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By email only to RIIO2@ofgem.gov.uk

Dear Akshay

RIIO-2 ED2 Open Letter Consultation

Thank you for the opportunity to give feedback on the above consultation. Our response should be treated as consolidated on behalf of UK Power Networks' three distribution licence holding companies: Eastern Power Networks plc, London Power Networks plc, and South Eastern Power Networks plc.

The UK has made great strides in decarbonising its economy, with the power sector being at the forefront of this transition, accounting for 75% of all emission reductions since 2012¹. DNOs have played a pivotal role in this by facilitating the connection of large volumes of low carbon technologies, including over 32GW of distributed generation and nearly 700MW of electricity storage across the UK². UK Power Networks has been at the forefront of this transformation: over 28% of this distributed generation, equivalent to three Hinckley Point Cs, has connected to our networks alone. Similarly, working in partnership with local stakeholders such as the Greater London Authority and Transport for London, we are developing smart ways to accelerate the transition to low carbon transport and in doing so, delivering a significant positive social impact through the improvement in air quality in London. With nearly 60,000 EVs already in our licence areas (approximately 30% of the UK total), the scale and pace of change is likely to impact our regions the fastest.

These transformational changes have been delivered on networks that were never envisaged to accommodate such technologies and dynamic power flows. Not only have network companies embraced these changes, but we have also managed to improve performance in the core areas that matter most to customers. For example, in electricity distribution, the average number of customer interruptions has fallen by 14% and the duration of interruptions has reduced by 10% in just the first four years of RIIO-ED1³. At the same time industry average customer satisfaction scores have improved massively with scores of 90% customer satisfaction being the norm; all whilst reducing the electricity distribution element of customer bills by 19%⁴.



¹ <https://www.theccc.org.uk/wp-content/uploads/2018/06/CCC-2018-Progress-Report-to-Parliament.pdf>

² <http://fes.nationalgrid.com/media/1409/fes-2019.pdf>

³ UK Power Networks analysis of DNO data share from the RIIO-ED1 18/19 Regulatory Submissions

⁴ Source: UK Power Networks analysis of Annex 1 LC14 Charging Statements and Annual Review Packs



The regulatory framework that has combined strong incentives, a focus on operational improvement and aligning the interests of shareholders and consumers has been pivotal to enabling this performance.

We believe that this track record places both Ofgem and network companies in a trusted position to tackle the greater challenges ahead. Nevertheless, the pace and scale of change in our external environment is rapidly increasing. Our confidence should not be misread as complacency. Ever greater change requires both regulators and regulated businesses to engage more, to understand and to adapt faster to meet society's needs:

- The need to support the UK Government's legislated net-zero carbon emissions target by 2050⁵. The UK will be hosting the main COP26 summit next year with the UK government wanting to demonstrate global leadership in tackling climate change. In parallel, key parties such as the Committee on Climate Change (CCC)⁶ and the National Infrastructure Commission are recommending that targets are brought forward from 2050 and existing policies be strengthened further urgently. **Our sector needs to be ready to offer proactive solutions, underpinned by a supportive regulatory framework, to achieve the government's policy objectives.**
- The need to support the UK's Industrial Strategy to place the country at the forefront of the industries of the future⁷. The global trends that underpin the Grand Challenges stated in the Industrial Strategy will force previously siloed industries to have to work together to be fit for the future. The transport sector for instance will be increasingly dependent and tightly coupled with the energy sector as more EVs are rolled out. **Continued investment to develop modern, adaptive and flexible electricity networks will be fundamental in enabling the UK to fulfil its strategic ambitions. Assessing regulatory policy across sectors to ensure alignment will also be crucial.**
- The need to retrain and recruit a skilled workforce that can deliver a low carbon economy in the UK, with jobs in this area expected to grow four times faster than the rest of the economy out to 2030.
Our sector will need to attract and retain the best and diverse talent in disciplines such as data science and technology, competing against other sectors in a global market. **Therefore our narrative about the energy sector needs to be more balanced – highlighting the importance of fair returns, in addition to communicating the important and positive role the sector will play to facilitate decarbonisation of our economy.**
- The need for an even greater focus on providing a reliable distribution network, with the population's dependence on electricity growing and their tolerance of power interruptions diminishing.
Evolving the existing incentive frameworks is critical; it is these incentives that have created the environment for investment and innovation resulting in significant improvements to date.
- The need to digitise and provide data to enable new business models to emerge, whilst balancing the need to harden defences against the rising threat of hostile actors and cyber-attacks.
- The need to manage all these expectations whilst minimising overall whole system costs and accounting for changing consumer vulnerability, both in the short, medium and long-term.

⁵ <https://www.gov.uk/government/news/uk-becomes-first-major-economy-to-pass-net-zero-emissions-law>

⁶ <https://www.theccc.org.uk/wp-content/uploads/2019/05/Net-Zero-The-UKs-contribution-to-stopping-global-warming.pdf>

⁷ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/730048/industrial-strategy-white-paper-web-ready-a4-version.pdf

These requirements will have a profound effect on how our networks are designed, run and utilised. For example, by 2030 we expect up to 4.1 million EVs, up to 13GW of distributed renewables and 4GW of electricity storage to be connected to our networks alone. Each of these factors has the potential to act as cost drivers for the networks during RIIO-2 and could change the relative balance of customer charges between distribution networks and other parts of the electricity value chain. Therefore, it is imperative the distribution networks are unimpeded from providing a platform to enable local communities to facilitate their own ambitions, with the development of Local Energy Plans across our regions and major cities. This does not mean giving DNOs a blank cheque, but does mean planning for regional scenarios that meet the ambition cost efficiently and ensuring that “least regrets” investments are not stymied.

RIIO-ED2 represents a critical point in the journey.

We believe distribution networks will be at the heart of our country's decarbonisation pathway. It is a journey that is markedly different and more challenging than that seen on the transmission and gas networks. Only last month, the Tesla Model 3, a full battery electric vehicle, became the third best-selling car in the UK overtaking popular cars such as the Ford Focus. Whilst the direction is clear, trying to predict the exact pace of change is impossible. Therefore the ability to respond quickly and not be the barrier to change is a key risk for network companies and Ofgem; RIIO-ED2 should create an environment that attracts the significant investment needed to deliver a modern, digital grid, to improve service levels, protect all consumers and provide flexibility for network companies to manage uncertainty and not be the blocker to progress.

With this in mind, our response focuses on how Ofgem can deliver its desired outcomes as part of an overall regulatory framework that is simpler, more transparent and continues to replicate the dynamics of a competitive market.

Our response is structured as follows:

- **A two page summary of key points** that outlines in a tabular form our suggestions on the RIIO-ED2 framework;
- **An Executive Summary** that explains our view on the key building blocks of RIIO-ED2; and
- **An appendix** that comprises our full response to all of the questions in the Open Letter.

We hope that you will find our comments helpful and if you have any questions please do not hesitate to get in touch. We look forward to working with you over the coming period to develop the final RIIO-ED2 framework.

Yours sincerely



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UK Power Networks

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Summary of key points

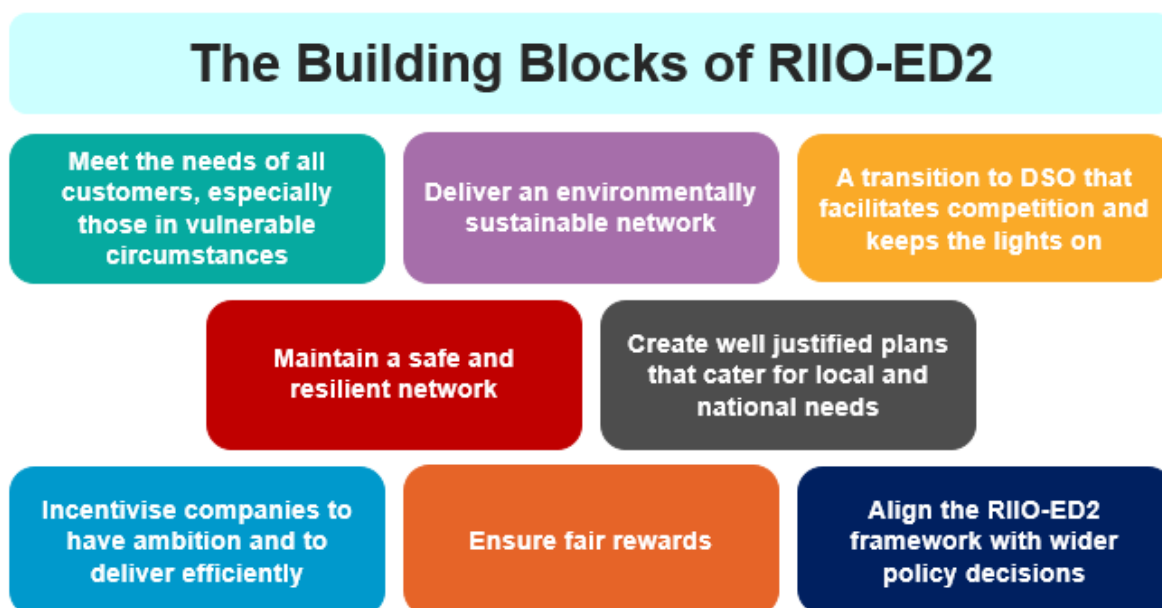
The building blocks underpinning RIIO-ED2	UK Power Networks' suggestions for the RIIO-ED2 Framework
Meet the needs of all customers, especially those in vulnerable circumstances	<ul style="list-style-type: none"> • Retain a totex incentive that continues to keep the focus on delivering outputs at lowest cost, which leads to lower bills; • Include a Business Plan Incentive, coupled with a repurposing of the Network Innovation Allowance, to specifically address vulnerability in a way that ensures no one is left behind in a fast changing energy sector; • Encourage bespoke outputs that enable those unable to pay, to benefit from the energy transition e.g. via measures such as energy efficiency; and • Ensure that DNOs further enhance their understanding of, and address the needs of, customers who are in vulnerable circumstances.
Deliver an environmentally sustainable network	<ul style="list-style-type: none"> • Include dedicated incentive mechanisms around tackling environmental issues such as CO₂ and SF₆ that are associated with the business' footprint, and on the basis that these emissions are measurable and can be independently validated; • Provide a way for DNOs to address environmental issues that have been raised by their stakeholders, where they are in the DNO's control e.g. through a bespoke output; • Encourage projects seeking innovation funding to demonstrate how they will have a positive impact on the environment; and • Embed environmental impacts into investment appraisals, which could include reinforcement options analysis in addition to decisions on asset maintenance and replacement.
A transition to DSO that facilitates competition and keeps lights on	<ul style="list-style-type: none"> • Provide a framework that enables cost-effective network capacity management through a combination of flexibility markets, access rights and locational network charging; • Support DNOs in their development of new monitoring, control and IT system investments that allow the safe operation of the network in a decentralised and decarbonised system; • Defer any decision to separate the DNO and DSO functions until further evidence and a case for change can be evaluated; • Support DNOs to adopt best practice on data transparency in a way that accelerates the DSO transition and the customer benefits this brings e.g. by enabling all customers to participate in new flexibility markets; • Encourage a bottom-up approach to system planning and operation that will incentivise the use of customer-led flexibility; • Strengthen coordination between DSOs and the ESO; and • Wherever possible, benchmark DSO activities with DNO activities together; e.g. a blended unit cost on load related reinforcement will help to avoid any potential distortion between network and market based options.
Maintain a safe and resilient network	<ul style="list-style-type: none"> • Evolve to enable DNOs to deliver levels of resilience that meet the changing environment and expectations – for example in areas such as cyber-security historic expenditure does not provide a good indicator of the scale of investment required going forward; and • Be flexible to deal with policy requirements such as the NIS directive, along with the increased risks brought by on by climate change, including more extreme weather.

Summary of key points

The building blocks underpinning RIIO-ED2	UK Power Networks' suggestions for the RIIO-ED2 Framework
Create well justified plans that cater for local and national needs	<ul style="list-style-type: none"> • Include sufficient flexibility to enable DNOs to facilitate the UK's transition to net zero emissions. Whilst common energy scenarios across networks are important to develop, there should be recognition that different regions will move at different speeds; • Include the use of new uncertainty mechanisms such as volume drivers as a way of ensuring companies are able to flexibly deal with uncertainty during RIIO-2 to benefit their customers; • Utilise the expertise and toolkit DNOs have to ensure that EV charging infrastructure is delivered cost efficiently, fairly and with as little disruption as possible. This should consider the learnings from what is being done by Transport for Scotland (covered in question 3 of the main response), and should form part of the current review into the connection boundary at electricity distribution; • Explore how DNOs could protect customers in fuel poverty by ensuring that they are not unduly impacted by required investments associated with market failures; and • Account for system wide costs and benefits to encourage efficient whole system investment i.e. enable DNOs to take actions that will reduce the total energy bill, as well as recognising any wider benefits such as helping to reduce transport costs.
Incentivise companies to have ambition and to deliver efficiently	<ul style="list-style-type: none"> • Define what good performance is ahead of Business Plan submission in the same way that would be expected in other competitive markets; this should include detail on how past performance will be taken into account; • Evaluate the merits of confidence grading and if taken forward, confidence levels should be set to cost activities that reflect the data available, as well as the changing environment; this will ensure that risks and rewards are shared equitably between DNOs and customers; and • Set a suitable totex incentive rate that is symmetrical for customers and DNOs to ensure that ambitious plans are delivered cost efficiently
Ensure fair rewards	<ul style="list-style-type: none"> • Include a cost of equity at a level appropriate to the environment and challenges ahead; this will help ensure the UK electricity remains a global leader of smart and resilient grid development; • Remunerate efficiently incurred debt; • Set incentive targets at sufficiently stretching levels that dynamically adjust to reflect revealed performance; • Allow ex-ante allowances, where these are clearly justified as being required – for example, an overreliance on volume drivers will give DNOs insufficient flexibility to keep pace with a net zero pathway; and • Following the above principles will ensure RIIO-ED2 rewards companies fairly, being reflective of the performance level they have delivered and will prevent arbitrarily creating winners and losers.
Align the RIIO-ED2 framework with wider policy decisions	<ul style="list-style-type: none"> • Be delivered alongside wider work streams such as the Significant Code Review into network access and forward looking charging as well as the DSO transition, so that interdependencies are clearly understood and managed appropriately; • Where appropriate learn the lessons from RIIO-T2 and RIIO-GD2; e.g. on common elements such as the Business Plan Incentive there is potential merit in reviewing how the process has worked, before committing to criteria in electricity distribution; and • Be aligned to forthcoming significant changes in legislation such as the Future Homes Standard, which will have an impact on DNOs during the price control, as well as including enough flexibility to respond to any other new policy mechanisms.

Executive Summary

We have highlighted our perspective on the key building blocks for RIIO-ED2 and how these could translate into a regulatory framework.



1. Meet the needs of all customers, especially those in vulnerable circumstances

There is little doubt that a smarter and more connected electricity distribution network presents significant opportunities for customers. The actions DNOs take can lead to tangible improvements in many people's lives – whether this is assisting neighbours to match their solar generation and EV use, or driving the deployment of batteries in social housing, which provides extra resilience for both the resident and the wider distribution network.

Nevertheless, whilst facilitating access to new services and revenue streams through our flexibility markets has the ability to lower the electricity costs of early adopters, there is a real risk that this opportunity is not uniformly accessible across our customer base. There is the potential that those in vulnerable or fuel poor circumstances and, by association, those most likely to benefit from reduced bills, are unable to partake in these new markets.

Our view is that RIIO-ED2 should be seen as a great opportunity to ensure no customer is left behind, particularly in the context of the transformation the energy sector is undergoing. For example, DNOs should be expected to deliver an enhanced service to customers in vulnerable circumstances when their power is cut off, and much stronger partnerships should be fostered between utilities to provide tailored support for these customers.

The RIIO-ED2 framework should:

- Retain a totex incentive that continues to keep the focus on delivering outputs at lowest cost, which leads to lower bills;
- Contain a Business Plan Incentive, coupled with a repurposing of the Network Innovation Allowance, to specifically address vulnerability in a way that ensures no one is left behind in a fast changing energy sector;

- Encourage bespoke outputs that enable those unable to pay to benefit from the energy transition e.g. via measures such as energy efficiency; and
- Ensure that DNOs further enhance their understanding of and address the needs of customers who are in vulnerable circumstances.

2. Deliver an environmentally sustainable network

For many of the British public, tackling climate change is one of the biggest priorities we face, both as a sector and as a society. We therefore welcome Ofgem's greater focus on addressing environmental issues in the RIIO-ED2 framework. As well as encouraging us to facilitate decarbonisation, our stakeholders have told us that air quality is an important issue that they believe we help tackle. To understand this further we will need to engage with our customers and their representatives, as well as Ofgem, to understand how far our responsibilities should go in this area and at what cost to the overall energy bill.

Incentive schemes, such as the Broad Measure of Customer Service in RIIO-ED1, have demonstrably shown that using common performance metrics to assess DNOs leads to customer benefits, as companies strive to characterise and attain best practice. There is an opportunity to build on this in RIIO-ED2 by defining new Output Delivery Incentives that focus on facilitating low carbon networks. Going forward DNOs have an opportunity to lead by example by demonstrating how transitioning their vehicle fleet to EVs can be done cost effectively and without disruption to the business, as well as reducing the environmental footprint elsewhere in the business.

The RIIO-ED2 framework should:

- Include dedicated incentive mechanisms around tackling environmental issues such as CO₂ and SF₆ that are associated with the business' footprint, and on the basis that these emissions are measurable and can be independently validated;
- Provide a way for DNOs to address environmental issues that have been raised by their stakeholders, where they are in the DNO's control e.g. through a bespoke output;
- Encourage projects seeking innovation funding to demonstrate how they will have a positive impact on the environment; and
- Embed environmental impacts into investment appraisals, which could include reinforcement options analysis in addition to decisions on asset maintenance and replacement.

3. A transition to DSO that facilitates competition and keeps the lights on

The UK is world-leading in terms of the progress made on transitioning to a Distribution System Operator (DSO). Ofgem's RIIO framework has been instrumental in encouraging DNOs to go beyond their traditional ways of working and instead move towards grid modernisation and the deployment of innovative network and market based flexibility. Our transition from DNO to DSO is not a land grab – the reality is that it's about us evolving to meet the challenges we face. For example, if we had not rolled out active network management and provided greater visibility of our network constraints, we would not have been able to connect 6.2GW of renewable generation without us and our customers incurring extra costs. Over the first half of RIIO-ED1 we have saved our customers over £70m through flexible connection arrangements. We are also acutely aware that maintaining network reliability is becoming more complex in the emerging system, therefore we need to expand our toolkit to use smart and flexible services to help us best manage this.

We therefore agree with Ofgem that it is too early to formally separate DNO and DSO functions through institutional reform. Without understanding the full-range of consequences, DNO and DSO separation would

risk removing accountability for security of supply and would make co-optimising network based and market based options more difficult and/or costly than otherwise. However, as a DSO that facilitates competition and network access, we recognise that we have a responsibility to provide assurances over our procurement processes, and to remove any perception that we are not neutral.

We are currently working with stakeholders to provide full transparency of our decision-making and we are to opening up our network data to support market participants with their own decision-making. We therefore believe that RIIO-ED2 should continue to build on the successes seen in RIIO-ED1 by retaining the totex model for the DSO and evolving the cost-benefit-analysis to strengthen the price signals associated with optionality value. The ENA's Open Networks Project should also continue to be a platform for DNOs to work with industry to ensure that the DSO transition remains on track. This includes providing consistency in the way market participants access DSO-led markets.

Through the deployment of technology and market-based solutions, our DSO transition aims to offer choice and excellent service to our customers, drive competition and enable whole system coordination whilst keeping the lights on. To achieve these objectives in RIIO-ED2, further investment will be required both in technology and systems, but also in organisational capabilities including establishment of new processes, skills and ways of working.

This will involve opening up new revenue streams for distributed energy resource providers, which will create new jobs and businesses whilst demonstrating to the world how to transition to a net zero energy system in a customer-focused way. To enable this we have already committed to a significant programme of increasing our low voltage visibility in RIIO-ED1 alongside implementing the recommendations of the Energy Data Task Force (EDTF)⁸. We are also committed to ensuring that the ENA's forthcoming Digitalisation Strategy drives DNOs to modernise together to meet the ambitions of the EDTF, in both a consistent way, and without duplication of effort.

Since being the first DNO in the UK to market test our reinforcement requirements we have now gone on to tender for over 300MW of requirements across our network. Due to the highly locational nature of our tenders we are working with highly innovative businesses that often involve technology at the domestic scale. Whilst this is requiring a learning by doing approach we are confident that significant progress can be made in RIIO-ED2 without major reform to regulatory arrangements. Nevertheless, we recognise that it is pragmatic for both policy makers and DNOs to keep under review whether greater separation is required between DNO and DSO.

The RIIO-ED2 framework should:

- Provide a framework that enables cost-effective network capacity management through a combination of flexibility markets, access rights and locational network charging;
- Support DNOs in their development of new monitoring, control and IT systems investments that allow the safe operation of the network in a decentralised and decarbonised system;
- Defer any decision to separate the DNO and DSO functions until further evidence and a case for change can be evaluated;
- Support DNOs to adopt best practice on data transparency in a way that accelerates the DSO transition and the customer benefits this brings e.g. by enabling all customers to participate in new flexibility markets;
- Encourage a bottom-up approach to system planning and operation that will incentivise the use of customer-led flexibility;
- Strengthen coordination between DSOs and the ESO; and

⁸ <https://es.catapult.org.uk/wp-content/uploads/2019/06/Catapult-Energy-Data-Taskforce-Report-A4-v4AW-Digital.pdf>

- Wherever possible benchmark DSO activities with DNO activities together; for example a blended unit cost on load related reinforcement will mean there is no discrimination between network and market based options.

4. Maintain a safe and resilient network

As Dieter Helm recently stated “All our main infrastructures now depend upon a reliable supply of electricity. They all depend upon the communications networks, and they need electricity”⁹. We agree and believe this highlights how the conversation around resilience should change to capture the full-range of interdependencies our networks have with peoples’ lives.

Many essential services, such as water and rail, are already reliant on a secure electricity supply. As we transition to a decarbonised future through the growth of EVs and electrification of heat, the public’s reliance and value of electricity is only going to increase. This puts an even greater focus on the importance of providing a reliable and resilient distribution network. Similarly, in areas of significant UK economic activity such as London and Cambridge, these public expectations could be felt even more acutely.

It should be recognised that resilience goes beyond just simply physical interventions and strategy. As we move to a more decentralised and digitalised energy system, most industry observers expect the number of connected smart devices to rise exponentially. Whilst providing significant opportunities for new services for customers, they also represent new attack surfaces that could be used to disrupt electricity supplies. Furthermore, the effects of climate change have the ability to disrupt normal working practices and an ability for a company to recover quickly from a disruptive incident along with an adequately trained workforce are just as important as preventing incidents from occurring in the first place.

Therefore to support this, we suggest RIIO-ED2 could provide appropriately benchmarked ex-ante allowances to tackle resilience activities such as the hardening of both physical and virtual defences, asset management strategies, broader inspection and maintenance and workforce planning policies. This, coupled with a suitable totex incentive, will encourage companies to deliver a level of resilience that meets customers’ changing expectations whilst keeping any required increases in costs as low as possible.

RIIO-ED2 framework should:

- Evolve to enable DNOs to deliver levels of resilience that meet the changing environment and expectations – for example in areas such as cyber-security historic expenditure does not provide a good indicator of the scale of investment required going forward; and
- Be flexible to deal with policy requirements such as the NIS directive, along with the increased risks brought by on by climate change, including more extreme weather.

5. Create well justified plans that cater for local and national needs

Based on the wealth of evidence available today electricity distribution will be at the heart of the energy transition over the RIIO-2 period. Thanks to forward thinking regulation the UK’s DNOs are actively involved in hundreds of projects that involve new smart technology, and collectively we are helping to bring new innovative technology and business models to life. UK Power Networks alone has already delivered over £183m of customer savings through new innovations in the past four years.

To cater for local and national needs we believe there are two key themes that RIIO-ED2 should focus on. Firstly, it should facilitate the transition to net zero emissions, which includes addressing market failures. Secondly, it should encourage a whole systems approach. These themes are covered further below.

⁹ <http://www.dieterhelm.co.uk/energy/power-cuts-and-how-to-avoid-them/>

Facilitating the transition to net zero emissions

The volume of low carbon technologies such as Solar PV and electricity storage connecting to our networks have been far higher than the forecasts that informed RIIO-ED1; yet, technologies such as heat pumps have not yet materialised as forecasted. We are now undertaking work to publish detailed future energy scenarios of our networks, which will capture the forecasting uncertainty associated with supply and demand in RIIO-ED2 and will therefore inform how we plan and operate our networks. Where forecast confidence is low there is clear merit in uncertainty mechanisms such as volume drivers that sit outside of the business as usual plan.

Ultimately the DNO's business plan should be able to facilitate the transition to a net zero target by 2050. This does not mean giving DNOs a blank cheque, but does mean planning for regional scenarios that meet the ambition cost efficiently and ensuring that “least regrets” investments are not stymied.

As our networks become more congested with distributed generation the cost associated with providing network access is at risk of increasing. Due to current arrangements within electricity distribution, which result in connectees often paying a part of the cost to connect, this is likely to be increasingly problematic for many parties looking to deploy low carbon technologies who are restricted in their choice of location. For example our market engagement with both public and private bodies, has shown that the capital hurdle associated with installing EV charge points is often a real barrier to deployment.

To address the market failure that is preventing widespread deployment of EV charge points there are broadly two choices. Either direct government support is given to certain segments, or the capital hurdle is addressed through network price controls. A key advantage of the latter is that it enables DNOs to look at all available options to provide required network capacity i.e. smart solutions are treated equivalently to network upgrades. In this regard, we agree with the National Infrastructure Commission's recommendation¹⁰ that a clear policy direction is required to encourage private sector investment in EV charging infrastructure. We are also aware that here in the UK there is an example of Scottish Government working closely with Scottish DNOs, which is leveraging their technical expertise to ensure efficient and fair deployment of EV charge point infrastructure. We want to work as closely as possible with Ofgem and government at all levels to address this ahead of RIIO-ED2, and thereby ensure regulatory arrangements support rather than hinder the connection of EVs and other low carbon technology.

Encourage a whole systems approach

RIIO-2 represents a great opportunity to enhance the way network companies work together to deliver real value to customers. For example, resilience and vulnerability issues cut across different sectors and collectively licensees can be more impactful by working collaboratively to identify and realise best practice in these areas e.g. sharing best practice on using data to identify new Priority Service Register customers.

As a principle, if licensees can help offset costs elsewhere across the wider energy network e.g. a DNO mitigating high voltage issues on the transmission network, then the licensee taking the action should be appropriately funded. To achieve this will require new mechanisms to be introduced that encourage and enable outputs and allowances to be transferred between licensees and we are committed to working with Ofgem to achieve this.

Above all, to encourage whole systems approaches the totex incentive mechanism, combined with clear outputs, should remain at the heart of RIIO-ED2. Based on engagement with delegations from around the world, our view is that this regulatory approach has the strongest focus on delivering outputs at lowest cost, which is particularly important as we undergo a major energy transition.

¹⁰ <https://www.nic.org.uk/publications/national-infrastructure-assessment-2018/>

The RIIO-ED2 framework should:

- Include sufficient flexibility to enable DNOs to facilitate the UK's transition to net zero emissions. Whilst common energy scenarios across networks are important to develop, there should be recognition that different regions will move at different speeds;
- Include the use of new uncertainty mechanisms such as volume drivers as a way of ensuring companies are able to flexibly deal with uncertainty during RIIO-2 to benefit their customers;
- Utilise the expertise and toolkit DNOs have to ensure that EV charging infrastructure is delivered cost efficiently, fairly and with as little disruption as possible – this should consider the learnings from what is being done in Scotland (see question 3 of the main response), and should form part of the current review into the connection boundary at electricity distribution;
- Explore how they could protect customers in fuel poverty by ensuring that they are not unduly impacted by required investments associated with market failures; and
- Account for system wide costs and benefits to encourage efficient whole system investment i.e. enable DNOs to take actions that will reduce the total energy bill, as well as recognising any wider benefits such as helping to reduce transport costs.

6. Incentivise companies to have ambition and to deliver efficiently

The development and submission of company business plans is a prime opportunity for DNOs to test and shape their ambition with customers – ensuring the plan reflects what customers want and are willing to pay for. Going above and beyond or straying outside a company's 'comfort zone', inevitably exposes new and increased levels of risk. Therefore a business' appetite to offer up new service offerings is directly linked to the size of the incentive to do so.

We agree with Ofgem that there is value in incentivising business plan ambition through a dedicated incentive. The success of any mechanism is dependent on not only having clear sight of the value of the incentive but also its operation, similar to the level of transparency we are trying to achieve as part of our procurement of DSO-led flexibility services. Ofwat's PR19 mechanism whereby individual aspects of the business plan are graded provides a useful example to draw upon when designing such an incentive.

Having a clear set of rules upfront allows companies to plan accordingly and set their ambition level based on their own appetite for risk. Whilst the current Business Plan Incentive put forward by Ofgem offers a good starting point, we believe each of the four stages of the Business Plan Incentive needs clearer guidance and much tighter definitions to avoid ambiguity and unlimited regulatory discretion in its application. This will avoid companies being risk adverse, business plans falling short of ambition and limiting the risk of missing the opportunities the energy transition presents.

Looking beyond business plan submission, companies will search out efficiencies through innovative and smart solutions. However, like with the submission itself, new solutions present new risks and an adequate price control incentive needs to be in operation to encourage companies to search out these new methods. The totex sharing factor between company and customer, which underpins the RIIO framework, has resulted in £241m savings for our customers in the first four years of RIIO-ED1, whilst still delivering leading service on all of our outputs such as safety, reliability and customer service.

These savings and lower unit costs, revealed through the price control, are then factored into the benchmarking when calculating allowances in the next price control, iteratively lowering the cost to consumers. Therefore, it is our belief that a sharing factor, in the range of 40-60%, in RIIO-ED2 will continue with the success of RIIO-ED1 and further encourage companies to raise the bar and search out new solutions to old problems – ultimately lowering the bill for current and future generations.

The RIIO-ED2 framework should:

- Define what good performance is ahead of Business Plan submission in the same way that would be expected in other competitive markets; this should include detail on how past performance will be taken into account;
- Evaluate the merits of confidence grading and if taken forward, then confidence levels should be set to cost activities that reflect the data available, as well as the changing environment; this will ensure that risks and rewards are shared equitably between DNOs and customers; and
- Set a suitable totex incentive rate that is symmetrical for customers and DNOs to ensure that ambitious plans are delivered cost efficiently.

7. Ensure fair rewards

Transitioning a nation to achieve net zero emissions by facilitating the move from the internal combustion engine to an electric motor, switching heat from a gas boiler to electric heat pump, or deploying storage to utilise renewables, all whilst ensuring every household has access to affordable and reliable energy is no mean feat. To deliver this will require significant amounts of investment and innovative solutions to deliver net zero as cost effectively as possible. This is not simply about upgrading the networks, but also about utilising existing infrastructure more intelligently and encouraging measures such as energy efficiency.

Delivering this scale of change cost effectively is enabled by providing adequate financing through remunerating efficiently incurred debt, as well as setting the cost of equity at a level cognisant of the environment networks are operating in. Setting these elements too high risks creating arbitrary winners, but setting them too low risks restricting the required investment or worse causing company financing issues. It is a fine balance but one that must be played out fairly.

The cost of equity is the primary incentive to attract investment into the UK energy sector. Setting this below a fair level risks setting an investor perception that incremental investment destroys value.

We believe that to achieve this a continuation of the full debt indexation used in RIIO-ED1 has many positive features particularly in its simplicity and transparency. However, it is important that in calibrating the cost of debt index, it does not underfund a company's historic debt costs that may fall out of the indexation without specific evidence that such costs were inefficient.

Other elements that are key to ensure the price control is perceived as being fair is in company performances against incentives and in the allowances provided to deliver the regulatory outputs. On the former, where appropriate we support the introduction of well-designed dynamic incentive targets to ensure these targets are sufficiently challenging such that good performance is fairly rewarded. This dynamic target resetting methodology must be clearly set out upfront and enshrined in the licence for RIIO-ED2 allowing for targets to move both up and down based on revealed benchmarked performance.

On the latter, Ofgem's move to shorter price controls in RIIO-ED2 will significantly help with managing uncertainty and reduce the risk of forecasting errors. In RIIO-ED1, we already have separate reopeners for load related expenditure and high value projects, which protect both network companies' investors and customers from the level of required investment being materially different from the original forecast. We believe there is significant scope to expand these types of uncertainty mechanisms in RIIO-ED2. This will ensure that the risk associated with factors outside of a DNO's control is equitably shared between the DNO and their customers.

The RIIO-ED2 framework should:

- Include a cost of equity at a level appropriate to the environment and challenges ahead; this will help ensure the UK electricity remains a global leader of smart and resilient grid development;
- Remunerate efficiently incurred debt;
- Set incentive targets at sufficiently stretching levels that dynamically adjust to reflect revealed performance; and
- Permit ex-ante allowances, where these are clearly justified as being required – for example, an overreliance on volume drivers will give DNOs insufficient flexibility to keep pace with a net zero pathway;

Following the above principles will ensure RIIO-ED2 rewards companies fairly, being reflective of the performance level they have delivered and will prevent arbitrarily creating winners and losers.

8. Align the RIIO-ED2 framework with wider policy decisions

There is currently an unprecedented amount of policy and regulatory reform being discussed and there is increasingly complex interdependencies between different work areas, many of which have overlapping aims. This is particularly the case in electricity distribution, where existing arrangements were not designed to meet the requirements of the emerging decarbonised, decentralised and digitalised energy system.

Whether the proposed regulatory changes are technical in nature, such as updating the P2 Engineering Standard, or broader policy reforms, such as a shift away from the Supplier Hub, there will be notable impacts on how DNOs run their networks. Evidently there is a significant challenge in coordinating all of the proposed changes to arrangements in the electricity sector – in Figure 1 a small selection of these are highlighted. We believe having a consistent view of the major interdependencies between all of these work streams and prioritising the critical ones with material impacts is imperative to ensure they are managed appropriately.

As such we are fully committed to working with Ofgem and wider industry over the coming period to ensure that the final RIIO-ED2 framework reflects wider reforms and vice versa; our view is that this will be fundamental to success.

The RIIO-ED2 framework should:

- Be delivered alongside wider work streams such as the Significant Code Review into network access and forward looking charging as well as the DSO transition, so that interdependencies are clearly understood and managed appropriately;
- Where appropriate, learn the lessons from RIIO-T2 and RIIO-GD2; for example, on common elements such as the Business Plan Incentive there is potential merit in reviewing how the process has worked, before committing to criteria in electricity distribution; and
- Be aligned to forthcoming significant changes in legislation such as the Future Homes Standard, which will have an impact on DNOs during the price control, as well as including enough flexibility to respond to any other new policy mechanisms.

In summary

We fully support Ofgem's continued use of the RIIO model in the next round of electricity distribution price controls. The proposals that we have set out above will support the design of an overall price control package that protects customers, delivers efficiencies and enables companies to be financeable and appropriately rewarded. It will also ensure that the UK regulatory model continues to be at the forefront internationally and a leading example of how to facilitate a low carbon future.

Our response has highlighted how DNOs can play a leading role in enabling the country to meet its net-zero ambition, and we believe RIIO-ED2 can be a key vehicle for delivering this. As such we are committed to working with Ofgem, industry and stakeholders over the coming months to ensure that the new proposals under RIIO-ED2 are well designed and fit together as an overall coherent price control package.

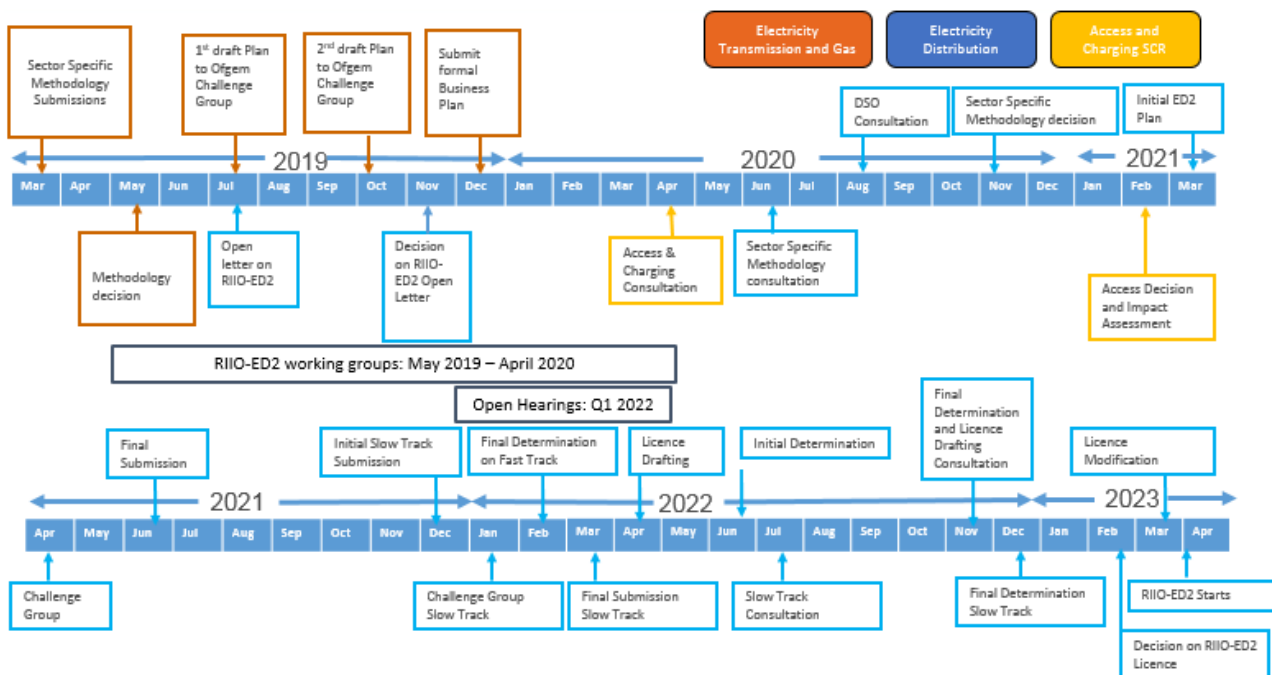


Figure 1: How the RIIO-ED2 timeline fits with other key work areas