plan, that SSEN will be building on its ethos of delivering value for customers.

This annex should be read in conjunction with the wider business plan. Further details underpinning our cost proposals are provided in our Investment Decision Packs (Engineering Justification Papers (EJPs) and Cost Benefit Analysis (CBAs)), Business Plan Data Table (BPDT) commentary (**Annex 26**), and Operating Business Costs (**Annex 23**). Further work to refine our cost proposals will continue as we progress towards producing our final Business Plan in December 2021.

In this paper, we will set out the detail of our TOTEX proposals for ED2 and explain the approach we have taken to satisfy ourselves that these cost proposals are efficient.

The structure of the document is as follows:

- In section 2 we describe the steps we have taken to evaluate our current efficiency and the efficiency challenge we have incorporated into our plan;
- In section 3, we set out our plans to achieve our efficiency ambition;
- In section 4, we discuss the drivers of costs at ED2;
- In section 5, we summarise our cost proposals and cost confidence built into the business plan;
- In section 6, we discuss next steps in confirming our cost proposals for our December business plan.

## Links to other parts of the plan

[Cost efficiency \(Annex 19\)](#)

[Establishing an appropriate efficiency challenge \(Annex 20\)](#)

[Supply chain strategy \(Annex 21\)](#)

[Real Price Effects \(Annex 22\)](#)

[Operating business costs \(Annex 23\)](#)

[Company specific and regional factors \(Annex 24\)](#)

[Cost Benefit Analysis Process \(Annex 25\)](#)

[BPDT Commentary \(Annex 26\)](#)

## 2. AN EFFICIENT COST BASE FOR RIIO ED2

In this section we provide a description of how we consider the starting point for evaluating the efficiency of our plan. Firstly, we discuss the specific issue that make our DNOs different, which need to be considered before efficiency is evaluated on a comparable basis with other DNOs. Secondly, we discuss the efficiency of our current cost base through comparative benchmarking using Ofgem's models.

### IDENTIFYING COST CHALLENGES SPECIFIC TO SSEN

Our Communities, chapter 1, describes some of the factors which differentiate our north and south networks from each other and our peers. These differences can, in some circumstances, contribute to material differences (higher or lower) in the costs a network faces in meeting the needs of its customers. It is important to identify and adjust for any material cost variations in order that subsequent cost comparisons across regions is fair and representative of costs which the network can control. These costs variations are often referred to as company-specific or regional factors.

The need to identify and adjust costs depends on the extent to which the impact of regional or company-specific factors will be captured by the final design of Ofgem's cost assessment models. This will only become apparent in the coming months as the industry working groups progress and Ofgem firms up its cost assessment process. Some factors may become more relevant in RIIO ED2 compared to previous price controls and therefore forecast data is needed in order to assess whether these are sufficiently captured in the modelling or need additional adjustments.

We commissioned Oxera to undertake an assessment of the **company specific and regional factors (Annex 24)** which it could identify within our business. Oxera have followed Ofgem's guidelines in identifying and then quantifying relevant factors. Some of the most significant factors are listed below, for the remainder please refer to their report which we have also published.

- **Submarine cables - Serving** islands off the GB mainland causes additional costs. The most significant of these are installing, maintaining and repairing submarine cables. These activities have high asset replacement and fault unit costs which the corresponding cost drivers in standard industry TOTEX models do not sufficiently capture. **We consider that submarine cable costs (and associated cost drivers) should be excluded from the regression models.** The efficiency of these costs should instead be examined on an engineering and needs basis. This materially affects the SHEPD network which has almost all the GB subsea assets and, to a lesser extent, SEPD where we own and operate multiple subsea cables to the Isle of Wight.
- **Serving islands** - SHEPD also incurs materially higher costs as it provides a full range of network operational activities to the multiple islands communities it serves. No other DNO has similar islanded and remote networks or the cost pressures this creates. These costs include capital and operating costs of Island Diesel stations, additional staff, and vehicle costs, as well as specific travel costs for helicopters and ferries. We explain our remote island generation within **chapter 8**, Supporting the Scottish Islands, and **annex 11**. Oxera quantifies these costs at over £7m within its report and **recommends they are removed prior to the price control cost assessment modelling.**

- **Sparsity/density/topography** - Operating in particularly sparse or dense areas causes additional costs compared to a network with average sparsity / density. The effect on costs of maintaining performance and service within an extremely sparse network area has been considered by Oxera in its report. It quantifies this impact at around £12.3m p.a. additional atypical costs that SHEPD is forecast to incur in RIIO ED2 due to the sparsity of its network and customer base. **We consider the evidence to be conclusive and that these costs should be removed from the cost assessment models.**
- **Regional wage differences** - Updating Ofgem's ED1 index with the most recent data shows that wages in Scotland are very similar to those in the South East so these areas could be grouped together, with little differences shown across the remaining UK regions.

We have then used the identified company specific or regional factor results in analysing our current levels of efficiency at the start of RIIO ED2.

## OUR CURRENT EFFICIENCY

Assessing the efficiency of our current performance and the required future efficiency improvements have been key foundations for developing our ED2 business plan. To achieve our ambition of being the frontier company we have undertaken several studies to ensure that we are building the appropriate level of stretch into our plan.

We commissioned Oxera, to evaluate the relative efficiency of SEPD and SHEPD compared to other DNOs, and against the efficient benchmark, based on performance and cost drivers to date during the ED1 period, using Ofgem's cost assessment approach at ED1. See **Establishing an appropriate efficiency challenge (Annex 20)**. It used the latest available data, covering the period until 2020, and therefore excludes forecast data over ED2 in updating Ofgem's aggregated (TOTEX) models and disaggregated cost models.

The approach involved assessing SEPD's and SHEPD's relative efficiency based on Ofgem's cost assessment approach at ED1. It used the latest available data (covering the period until 2020), and therefore excludes forecast data over ED2 in updating Ofgem's aggregated (TOTEX) models and disaggregated cost models.

Oxera identified several areas of concern in updating Ofgem's aggregated modelling with the latest data. In particular:

- There is no accounting for the atypical nature of subsea cables, the assets and costs of which are not comparable to those of other DNOs. This issue has become more significant since ED1.
- The weighting of scale drivers in the top-down model places a 31% weight on customers, which appears excessive when compared to the proportion of activity directly associated with customers.
- The regional wage adjustments systematically underestimate the efficient cost of labour by DNOs operating in Scotland.

To address these issues, Oxera normalised the data by:

- excluding subsea assets and costs from the data in the econometric modelling for all DNOs;

- weighting scale drivers in the top-down model based on operational insights from SSE;
- grouping Scotland’s cost of labour with the South East, which, according to ONS data, it is aligned more closely to, instead of the rest of the UK.

Under the TOTEX model, SHEPD and SEPD are ranked first and fifth respectively of the 14 DNOs, with UQ gaps of -6.1% and 0.6% respectively. Under the disaggregated modelling, SHEPD and SEPD are ranked second and 11th respectively of the 14 DNOs, with UQ gaps of -1.8% and 5.2% respectively.

The analysis concluded that, the combined results from the TOTEX model and the disaggregated modelling rank SHEPD and SEPD as first and sixth respectively of the 14 DNOs, with UQ gaps of -5.4% and 1.3% respectively as shown in the table below.

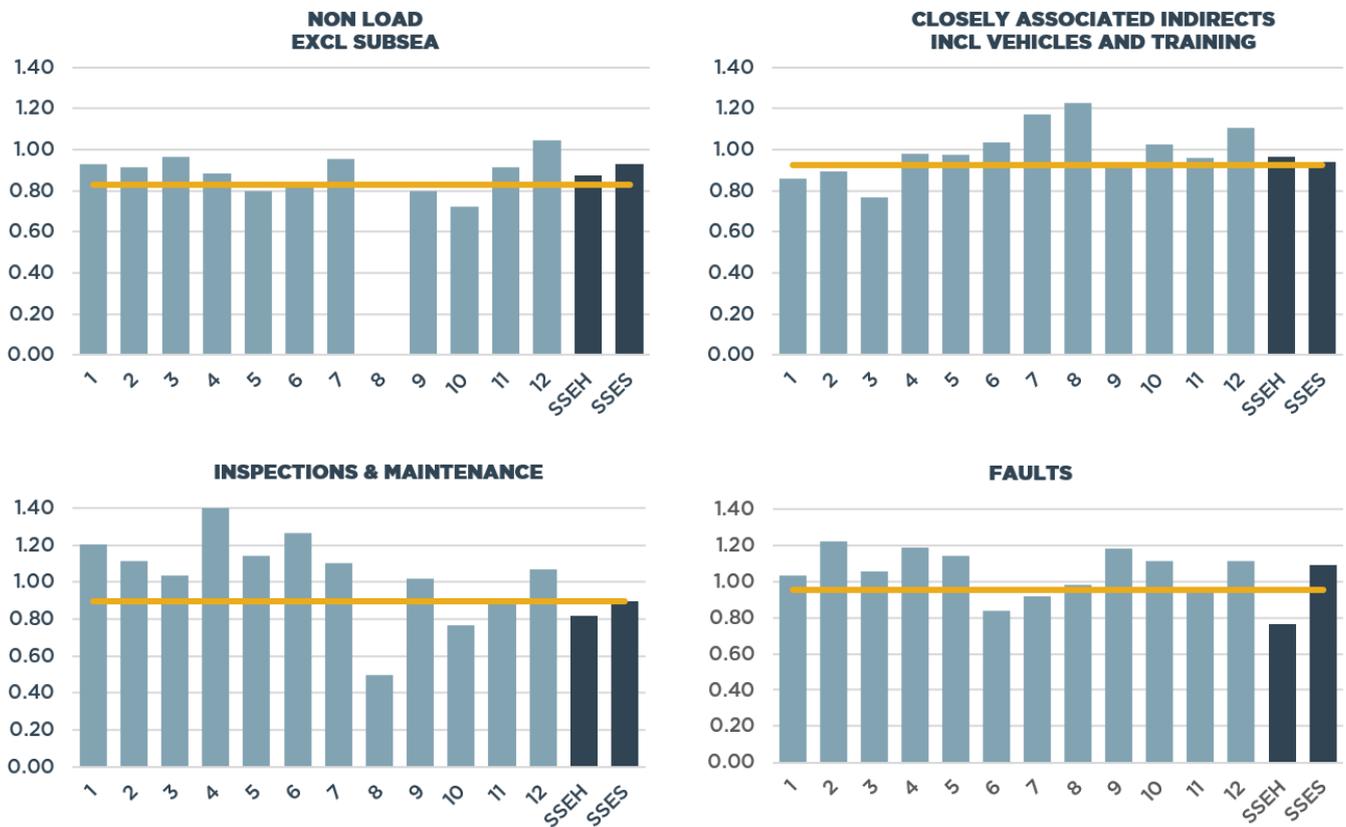
**SHEPD’s and SEPD’s relative efficiency position (%)**

		TOTEX model	Disaggregated model	Results
Efficiency score	SHEPD	86.4	91.8	89.1
	SEPD	92.5	98.4	95.5
Upper quartile (UQ)		92	93.5	94.2
Gap to UQ	SHEPD	-6.1	-1.8	-5.5
	SEPD	0.6	5.2	1.3

In developing our plans, we have taken account of the catch-up efficiency by evaluating our unit cost against other DNOs – we have reduced unit costs for asset replacement by 5% in SEPD and 2.5% in SHEPD where we are not currently at the upper quartile based on our benchmarking.

We have also built in assumed savings on wayleave and injurious affection. As costs have increased in this area over ED1, there has been ‘economies of scale’ for example through our engagement with land agents, legal fees, rather than just one-off payments made. These rates have been agreed by our internal Wayleave team and therefore built into budgets for the remainder of ED1 with a reduction of 9.5%.

We have also undertaken some benchmarking using industry data provided by Ofgem. This shows the comparative performance of our regions and the other DNOs against the upper quartile benchmark, as illustrated below. We set out more comprehensive benchmarking analysis in our **Operating Business Costs (Annex 23)**.



### 3. ACHIEVING OUR RIIO ED2 EFFICIENCY AMBITION

In this section we set out the principles that underpin our approach to developing our cost proposals for ED2. In doing so we describe:

- our efficiency ambitions in the context of our plan;
- important specific features about our business which provide context for efficiency;
- how our operating model plans will enable us to deliver efficiently; and
- key assumptions for ongoing efficiencies which we have embedded into our proposals.

## OUR AMBITION FOR ED2

Our ambition for ED2 has been developed following engagement with our customers and other stakeholders. We have listened carefully and have driven our plan based on this engagement. Our customers and other stakeholders expect us to deliver on the required load investments for net zero, materially improve performance and maintain affordability, striking the right balance between bills today and tomorrow.

Our aspiration is for both SEPD and SHEPD to be recognised as the most efficient, or upper quartile efficient, DNOs in key cost areas, delivering value for money to our customers whilst delivering the outcomes they expect. Throughout this business plan we have detailed the approaches we are taking to deliver against our customer expectations through 2023-28. Our plan enables us to:

- Facilitate the drive to net zero for our local communities, recognising the increasing reliance on electricity for transport and heating, and in the context of covid-19;
- Meet our legal obligations on eliminating safety and health risks to the public and our employees from our assets;
- Improve the reliability of our network in the longer-term and reducing the environmental impact of our own activities.

Our business plan is underpinned by a series of clearly defined outputs that have been co-created through our stakeholder engagement process, and further prioritised and refined through willingness to pay studies.

This plan represents a step change in terms of delivering more for our customers. Our efficiency ambition will enable us to ensure that we deliver value for money for our customers whilst developing and maintaining the network as required.

## SEPD AND SHEPD FACE VERY DIFFERENT CHALLENGES

Our two networks, SHEPD in the north and SEPD in the south, supply power to 3.8 million homes and businesses and differ significantly in terms of geography and other characteristics.

Our SEPD network in central southern England serves over 3.1 million homes and businesses spanning a diverse mix of communities across a variety of locations including cities, coastal towns and villages. SEPD is one of the most densely populated networks, covering West London, Slough, Reading and the M4 corridor, requiring the need for substantial populations of underground cables, which are expensive to repair and replace. We also have a high level of tree coverage in our areas, and the move towards longer, hotter summers, interspersed with rainfall has made our underground cables more susceptible to faulting than we had seen in previous price controls, as well as high tree growth across our network. To reflect this, compared to ED1 levels of spend we have included an additional £70m in our plan for replacing underground cables, and £60m for Tree cutting, including surveys for Ash Dieback.

Our SHEPD network is unique. Covering a quarter of the UK landmass, the vast region includes major towns and cities of Aberdeen, Dundee, Inverness and Perth. However, SSEH also connects customers in remote rural areas and Scottish Islands, often via radial networks with no alternative supply and a higher

risk of interruptions. The remote and rural nature of the geographies in SSEH sees our teams working in some of the most challenging terrains in the UK to serve our customers. SSEH also has high-levels of renewable penetration, and we are the only network in Great Britain to own and operate over 100 subsea cable links. Not only are these links an essential service to local communities, providing a safe and reliable supply of electricity to homes and businesses, they also now increasingly facilitate renewable generation exports to the GB mainland and are a vital foundation in our journey to Net Zero. This means we face very different risks and opportunities in SSEH when compared to any other DNO.

## EFFICIENCY OF OUR OPERATING MODEL

Our over-riding business ethos drives us to reduce costs through innovation, digitalisation, efficient procurement and whole system solutions. We already seek to deliver all distribution investment as efficiently as possible, sharing the benefits with customers.

Our approach to managing our workforce, assets, supply chain, as well as utilising innovation, digitalisation and competition provide the foundation to delivering efficiency.

## Our workforce strategy



Our people are at the centre of everything we do. We take pride in the work they carry out and our priority is ensuring they get home safely each day. The step change required in the electrification of heat and transport facing industry and society in ED2 will challenge our business and our workforce as never before. We will be increasing investment and delivering greater volumes of work on average each year in ED2 compared to ED1. By the end of ED1, our workforce will number 4,000. In ED2 we will be proposing a workforce increase of 20% to support our business plan and ensure not only that we can continue to deliver our commitments safely, efficiently and to our customers' expectations, but also enable the transition to net zero. This increase in workload, coupled with the requirement for us to develop new skills as we develop DSO capabilities and further digitalise our activities, will result in us needing to increase not only the size but also the skills of our workforce. Extending our pipeline, we'll help to grow the recruitment base for our industry and contribute to wider social inclusion and mobility.

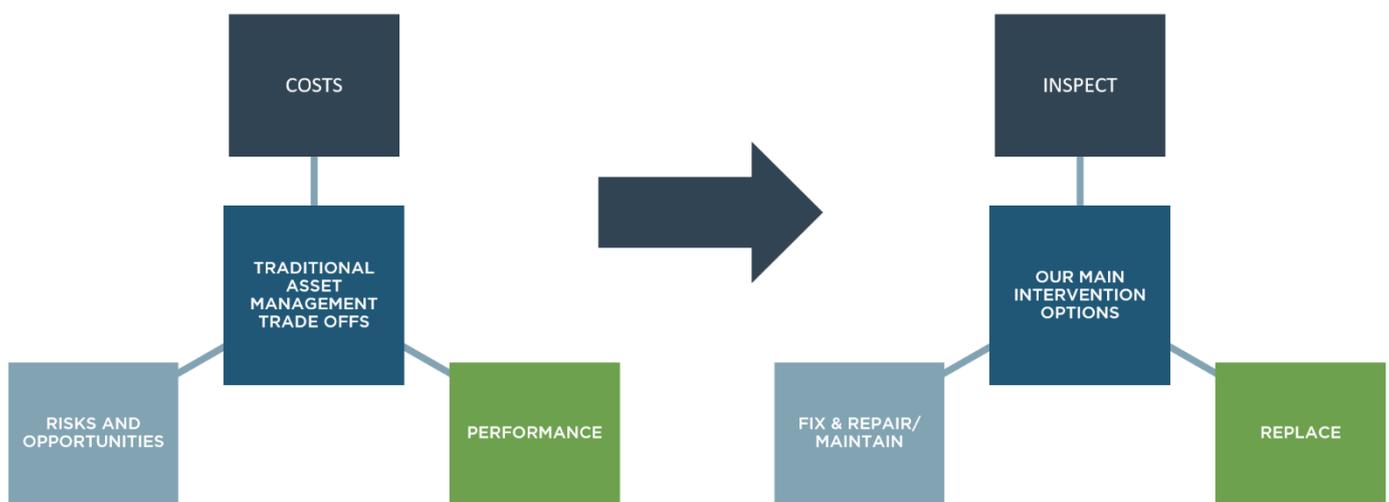
This increase in workload, coupled with the requirement for us to develop new skills as we transition to Net Zero, will result in us needing to increase not only the size but also the skills of our workforce. Extending our pipeline, we'll help to grow the recruitment base for our industry and contribute to wider social inclusion and mobility. Our Workforce Resilience strategy outlines how we'll keep our people safe and well, highly skilled and productive, in order to meet our stakeholders' expectations, and provide value for our customers and communities. We'll keep doing all the good things we did in ED1; continued focus on driving efficiency to keep costs as low as possible, improving customer service, enhancing customer experience, and identifying innovative new solutions to keep the network safe, reliable and resilient. But we know that won't be enough in ED2, and that we'll need a strategy that acknowledges the likelihood of an industry skills shortage.

We're blending our sourcing strategies to ensure we can meet the need for workforce growth. We're working on deliverability plans over the coming months, prior to final business plan submission in December to develop an insourcing/outsourcing model based on where we want to keep our core competencies in house and where we will get best customer value by outsourcing work. Whilst we intend to insource more work, there's no doubt that we'll still need to work in partnership with our resource suppliers to deliver work programmes in the most cost-efficient way.

We have several people initiatives already underway, all with a shared ambition to provide a safe, motivated, productive and efficient workforce. These are, Pay Progression, Fatigue Management, Fit for Future Contracts, Training Strategy, Workforce Capability and Business Change and more detail can be found in **Workforce Resilience Strategy (Annex 27)**.

### Our risk and asset management strategy

Asset management for long-term resilience of the network requires navigating a trade-off between accepting increased risks, incurring costs on activities to reduce risks, and maintaining the capability to respond when risks manifest. In the risk mitigation space, there are then different levels of mitigation and cost to select from to achieve an aggregated impact that gives consumers the network performance they seek at the right cost. This trade off and our potential responses to it are characterized in the figure below:



Asset management is an integral part of everything we do at SSEN. An effective Asset Management System (AMS) will ensure that our network continues to provide a safe and reliable supply to all customers. We are certificated to BS ISO 55001:2014 Asset Management. Implementing this standard enables us to achieve our objectives through effective control and governance of our network assets enabling us to realise value through managing risk and opportunity in order to achieve the desired balance of cost, risk and performance.

We recognise the importance of our networks’ infrastructure in the context of the wellbeing of all who use it. A defined and integrated risk-based asset management system provides an efficient, cost effective solution which will ensure that we meet our Asset Management objectives. The application of an AMS provides assurance that those objectives can be achieved consistently and sustainably over time. Our AMS enables us to translate the company’s objectives into asset-related decisions, plans and activities, using a risk-based approach. Good stewardship of the whole lifecycle of our asset base delivers long term value for our customers. For more detail, please see **Safe and Resilient (Annex 6)**.

## Our commercial strategy

We have set out the following Commercial Strategy principles which will continue to enable us to understand how to balance requirements for increased labour (due to rising work volumes across multiple investment drivers) with cost efficiencies realised through optimised Capital Delivery:



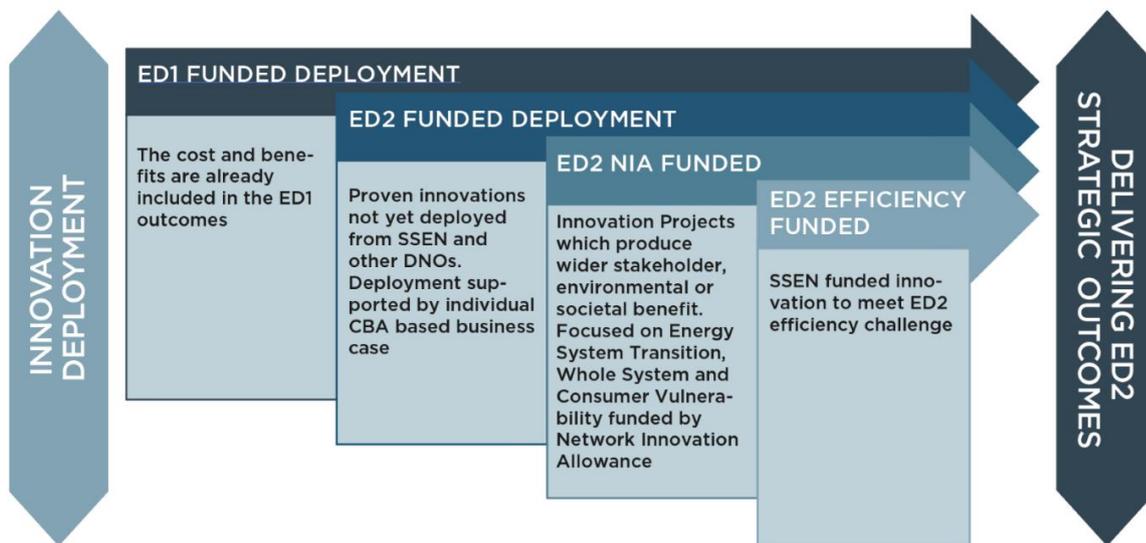
Alongside specific deliverability impacts within our plan, our deliverability testing ensures that the collective package of our ED2 business plan is deliverable. We have refined our workforce modelling to ensure we identify the impacts of different sourcing models and work volumes mixes on Closely Associated Indirect and Business Support Costs. We will continue to refine the expected efficiency and deliverability impacts on our ED2 Business Plan ahead of final submission through ongoing engagement with our supply chain, as detailed in **Supply chain strategy (Annex 21)**, and completion of bill acceptability testing.

## Harnessing innovation

As detailed in the *Innovation Strategy (Annex 18)*, we have demonstrated genuine leadership in the innovation space and delivered significant benefits for customers. We have rolled out successful innovations such as LV Automation, LiDAR<sup>2</sup> and our Constraint Management Zones (CMZ's), sharing the knowledge and learning with other DNOs.

We have led the industry with ground-breaking projects like Local Energy Oxfordshire (LEO)<sup>3</sup>, one of the most ambitious, wide-ranging, innovative, and holistic smart grid trials ever conducted in the UK. We effectively deployed around £16.0m of Network Innovation Allowance (NIA) to date, delivering 53 innovation projects and over £80m of benefits for our customers, which will increase to over £89m by the end of ED1. We anticipate that the ongoing utilisation of these ED1 deployed innovations will produce a further £19m<sup>4</sup> of benefits from their continued use in ED2.

In ED2, we propose to expand and develop our innovation roll out by bringing through new deployments from our existing portfolio of innovation projects or from innovation activities undertaken in RIIO ED1 by other DNOs, as well as those delivered by Transmission and Gas licensees. As part of our RIIO ED2 preparations we have undertaken a systematic three stage assessment methodology of the available innovations from our own portfolio and those of other licensees to ensure that we identify those innovations with the greatest potential to bring benefits in ED2.



<sup>2</sup> LiDAR stands for Light Detection and Ranging, is a remote sensing method that uses light in the form of a pulsed laser to measure ranges between objects and is conducted through use of aerial inspection of our overhead assets.

<sup>3</sup> <https://project-leo.co.uk/about/the-leo-project/>

<sup>4</sup> The cost and benefits from these deployments have already been included within business plan submission

Through this process (described further in our *Innovation Strategy (Annex 18)*) we are proposing to invest £115.5m on load related innovation projects including deployment of LV secondary substation monitoring to prepare for widespread LCT adoption, £19m on non-load projects including the use of new secondary transformers to reduce consumers energy costs and £4.7m through our Environmental Action Plan to reduce losses on the network.

The breadth of our proposed activity identifies opportunities for innovation across all areas of our business, helping to deliver our strategic outcomes and have a positive impact across society. Our balanced and fair approach to funding innovation in ED2 appropriately shares the costs to reflect the risks and benefits from its successful delivery. It facilitates the transition to net zero, supports our stakeholders' ambitions, and retains our focus on delivering efficiency within our business.

We intend to request a Network Innovation Allowance of £17.5m for the ED2 period, to fund innovation activities related to the Energy System Transition and Consumer Vulnerability. Where appropriate we would look to actively participate in the new Strategic Innovation Fund during RIIO-ED2.

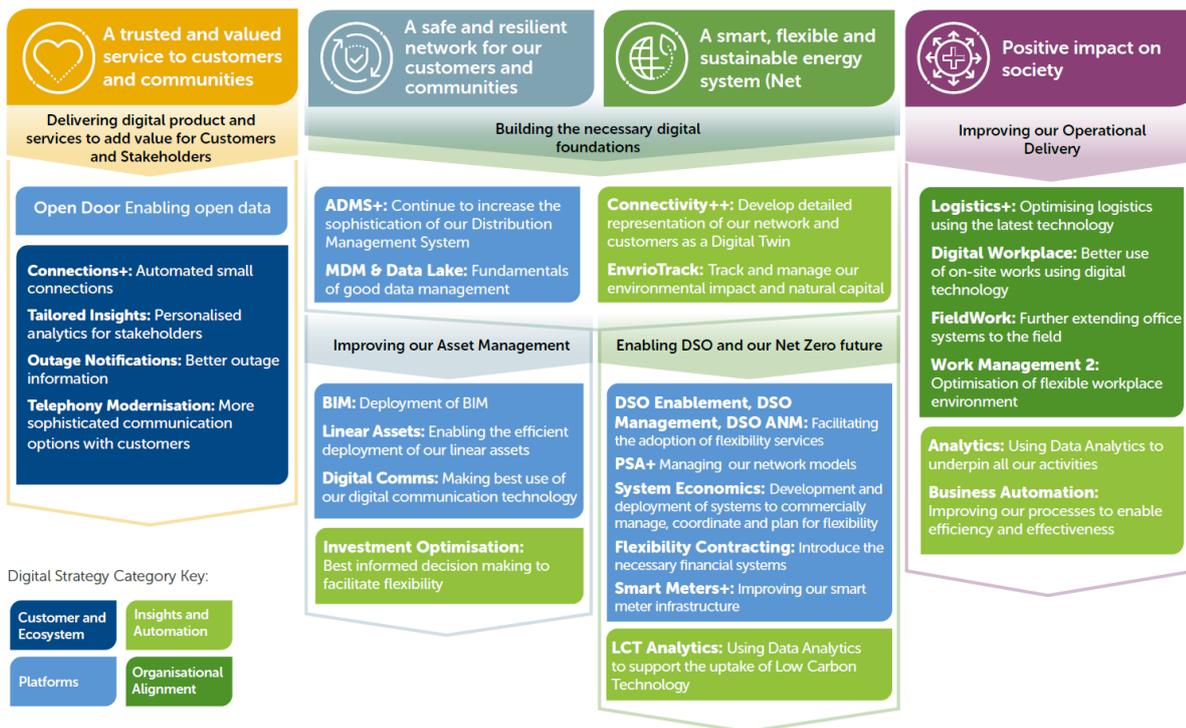
To meet our ED2 strategic outcomes we will continue to invest in innovation to drive efficiency and improve the performance of our operations. We have not sought a specific business plan allowance for this but will use the incentive properties of the RIIO framework to make decisions on additional spending to secure future benefits and savings, we currently believe that the focus of our activity will be in areas such as network resilience, asset management, inspection and supply restoration.

### **Digitalising our Business and engagement**

We have invested heavily in the digital infrastructure and the capabilities necessary to allow us to generate efficiencies and to provide us with the solid foundational IT systems and data sets necessary to meet the challenges of the Net Zero Transition.

In ED2 the role of digitalisation is growing with Open Data and new DSO related capabilities and data exchange being critical to the successful transition to Net Zero. In ED2 £43m of additional IT investment will be required to deliver these capabilities and ensure alignment with the industry agreed DSO implementation plan.

Laying the foundations is the start of this process and in ED2 we are focussed on leveraging the full value from this investment, completing the key steps necessary to digitalise most of our business functions in ED2 bringing efficiency and scalability. The diagram below extracted from our *Digitalisation Strategy (Annex 4)* provides an overview of the areas that we need to invest in during ED2.



To meet our ED2 strategic outcomes and continue to drive efficiency we are continuing to invest in the digitalisation of our business, in ED2 this will become even more critical and provide a larger benefit as the volumes of transactions and workload increase to match the FES scenarios. Many processes that would have required a doubling of tripling of workforce will be automated and stream lined allowing us to improve the productivity of our workforce in parallel with the expansion of that workforce in those fields not suitable for automation.

The detail of this investment is set out in our **Digital Investment Plan (Annex 5)**. In preparing out IT investment plan we have included assurance with Gartner undertaking an assessment of our project costs and this has shown our portfolio to benchmark well. In addition, we have undertaken a benefit assessment with each of our directorates ensuring that the stated benefits are deliverable and will allow us to meet our stated efficiency targets.

**Utilising competition**

We have developed our competition strategy to ensure that we are able to utilise competition where there is opportunity. Throughout RIIO-ED1 we have embedded and enhanced competition within our regulated activities and have introduced new mechanisms that will further enable innovation, flexibility and cost efficiency across our business plan throughout RIIO-ED2. This native competition occurs within the price control framework operating under the Totex Incentive Mechanism and is one of strongest levers we use to drive efficiencies within our operations. Full details of our use of native competition in ED1 and ED2 and how we will use native competition to drive positive outcomes are included in our **Supply chain strategy (Annex 21)**.

Our strategic approach and plans to develop DSO capabilities are central to our RIIO-ED2 ambitions. Full arrangements and plans for how we plan to run competitive processes to procure flexibility are set out in detail in our ***DSO Strategy (Chapter 11)***.

Unlocking flexibility opportunities across our distribution network is a central pillar to the development of our DSO capability. As a DSO, we will be empowered to optimise the use of infrastructure and services in a way that encourages competition and maintains network reliability at least cost. To fully realise the value of our DSO capabilities we will utilise competition within flexibility markets to optimise our use of infrastructure and services. The outcome for consumers will be increased network reliability and improved network access at a lower cost when compared to traditional infrastructure only solutions.

We intend to further develop existing, and form new, types of partnerships to help us deliver our DSO and Open Data commitments efficiently. Specific areas of focus include further developing our relationship with other DNOs as we utilise the Flexible Power Platform. We will continue to work with providers of LV monitoring equipment and services to accelerate the rollout of LV monitoring and maximise the value derived from the resulting data. Our existing partnerships that were established in projects LEO and TRANSITION will continue and will be refined to provide the blueprint for similar partnership as the scale of our DSO activity increases.

We have already implemented measures to promote native competition, transparency and market access for flexibility providers and the ESO. Live activity and initiatives already delivered or underway including:

- The UK's first implementation of Constraint Managed Zones that have resulted in the significant carbon reductions;
- £162m investment to improving visibility of flexibility opportunities through comprehensive IT systems and core communication networks upgrades;
- 238MW of live contracts with savings to date of £251k in operational costs on Islay and the Western Isles; and
- Dynamic purchasing system for procuring flexibility.

## ONGOING EFFICIENCY

The ongoing efficiency (OE) target captures the degree to which an efficient firm can reduce costs due to technological change. OE is part of the change in efficient costs (or frontier shift) over time before considering input price changes.

To inform our ED2 efficiency plans, we have received third party expert views on the pace of future productivity improvements. This section has been developed based on two third party reports:

- First, a report prepared by NERA for the ENA "Ongoing Efficiency Report" - See **Cost Efficiency Annex Appendix A**.
- Secondly, a report prepared by Oxera on "Establishing an appropriate efficiency challenge" – See **Annex 20**.

Both the NERA and Oxera study reviewed various benchmarks of productivity improvements, relying on the assumption that the past rate of technological progress is a good indicator of the potential future rate.

Oxera's assessment found that:

- EU KLEMS data was the most appropriate source of data for the analysis and that there was one complete business cycle through 2007–16;
- calculated based on GO-TFP growth in industries that correspond to DNO activities over full business cycles.
  - for CAPEX activities it identifies the following as comparator sectors: construction, repair and installation of machinery and equipment, transport and storage, and manufacturing of electrical equipment;
  - for OPEX activities it identifies the following as comparator sectors, transport and storage, professional, scientific, technical, administrative and support service activities, telecoms and IT and other information services;
- Based on this approach, we determine the scope of likely ongoing efficiency improvements over RIIO-ED2 to be 0.4% p.a.
- It identifies that this figure is robust to all the sensitivities considered.

NERA followed a similar approach and concluded that 0.3% was the appropriate ongoing efficiency assumption for the sector.

Alongside the overall findings of, we have considered TOTEX productivity driven by MEAV. It is based upon actuals over DPCR5 and ED1 and the maximum ongoing efficiency improvement over the course of a 10-year period is 5%. This equates to approximately 0.5% per annum.

As such, we have adopted a stretching approach and have adopted an ongoing efficiency rate of a 0.5% per annum. This reflects the benefits we expect from our IT investments, embedding innovation into BAU, continuous improvement and our supply chain strategy.

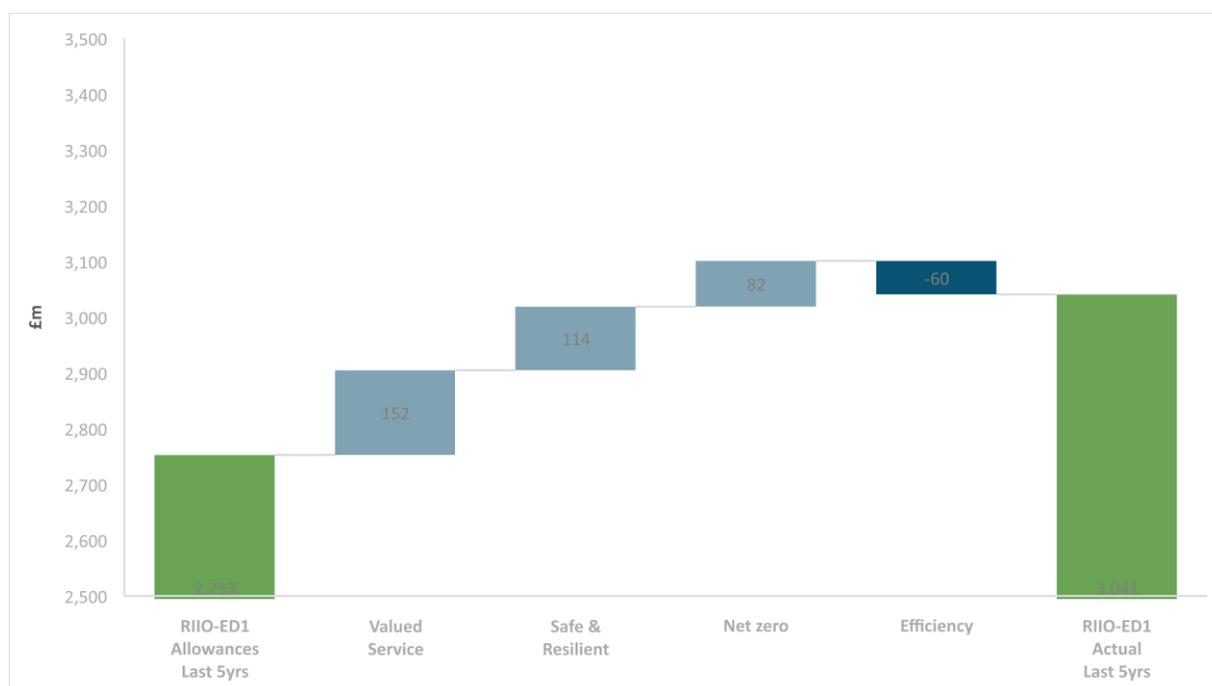
This is applied to our overall TOTEX forecast on an annual compound basis, resulting in an overall reduction in ongoing efficiency of £102m over ED2, representing over 2.5% of our proposed expenditure when excluding the costs of Shetland Islands.

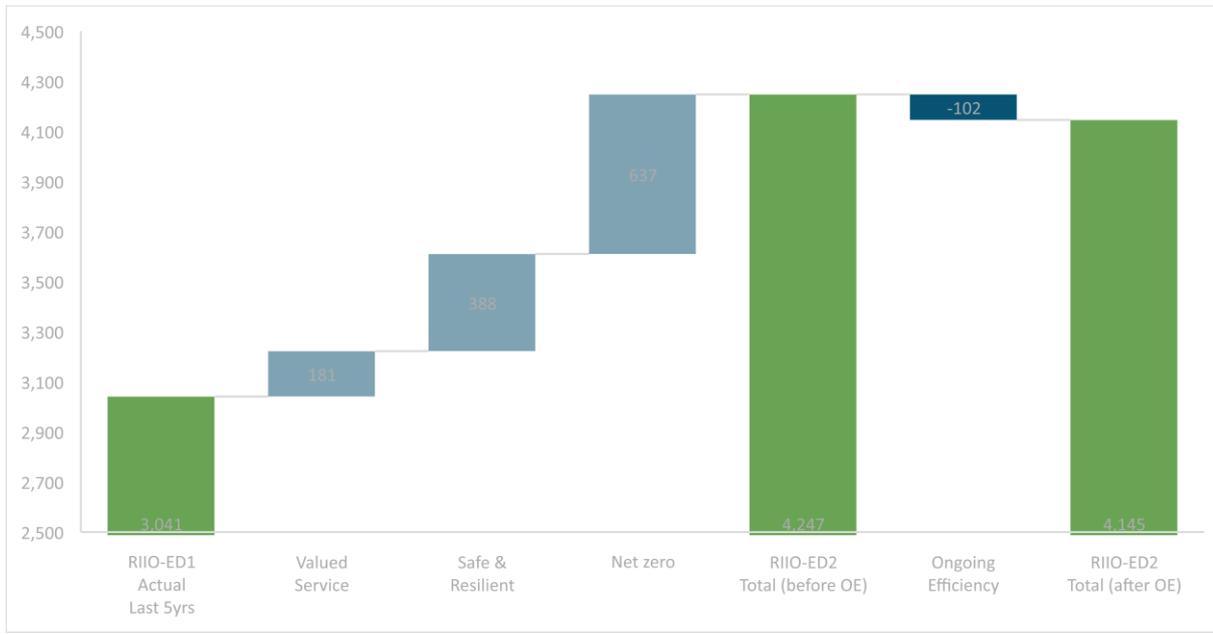
## 4. RIIO ED2 COST DRIVERS

RIIO ED2 will be a different type of price control to that the Electricity Distribution sector has previously seen. Pre RIIO, cost reduction was paramount, with an increasing focus on both network performance and customer service levels. RIIO ED1 changed focus with outputs valued equally with cost efficiency, and companies were incentivised in both areas. With Net Zero as a recognised destination, RIIO ED2 will be a price control for growth, increased network flexibility, the deployment of our role as Distribution System Operator while securing continued reliability.

Ofgem’s approach for assessing cost efficiency will need to adapt as a result. The past is no longer a good prediction of the future and the development of benchmarks to evaluate future comparative efficiency will be challenging as different companies face different future cost drivers. We look forward to working with Ofgem to feedback on its proposed approaches to assessing efficiency including through cost modelling.

RIIO ED2 represents a step change in the level of network workload, complexity and outputs. This means that direct cost comparisons are often no longer valid. RIIO ED2 will see new drivers of network costs and witness the expansion of many others. The incremental components of our cost base have a range of cost drivers. These are individually explained, evidenced and justified within our Investment Decision Packs and accompanying Plan annex documents. We have summarised some of the material cost drivers in this section. The chart below illustrates the incremental costs, split across those highlighted in Section B (A valued and Trusted Service), Section C (A safe, resilient responsive network) and Section D (Net-zero). In the two charts below, we show how these drivers bridge the gaps between our ED1 allowances and actual, and between our ED1 actual and ED2 forecast. We then highlight some of the largest drivers of these incremental cost changes.





## A VALUED AND TRUSTED SERVICE FOR OUR CUSTOMERS AND COMMUNITIES (SECTION B)

**Improving our IT systems (excluding DSO related) - £123m:** Our legacy IT systems, IT architecture and Telecoms infrastructure are not fit for the challenges that RIIO ED2 now exhibits. Our RIIO ED1 investment has been in the creation of a solid platform on which we can build the DSO capabilities, open data, digitalisation, efficiencies and scalability needed for RIIO ED2 and beyond. In RIIO ED2 we are now building those capabilities and aim to complete digitalisation of our IT systems during this price control. The scale and pace of change in RIIO ED2 drives a commensurate increase in our IT investment. The individual justification for each component of our IT strategy is contained within our Investment Decision Packs. To ensure that our proposed ED2 IT investments represent value, we appointed Gartner UK Limited to carry out a benchmarking exercise against their data base of similar deployments. Our investment proposals are within the Gartner’s benchmarked ranges.

## A SAFE, RESILIENT AND RESPONSIVE NETWORK (SECTION C)

During RIIO ED2 our underlying core safety and resilience programme expenditure remains broadly consistent with previous controls. We face incremental costs in a small number of areas through a combination of network and third-party drivers. Our expenditure increases between price controls by £182m as a result of continued high levels of injurious affection activity and receipt of new data on overhead line clearances.

**Wayleaves and injurious affection - £110m:** Wayleaves are the payments we make to landowners for allowing us to use their land to “host” our assets, typically these being overhead line towers. Compensation covers the payments we make where landowners can evidence that presence of our assets has a negative financial impact on them. Compensation claim costs will increase as our network continues to grow. However, the primary driver of the forecast higher costs in RIIO ED2 relate to the rapid growth in compensation claims submitted which we began in RIIO ED1 and we expect to continue to grow in RIIO ED2.

In RIIO ED2 we are forecasting to spend £163m and £28m in our SEPD and SHEPD networks respectively compared to £65m and £15m respectively in RIIO ED1. We have included savings through economies of scale arising from increased regular use of land agents and legal support. We set out our justification in our chapter and associated annexes on **Maintain a Resilient Network (Chapter 7)**.

**Overhead line clearances - £72m:** Throughout RIIO ED1 we have undertaken overhead line inspections that record the location code, associated risk and the height of the lowest point the conductor to ground / object across the network. More recently, to drive efficiencies and improve overall accuracy of the inspection data we have deployed airborne Light Detection and Ranging (LiDAR) systems to assess the entire overhead network. The LiDAR survey process has highlighted an increase in future clearance volume workloads. We set out our approach in more detail in our chapter and annex on Maintaining a Safe and Resilient Network.

**SEPD Tree-cutting - £56m:** We manage the tree population adjacent to our network to maximise benefit in terms of network safety and quality of supply. The introduction of LiDAR surveys (innovation) is now providing us with materially improved quality and detail of overhead line data. To remain compliant with ESQCR we are required to resolve, where possible, all conductors below statutory limits. Our LiDAR assessment, which has been independently verified by Airbus for our Southern region, has confirmed a significant state of tree intrusion on our Southern region’s LV to 132kV overhead lines. This represents a mandatory driver for a substantial programme of tree cutting to maintain public safety and the resilience and the reliability of our overhead line assets.

LiDAR has also identified significant vegetation growth around LV bare-wire conductor. To manage vegetation near our overhead electrical equipment, in addition to addressing an unprecedentedly high volume of tree-cutting activity (as indicated above) we are proposing to replace over 1,000km (equivalent to 25,000 spans) with ABC insulated conductor, tree-guards and another insulated conductor solution (Insuline). Our assessment indicates that the investment will remove the requirement to cut trees on a three-year cycle and instead revert to every 14 years when the tree-guard will itself require replacement, providing a saving of approximately £10m over a period of 45 years. Our justification for this is set out within our Plan.

**SEPD / SHEPD Underground cables - £56m / £29m:** Our ageing fleet of cables is increasingly impacting customers through the number of faults and interruptions to supply. To offset this progressive deterioration in the cable asset category we have identified the need to undertake a substantial programme of LV cable and associated service cable replacement as well as proportionate intervention in the HV cable fleet in RIIO ED2. We expect this need to continue into RIIO ED3 reflecting the age profile of our cables.

**SHEPD Subsea cables - £43m:** We have identified the need for a more proactive, extensive and strategic subsea cable replacement programme. We are seeking to minimise costly reactive replacements by targeting assets at the end of their operational life and with material cost impacts should they fail while in service. The programme also recognises the strategic importance of our larger cables supporting demand and generation customers on Orkney and Uist.

## ACCELERATED PROGRESS TOWARDS A NET ZERO WORLD (SECTION D)

Our plan is fundamental to delivering our stakeholders' net zero ambitions which are aligned with legally binding government targets. Where we have confidence in the activities and costs underpinning our proposals, we have included these in our plans for base allowances. Where activities are less certain in terms of volume or costs, we propose that these are captured by uncertainty mechanisms. This will help ensure customers are protected.

The net-zero investments in our base plan are driven by:

- load related investment required to support the uptake of consumer demand for low carbon technologies;
- investments required to enable our transition to DSO;
- investment in IT systems required to support net zero ambitions;
- investment in control rooms that will enable great operability of the network required under net zero; and
- investments required for us to achieve mandatory environment requirements driven by net-zero targets.

**Load related investment - £321m:** The primary driver for net-zero expenditure relates to *load related capex* (£306m) as well as indirect costs (£15m). The drivers for this investment increase can be represented by the following metrics which emerge from the forecast energy scenarios.

- 1,660MW of EV chargers connect to our network at the end of RIIO ED1, **rising to over 6,500MW** by the end of RIIO ED2;
- 245,000 EVs in our network areas at the end of RIIO ED1, **rising to 1,300,000** by the end of the period; and
- 208,000 heat pumps in our network areas at the end of RIIO ED1, **rising to over 800,000** by the end of RIIO ED2.

We are adopting a flexibility first approach, but even with our ambition to expand network services we will face a material drive for increase load investment in the RIIO ED2 period and beyond.

**DSO related investment - £75m:** Our role as a DSO is to enable the technologies, markets and solutions which are required for an efficient and effective transition to net zero. Expanding our DSO capabilities will enable this by facilitating the uptake of flexibility, low carbon technologies and market development as well as allowing us to deliver our flexibility first commitment when selecting appropriate interventions to meet network demands. The scale of the low carbon technology drivers noted above and the need to secure flexibility solutions as efficiently as possible demonstrate why the drive to implement DSO capabilities is also as strong.

**Environmental Requirements - £120m:** As part of the legislative environment requirements aligned with net zero, we anticipate incremental expenditure of up to £342m across several activities. We have included £132m of this in our core plan where we have confidence in the need, volume and timing. A further £24m is required across non-operational capex and indirect support costs to enable the business to deliver on these environmental requirements.

**Control Room – £54m:** Control rooms are the nerve centre of network operation. Rapid expansion of network operations associated with delivery of new connections and network capacity as well as the increased complexity of the system creates a significant pinch point in our RIIO ED2 delivery plans to keep us, and our customers, on a pathway to Net Zero. We have managed to avert any additional costs for customers in respect of our two control rooms (south / north) in recent price controls. The scale of change in RIIO ED2 requires us now to make that step change in scale and security.

Ofgem’s approach for assessing cost efficiency will need to adapt as a result. The past is no longer a good prediction of the future and the development of benchmarks to evaluate future comparative efficiency will be challenging as different companies face different future cost drivers. We look forward to working with Ofgem to feedback on its proposed approaches to assessing efficiency including through cost modelling.

## DEALING WITH UNCERTAINTY

Our RIIO-ED2 business plan is based on need and evidence as we foresee it today. However further investment may be required during RIIO-ED2 and some of today’s needs will change. Our plan includes a set of options for managing the known unknowns (uncertainties) we face in RIIO-ED2.

We draw an important distinction however between **internal risks** and **external uncertainties**. Internal risks are challenges to be actively managed and mitigated by DNOs, often on a continuous basis. An example of this is the potential for delays in our supply chain due to COVID-19.

External uncertainties are known unknowns that fall outside DNOs’ direct control, which affect the need for and scale of DNO investment. By their nature, these uncertainties are dependent on changes in policy or stakeholder needs. Key examples of uncertainties include public policy decisions on net-zero expected and uncertain market evolution, such as electric vehicles growth.

A key tool for managing uncertainties is **uncertainty mechanisms (UMs)**. UMs offer the opportunity to adjust investment to better reflect services needed by stakeholders over ED2, recognising the external policy, economic and market evolution. This is especially important for the ED2 period, given the pace of change required to deliver net-zero. Typically, UMs are a right to request changes to allowances at the

appropriate time, but not an obligation that this should be granted, with discretion remaining with Ofgem.

We are proposing ten UMs in addition to the Ofgem’s common set, which we set out in Uncertainty Mechanisms (Chapter 17). Three of these build on Ofgem suggestions in the SSMD. The other seven have been developed based on extensive testing and iteration. It should be noted that some of our additional UMs (e.g. for Subsea cables) include several components incorporating multiple UM types.

## REAL PRICE EFFECTS

Ofgem sets allowances for DNOs in constant prices (i.e. in “real terms”) at the beginning of each price control. Ofgem indexes allowances to changes in general inflation, measured by the Consumer Price Index including owner occupiers’ housing costs (CPIH), that occur over the applicable period. The prices of DNO inputs typically grow at a different rate to CPIH. For instance, wages tend to rise faster than general inflation.

Differences between the growth rate of DNO input prices and general inflation are known as Real Price Effects (RPEs). Historically and at RIIO-2, Ofgem adjusts DNO allowances to take account of RPEs by relying on differences between the growth of benchmark indices intended to reflect the evolution of DNOs’ underlying costs and general inflation. For RIIO-ED2, Ofgem intends to set RPE allowances by indexing costs to benchmark indices.

The Energy Networks Association commissioned NERA Economic Consulting (NERA) to advise on Real Price Effects. See ***Real Price Effects (Annex 22)***.

NERA identify various issues with the benchmark indexation approach proposed by Ofgem. For example, it highlights it introduces inefficiencies as DNOs must manage uncertainty around year-on-year changes in allowances that do not track year-on-year changes in costs.

Working within the constraints of indexation required, NERA developed an indexing approach, showing that an RPE is necessary for each of seven DNO input cost categories and identifies the set of benchmark indices that should be used to set the RPE for each cost category.

Its evaluation of DNO unit cost data also reveals that there are persistent differences between the long-run average growth of the selected benchmark indices and DNO unit costs. These differences are present even for the indices that perform best on our metrics of relevance to DNO unit costs.

To correct for these differences, NERA apply mean adjustments to the growth of the selected benchmark indices, to bring it in line with DNO unit cost growth.

Mean adjustments account for differences in growth rates, and so do not correct for differences in price levels due to legacy differences in efficiency between DNOs and the wider economy. Rather, they reflect the fact that prices for specialised DNO inputs, e.g. transformers, typically grow at a faster rate than the prices of electrical equipment in general.

Under indexation, mean adjustments to benchmark indices are necessary to allow DNOs to fully recover their costs. If mean adjustments are omitted when setting RPE allowances, the RPE allowances will effectively impose an additional efficiency challenge to DNOs beyond that already set as part of the

ongoing efficiency target. We consider that the adjustment factor should be on materials and specialist labour' due to uncertainty, labour shortages, growth forecast in the sector.

The macroeconomic outlook for the UK economy is currently highly uncertain. With the backdrop of largest recession in recent history following COVID-19 pandemic and the economy beginning to recover following the successful deployment of the vaccine it is anticipated by some that the economy will return to pre-lockdown GDP levels by 2023. However, there is significant pressures on prices and inflation concerns are dominating the financial press. With pent up demand and damaged supply chains both in the UK and internationally we are anticipating volatile price pressures – as such we consider that the Real Price Effects will need more careful consideration ahead of our December business plan submission.

## 5. SUMMARISING OUR COSTS PROPOSALS

In this section we provide an overview of the costs required for our core business plan.

Overall our costs are forecast to increase from £3,041m over a pro-rated RIIO ED1 period to £4,145m across ED2. This is an increase of 36% which we provide details of in the tables below.

### SSEN CORE EXPENDITURE FORECAST

Total SSEN Distribution (£m)	RIIO - ED1 Last 5 years	23/24	24/25	25/26	26/27	27/28	Total RIIO -ED2 Spend
Load	237	117	106	130	93	97	543
Non-Load	755	220	223	220	224	217	1,105
IT	128	57	58	51	52	42	259
Environmental	36	26	28	24	26	29	132
Non-Op Capex	40	28	27	27	27	28	137
NOCs	620	149	151	152	141	141	735
CAIs	687	154	157	158	158	157	783
BSC	382	83	87	88	91	93	442
Other (inc Shetland)	155	27	59	10	9	7	112
<b>Totex (Before OE)</b>	<b>3,041</b>	<b>860</b>	<b>896</b>	<b>860</b>	<b>821</b>	<b>811</b>	<b>4,247</b>
Ongoing Efficiency (OE)	0	-12	-17	-21	-24	-28	-102
<b>Totex (after OE)</b>	<b>3,041</b>	<b>848</b>	<b>879</b>	<b>839</b>	<b>797</b>	<b>783</b>	<b>4,145</b>

## SEPD CORE EXPENDITURE PLANS

Total SEPD Distribution (£m)	RIIO -ED1 Last 5 years	23/24	24/25	25/26	26/27	27/28	Total RIIO -ED2 Spend
Load	159	85	80	106	73	81	425
Non-Load	484	139	141	137	139	137	693
IT	77	36	37	33	34	27	167
Environmental	26	22	24	20	21	25	111
Non-Op Capex	27	16	16	16	16	17	82
NOCs	424	108	110	102	103	103	525
CAIs	438	99	101	102	101	101	504
BSC	241	52	55	56	57	58	279
Other (inc Shetland)	26	2	2	2	2	2	12
<b>Totex (Before OE)</b>	<b>1,903</b>	<b>561</b>	<b>567</b>	<b>573</b>	<b>547</b>	<b>551</b>	<b>2,798</b>
<b>Ongoing Efficiency (OE)</b>	<b>0</b>	<b>8</b>	<b>-12</b>	<b>-15</b>	<b>-17</b>	<b>-20</b>	<b>-54</b>
<b>Totex (after OE)</b>	<b>1,903</b>	<b>569</b>	<b>555</b>	<b>558</b>	<b>530</b>	<b>531</b>	<b>2,743</b>

## SHEPD CORE EXPENDITURE PLANS

Total SHEPD Distribution (£m)	RIIO -ED1 Last 5 years	23/24	24/25	25/26	26/27	27/28	Total RIIO -ED2 Spend
Load	78	31	26	24	20	16	118
Non-Load	271	81	82	83	85	80	412
IT	51	20	21	18	18	14	91
Environmental	10	4	4	4	4	4	20
Non-Op Capex	13	12	11	11	11	11	56
NOCs	196	41	41	50	38	39	209
CAIs	249	55	56	56	56	56	279
BSC	142	31	32	33	34	35	164
Other (inc Shetland)	129	24	56	8	7	5	100
<b>Totex (Before OE)</b>	<b>1,138</b>	<b>299</b>	<b>329</b>	<b>287</b>	<b>274</b>	<b>260</b>	<b>1,449</b>
<b>Ongoing Efficiency (OE)</b>	<b>0</b>	<b>-4</b>	<b>-5</b>	<b>-7</b>	<b>-7</b>	<b>-8</b>	<b>-31</b>
<b>Totex (after OE)</b>	<b>1,138</b>	<b>295</b>	<b>324</b>	<b>281</b>	<b>266</b>	<b>252</b>	<b>1,418</b>

## CONFIDENCE IN OUR COSTS

When setting allowances for the RIIO-ED2 period, Ofgem is seeking to show this is based on information which is independent from our cost forecast. This creates confidence in the basis of the funding which eventually will form our RIIO ED2 licence. It establishes the legitimacy of the process used to establish it. It provides assurance for customers that what they will be paying represents value for money.

In costing our Plan we have set out to create the cost confidence that Ofgem requires by providing traceable cost books. We have also identified the source of the baseline plan costs in line with the types of evidence identified in the Sector Specific Methodology Decision (Dec 2020). The common cost sources we have identified and used in our plan forecast are:

- RIIO-ED1 actual costs;
- RIIO-ED1 actual unit costs with an additional 2.5% (SHEPD)/5% (SEPD) assumed efficiency where we are above upper quartile rates in asset replacement;
- Cost base derived through competitive tendering process; and
- Sources where we have extensive market cost data, we have used these costs which better reflect the future costs for carrying out these works.

Using this cost data as the basis of our costing methodology provides confidence in the accuracy, consistency and integrity of our costs. Where our costs meet these categories, we have attributed a high-cost confidence rating. In absence of this supporting evidence, we have attributed a low cost confidence assessment.

In the Cost Confidence (**Appendix B**), we have provided a breakdown for each cost category of the evidence base that underpins this assessment where readily available. This is supported by a detailed cost books for each region, (**Cost Efficiency Annex Appendix C – SEPD CV Analysis & Cost Efficiency Annex Appendix D – SHEPD CV Analysis**) which provides the basis of our overall assessment of costs.

Recognising that there is more work to do ahead of our final plan, at this stage we have evidence to support 92% of our cost base at high confidence level. We are confident we will be able to achieve 100% for our final plan. For the final business plan, we will seek third party assurance to provide impartiality and enhance the credence of our cost confidence assessment.

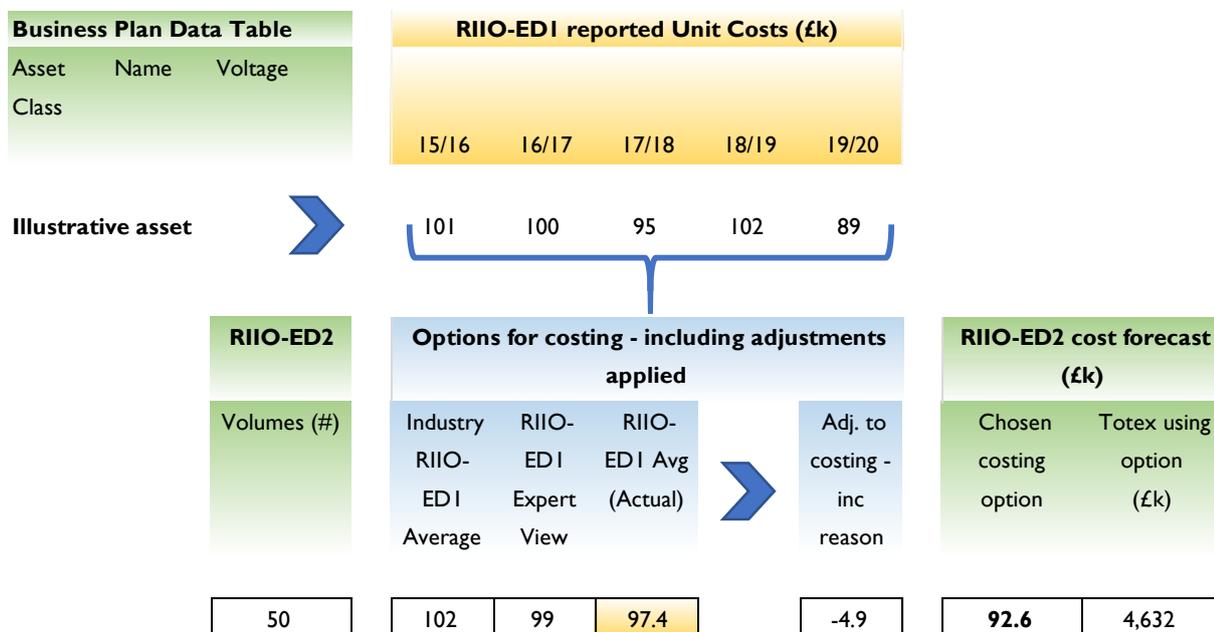
## Illustrative example

We illustrate our costing approach and the confidence that it will provide the RIIO ED2 price control assessment process in the diagram below. Here we consider a generic asset category where forecast RIIO-ED2 costs are calculated using the volume and applied efficient unit cost. This method applies across all volume assets and is consistent with non-volume-based activities.

In the cost book we capture the available reference unit costs or cost base, for example:

- the industry average unit cost for the asset,
- the expert unit cost applied at RIIO-ED1, and,
- our reported unit cost over RIIO-ED1 to date (**chosen**).

Using the chosen cost base, we then capture any adjustments applied to this rate. In this example, we show a 5% unit cost rate efficiency challenge, reducing the chosen cost base by £4.9k. The resulting costing rate is then used to derive the RIIO-ED2 forecast expenditure. In this example, 50 unit \* £92.6k / unit = £4,632k.



This approach provides clarity in a number of ways:

- **Confidence** - chosen cost base is derived from a source which Ofgem considers will provide cost confidence in the assessment process
- **Efficient** - Where chosen costs are based on RIIO-ED1 costs to date, these have been shown to be efficient – see Oxera assessment results in this Annex
- **Transparent** - adjustments (e.g. efficiency challenges applied to our chosen rates) are transparent and can be separately assessed.



## 6. OUR PLAN STATUS AND PLANNED PATHWAY TO OUR FINAL PLAN PROPOSALS

This is a draft plan. Whilst it represents the results of a large amount of stakeholder engagement and a large amount of work by us over the last 12 months, it is still work in progress as we progress towards producing our final Business Plan in December 2021. We fully expect to continue to refine this draft plan and supporting data tables, in the light of feedback from our customers and other stakeholders, as well as Ofgem which we fully welcome. We will use this feedback together with further detailed work we will undertake to deliver a fully optimised, fully market tested business plan, which fully delivers the expectations of customers and key stakeholders for our delivery of a safe and resilient network in the most cost effective and robust way.

An overview of the basis of this draft plan and what we intend to complete, refine and/or undertake between now and our Final Plan submission in December is provided below:

- Our draft plan is based on delivery of strategic commitments and outputs, we have set ourselves based on our engagement to date with customers and wider stakeholders including Ofgem, who have each set out their requirements and expectations of us for ED2.
- Our draft plan includes top-down assessment of cost efficiencies from areas such as workforce sourcing, productivity gains, supply chain procurement, enabling IT and innovation. We will undertake completion of detailed analysis and market testing from July to December to refine our proposals in our Final Business Plan.
- We have undertaken a high-level calibration and optimisation of the draft asset investment plan with other key parts of the overall draft Plan to avoid any duplication and allocate activities to primary drivers. We will undertake and complete a detailed integrated plan calibration and optimisation exercise between July and December to produce our Final Business Plan.

Between July-December as part of the additional work on refining the plan we will also refine our delivery plan accordingly including based on further work on sourcing and procurement strategies, and market testing with our supply chain.