

Digital strategy consultation 2019



Electricity North West Limited
Registered number 02366949

electricity
north west

Bringing energy to your door

About Electricity North West

Electricity North West Limited is one of 14 electricity distribution network operators (DNOs) in England. We are responsible for maintaining and upgrading over 56,000km of network and nearly 500 major substations across the region. We supply the electricity to the diverse communities in the North West which extends from Macclesfield all the way up to Carlisle.



We are regulated by the Office of Gas and Electricity Markets (Ofgem) which provide DNOs with the licence to operate and decides what's fair for us to charge our customers for each price control period.

Our current price control began in 2015 and runs to 2023. It's referred to as RIIO-ED1. In full, that stands for Revenue = Incentives + Innovation + Outputs, Electricity Distribution 1. Under this framework, the price we can charge our customers is fixed until the next price control, RIIO-ED2, which will run from 2023 until 2028.

Work is already underway to set the framework for RIIO-2 that applies to all energy network companies (i.e. transmission, gas and electricity distribution). RIIO-2 will feed into what RIIO-ED2 looks like which starts on 1 April 2023.

The period of time which the RIIO-2 price controls cover will see significant change in the way electricity is made, used and stored driving innovation across the whole energy system now and the future. Your views will be taken into account to help us plan how RIIO-2 will work.



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Foreword

Welcome to our digital strategy consultation 2019. To ensure that our thinking is aligned to your needs between now and 2028 we are asking for your feedback. We want to understand whether it meets your expectations and whether there are any areas we are missing or other priorities we are not addressing.

The UK is committed to delivering ambitious targets for reductions in carbon emissions and the importance of these targets has created local, regional, national and international momentum and innovation to meet and exceed them.

New technology is changing the way that companies, communities and customers generate, distribute and consume energy. The application of information and communication technology to existing electricity networks is transforming them into increasingly smart energy systems.

Adoption of electric vehicles, solar generation and battery storage isn't just advantageous but essential. As well as significantly contributing to achieving low carbon targets, these smart energy systems allow people to participate in energy markets in new ways and to share the rewards of this transformation.

This is our response to the need for the modernisation of the energy network and markets that will support the drive for carbon neutrality by 2050. It takes us to the end of the RIIO-ED1 price control period and we are looking for your input to help shape our RIIO-ED2 plans.

We are developing our digital strategy with the help of customers, stakeholders, local business, local authorities, other utilities as well as sector and technology experts. In addition, we are assessing all of the digital strategies that have been published previously and are working collaboratively with other operators to develop whole energy system solutions. We consider this input vital to deliver what you and the North West requires from us. This is a consultation document and we want to hear from you.

Throughout the document we will set out what we have already achieved, and put forward our future plans for you to feedback on. We welcome all feedback, however, we have also created an associated survey asking the following questions:

- What do you want from us in terms of data?
- How do you want to consume that data and what digital technologies are most important to you?
- What do you think are the key digital technologies we should be considering?
- How do you think those technologies will develop by 2028?
- What do you think need to prepare for and in your experience, what are the blockers/challenges to delivering digital services?
- What are the digital priorities that we should be seeking to address?
- Are there any other outcomes you think we should be delivering by 2028?
- Would you be interested in attending an industry stakeholder engagement event mid-March 2020?

Thank you for taking the time to read our digital strategy consultation document and we look forward to hearing from you. We will publish our digital strategy, taking into account your views, in spring 2020 after the collaborative industry event.

Digitalisation

Technology and information are vital to almost every company, enabling everything from improved customer service to increased job satisfaction to rapid innovation. Within the electricity industry, it will take on an even greater significance as we transition to delivering Distribution System Operations (DSO), implement the Energy Data Taskforce (EDTF) recommendations and support the road to net zero carbon.

We have previously outlined how we can support people, businesses and energy producers in the North West in our '[Powering the North West's future](#)' and '[Leading the North West to zero carbon](#)' documents. The digital strategy consultation 2019 is aligned to the objectives and action plans of these initiatives as well as external influences such as the EDTF, the Open Network Project and the Department for Business, Energy & Industrial Strategy (BEIS) – Energy Strategy and Policies.

For our customers and stakeholders, this will mean increased openness and transparency through improved digital services, informed by enhanced engagement, that will result in outcomes that support market innovation, energy supply chain efficiency and economic growth.

The strategy will describe the technology building blocks and direction needed to help the business deliver on its current business plan goals:

- **Safety** – To make safety a priority every single day. This applies to customers, our employees and contractors.
- **Customer** – To provide excellent customer service.
- **People** – To ensure the best working culture possible.
- **Sustainability** – to maintain the network now and for future generations.
- **Affordability** – To keep costs down for customers.
- **Reliability** – To keep power flowing to our customers 24 hours a day, 7 days a week and to resolve problems quickly should they occur.

Further to this we intend to implement the EDTF recommendations:

- **Digitalisation of the energy system.**
- **Maximising the value of energy system data.**
- **Visibility of energy system data.**
- **Coordination of asset registration.**
- **Visibility of energy infrastructure and assets.**

The three main capability themes that underpin digitalisation are:

Enablement

To drive day-to-day performance and compliance through simplification, automation, analytics, integration, cloud and open data sharing. This will provide benefits internally as well as improving customer experience and supporting market innovation, energy supply chain efficiency and economic growth.

Supporting - Safety, Customer, People and Affordability

Innovation

Enabling the company and the supply chain to adapt quickly to changes in the operating environment and to innovate by leveraging our ongoing investment in flexible technology platforms and data quality.

Supporting - People, Affordability and Reliability

Insight

Information and 'big data' analytics, to enable us, as well as third-parties, to identify opportunities to innovate and continually improve the whole energy system access in an affordable, secure and reliable manner. It will help us to forecast the uptake of low carbon technologies (LCTs) when planning future network strategy and DSO transition.

Supporting - Safety, Customer, People, Sustainability, Affordability and Reliability

In order to achieve this, we will be investing in improving our technology, digital services and how the IT department creates value for the company, its customers and its stakeholders, either directly or through third-parties.

Our digital journey so far

The exploitation of IT and digital technologies has been a key objective for many years and these improvements are driven by a strategy that is reviewed annually. The digital strategy consultation 2019 builds upon the IT Strategy 2018. The key components of which, are described in this short [video](#).

Throughout R100-ED1 we have committed to providing the following, many of which have already been delivered:

Improved data quality and network connectivity

We've been cleansing all of our network data to ensure that it accurately reflects our network. Having a robust and reliable network model is a key foundation for the development of new DSO services.

Control room data integrated with customer system

We've created an interface between our control room fault management system (which we call Troublecall) and our Customer Relationship Management (CRM) system. This will ensure that we're better able to manage the impact of network events on our customers.

Improved network automation

We've implemented Automatic Restoration Systems (ARS) to our high voltage network. This restores the network where faults occur promptly and has significantly improved the customer impact of such faults.

Flexible connections

We've worked closely with developers to provide new connections to the network which give us flexibility with regard to service from the network. Developers benefit by being able to connect to our network quickly and affordably.

Implementing CLASS

We're implementing the Customer Load Active System Services (CLASS). This low-cost solution uses voltage to manage energy consumption and allows us to offer capacity services to the Transmission Service Operator, National Grid.

Smart meter integration

The implementation of smart metering will give network companies better visibility of the performance of the whole system. This will enhance the decision-making capacity of network operators.

Improved use of network analysis tools

We've created a better understanding of load flow and fault levels and the impact these have on the service our network provides through the development and use of system analysis tools. We are putting these to work to offer our customers better service.

Transition from a single sourcing strategy to a multi-sourcing strategy

We can enable a quicker solution delivery at a more affordable cost and benefiting from more innovation.

Delivering the Network Management System (NMS) programme

To replace the existing operational systems. This platform is fundamental to the evolution of a smart grid and facilitates the transition to net zero carbon.

Improvements to our Customer Contact Centre systems

Developing and enhancing the service for all customers, particularly PSR customers.

Developed an improved corporate website

Through collaboration with external stakeholders we have been able to improve the website to provide more accessible planned work and fault information, improved online connections applications and more detailed information on flexible service tenders, including a live requirements map and ability to register.

Delivering a GIS portal

On top of the GIS files we share with stakeholders (e.g. Independent Connections Providers) and in line pursuit of open data, we are delivering a new GIS portal that will provide anybody with access to our GIS maps and data.

Delivering StepITup

Started the roll-out of our workforce modernisation programme to provide our staff with the technology they need to work smartly and efficiently.

Telemetry asset replacement

We have replaced any non-smart grid capable telemetry assets with digital equivalents.

Substation digitalisation

We have standardised on DNP3 IP Protocols and have made steps to digitalise our substations, replacing all our primary and secondary substation analogue communications links with digital circuits.

Next steps on the journey

At a high-level this digital strategy will build upon these foundations to provide more accessibility and open data, more insight and more innovation through the remainder of RIIO-ED1 and into RIIO-ED2.

Improving accessibility and insight into our data:

Build strategic data and integration platforms including business process management, 'big data', APIs, low-code and analytic tools. Data will be presumed open and interoperable, with the consistent application of policies and procedures to protect any sensitive information. This will:

- Power our drive for increased automation and continual process improvement;
- Enable innovation and rapid delivery of new business solutions and emerging demands such as the delivery of DSO functionality. Implementing the capability for Predictive Behaviour Modelling required for LCT take-up in the North West.
- Provide a single version of our data to support analytics, external data sharing, new services and our open data plans.

Theme: Enablement, Insight and Innovation

Modernising our IT estate:

- Use 'evergreen' and flexible cloud technology where appropriate;
- Reduce complexity, duplication and the number of legacy applications;
- Enable our workforce to work anytime and anywhere with user-friendly experiences and a modernised workplace.

Theme: Enablement, Innovation

Improving solution delivery:

- Enhance our solution delivery lifecycle with an agile project delivery approach;
- Invest in analytics, data science and 'big data';
- Create a scalable on-demand sourcing model with appropriate partners;
- Review and enhance our procurement processes to ensure they enable agility and component-based technology delivery.

Theme: Enablement, Insight and Innovation

Further enhancing service management:

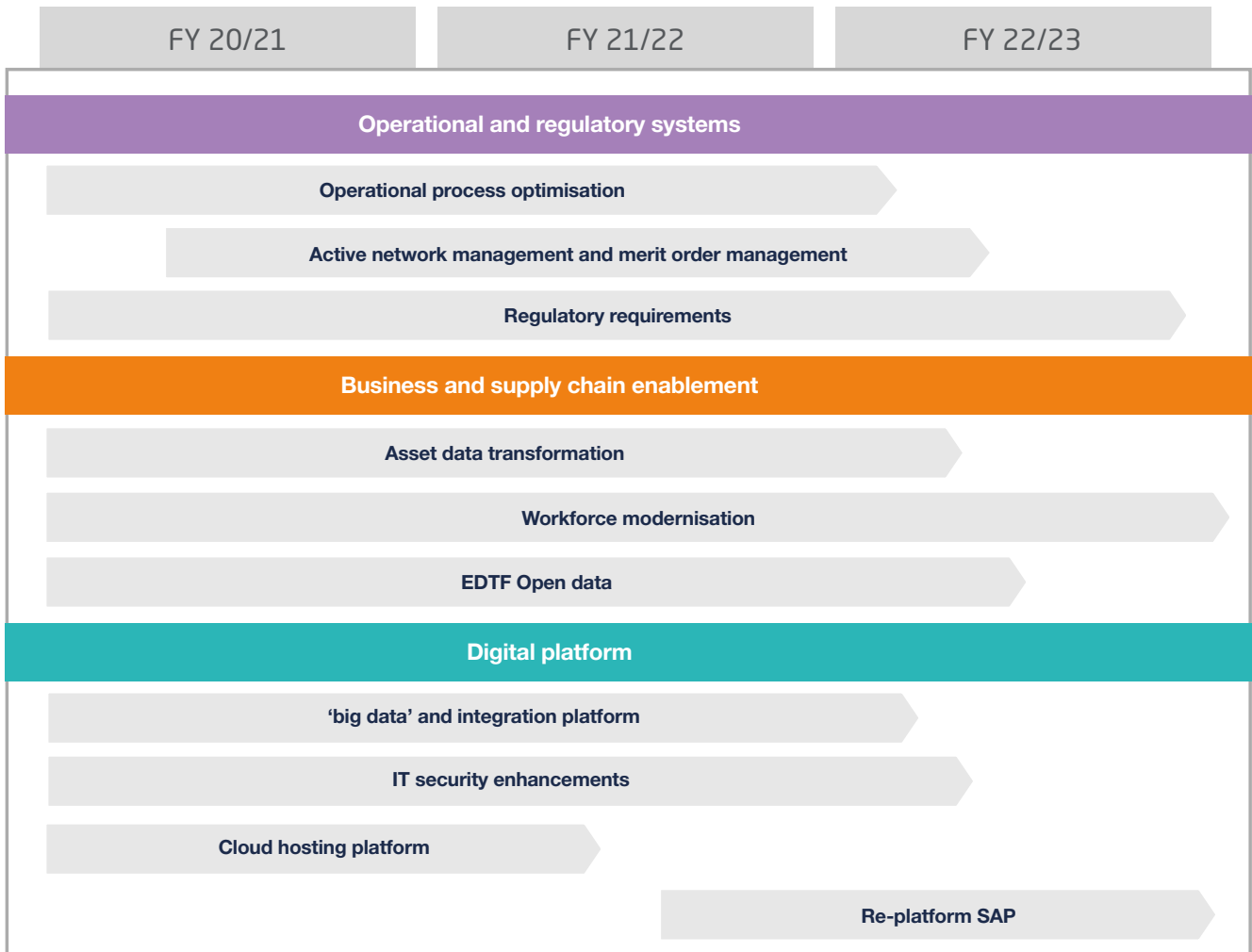
- A highly-effective service delivery team providing a stable and secure platform while optimising costs;
- A Security Operations Centre (SoC) to further improve our ability to anticipate threats, protect our network, detect intruders and recover from attacks.

Theme: Enablement, Innovation

More detailed investment plan for the remainder of RIIO-ED1

Below are the specific highlights of what we'll be doing over the coming months and years in addition to maintaining and optimising our IT estate:

Today	Target
<p>Enablement</p> <ul style="list-style-type: none"> Staff productivity is impacted by manual process and lack of automation. Challenging to share data internally & externally <p>Innovation</p> <ul style="list-style-type: none"> NMS system providing the foundations for the future. Difficult to delivery incremental innovation. <p>Insight</p> <ul style="list-style-type: none"> Reporting inefficient due to there being multiple repositories 	<p>Enablement</p> <ul style="list-style-type: none"> Workforce efficiency further improved. Date shared securely externally improving CSAT and Stakeholder satisfaction. Cloud hosting driving value and flexibility. <p>Innovation</p> <ul style="list-style-type: none"> Foundations set for RIIO-ED2. Active network management implemented. <p>Insight</p> <ul style="list-style-type: none"> Business insight and foresight enhanced. Insight drives value. Open Data sharing driving value.



Operational and regulatory systems

The Energy Network Association (ENA) Open Networks Project is a key initiative to deliver Government policy set out in the Ofgem and BEIS Smart Systems and Flexibility Plan, the Government's Industrial Strategy and the Clean Growth Plan. As an active participant in the project we are committed to collaborating with the other stakeholders to deliver the projects aims and expect it to ultimately set the definition of a DSO. Our digital strategy is heavily influenced by this work.

- **Operational process optimisation:** to leverage our investment in our market leading platform by driving scenario modelling, innovation, continual service improvement, openness and efficiency.
Theme: Enablement, Innovation, Insight
- **Active network management and merit order management:** with improved situational awareness we are in a strong position to actively manage the network and to start the groundwork for our transition to a DSO.
Theme: Enablement, Innovation
- **Regulatory requirements:** to support the national rollout of smart meters, faster switching and open data initiatives.
Theme: Enablement, Innovation, Insight

Business and supply chain enablement

- **Asset data transformation:** to provide a secure and stable platform for our asset data and transform efficiency of our field force while making systems friendly for the field. Facilitating better planning resulting in less customer disruption because of maintenance activities.
Theme: Enablement, Innovation, Insight
- **Workforce modernisation:** to deliver efficiencies from our investment in end-user technology for our workforce in the field and the back office with the rollout of unified communications, improved collaboration technology and enhanced meeting room experiences. Reducing travel and one strand in the pursuit to becoming a zero-carbon business.
Theme: Enablement
- **EDTF open data:** to identify the data sets that we will publish, create a data and metadata dictionary and enable the mechanisms to share data efficiently.
Theme: Enablement, Innovation, Insight

Digital platform

- **Integration, strategic 'big data' and analytics platform:** to enable integration, data sharing, openness, and to mature our analytics capability.
Theme: Innovation, Insight
- **Cloud hosting:** to provide a cost-effective and scalable evergreen hosting service.
Theme: Enablement, Innovation
- **IT security:** to protect our assets from cyber-attack and comply with new government legislation.
Theme: Enablement
- **Re-platform SAP:** to provide a stable and secure platform for our core HR and Finance systems for the next 5-8 years.
Theme: Enablement

Planned IT service improvement

This strategy is not only about what we will invest in, but also how we will deliver and govern digital services internally and externally.

Product lines – We'll bring together business representatives, external stakeholders (where appropriate), IT project managers, architects, system experts and IT service delivery staff and align them to continually improving specific business services. This approach will enable us to:

- Become more joined up and collaborative;
- Drive improvements and innovation, internally and in supply chain;
- Improve the IT service and drive down costs.

Theme: Innovation

Solution delivery – We will introduce agile ways of working where appropriate and mature our project delivery capability. This will:

- Enable rapid innovation;
- Further improve our delivery performance;
- Develop approaches that allow us to respond quickly to the rapidly evolving business environment.

Theme: Innovation

Professional services framework – We'll set up groups of pre-approved suppliers for different areas of IT allowing us to run mini tenders that take around one month to complete rather than several. We will review and improve our procurement processes to ensure they are multi-source and agile friendly. This approach will enable us to:

- Provide more choice;
- Respond to business and market needs faster;
- Choose the appropriate quality and cost of service for each requirement.

Theme: Enablement, Innovation

IT security and cyber threat – A Security Operations Centre to further improve our ability to anticipate threats, protect our network, detect intruders and recover from attacks.

Theme: Enablement

Service delivery – We will embed and improve the Service Integration and Management model that will continue to:

- Improve customer service;
- Drive down the cost to serve;
- Increase service reliability.

Theme: Enablement

Enhanced governance – We have already engaged with our customers regarding our Customer Digital Strategy and will build upon this engagement and collaboration for the wider strategy. We will engage through our customer and stakeholder advisory forums to:

- Improve the quality of our IT plans and strategy;
- Identify opportunities for collaboration;
- Ensure we are aligned to and supporting customer concerns and regional development strategies.

Theme: Innovation, Insight

What outcomes do you expect for RIIO-ED2?

Our digital strategy consultation 2019 supports the delivery of the company goals and business plan for the benefit of customers, stakeholders and the business. Our digital strategy consultation 2019 is aligned to our current RIIO-ED1 business plan goals and digitalisation themes as laid on on page four. As we look towards our plans for RIIO-ED2, we seek your views on our development of the following topics:

- Improving customer service**
 Customers will be able to access more accurate information more easily via more channels and with enhanced self-service. We also aim to reduce cost and improve reliability for our customers, taking into special consideration our customers in vulnerable circumstances.
- Guarding the nation's assets from cyber threats**
 The business will continue to improve the security capability, further enhancing our Security Operations Centre and internal security awareness programs.
- Improving sustainability and support the transition to net zero Carbon**
 By delivering active network management, improving network modeling on the operational digital twin and investing in a strategic data platform.
- Facilitating the transition to a Distribution System Operator (DSO)**
 Sustainability and the journey to zero carbon will be enabled by active network management capability and modelling enabled by the operational digital twin and the investment in the strategic data platform.
- Increasing openness and transparency**
 Stakeholders will be able to easily access our open data, and everyone will benefit from the insight and innovation 3rd parties deliver from analyzing and creating new services with our data.
- Enhancing digital services**
 The business will improve productivity and sustainability through more accessible and usable technology and better access to data and information across the organisation through improved collaboration tools. Asset life and reliability will be improved with efficient maintenance enabled by accurate data and transformed processes.
- Driving innovation and efficiency in the energy supply chain**
 The energy supply chain will constantly improve as the delivery lifecycle is more iterative and speed of change quicker, fostering innovation that will improve services and reduce costs.
- Supporting economic growth**
 By providing a safe, reliable network and the digital technologies that will allow local energy markets and flexible services to thrive in the North West.
- Compliance with and delivery of the EDTF recommendations**
 To move towards a Digitalised Energy System and enable to collaboration and markets required in future.

The key questions we now need to ask of customers and stakeholders are:

- What outcomes would you expect to see for a digital strategy to the end 2028?
- Are the outcomes above challenging enough for a digital strategy from 2023 - 2028?
- How should we measure success in delivering the digital services that support achievement of these objectives?

EDTF recommendations

The table below is an overview of the EDTF recommendations, the work we have done and what we will do to align to each. This table sets out our initial thoughts on what we need to do in the RIIO-ED2 period to fully embrace the EDTF recommendations.

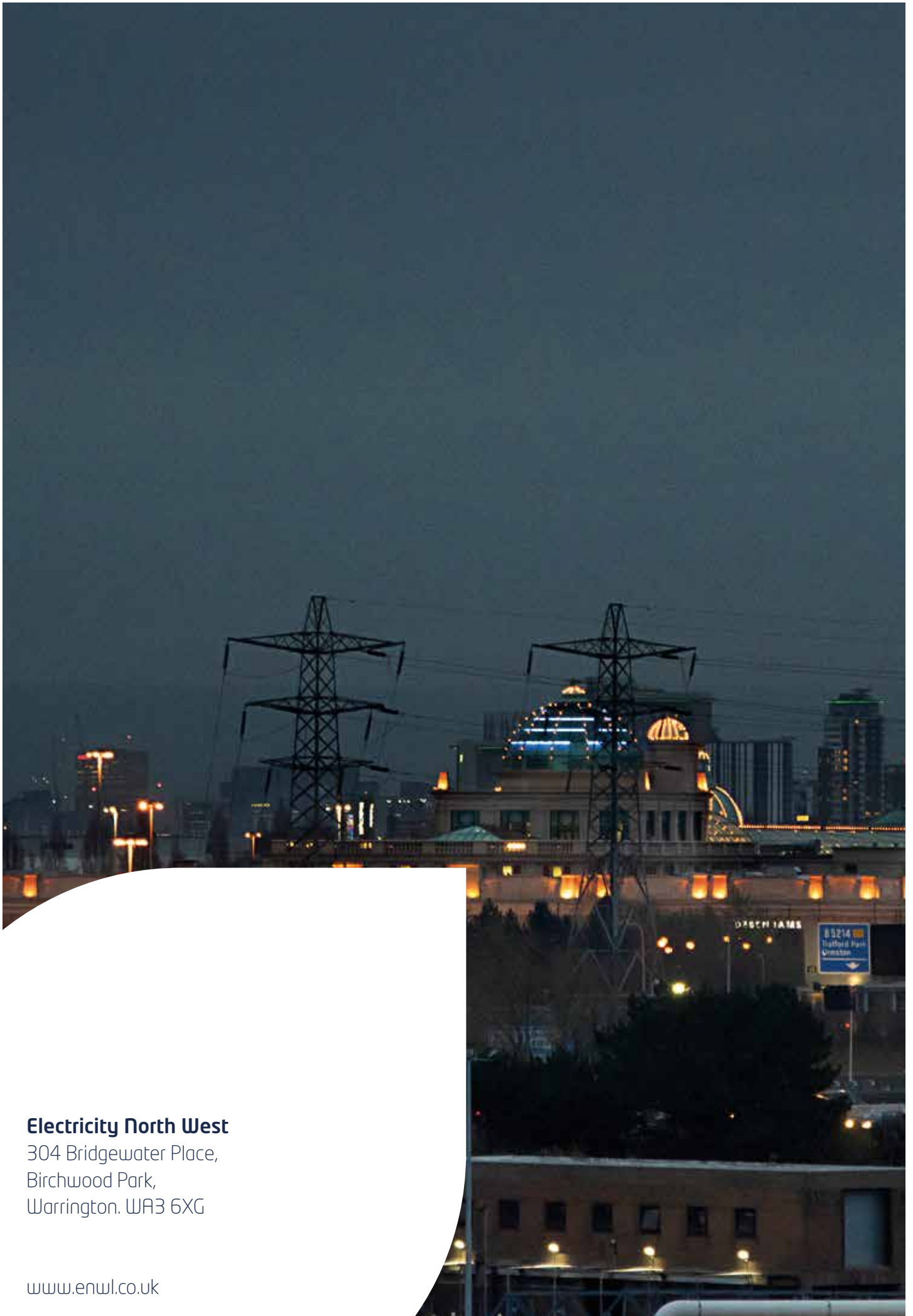
We welcome views on whether these activities are appropriate and sufficiently ambitious.

EDTF recommendation	Achieved	What next...
<p>1: Digitalisation of the Energy System – Government and Ofgem should direct the sector to adopt the principle of Digitalisation of the Energy System in the consumers' interest, using their range of existing legislative and regulatory measures as appropriate, in line with the supporting principles of 'New Data Needs' 'Continuous Improvement' and 'Digitalisation Strategies'.</p>	<p>We are delivering a new network management system that will greatly enhance our capability regarding real-time network management and what if modelling of network scenarios. To deliver the solution. We have made significant improvements in our network data, asset data and GIS data.</p> <p>We have also implemented standard meta data structures for describing electricity network asset, events and actions in order to aid integration.</p>	<p>In RIIO-ED1 we will optimise the operational processes once the solution is implemented. Driving scenario modelling, continuous improvement and innovation.</p> <p>In RIIO-ED2 we will look to support further integration across the whole energy system to enable the markets required to help move towards a 'carbon neutral' future.</p>
<p>2: Maximising the Value of Data – Government and Ofgem should direct the sector to adopt the principle that Energy System Data should be Presumed Open, using their range of existing legislative and regulatory measures as appropriate, supported by requirements that data is 'Discoverable, Searchable, Understandable', with common 'Structures, Interfaces and Standards' and is 'Secure and Resilient'.</p>	<p>We already share a number of asset and aggregated customer data sets openly or with 3rd parties to facilitate insight and innovation.</p> <p>We are delivering a new GIS portal that anyone can access.</p>	<p>In RIIO-ED1, we are developing a formal open data policy and will deliver changes to the data governance procedures to allow use to move to a Presumed Open regime with the relevant security and integrity.</p> <p>We will deliver a strategic integration & data platform.</p> <p>We embed an API based integration model as the first consideration when designing systems and sharing data.</p> <p>In RIIO-ED2, we will build on this capability, extend the scope of what we share and continually improve how we deliver these digital services.</p>
<p>3: Visibility of Data – A Data Catalogue should be established to provide visibility through standardised metadata of Energy System Datasets across Government, the regulator and industry. Government and Ofgem should mandate industry participation through regulatory and policy frameworks.</p>	<p>As part of the Network Management System replacement programme.</p> <p>We have implemented the Common Information Model (CIM) standards based meta data for electricity objects to aid data sharing and integration.</p>	<p>In RIIO-ED1, we will continue to deliver API integration capability internally and externally utilising CIM and other standardisation coming from EDTF.</p> <p>We will develop a catalogue of APIs for reuse as part of the strategic integration platform.</p> <p>In RIIO-ED2, we will maintain the data catalogue and expand it with additional data sets where this benefits stakeholders.</p>

EDTF recommendation	Achieved	What next...
<p>4: Coordination of Asset Registration – An Asset Registration Strategy should be established to coordinate registration of energy assets, simplifying the experience for consumers through a user-friendly interface in order to increase registration compliance, improve the reliability of data and improve the efficiency of data collection.</p>	<p>We are reviewing what is required regarding asset registration as part of our transition to DSO planning.</p>	<p>In RIIO-ED1, we will continue to engage with stakeholders in the development of asset registration strategy and standards.</p> <p>We are keen to help develop a set of APIs to assist collection, integration and sharing of data via user friendly or automated interfaces.</p> <p>Asset registration and quality data will be essential for situational awareness, forecasting the impact of energy needs and the development of local markets to address network constraints. It will become a key data set in our strategic data platform.</p> <p>In RIIO-ED2, we will look to improve the processes through automation and continuous improvement.</p>
<p>5: Visibility of Infrastructure and Assets – A unified Digital System Map of the Energy System should be established to increase visibility of the Energy System infrastructure and assets, enable optimisation of investment and inform the creation of new markets.</p>	<p>The Network Management Systems replacement programme will deliver a much-improved digitised version of the network. It will also provide a digital twin for operational network data.</p>	<p>In RIIO-ED1 through the Operational Process Optimisation and Active Network Management work we will expand our current digital system map to incorporate the additional data required to create and maintain a comprehensive digital twin that looks beyond the meter and is available to share with other stakeholders.</p> <p>In RIIO-ED2, we will work in collaboration with industry to develop a common data platform.</p>

Send us your views

Thanks for reading our digital strategy consultation 2019. Please send us any comments and your responses to the questions on page two to stakeholderengagement@enwl.co.uk



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