



Northern Ireland

**Electricity
Networks**

A FUTURE NETWORK FOR ALL

NIE NETWORKS BUSINESS PLAN - SUMMARY

1 April 2025 to 31 March 2031

March 2023

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Foreword

Thank you for taking the time to read our proposal for the work that we believe is needed for the electricity networks in Northern Ireland over the coming years. We have been working with stakeholders in Northern Ireland to determine how we should invest in the network so that we meet our shared objectives. You have clearly told us to make sure that the network has sufficient capacity to allow for greater electrification, is reliable enough to maintain confidence that homes and businesses will have electricity when they need it, and to make sure that all new and existing customers can get the connections they need to the network quickly, transparently and cost effectively.

NIE Networks recognises the privilege and responsibility that it bears to make sure that the electricity networks in Northern Ireland are developed in a way that allows all of the families and businesses in Northern Ireland to participate in the transition from a fossil fuel-based way of life, to a way of life that is powered by electricity that is generated from renewable means. We recognise the responsibility that we have to build, maintain and operate new and existing electricity assets in a way that reduces the financial burden of this investment on the homes and businesses in Northern Ireland.

Our plan sets out to invest almost £2.6bn over the RP7 period, or well in excess of £3bn over the next 10 years (2023 to 2032). This is the required level of investment that we believe is needed to allow the homes and businesses of Northern Ireland to invest in electric vehicles and electric heating to the scale needed to meet Northern Ireland's climate change commitments.

Not only will our investment provide the electricity network for Net Zero, it will also create greater prosperity in Northern Ireland and will provide training and long-term careers for many young people that may not have had opportunities to remain in Northern Ireland. We believe that we will need to create 1,000 new jobs in NIE Networks, and up to 500 new jobs in

support partners between now and 2030. We believe that this level of investment in the electricity network will attract additional inward investment into Northern Ireland and will encourage new businesses to come here, and existing businesses to grow.

We recognise that the NIE Networks that has delivered on RP5 and RP6 is not the one that will double the work and investment in RP7. The increased scale of people, funding, outputs, technology, and stakeholder interaction all require an evolution of our business model so that we maintain our existing focus on safety and efficiency, while investing in our people and technology to maintain the confidence of the people of Northern Ireland that we can meet the commitments that we set out in this plan. We recognise that the way that we have connected homes and businesses to the electricity network up to now will not work in the future. We are committing in this plan to work more closely with everyone who uses the electricity network and with those who seek to connect to it to make the electricity network work for them. We recognise that we need to put much more control into the hands of the people of Northern Ireland, and our investment in Digital and IT Systems aims to achieve this.

The exact path that the world will take over the coming years is uncertain;

however, we need to invest now to create the long-term electricity capacity and reliability that is needed to satisfy the increasing demand for electricity over the next 50 years. This plan is one of a series of investment steps that NIE Networks will need to take over the next 20 years so that we have a network that is ready for 2050 and Northern Ireland's net zero commitments.

Derek Hynes
Managing Director, NIE Networks



1. Introduction

Introduction to NIE Networks and RP7

1.1 This document provides a summary of Northern Ireland Electricity Networks Limited's (NIE Networks) business plan for the six-year period from 1 April 2025 to 31 March 2031. This will be the seventh regulatory price control period (Regulatory Period 7 or RP7) since NIE Networks was privatised in 1993. The current price control period (RP6) spans a seven-and-a-half-year period from 1 October 2017 to 31 March 2025 (noting that this timeframe includes a one-year extension to the original six-and-a-half-year period for RP6). Our RP7 plan details what we intend to deliver during RP7, how much it will cost and the benefits provided to customers and stakeholders.

1.2 NIE Networks is the owner of the electricity transmission and distribution networks in Northern Ireland and is the electricity distribution network operator, serving over 910,000 customers connected to the network including homes, businesses and farms.

1.3 We share responsibilities with SONI in respect of the transmission network. SONI is the System Operator for Northern Ireland and is responsible for the operation and planning of the transmission network. NIE Networks owns, develops and maintains the transmission network. The sharing of functions meets the requirements of the European Union's Third Energy Package.

1.4 Our role is –

- to operate the network of overhead lines, underground cables and substations effectively to 'keep the lights on' for our customers;
- to maintain the network so that it is in a condition to remain safe and reliable;
- to fix the network if it gets damaged or if it is faulty;
- to upgrade or extend the existing network to provide additional electricity supplies or capacity to our customers including the development of innovative solutions to manage the increasing level of renewables connections and the uptake of low carbon technologies – and to do this is an efficient, coordinated and economical manner;
- to provide electricity meters and provide metering data to suppliers and market operators. This is a key role in enabling wholesale and retail market competition; and
- to connect customers to the network, both for new electricity supplies and for new electricity generators.

1.5 NIE Networks is a regulated company and our business activities are overseen by the Northern Ireland Authority for Utility Regulation (UR or Utility Regulator). The UR will use this document together with more detailed supporting submissions which we will make to the UR to determine our allowed revenues for RP7.

1.6 The UR set out its overall approach to developing its RP7 determination in the Overall Approach document which it published in July 2022. The price control has been planned to develop over a number of stages as follows –

- NIE Networks' RP7 plan including actual data for previous years, is submitted to the UR in March 2023;
- the UR will assess the plan and publish a draft determination for public consultation in November 2023; and
- the UR will publish a final determination and proposals on licence modifications, in October 2024.

1.7 Our Business Plan has been developed and structured in a manner consistent with the guidance set out in the UR's overall approach. In addition to this RP7 plan overview document, we will submit detailed workbooks and commentaries to the UR as a set of completed Business Plan Templates.

1.8 NIE Networks' vision is 'Delivering a sustainable energy system for all'. In practical terms, for us this means providing an electricity network that is capable of facilitating Northern Ireland's overall plan to address climate change, which aims to achieve net zero carbon and affordable energy by ending society's reliance on fossil fuels and its associated price volatility.





2. Executive Summary

a. Context for RP7: a changing energy landscape

2.1 The Northern Ireland energy system is at a transformational juncture. In December 2021, the Department for the Economy (DfE) published its strategy report 'The Path to Net Zero Energy', setting a long-term vision of 'net zero carbon and affordable energy' by 2050. This Energy Strategy also committed to interim 2030 deliverables, including 70% of electricity consumption from renewable sources, 56% reduction (versus 1990 levels) in total emissions from energy (power, heat and transport), and doubling the size of the low carbon and renewable energy

economy to a turnover of more than £2 billion per year.

2.2 Subsequently, a Climate Change Bill was passed by the NI Assembly in March 2022 and enacted into law in June 2022. This is Northern Ireland's first Climate Change Act, bringing Northern Ireland in line with the rest of the UK and with the Republic of Ireland (ROI). The Climate Change Act makes a legal commitment to net zero greenhouse gas emissions by 2050. It also commits to 80% of electricity consumption coming from renewable sources by 2030, superseding the original target of 70% within the Energy Strategy.

2.3 The energy system will need to undergo a rapid transformation

as we transition towards net zero, and networks are at the heart of this change. In order for Northern Ireland to meet the targets laid out in the Energy Strategy and achieve net zero by 2050, we need to decarbonise the whole energy system. This includes reshaping the power system as a means to decarbonise other crucial sectors in transport, heat and industry. These customer-led changes are significantly beyond what the network and our internal systems are currently designed for.

2.4 Accordingly, our plans for RP7 and beyond – which our stakeholders have helped shape – are to deliver a smarter, more flexible and integrated energy system for all our customers

so that they can decarbonise their lives at least cost. To achieve this, we must expand our capabilities, evolving our existing roles and taking on new functions as a Distribution System Operator (DSO). We will actively manage and optimise the increasingly complex power flows on the networks driven by decarbonisation, reducing the need for conventional network reinforcement so that the transition to net zero is as affordable as possible.

- 2.5 The role of customers is also changing as they actively manage their consumption and choose to produce electricity at home or business premises. This is happening against the backdrop of increasing digitalisation where technological innovations like smart appliances and commercial developments like aggregation are allowing customers to reduce or shift their demand for electricity in response to price signals and other incentives. This creates challenges but also brings opportunities to deliver significant benefits for our customers and for Northern Ireland as a whole.

NET ZERO: A VISION FOR THE FUTURE

- 2.6 We recognise that we are part of an energy ecosystem and that whole system thinking is needed. That is why we aspire through our company vision to 'Delivering a sustainable energy system for all'. Our intention is through RP7 and beyond, to provide an electricity network that is capable of facilitating Northern Ireland's overall plan to address climate change, which aims to achieve net zero carbon and affordable energy by ending our society's reliance on fossil fuels and its associated price volatility. Taking the necessary steps to meeting climate change targets set out in statute presents a huge opportunity for Northern Ireland to move away from fossil fuels,

and in-so-doing we can provide significant protection against future energy crises triggered by turbulence in global energy markets.

- 2.7 Our vision for this future is for customers to heat their homes using electrically powered heat pumps and to power their car using electricity which they produce at home by solar panels or buy from a supplier of renewably generated power at a smart tariff based on their usage – which can be adapted based on energy availability and price.
- 2.8 That will require increased network capacity at the customer's home, increased connection capacity for the renewable generator and a smarter network which can support power flowing in different directions while being resilient and reliable. And all of this must be underpinned by data to enable suppliers and customers to act at the right time based on their consumption.
- 2.9 It is in this context that we have developed our plan for RP7 spanning the years 2025 to 2031. These years will be a critical period on the pathway to achieving net zero carbon by 2050.
- 2.10 Our plan aims to –
- **Facilitate the decarbonisation of society.** This means developing the network to support the electrification of heat and transport, whilst also enabling the 80% renewables target to be achieved. This will require not only additional capacity to be added to the network, but also a more flexible and digitally enabled operating approach.
 - **Maintain a safe, reliable and resilient network.** As heat and transport electrifies, society's reliance on electricity will increase even more than

currently. Accordingly, we will need to ensure the network remains safe, reliable and resilient so that customer outages are kept to a minimum.

- **Ensure our customers continue receiving an excellent level of service.** This will include developing new and more digitalised methods for customers to interact with the network. Digitalisation of the network will allow customers to be more empowered about their energy choices.
- **Ensure our business is prepared for the future.** Our ambitions for the future are underpinned by a number of key organisational changes that are essential to delivering the transformational change in RP7 and beyond. These include addressing the challenges of environmentally sustainable operations, greater digitalisation and workforce resilience. We also need to re-shape our organisation to ensure we have sufficient capability to deliver the investments needed during RP7 and beyond.

- 2.11 And of course, we want to achieve these aims at the least possible cost, in keeping with our long history of delivering a safe, reliable and resilient network for customers, and doing so at a level of cost which benchmarks among the very best in the UK and Ireland.

INVESTING TO ACHIEVE THIS VISION

- 2.12 To achieve these aims, significant investment is needed in the network during RP7, and beyond.
- 2.13 Specifically, a significant step-change is needed in the level of investment required to facilitate the scale of decarbonisation that has now been mandated by government. These are

investments that will provide increased network capacity to enable our customers to connect low carbon technologies (LCTs) such as electric vehicles (EVs), solar panels and heat pumps. We will also need to invest to enable network capacity to meet government targets for a greater proportion of electricity to consistently and reliably come from renewable sources (80% by 2030).

2.14 We expect many benefits to flow from these investments including creating the potential for lower overall energy bills as we consume more from indigenous renewable sources. It is important to recognise that the cost of investment in the network is recovered over a long period of time (typically 40 years), so costs and benefits are shared between current and future customers.

2.15 Another factor driving increased investment is maintaining the resilience and safety of the existing ageing network. The initial development of the electricity network in Northern Ireland occurred primarily in the 1950s and 1960s, and much of the original network that was built all those decades ago remains in place today. These assets are now upwards of 60 years old or more and need, or will soon need, replacement in order to maintain reliability of supply. So, during RP7 and beyond we will need to undertake a comparatively larger programme of network renewal than ever before.

2.16 Investment is also needed so that we can meet changing customer needs, identified through extensive engagement directly with customers during RP6. Our plan is designed to deliver the solutions that our customers require, particularly the most vulnerable in society.



b. Facilitating net zero through a flexible and integrated energy system

2.17 The RP7 years of 2025 to 2031 will be a critical initial period for enabling the transformation of the electricity network necessary to facilitate a net zero carbon future. By delivering an innovative, dynamic and integrated distribution system that can flex in response to supply and demand, our customers will benefit from faster and cheaper access to network capacity. This will also enable uptake of LCTs at least cost, whilst retaining flexibility in the network for future changes in customer demands.

INVESTMENT AND INNOVATION

2.18 The scale of the effort needed to decarbonise our society is significant and will be complex to achieve, requiring a significant increase in investment on the electricity network over several price control periods. By way of example, our plan aims to ensure the network can facilitate 300,000 electric vehicles, 120,000 heat pumps and 3,900MW of renewable generation in Northern Ireland by 2030. This will result in demand consumption

increasing significantly between now and the end of RP7, 80% of which will be supplied through indigenous renewable generation.

2.19 We are committed to ensure that we facilitate the transition to net zero at least cost. To achieve this goal, the following are considered vital requisites.

- We are increasingly taking a whole system approach. This means that we look at all the energy requirements for customers – oil, gas and electricity – as well as water and communications to ensure what we do in the electricity arena works best for Northern Ireland’s overall net zero requirements, not just the electricity network in isolation. By collaborating with other utilities, sharing data, and coordinating planning and operations, we can collectively develop more optimal and efficient solutions which minimise costs, timelines and disruptions for customers.

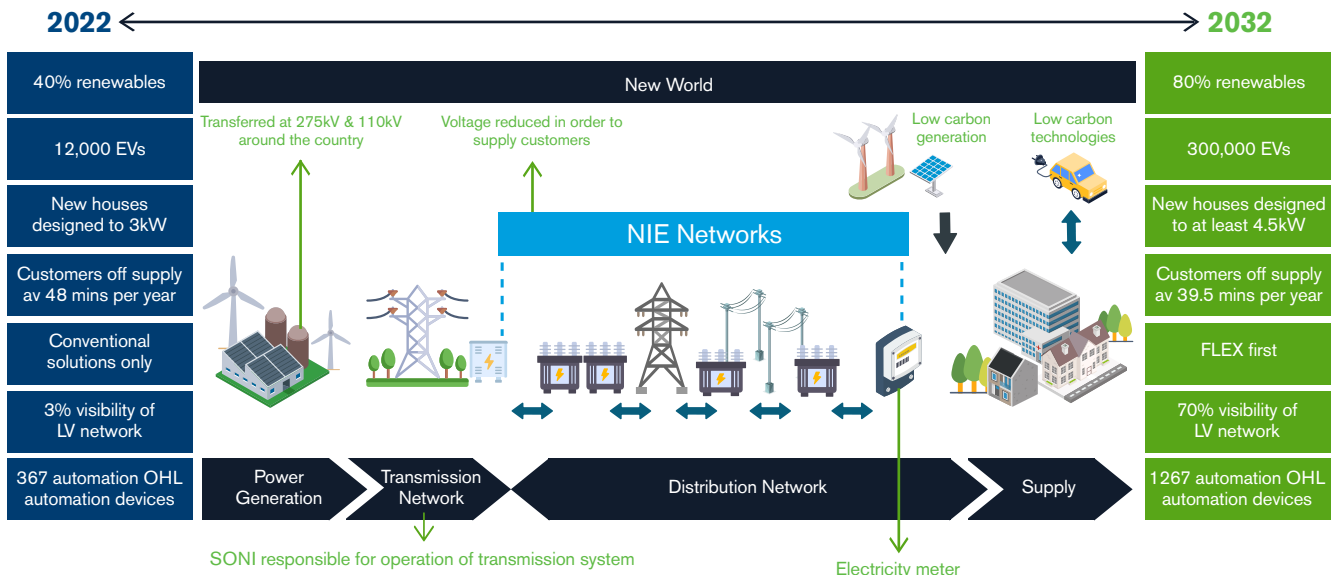
- In particular we will need to roll out our flex project and take a “flexibility first” approach to creating additional capacity on the network in lieu of investing in new or enhanced assets. This means, for instance, that we will be buying more

demand-side response services from customers in RP7. This will help empower customers to optimise their energy needs with the needs of the network.

- We must also take every opportunity to innovate to ensure we have a broader range of solutions available. In Northern Ireland we have a long history of innovation which we will build on and continue to search for new solutions as we journey to net zero. We will continue to develop an innovative culture at NIE Networks and support innovation across our business.
- If uptake of demand or generation levels differ from our forecasts then we will need a price control with agile uncertainty mechanisms so that our allowances can be adjusted quickly and efficiently. You can read more about our proposed uncertainty mechanisms in Chapter 10 of the Business Plan.

2.20 In Chapter 7 of the Business Plan, we explain in more detail how we have developed the plan to facilitate net zero. And in Chapter 8 we set out the investment expenditure that is required to achieve this.

Figure 1 – our vision for the network at 2030



c. Maintaining a safe, reliable and resilient network

- 2.21 The network consists of a range of specialised equipment including overhead line conductor, wooden poles, steel towers (sometimes referred to as pylons), underground cables, circuit breakers and power transformers. A significant proportion of the network was built between the 1950s and 1960s; and many network assets, having been maintained to maximise their working life, will soon need replacement.
- 2.22 Whilst asset age is not a reason in itself to qualify an asset for replacement, assets tend to deteriorate in condition significantly when approaching or exceeding the limit of their

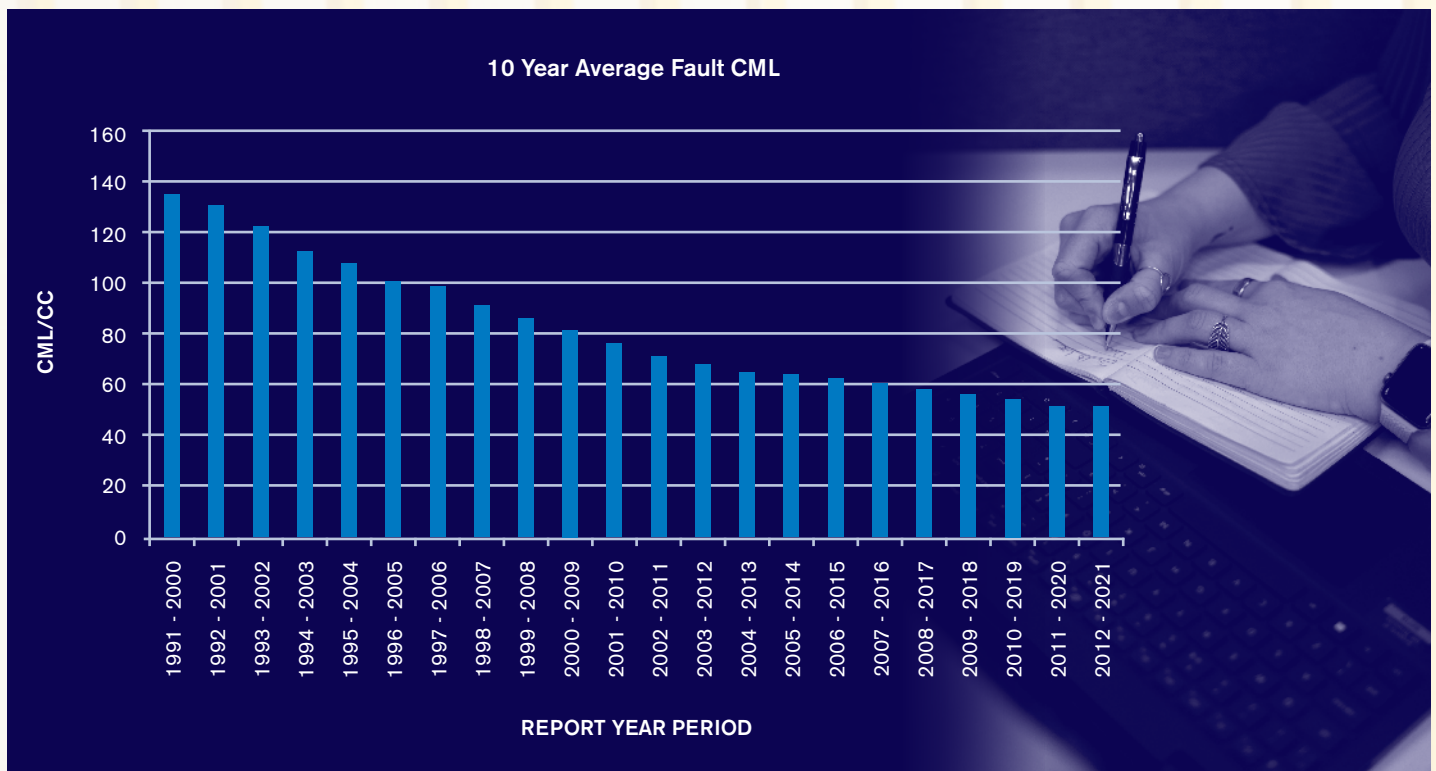
intended design lifespan. The condition of many of these older assets is such that investment in their refurbishment and replacement will be required in RP7 and beyond to maintain high levels of network reliability and resilience.

- 2.23 The changes in remote working patterns resulting from the Covid pandemic and the move towards decarbonisation means that, as a society, we are becoming increasingly more reliant on electricity than ever before. This, in turn, places greater importance on the reliability and resilience of the network in providing a secure electricity supply that meets the needs of our customers.
- 2.24 This increasing societal reliance on electricity will also present a step-change in the volume of work on or in connection to

the network, with an increasing number of interactions by our customers, third-party LCT installers, as well as our own staff and contractors. It is imperative that we continue to aim to provide a 'Zero Harm' environment for all those interacting with the network throughout the RP7 period and beyond.

- 2.25 We are confident we can continue to deliver the level of network safety, reliability and resilience customers expect. For example, since being privatised in 1993 we have successfully managed to reduce the amount of time customers are without electricity supplies due to network faults, to one third of the level at privatisation. Our proposals for RP7 seek to deliver a further reduction (8.2%) to our current level of performance.

Figure 2 – 10-year average fault CML¹



¹Our primary measure of network performance is the time customers are off supply due to faults on the network. We measure this in terms of Customer Minutes Lost per Connected Customers (fault CML), which is the average number of unplanned minutes customers are off supply per annum due to network faults.

2.26 We are also mindful of wider global trends and risks to the network. Electricity networks are not immune to the increasing impact of climate change, illustrated in recent times by the impact of Storms Arwen and Barra on customers in Scotland and the north of England, and the wildfires caused by the record-breaking heatwave in July 2022. It is important that we invest in the resilience of the network and mitigate against the impact of a changing climate on the network during the RP7 period.

2.27 Finally, we are acutely aware of the cost of living crisis currently facing our customers. Throughout RP7 we will continue giving high priority to delivering the network reliability and resilience expected by our stakeholders at minimum cost by exploring all viable alternatives to conventional asset replacement.

2.28 Accordingly, during RP7 our planned asset management programme will aim to –

- maintain network reliability by continuing with programmes to replace and refurbish assets in poor condition whilst improving longer-term network resilience;
- adhere to relevant safety, legislative and environmental requirements;
- optimise asset lives; and
- maximise opportunities to deliver efficiencies within our business.

2.29 In Chapter 7 of the Business Plan, we explain in more detail how we have developed the plan to deliver a safe, reliable and resilient network. And in Chapter 8 we set out the investment expenditure that is required to achieve this.



d. Meeting the needs of our customers

2.30 RP7 presents an opportunity to do more for and with the wide range of customers we have in Northern Ireland, who may have different needs and priorities. Traditionally electricity customers have been passive in terms of their relationship with the network. We see the Energy Transition changing the energy system to one that is more active and dynamic, where customers are more empowered in what they can do. It is clear to us that we have a significant role to play in protecting and enabling customers as we move through this transition. We see the need to enable new low carbon technologies to work in tandem with the network at least cost, whilst ensuring that those that can afford these technologies the least are not left behind in any way.

2.31 We have set out our commitments to our customers for RP7 in Chapter 6 of the Business Plan, all of which are clearly linked to three key themes at the heart of our customer service approach –

- **Key theme #1:** Protecting vulnerable customers. We will aim to ensure a fair energy transition for all, with no customers left behind. There has never been a more important time than now to protect the most vulnerable so we are already looking at how we can support customers better and we will continue to build on this in RP7. Our plan commits to developing more tailored support for vulnerable customers affected by power outages, this will develop as we work to register customers who fall into a wider definition of vulnerability. We will also be looking at how to improve network resilience so that those who depend on their electricity supply are protected.

- **Key theme #2:** Digitalisation – making it easy for customers to do business with us. We will ensure that our customers can engage with us in the most relevant and convenient way for them. We will develop a self-serve customer portal where customers can interact digitally with us. We will provide data where we can for customers to help them make informed decisions. We also want to adopt more digital channels of communication such as WhatsApp for business and using live-chat functionality within our contact centre.

- **Key theme #3:** Enabling our customers to become more active in their energy usage. We will ensure customers have the opportunity to make best use of new connected technologies, to effectively manage their energy consumption. We are continually improving our processes and services based on customer feedback. We will continue to do that in RP7 and will look at innovative ways of connecting customers more flexibly.

2.32 We recognise that the above themes and the commitments they drive, are interlinked. For example, we need to be cognisant of the digitally excluded and ensure they are included in the work we do to protect vulnerable customers. Similarly, if we are to achieve our ambition that no customer is left behind, it is essential that all customers are enabled to become more active in their energy use.

2.33 Therefore, to ensure that we establish appropriate targets and measures to encourage and track delivery against our commitments during RP7, we will continue engaging with the UR and the Consumer Council of Northern Ireland via the Consumer

Engagement Advisory Panel (CEAP), to ensure appropriate targets and measures are set and achieved. We also envisage the introduction during RP7 of an Evaluative Performance Framework (EPF) incentive mechanism which will have a specific focus on customer service quality.

2.34 We continue to rollout out the commitments made in our Vulnerable Customer Strategy¹ which we launched in 2021. We have already seen a significant increase in the number of customers on our medical care register and we continue to engage with those on the register to make sure they get the support they need.

2.35 We are committed to delivering meaningful and tangible outcomes and improvements for customers, meeting the requirements of the UR's Consumer Protection Programme and Best Practice Framework and reflecting our customers' priorities, as identified through ongoing engagement with customers and stakeholders.

2.36 This engagement has taken many forms. Through our participation in the CEAP we have become more aware of the level of digital exclusion in Northern Ireland. Through discussions with Major Energy Users we have a better understanding of how important the resilience of the network is. We have engaged with the Northern Ireland Youth Forum who helped us consider what the customer of the future will need and how they can adapt accordingly. We intend to continue to engage with these stakeholders and others throughout RP7.

¹ <https://www.nienetworks.co.uk/documents/customer-leaflets/vulnerable-customer-strategy.aspx>

OUR VISION FOR CUSTOMER EXPERIENCE IN RP7

- 2.37 This price control takes us out to 2031 and we know the world will be a different place in that time period. Therefore, it is important to look out at what the future needs of customers could be. This led us to developing a vision for what customer service should look like in RP7. This has been developed with input from our staff, feedback from our stakeholders as well as looking out at what we believe is best practice in other jurisdictions.
- 2.38 Our RP7 business plan sets out to develop the network in a way to enable customers. We will be working on greater digitalisation of our network so customers can work in harmony with the network and their specific energy ambitions can be met. For example, we will take a 'flexibility first' approach and work with customers and the market to see what options exist to enable connections or upgrades without the need for traditional reinforcement.
- 2.39 We are in alignment with the DfE's Energy Strategy on the particular point of fair access and charging. We are working already on how the right balance could be achieved for connecting

customers. It is not within our gift to change this ourselves; however, we are committed to working with the UR and the DfE to help highlight potential areas of policy change that could be needed as part of a just transition.

- 2.40 We recognise we have a role to play in being an organisation that customers can trust and working with our customers to help educate and inform them on what is possible. Our ambition is to take on a lead role in being trusted experts, making sure that the aims of the energy strategy are met. We are committed to working with customers to ensure the information that we provide and our processes are clear and easy to understand.
- 2.41 We want to take the digital experience for our customers to another level and create platforms where customers can engage with us and where we can share information easily. When we consider how much digital technologies have come on in the past ten years, it is important to us that we keep pace with that level of change and provide the same experiences for engagement that customers have grown to expect.

- 2.24 We see an increasing appetite for self-service options and in RP7 we will develop this capability further. For example, we will develop a platform where customers can get high-level quotations for their connection costs to help inform their decisions.
- 2.43 Whilst we want to have more channels of communication, we recognise the need to support customers with traditional forms of communication and we will look to see how we can enhance the support needed for our customers who need it most. We envisage continuing to have dedicated, highly-trained people within NIE Networks with the skills to help support the most vulnerable in society.
- 2.44 In general, we are continually looking at how we can improve the ease of doing business and this is a theme that will continue into RP7.
- 2.45 In Chapter 6 of the Business Plan, we describe the key services, outputs and/or outcomes ("the commitments") that we plan to deliver for customers during RP7 through our investment programmes, network management decisions and customer service initiatives.

Figure 3 – our vision for customer experience during RP7





CONNECTIONS AND CUSTOMER REQUIREMENTS

- 2.46 Connections charging is a key area of concern for our customers that falls outside of RP7 as outlined in the UR's decision on its approach to RP7. Distribution connection charging in Northern Ireland involves the recovery of the total reinforcement costs at the connection voltage and one voltage up that will be incurred as a result of connecting new load or generation to the system, through an up-front connection charge required to be paid by the connecting customer.
- 2.47 Our customers have told us that high distribution connection fees are dissuading some from connecting to the network. This is slowing the uptake of low carbon technologies including electric vehicles and heat pumps, and reducing the competitiveness of Northern Ireland as a region to connect for large energy users in the commercial and industrial sectors. It follows that the current distribution connections charging arrangements in Northern Ireland may be a significant barrier to meeting decarbonisation and 2030 Energy Strategy targets.
- 2.48 Reinforcement costs associated with new or increased connections at the connecting voltage and the next voltage up are not included in the RP7 Business Plan; these costs are fully chargeable to the connecting customer based on the current connection charging methodology. Reinforcement costs two voltages up from the connecting voltage are included within the RP7 Business Plan as this reinforcement is not chargeable to connecting customers based on the current connection charging methodology.
- 2.49 The current distribution connection charging arrangements in Northern Ireland differ significantly from Great Britain (GB) and Republic of Ireland (ROI). While the overall connection cost is similar, it is who contributes to the cost that is different. In Northern Ireland the connecting customer pays a much higher proportion of the cost which has resulted in Northern Ireland becoming a less competitive jurisdiction for investment in distribution connections than its counterparts in GB and ROI.
- 2.50 It is apparent there is a trend in the rest of the UK to address the issue of deep distribution connection charging, and we feel it is important that Northern Ireland is not left behind in this space. We welcome the UR's inclusion in its Draft Forward Work Plan 2023/24 to commence a review of connections charging, and we are advocating to more closely align connections charging methodology in Northern Ireland to that of neighbouring jurisdictions.

e. Preparing our business for the future

2.51 NIE Networks has a long history of delivering the requirements of Northern Ireland customers reliably and efficiently. We have evolved our company over the years to meet the challenges of the day and have delivered at a level of costs which benchmarks among the very best in the UK and Ireland. However, our ambitions for the future are underpinned by a number of key organisational changes that we consider essential to driving transformational change in RP7 and beyond. Chief among these is addressing the challenges of environmentally sustainable operations, greater digitalisation and workforce resilience. We also need to re-shape our organisation to ensure we have sufficient capability to deliver the investments needed during RP7 and beyond.

ENVIRONMENTALLY SUSTAINABLE OPERATIONS

- 2.52 We recognise our direct responsibility to protect the environment and reduce the business carbon footprint of our own operations. This involves setting a science-based target to reduce emissions by 50% including network losses by 2030 compared with our 2019 baseline, and reach net zero by 2050 or sooner.
- 2.53 Building on our achievements in the current period, we have developed an Environmental Action Plan which sets out what we believe are ambitious yet achievable targets for the RP7 period.
- 2.54 In Chapter 6 of the Business Plan, we set out what we will deliver during RP7 to make our operations more environmentally sustainable.

GREATER DIGITALISATION

- 2.55 Digitalisation and data services are widely seen as key enablers of Net Zero ambitions. In its decision on the approach to RP7 the UR states, 'Delivery of the Climate Change Act and Energy Strategy will require consumers to make informed choices on how and when to use energy. NIE Networks should set out its plans to make data and system service opportunities/platforms available to consumers (or its intermediaries) in conjunction with other stakeholders to inform these choices.'
- 2.56 Accordingly, our aim is to provide the necessary IT infrastructure to promote digitalisation of our data and wider operations. Associated with this ambition is the need to consider the adequacies of our telecommunications infrastructure and cyber security capabilities. Taken together, these will require a step-change in our investment in our IT infrastructure in the RP7 period.
- 2.57 In Chapter 7 of the Business Plan, we explain in more detail how we have developed the plan to deliver greater digitalisation. And in Chapter 8 we set out the investment expenditure that is required to achieve this.

WORKFORCE RESILIENCE

- 2.58 NIE Networks has invested heavily in its people over the years. The investment is reflected in our status as a 'Gold' Investors in People business and we have recently been awarded the Silver Diversity Charter Mark. We believe it is essential that we have a highly trained, motivated and committed workforce that has both the capacity and skills to deliver the ambitious plans we have for RP7 and beyond. We call this enabler 'workforce resilience'.
- 2.59 We also recognise the increased competition and demand for skills across all sectors and as such our goal for the future will be to stand out as an employer of choice in the changing world of work.
- 2.60 Accordingly, we have developed a workforce resilience strategy which we are submitting to the UR as part of our Business Plan submissions.

REINVENTING OUR BUSINESS FOR RP7

- 2.61 We are making a series of commitments that outline our approach to how we will reinvent our business for RP7.
- 2.62 In Q3 2023 NIE Networks will create an Organisational Renewal Programme to deliver an organisational change process lasting c.18 months to identify and implement the required people, process and structural investments required to be ready by the start of RP7 to meet the commitments outlined in our plan. The project will focus on the following themes:
- increased delivery and network capabilities
 - improved organisational capability
 - DSO readiness

Increased delivery and network capabilities

2.63 We will grow our existing delivery capability by bringing in new apprentices and graduates. We will grow our contractor fleet across all of our existing framework capabilities. We will seek opportunities to expand the deliverability role of these contractors by asking them to take on more end to end programme responsibility to increase output, reduce interfaces and keep downward pressure on unit costs. We will add in additional programme management, procurement and supply chain capability so that we are properly resourced and structured to live up to our commitment to “Touch the Network Once”².

2.64 We will establish a team that will have responsibility for delivering large-scale contracting projects. They will develop the alternative contracting models (Design and Build, Turnkey, EPC etc) to allow NIE Networks to deliver larger bespoke projects, including transmission asset replacement projects, cluster substations, offshore connections etc.

Improved organisational capability

2.65 We recognise the need to grow our workforce to approximately 2,000 people by the end of RP7 to have the long-run resource and organisational support capability to meet future work programmes and to operate safely, efficiently and with the appropriate governance structures.

2.66 We will reorganise our strategy and innovation activities so that they are embedded in each part of NIE Networks, but also have executive-level responsibility. We

recognise the need to –

- deliver on the traditional well-trusted work programmes;
- remain vigilant so that we can foresee customer, environmental and policy changes in Northern Ireland; and
- support NIE Networks and our partners to create new ways of doing things to become more efficient, and faster to respond as opportunities arise.

2.67 We will increase our commitment to listening to our stakeholders, and will build a capability to turn the things that we hear into business change. We believe that investment in digital engagement and increased organisational change expertise will make this much more responsive and will result in better delivery outcomes and increased efficiency for our customers.

2.68 NIE Networks will review how we are organised to ensure that we efficiently deliver the parts of our plans related to –

- Cyber resilience
- Enterprise system upgrades
- Operations technologies
- Data strategy
- Digital innovations for our customers and our business

2.69 By the start of RP7 we will have reorganised our connections activities in anticipation of a future change in connections charging policy. We will renew our processes to respond to customer feedback about speed and transparency of the connections journey. We will have a better way of providing connection offers to renewable

generators – small-scale, larger onshore and offshore generators – as well as the many demand customers who will want enhanced connections. We will work with industry to develop specific solutions for EV charging and housing so that these customers have a better experience.

DSO transition

2.70 We will establish an organisation structure that gives distinctive effect to the role of Distribution System Operator (DSO) in Northern Ireland so that the right activities are carried out in the right area. The structure will allow the independence of thought, process and structure to ensure that the best decisions are made for the future development of the network and that energy market opportunities are created and exploited to reduce end user cost.

²When planning investments for the network, we aim to ensure that disruption from any works is minimised and the whole-life cost efficiency of the investments made are maximised. In practical terms this might mean things like coordinating with other utilities so that roads are only dug up once; or increasing the capacity of the investment being made or installing additional circuits, so that we do not have to come back again in the short- to medium-term future if or when demand increases. We discuss our ‘touch the network once’ approach in more detail in Chapter 7 of the Business Plan.

f. A transformational opportunity: costs and benefits

- 2.71 Alongside recognising the need to take an ambitious and innovative approach to developing the electricity network to meet the demands of the Energy Strategy during RP7, we remain acutely aware that we are putting forward this Business Plan in the midst of a cost of living crisis and that high energy costs are a huge source of concern to customers.
- 2.72 So, our aim is to strike a balanced position during RP7 which facilitates provision of a safe, secure and high-performing network; enables Northern Ireland to achieve its climate change ambitions; supports the growth of the Northern Ireland economy; facilitates access to new services and markets for our customers; encourages customers to make the right energy decisions through access to energy information; and ensures a just transition which recognises the more vulnerable in our society. We will also work hard to apply downward pressures on costs where we can, by focussing continually on operating as efficiently as possible – reflecting that we have a strong track record in this regard.

We will continue to operate efficiently

- 2.73 NIE Networks has a long history of delivering what is needed by NI customers – a safe, reliable and resilient network. Our company has continually adapted to changing circumstances to ensure that we deliver this network at a level of cost which benchmarks among the very best in the UK and Ireland.
- 2.74 Since being privatised in 1993 we have implemented a series of initiatives and programmes designed to improve the efficiency of our cost base. These efficiencies are reflected in a reduction of over 33% in network charges since privatisation.
- 2.75 Looking to the future, and to support the development of our RP7 Business Plan, we commissioned NERA Economic Consulting (NERA) to assess the relative efficiency of our current and forecast levels of expenditure by benchmarking ourselves against our counterpart distribution network operators (DNOs) in GB.
- 2.76 NERA found that NIE Networks consistently ranks as one of the most efficient companies in our sector in the UK. In some

areas the relative efficiency of our business is considerable. For example, NERA's findings suggest our historic operating costs are in the region of one fifth lower than our GB counterparts.

- 2.77 These findings also provide context for the increase in expenditure expected in RP7. Cost allowances for RP7 will need to be higher because current costs will not be sustainable going forward. The reason for this is two-fold. Firstly, NIE Networks will be undertaking a lot more required activities in future. Secondly, input prices are increasing significantly with global cost pressures.
- 2.78 During RP7, we estimate we will need to almost double our levels of investment in the electricity network compared to that in RP6 – from £1.4 billion in RP6 to £2.6 billion in RP7. Our investment proposals are summarised in Table 1 below. In this table we compare expenditure between RP6 and RP7, categorised against the strategic themes which are driving the need for investment, as described above.

Table 1 – investment during RP6 and RP7 [preferred proposal]

£ in 2021/22 prices		RP6 ⁱ , £m	RP7, £m	Increase, £m	Increase %
Facilitating Net Zero through a flexible and integrated energy system	<i>Distribution investment</i>	227	653	426	188
	<i>Transmission investment</i> ⁱⁱ	91	493	402	440
Total investment to facilitate Net Zero		319	1,147	828	260
Facilitating Net Zero through a flexible and integrated energy system		319	1,147	828	260
Maintaining a safe, reliable and resilient network		679	945	266	39
Preparing our business for the future		17	78	61	355
Meeting the needs of our customers ⁱⁱⁱ		12	21	8	69
Other costs ^{iv}		373	359	-15	-4
Total		1,400	2,550	1,149	82

ⁱ Latest best estimate of actual allowances to the end of RP6 (normalised to a 6-year equivalent, to ensure like-for-like comparability to RP7).

ⁱⁱ Investment requirements on the transmission network are determined by SONI. NIE Networks has limited influence over investment requirements on the transmission network, as these are mostly determined by SONI.

ⁱⁱⁱ Expenditure for 'Meeting the needs of our customers' relates to specific initiatives to enhance and/or improve customer service. However, and in reality, all of our investments are intended to meet the needs of customers.

^{iv} 'Other costs' include: metering / market operations / Enduring Solution costs; pensions; business rates; UR licence fees.

- 2.79 The scale of our ambition is in our opinion, necessary if Northern Ireland is to have a chance of achieving the challenging targets set out in the Climate Change Act and Energy Strategy. Achieving the renewables target set for 2030 requires a step-change in the level of investment needed in the electricity network – and our proposals for RP7 reflect this³.
- 2.80 Significant investment is needed to enable decarbonisation and the transition to net zero. We also need to spend significant sums to keep the network in good condition, and to maintain its resilience given that dependency on electricity is already high and will increase further with the electrification of heating and transport. This is driving investment requirements higher. It is important to note that the bulk of our investment is in long-life assets so, while the overall cost is significant, the charges levied on customers to pay for those assets is spread over a long time period, much like a mortgage. So, the impact of costs in annual terms is much smaller.
- 2.81 To counter the upward pressure these investments might place on network charges, we will continue to operate as efficiently as possible. For example, by way of our ‘Flexibility First’ approach we will test the market first before committing to major conventional reinforcement schemes. If investment is required, we will be smart and efficient in how we plan our investment programmes, seeking out all opportunities
- to add extra capacity required for the future as we replace, refurbish or maintain parts of the network in need of attention. We will also seek to finance our business as efficiently as possible; and to spread the cost of these investments in the most fair and appropriate manner between customers today and customers of the future.
- 2.82 Another factor to be considered is that we expect transformational changes in society such as the electrification of transport and heating, to lead to greater electricity consumption in future compared to today, which will help spread the costs more widely. We are estimating that the volume of electricity transported across the network will on average be around 27% higher by the last year in RP7 compared to the last year in RP6 as electricity displaces fossil fuel usage. The anticipated growth in electricity sales will put downward pressure on network charges. As a result, network charges in the last year of RP7 are projected to be £10 higher than in the last year of RP6 for an average household, excluding inflation. We discuss the impact on tariffs in more detail in Chapter 14 of the Business Plan.
- 2.83 The displacement of fossil fuel usage is important as, while customers may pay more for their electricity as they consume more, they will not have to pay for home heating oil if their homes are heated with a heat pump; or for petrol / diesel for their cars
- if driving an EV. We have been working with economic advisers Ernst & Young (EY) to quantify the impact of these off-setting cost savings. Using its findings of the potential macro-level benefits that could be realised from the electrification of heating and transport, EY also estimates a household that is able to fully embrace electrification and purchases low carbon technologies that are widely available now⁴, could expect to make net savings of around £2-3k per year⁵.
- 2.84 In addition, the future wholesale cost of electricity should be less driven by movements in the price of fossil fuels, if and when there is more renewable generation on the system increasing Northern Ireland’s self-sufficiency with less reliance on imported fossil fuels to generate electricity. Consultants at KPMG estimate that electrification of heat and transport would displace £1.4 billion of annual expenditure on imported fossil fuels by 2040⁶.
- 2.85 In addition, KPMG concluded that the capital investment needed to electrify society would have other indirect benefits, leading to an estimated total Gross Value Added of £18.8 billion for Northern Ireland. The employment created from the capital investment programme is significant, forecast to reach up to 5,000 full-time jobs over the investment period.

³ A significant element of the estimated costs needed to facilitate net zero during RP7 (c£493 million) is driven by decisions made by SONI, and not NIE Networks (although SONI will engage with us before finalising its decisions). Specifically, it is SONI that is responsible for the planning and high-level design of transmission load-related projects needed to ensure the transmission network remains fit for purpose. Following completion by SONI of the planning and high-level design work, NIE Networks is then responsible for the detailed design and specification, procurement, construction and commissioning of the projects identified by SONI.

⁴ Meaning a household that installs a heat-pump and solar panels, and purchases an electric vehicle instead of a petrol/diesel powered vehicle.

⁵ See EY’s report, ‘A Cost-Benefit Analysis of NIE’s RP7 Investment’.

⁶ See KPMG’s report, ‘Electrification: Economic Opportunity for Northern Ireland’.

g. Conclusion

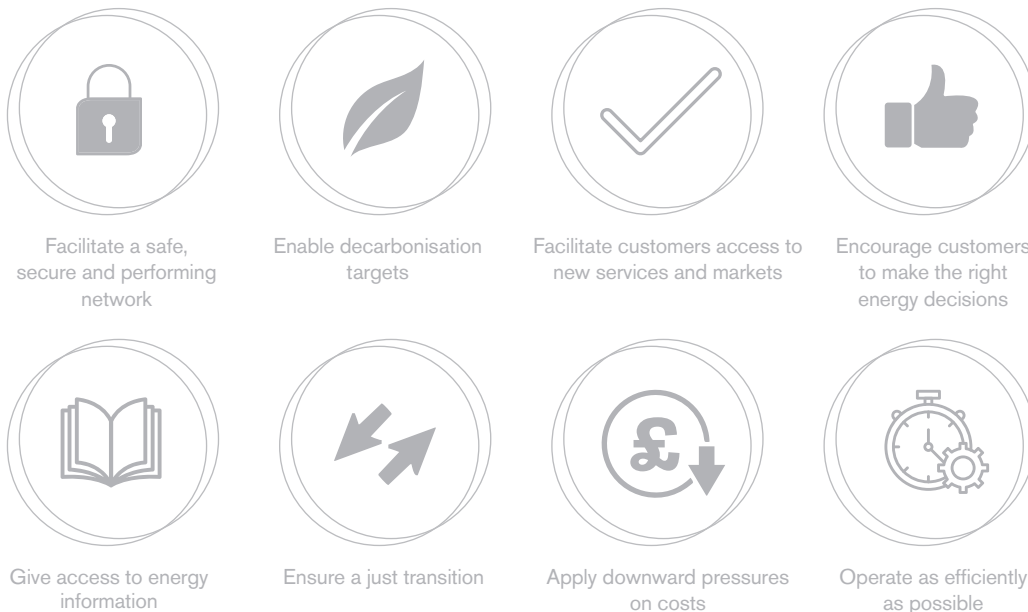
2.86 We know there will be pivotal shifts ahead for energy in Northern Ireland. In the next decade renewable energy sources will power us even more than today. Batteries charged using renewable energy (from wind and solar) and energy generated from customers' own homes will help drive down carbon emissions and save customers money on their energy bills. Home energy management systems will help us consume less energy; new technologies could change the way we heat our homes. Transport will be largely electrified to make it cleaner and greener, and the development of whole system solutions to deliver benefits to customers will emerge. NIE Networks has a key role

facilitating these societal shifts, ensuring that we can deliver a sustainable energy system for all.

2.87 We believe NIE Networks' RP7 Business Plan as detailed herein, is required to achieve the ambitious goals of the Climate Change Act and Energy Strategy for the people of Northern Ireland. We look forward to engaging with the UR, and other interested stakeholders, as we work towards a regulatory settlement for RP7.

2.88 Then the real work begins. And NIE Networks stands ready to embrace the challenge.

Figure 4 – RP7 objectives – a balanced position





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