

Annex- SPEN Response to Ofgem Call for Input: Future of local energy institutions and governance

Summary

Our track record shows our ambitions are high and we have the desire to deliver change that benefits our customers, and we have the detailed distribution network knowledge essential to any DSO transformation. We therefore welcome the focus and effort that Ofgem are putting on DSO and stand ready to work with Ofgem to deliver a fully functional DSO that benefits our customers.

A great deal of uncertainty remains around future pathways and it is natural to look at the Electricity System Operator (ESO) arrangements and compare. However, it took approximately 15 years from the inception of a separate ESO function from Transmission Operator (TO) for the ESO to become a legally separate entity (2019). It will take a further 5 years to transition to a Future System Operator (FSO) model in 2024, i.e. approximately 20 years in total. Given the additional complexities at distribution level, Ofgem must be mindful of the need to allow the necessary time and development work to properly implement DSO in a safe and efficient way.

In the context of this CFI, we believe Framework Model 1 is ‘low-regret’ given that there is not currently an evidenced benefits case for the other models, which will be both more costly and take more time to deliver. Our proposed approach for RIIO-ED1 not only meets the ambitions within Model 1; but delivers more. For example, our stakeholder-endorsed RIIO-ED2 proposals for working with Local Authorities² will go significant ways to ensure better alignment with sub-national energy planning and represent a relatively easy solution, rather than significant institutional change, whilst allowing for regional policy distinctions. Framework Model 1 also retains the benefits of the current RIIO incentive regime, which ensures best value for consumers. For example, the TIM removes any incentive to favour capital over operational expenses, or to favour asset-build solutions over flexibility contracts.

We are now entering a critical period in delivering the interventions needed to meet interim and final Net Zero targets. Significant institutional change without adequate analysis being undertaken will put this at risk by diverting focus and resource away from delivery, placing barriers between DSO planning staff and DNO delivery staff, and exacerbating the existing skill shortage by duplicating roles.

1. Are the three energy system functions we outline (energy system planning, market facilitation of flexible resources and real time operation of local energy networks) the ones we should be focusing on to address the energy system changes we outline?

We believe the definitions of the functions set out by Ofgem in the document are somewhat superficial and lack detail. However, they appear to be consistent with the ‘DSO roles’ included within Ofgem’s RIIO-ED2 Business Plan Guidance (September 2021³) which was the basis upon which we built

¹ [Annex 4A.3 - DSO Strategy .pdf \(spenergynetworks.co.uk\)](#)

² [Annex 4A.27 - Strategic DNO.pdf \(spenergynetworks.co.uk\)](#)

³ <https://www.ofgem.gov.uk/publications/riio-ed2-business-plan-guidance>

our RIIO-ED2 DSO Strategy⁴. We will therefore meet the corresponding DSO baseline expectations through delivery of our RIIO-ED2 Business Plan.

However, if it is Ofgem's intention that the functions explained within the CFI are significantly different or broader than the 'DSO roles' explained within the Business Plan Guidance, we would expect Ofgem to engage with industry to develop more detail before determining if these are the appropriate functions.

2. Do you agree with the criteria we have set out for assessing the effectiveness of institutional and governance arrangements?

We believe there are several assessment criteria missing that are fundamental to ensuring that future institutional and governance arrangements can safely and effectively deliver Net Zero and deliver Ofgem's primary objective of ensuring value for money for consumers.

Safety: Although Ofgem reference the review into national energy system operation⁵ as the basis for the proposed criteria, this only focussed on the role of the Electricity System Operator and of gas system operation. These are incomparable and inconsistent with Distribution System Operation, for example, where assets are located in domestic properties, there are real and present customer safety risks arising from system operation decisions.

Our 3.5m customers depend on SPEN to deliver a safe and secure electricity supply; it is our fundamental role. Integral to this is clear responsibilities and accountabilities, which are aligned to legislation, regulation, codes of practice, and industry guidance.

The introduction of new institutions could risk overlapping, inconsistent and/or conflicting responsibilities for operational safety – for customers, staff, and the general public. Aside from increased coordination costs, there will be no single party/licence ultimately in control and accountable for safety. This is at a time when DNO responsibility to manage the safety of distribution assets in customer homes has never been more prominent⁶.

We would encourage Ofgem to engage directly with the Health & Safety Executive, and DNOs, to assess safety implications as part of their assessment of organisational models.

Time to Achieve Net Zero: This is an unprecedented time. DNOs are currently delivering infrastructure critical to the Net Zero transition and any disruption that could hinder or defer investment creates an opportunity cost to the GB consumer. Furthermore, until RIIO-ED2, there hasn't been any specific regulatory allowances to fully deliver DSO. RIIO-ED2 represents the first opportunity to enable the investment that will deliver the DSO foundation within DNOs. The outcome of RIIO-ED2 will reveal key features of how well DNOs and regulation has begun to enable DSO functions.

Value to Consumers: We also believe that the structural changes required to satisfy many of the models set out in Ofgem's CFI will represent significant cost. Therefore, **any major structural industry change that will cause disruption, delay and significant cost should be assessed using a robust cost benefit analysis (CBA) and Impact Assessment (IA)**. This will ensure that any model taken forward is aligned to Ofgem's principal statutory objective under Section 3A of the Electricity Act 1989 (the 1989 Act), to *"protect the interests of existing and future consumers in relation to electricity conveyed by distribution or transmission systems."*

⁴ [Annex 4A.3 - DSO Strategy .pdf \(spenergynetworks.co.uk\)](#)

⁵ <https://www.ofgem.gov.uk/publications/review-gb-energy-system-operation>

⁶ Decarbonisation of domestic heat and transport increases domestic demand and so increases the risk of service cables and cut out fuse units being dangerously overloaded and failing. This presents a fire risk to customers.

The importance of undertaking such analysis was highlighted by Oxera in their recent review of Ofgem's regulation of the energy supply market⁷, commissioned by the Ofgem Board. They found that no impact analysis had been undertaken to inform policy choices at the time of significant regime changes to test the extent to which the intended outcomes had been achieved without raising negative consequences. Such lack of evidence, if not obtained by Ofgem, in the context of electricity distribution, would risk the implementation of new framework models being driven by ideology and perceived conflicts of interest, which could compromise genuine consumer value and the timely delivery of Net Zero.

Our analysis, completed as part of Ofgem's December 2021 data-driven DSO request for information (RFI) found that some alternative DSO arrangements would result in a net reduction of financial benefits for customers, with the costs of legal separation being approximately four times greater than functional separation. NERA also recently found that, regardless of the degree of DNO-DSO separation, the costs of separation would be substantial, and could be up to around £2.8 billion at the GB level. This equates to around £41 (20/21 prices) per customer⁸. Given the current challenges within the energy market, we would question whether this is justified when the benefits case has not yet been proven.

3. Do you agree with our assessment of how far the current institutional arrangements are, or are not, well suited to deliver the three key energy system functions?

There are several elements of Ofgem's assessment that we fundamentally disagree with:

Strength of Current Regulatory and Incentive Framework

We believe that Ofgem's assessment undervalues the strength of the RIIO regime. The RIIO regime has been carefully designed over an extended period of time to ensure energy security, affordability and carbon and greenhouse gas emission reductions are achieved.

We note that Ofgem highlight that there is a risk of DNOs having a bias towards increasing asset ownership if the current institutional arrangements remain. The totex incentive mechanism (TIM) encourages DNOs to make a least-cost trade-off between all categories of their opex and capex within the price control period, so that an operating expense (like payments to a DER) is treated in the same way as a capital expense. The TIM shares savings or increased costs, relative to any under or overspend, with consumers, and provides a strong incentive for DNOs to operate efficiently, including procurement of flexibility to replace or postpone capital investments.

The TIM treats all categories of totex in the same way, so that if a DNO spends £1 above its target, it bears the same share of this additional £1 of expenditure irrespective of the cost category in which it is incurred. It achieves this by applying a common sharing factor to all categories of costs, and a fixed capitalisation rate, such that the same proportion of DNOs' expenditure enters the RAV, irrespective of the actual ratio between operating and capital costs⁹. The TIM therefore removes any incentive to favour capital over operational expenses, or to favour asset-build solutions over flexibility contracts.

⁷ [Ofgem publishes report into its regulation of the energy market | Ofgem](#)

⁸ [2022.03.21 NERA Report DSO Strategy for publication.pdf](#)

⁹ [2022.03.21 NERA Report DSO Strategy for publication.pdf](#)

DNOs and Market Facilitation

We note that Ofgem believe that there would be a step-change required in DNOs expertise in market design and operation, in order to fulfil the market facilitation role and that the ESO already hold this expertise. We disagree with Ofgem's conclusions in this respect and advise that caution should also be taken when comparing ESO and DSO markets.

Firstly, while there are some similarities with respect to ESO and DSO services, Ofgem must recognise that the scale and complexity of the changes required at a distribution level, are significantly larger and therefore need to be better understood and well evidenced. DNOs are gaining increasing experience of actively operating the network through trials and use of flexibility markets, meaning they are better equipped to take on this activity. The cost and complexity for the ESO/FSO (who have no experience of operating these services for the management of distribution constraints) to take on this responsibility would be considerable, given the greater capability and knowledge gap and the relative size of the distribution network compared to the transmission network they already operate (~1,000,000km versus ~20,000km).

Furthermore, DNOs already have the communications infrastructure, control centres, and deep knowledge of how distribution networks work that is required to operate them. Furthermore, DNOs have the system knowledge and responsibility for the safety of their connected customers.

Local flexibility markets require a strong understanding of, and interaction with, very localised distribution network assets. Due to their highly locational nature, they require engagement with more localised resources connected to the distribution network, as well as with local communities and stakeholders. These are expertise that DNOs possess which the ESO does not currently hold.

GB DNOs have the world's largest local flexibility markets. As markets become closer to real-time, further possibilities will open up, and we have ambitious plans to deliver further customer benefit. Within our ED2 business plan¹⁰ we made the commitment to create a new discrete DSO functional model and directorate within SPEN by the start of RIIO-ED2 and we are now concentrating on the practical changes needed to ensure this happens. We are in the process of implementing the structure, policies and procedures required to maximise the benefits of flexibility and enable close to real time procurement and operation.

We are stepping-up our capabilities in market facilitation, including in systems and processes, as well as the necessary resource to manage these new systems and processes, as detailed below. This will involve tendering twice per year for all identified constrained throughout RIIO-ED2. We shared details with Ofgem on our resourcing plans for facilitating flexibility services on the 19th May 2022. These plans are natural, iterative steps from our current position, and we are already building and learning about real-time markets via ESO reports and innovation trials.

The development of local markets is still at an early stage and a lot of resource has been, and will, be invested in the coming years in making them work better. Ofgem has the tools to then evaluate the effectiveness of licensees' efforts and judge whether further action is required.

Perceived Conflicts of Interest

Although the RIIO TIM ensures there are no conflicts of interest, we do recognise stakeholders concerns about perceived conflicts of interest on the use of flexibility and other innovative network solutions versus 'conventional' network investment. For this reason, in RIIO-ED2 we will introduce a

¹⁰ [Annex 4A.3 - DSO Strategy .pdf \(spenergynetworks.co.uk\)](#)

However, Ofgem is yet to fully explain what perceived conflicts of interest exist in our current processes. Without clarification or quantification, this only serves to weaken stakeholder confidence and limit market development, without providing opportunity for DNOs to act or giving confidence that current processes are understood.

Areas of Agreement

4. Overall, what do you consider the biggest blocker to the realisation of effective energy system planning and operation at sub-national level?

Ofgem must consider the different approaches that are being taken by the different devolved governments. We note that the CFI document makes no reference to the different ambitions and positions of devolved governments in energy system planning at a sub-national level. For example, the Scottish Government have now made it a statutory requirement that LHEES are in place by the end of 2023 for all local authority areas¹¹. Furthermore, the Welsh Government are working to ensure all areas of Wales have a detailed local energy plan by the end of 2023/24 financial year. The same targets have not yet been set in England.

As explained in our response to question 3, we agree with Ofgem that Local Authorities may not currently all have the resources available to carry out LAEPs or LHEES. UK100 and Quantum produced a report¹² claiming that many Local Authorities are under-resourced, providing a barrier to initiate changes in relation to Net Zero. Further, a recent research paper found that; in Scotland, assigning statutory duties to Local Authorities to deliver LHEES needs to go together with increases in finance, or support for resource and knowledge capacities to deliver the envisaged changes¹³.

In working towards achieving these goals, SPEN works closely with both the Scottish Government and the Welsh Government. For example, we are involved in a Heat Electrification Strategic Partnership with the Scottish Government and Scottish and Southern Electricity Networks (SSEN). As part of the Partnership, we have also reviewed, and continue to input into, the LHEES guidance that Scottish

¹³ [Local government capacities to support net zero: Developing comprehensive heat and energy efficiency strategies in Scotland \(ed.ac.uk\)](#)

Government are planning to issue to Local Authorities. This includes detailing the types of interactions Local Authorities should have with DNOs to develop their plans. We are also working with Fife council on their Net Zero Masterplan and are a member of their 'Action on Climate Change' Board. Scottish Government has recognised the LHEES Partnership that we have with Fife Council as an exemplar for the rest of Scotland. Examples of some of the projects where we have partnered with local authorities on is included in Appendix A.

However, currently, there is no clear route for Local Authorities to be able to assess network compatibility for their decarbonisation plans. We are able to offer advice when Local Authorities come forward, but these interactions have historically been reactive and piecemeal. Not having access to electricity network knowledge creates a difficulty from the Local Authorities' perspective in trying to explore Whole System options which could, in turn, create savings that are ultimately passed on to consumers. As detailed above, we have found in RIIO-ED1 that this issue can be resolved by setting up strategic partnerships between experienced network staff and the Local Authorities within our licence areas.

Therefore, as part of our RIIO-ED2 Business Plan, we have proposed a team of 'Strategic Optimisers'¹⁴. Through the Strategic Optimiser role, we will provide proactive, upfront, and detailed advice through engagement at the conception stage of Local Authorities' Net Zero plans on a universal basis. This includes LHEES in Scotland, LAEPs and general local decarbonisation plans and initiatives. This will allow adequate consideration of the electricity network at the very early stages of planning, which will ultimately reduce costs through reduced connection and reinforcement costs and accelerated delivery time savings. This will also allow the Local Authorities to confidently lead on their local plans whilst being fully informed on the implications of electricity network requirements. This proposal is reflective of stakeholder feedback received when developing this initiative; that Local Authorities should have the principal role in developing their own plans. The roles and responsibilities of the Local Authority and Strategic Optimisers are detailed in the diagram below.

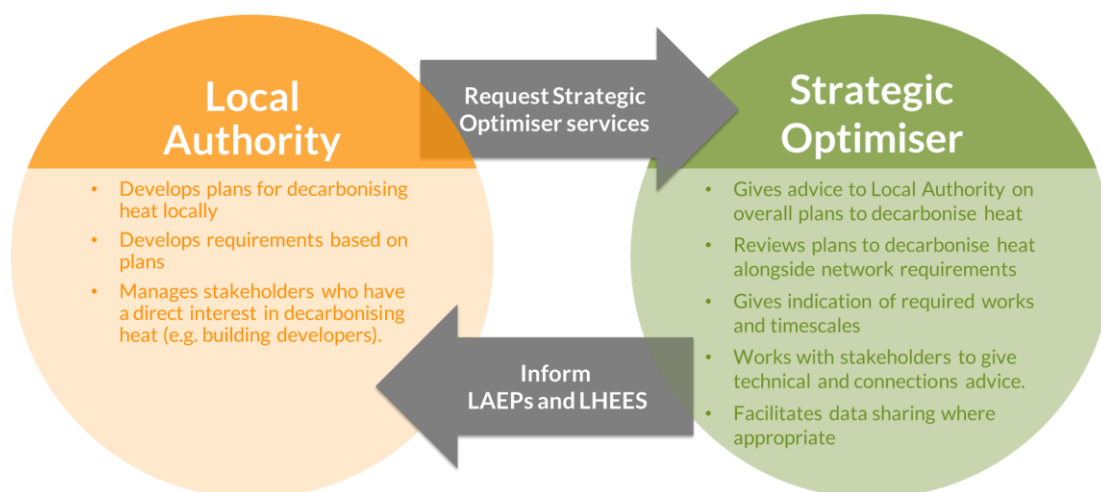


Figure 1 - The role of RIIO-ED2 Strategic Optimisers

We engaged with a large number of stakeholders on our Strategic Optimiser proposals ahead of final submission of our Business Plan, detailed in section 8 of our Strategic DNO Annex¹⁵, and received extremely positive feedback on our proposals. For example, 79% of our stakeholders engaged at our DFES workshops agreed with SPEN making Strategic Optimisers available to Local Authorities in RIIO-

¹⁴ [Annex 4A.27 - Strategic DNO.pdf \(spenergynetworks.co.uk\)](#)

¹⁵ [Annex 4A.27 - Strategic DNO.pdf \(spenergynetworks.co.uk\)](#)

ED2. We engaged in-depth with both the Scottish and Welsh Governments, who helped shape the proposals as well as confirm their support. Furthermore, we received a letter of support from Liverpool City Region Combined Authority on our proposals, included in Appendix B to this response.

5. Do you agree with the opportunities of change we outline and the potential benefits they may create?

Any opportunities for change, and the supporting potential benefits case, should be clearly demonstrated through robust Cost Benefit Analysis (CBA) and Impact Assessment (IA) analysis.

We agree that it is important to identify and recognise the synergies that exist both within and across the functions, and subsequently to understand how and where to best draw lines regarding roles and responsibilities. However, we believe that the industry is already delivering many of these functional synergies today and are striving to continue to maximise within the current institutional and governance framework. There are strong incentives and licence conditions in place today to drive these functional synergies.

For example, a coordinated and holistic view across both DNO and DSO activities can deliver the best outcomes across performance, service, and cost efficiency. DNO actions will focus on intrinsic and extrinsic asset risk (e.g. operational capability, fault performance, vegetation management, etc.) and DSO actions will focus on system utilisation (e.g. network running arrangements, use of standby flexibility services, etc.).

This direct benefit to customers is most prominent during major system events, such as storms. Using storm Arwen in December 2021 as an example, we experienced over 1,300 LV and HV faults, causing supply interruption to around 200,000 customers. Despite significantly adverse circumstances, we were able to restore 88% of customers within 24 hours and 96% within 48 hours. This depended on the close coordination of 'network operation' and 'system operation' teams across the organisation. The introduction of organisational barriers through legal/ownership separation would inherently introduce additional complexity, inefficiencies, and delays.

To achieve Net Zero, we must work together in a fast and highly organised manner, so maximising functional synergies, where they can speed up decision-making and reduce costs, is inherently sensible. We believe that the most valuable opportunities exist from a whole systems perspective. Enabling and enhancing coordination and cooperation across electricity and gas networks, as well as Local Authorities and all other players in the energy sector, will be fundamental to achieving Net Zero. For example, we chair both the City of Edinburgh Heat and Energy Partnership and a Net Zero Knowledge Community Governance Board which both SGN and Scottish Water are also members of.

6. Are there additional opportunities for change and benefits that we have not set out?

We believe that the current situation warrants establishing an **industry-wide transformational programme**. This will not be complete ahead of the early 2023 deadline Ofgem have set within the document.

We welcome the wide-ranging workstreams of Ofgem and BEIS and continue to engage with both parties closely. However, we do have concerns over Ofgem's seeming lack of coordination and somewhat opaque policy development process. For example, Ofgem defined DSO baseline expectations for 2023-28 in September 2021, which DNOs used to develop detailed DSO business plans. Ofgem then issued a RFI in December 2021 seeking information on different DSO organisational

arrangements. Ofgem then issued a further RFI in March 2021, seeking information on activities, some of which differed from the principles within the Business Plan Guidance. Finally, Ofgem have published this CFI, which makes little to no reference to the other documents and proposes yet new governance models.

As per our response to question 12, related issues, such as the Access and Forward-Looking Charging SCR and distribution flexibility markets, aren't currently being considered together even though they interact: both are about sending pricing signals to distribution customers to operate in ways which benefit the network and enable Net Zero. The establishment of the FSO, the Access and Forward-Looking Charging SCR, REMA, DSO are all inter-dependent. Considering them separately risks inefficient, sub-optimal outcomes and could result in customers paying more, and the creation of whole system conflicts.

Avoiding potentially adverse impact to customers requires a holistic, industry-wide and coordinated consideration of the issues. We therefore believe that the magnitude of the changes warrants a transparent, industry-wide transformation programme, such as BETTA. This will allow Ofgem and industry to work together collaboratively.

Some practical examples of the fundamental, unanswered issues that must be considered and worked through as part of the Transformational Programme include the following:

- How will generation and storage connected to the grid be optimised where it can maximise benefit to the end consumer? Flexibility may have a role in ameliorating constraint costs at times of high renewables output, at the cost of increasing demand on distribution systems. DNOs will need to incentivise consumers to increase or move their demand at those points in time. Ofgem and industry must consider how this would be remunerated.

We are currently working with Octopus Energy to seek response from domestic customers to move their demand following an instruction delivered less than 24 hours in advance. We believe this will provide valuable learnings on what is achievable, the level of response we can expect and the impact on our network.

- The residual demand curve for intermittent generation will have periods of shortfall where storage, for example, will need to be incentivised. This raises fundamental questions on how the system will be optimised across the transmission and distribution networks, in the best interests of consumers, through the charging arrangements. This is likely to become an even bigger challenge in light of the SCR which will reduce connection costs and stimulate a higher volume of activity in already congested sections of network.

7. We set out a number of risks associated with change. Do you agree with these risks and the potential costs they create? Are there additional risks of change and costs that have not been set out?

The following risks should also be considered by Ofgem as part of their assessments:

Safety:

Our 3.5m customers depend on a safe and secure electricity supply; it is our fundamental role. Integral to this is clear responsibilities and accountabilities, which are aligned to legislation, codes of practice, and industry guidance.

Changes to institutional arrangements could risk overlapping and/or conflicting responsibilities for operational safety for customers, staff, and the public. Aside from increased coordination costs, there will be no single party/licence ultimately responsible for safety. This is at a time when DNO responsibility to manage the safety of distribution assets in customer homes has never been more prominent.

We would encourage Ofgem to engage directly with the Health & Safety Executive, and the wider industry as part of a holistic Transformational Programme, to assess safety implications as part of their assessment of organisational models.

Delay to Net Zero Targets

We are entering a critical, time-sensitive period in the achievement of Net Zero targets. Delivering wholesale legal and structural changes would divert a significant amount of focus and resource at a time when we need to deliver a substantial increase in interventions, tools, and processes to enable Net Zero.

Resource Constraints

We are concerned that creating a greater number of institutions and creating some degree of duplication of roles within the industry will simply increase competition across the UK for an already scarce and highly skilled workforce.

Differences between Transmission and Distribution

We agree that there are fundamental differences between transmission and distribution level reform; the distribution network is fundamentally different in its operational functionality, complexity, and architecture. There is also a vast difference in the volumes of discrete assets and data points, and stakeholder and customer interactions, proximity, and safety accountability. These are detailed in the figure below. The distribution system must therefore be considered on its own basis.

Moreover, there is a lack of analysis that evidences the ESO separation has delivered net customer benefits compared to previous arrangements. In fact, there are case studies¹⁶ that show the pitfalls of separating asset owners and system operators across Europe, such as in Italy, Hungary, and Poland, where separations were deemed to have failed and were subsequently reversed.

¹⁶ A 2015 report from Amprion highlighted the European risks from the separation of System Operator (SO) and Asset Owner (AO) responsibilities where the “consistent and unique responsibility for the grid is disrupted” from conflict SO and AO action and a lack of clear accountability. Available at: [Challenges for an independent transmission operator in terms of ownership and system operation \(windows.net\)](https://www.windowsofenergy.com/wp-content/uploads/2015/06/Challenges-for-an-independent-transmission-operator-in-terms-of-ownership-and-system-operation-windows.net.pdf)

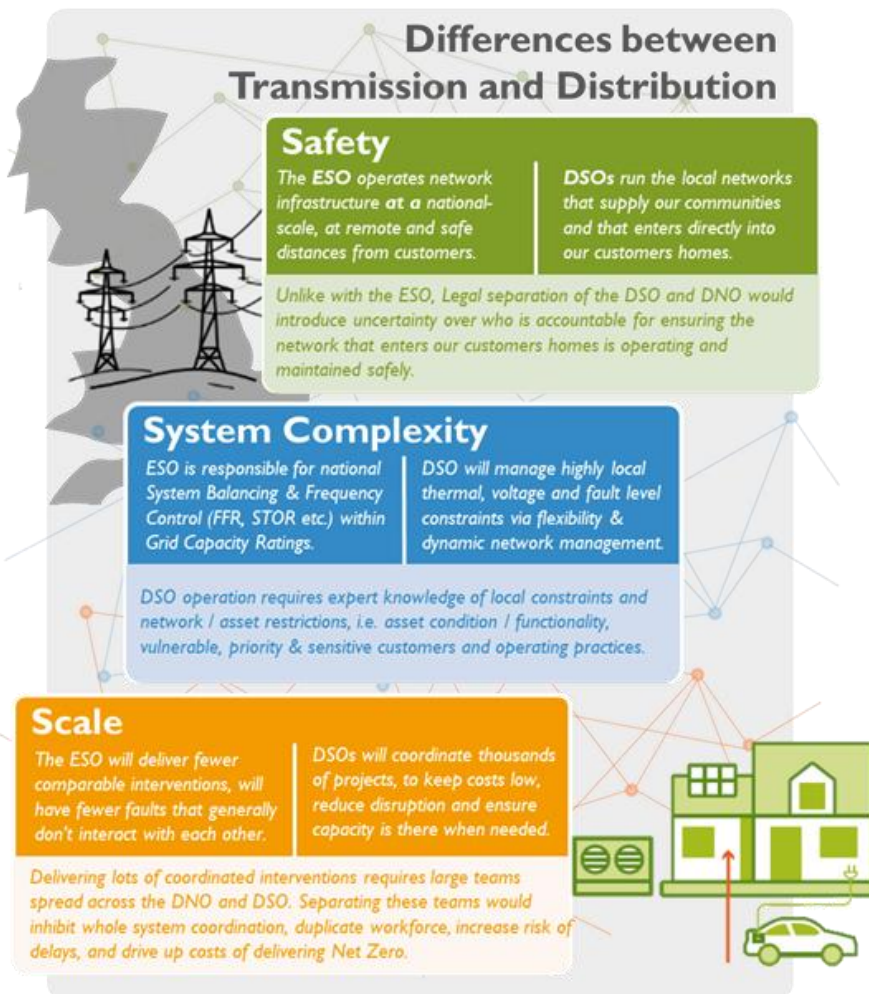


Figure 2 - The differences between Transmission and Distribution

Cost to Consumers

We also welcome reference to the January Request for Information (RFI) responses in this section. However, we believe that it has significantly underplayed industry's response to the RFI. For example, Ofgem have said that *"there would need to be significant changes made not only to DNOs as institutions – structurally, financially, and in licences - but all through the industry...As a result, separation of system and network functions at distribution level will take longer and be more expensive than at transmission level"*.

To put this in context, our response, which involved a level of quantitative analysis, found that the costs associated with legal separation were approximately four times greater than functional separation. This is supported by analysis carried out by NERA, who found regardless of the degree of DNO-DSO separation, the costs of separation would be substantial, and could be up to around £2.8 billion in Present Value (PV) terms at the GB level until 2050. This equates to around £41 (20/21 prices) for a typical residential customer¹⁷.

¹⁷ [2022.03.21 NERA Report DSO Strategy for publication.pdf](#)

8. For each model, we have set out the key assumptions which need to be true for the model to offer the right solution. Which of these assumptions do you agree with?

The assumptions are highly superficial and lack important details. We also note that Ofgem have excluded assumptions about what risks and responsibilities, including regulatory risks, will fall to which parties in the different framework models. Without assumptions on risk allocation, it is difficult to fully analyse each model and assess the impact on costs and legal requirements.

Notwithstanding this, our comments on the assumptions under each model are as follows (please note, absence of commentary on a specific assumption details does not confer agreement):

- **Model 1:** There is no mention of how the regulatory regime, along with internal governance measures, will help to mitigate potential conflicts of interest. Ofgem and the regulatory mechanisms will have a key role to play here.

We agree that the three DSO roles cannot be separated without significant impact on safety, the Net Zero transition and consumer cost. We also support the assumption that effective whole-system co-ordination across all energy system actors is best co-ordinated with an integrated DNO-DSO, and that perceived conflicts of interest can be effectively managed internally, supported by regulation.

- **Model 2:** We do not agree that the only way to fully mitigate conflicts of interest is for the DSO to be independent of the DNO. The existing RIIO mechanism ensures there is no financial conflict of interest between DSO and DNO objectives within the same organisation, as explained in our response to question 3. We note that Ofgem have not provided further details of conflicts of concern. We also believe that separation of the DNO and DSO risks adding complexity and additional barriers to whole system thinking.
- **Model 3:** As with Model 2, we do not agree that the only way to fully mitigate conflicts of interest is for the DSO to be separate to the DNO.

Although we agree 'planning' is the activity carried out most broadly at a national and sub-national level¹⁸, and therefore has the largest co-ordination challenge, this does not warrant sub-nationally integrated planning bodies. This is because it would lead to a more consequential 'gap' between co-ordinated electricity network planning, maintenance, and operational decisions. For example, using an up-to-date understanding of network operational regimes, and knowledge of asset condition and risk to inform planning decisions.

We would argue that our stakeholder endorsed RIIO-ED2 strategic optimiser role, set out in our response to question 4, bridges the co-ordination gap across sub-national energy-vector planning without compromising the integrity of holistic network decision making.

We also urge Ofgem to include devolved governments ambitions in local energy planning in their assessment. As we detail in our response to question 4, Scottish Government have made LHEES a statutory function for Local Authorities. This may limit the level of integration possible at a sub-national level.

- **Model 4:** The key assumption in this scenario implies roles are currently carried out by organisations without the competencies to deliver them:

¹⁸ Noting that the only participant in distribution system network operation is the DNO, and that market facilitation of DNO services is an emerging area that is also predominantly DNO-led.

- Energy vector planning is made up of complex discrete disciplines, which is best managed by strong co-ordination between responsible competent organisations e.g., local authorities, GDNs and DNOs.
- As per our response to question 3, DNOs are leading the way in Market Facilitation for DNO services and are the only entities with experience of delivering this. The similarities to the ESO are superficial and the ESO/FSO has no experience of delivering these activities.
- Electricity Distribution Network Operation requires highly skilled expertise and scarce experience, this is exclusively carried out by the DNO. Separation of this activity risks decisions which are in-consistent with planning decisions.

We believe Framework model 1 fulfils this assumption, and that ‘within-function synergies’ can be maximised through co-ordination and improved regulation. This is critical to ensure that institutions perform their roles in a way which offers consumers the best long-term value, safety and ensures the transition to Net Zero. Enabling these outcomes becomes much complicated in a situation where there are several new actors.

9. Out of the framework models we have developed which, if any, offer the most advantages compared to the status quo? If you believe there is another, better model please propose it.

Framework Model 1 – Internal separation of DSO roles within DNOs

We believe this model is the most consistent with our planned DSO approach¹⁹ and represents the appropriate balance of costs and benefits to the consumer and sets out the no-regrets next steps towards a DSO organisational model through discrete functional operation. We believe our proposed approach is the most effective mechanism for RIIO-ED2 to deliver DSO for the following reasons:

- **Clear accountability for resilience and safety:** Our 3.5m businesses, homes, and public services enjoy a safe and reliable supply because there is a clear, single point of responsibility for this. Given ‘DNO’ and ‘DSO’ actions interact and can cause the same issues, full legal separation would introduce uncertainty of responsibility at a time when our customers are increasingly dependent on their supply. We cannot blur responsibilities for the network that enters people's homes. Our approach retains clear responsibility for customer safety.
- **Avoids unnecessarily increasing costs:** Legal and structural changes have historically been very expensive for customers. Ofgem should consider, for example, potential IPO costs, costs of acquiring auditors, revenue considerations, implications on billing arrangements and codes, and duplication of effort between institutions. There is already upward pressure on bills; we shouldn't be adding to them unnecessarily, especially when the benefits case of full legal separation has not yet been made.

There has been quantitative analysis to show that this model is in best interests of consumers. The responses to Ofgem's RFI in January detailed that legal separation would incur costs of up to around four times greater than the costs of functional separation, increasing more with greater degrees of separation. NERA's analysis found costs could be up to around £2.8 billion, equating to a £41 bill impact²⁰. Finally, an independent impact assessment was undertaken

¹⁹ [Annex 4A.3 - DSO Strategy .pdf \(spenergynetworks.co.uk\)](#)

²⁰ [2022.03.21 NERA Report DSO Strategy for publication.pdf](#)

on the Open Networks 'Future Worlds' initiative.²¹ Model 1 from this consultation is most closely related to World B²² from this work, the subsequent independent IA showed that World B was the least regrets pathway in the 2020s.

Our proposed approach delivers the benefits of separation of responsibility, accountability, and transparency whilst avoiding the associated costs.

- **We must focus on Net Zero:** RII0-ED2 is critical to achieving 2050 Net Zero targets, as networks are key enablers to achieving this ambition. Delivering wholesale legal and structural changes would divert a significant amount of focus and resource at a time when we need to deliver a substantial increase in interventions, tools, and processes to enable Net Zero. Our customers and stakeholders want us to enable Net Zero – we cannot afford distractions. Our proposed approach delivers full DSO capabilities to accommodate Net Zero.
- **Customers:** Our customers have told us that their priorities are that we keep the lights on, keep the network safe, and keep costs efficient. Regardless of who performs these functions in the long-term, our stakeholders highlighted the importance of preventing significant divergence in system management in the short-term. Our proposed approach delivers our customers' priorities and aligns with our stakeholders' views.

The discrete DSO directorate and functional model we have proposed is the right answer for the current landscape as it:

- Retains clear responsibility for customer safety;
- Ensures accountability to deliver DSO outputs;
- Delivers the DSO capabilities needed to accommodate Net Zero;
- Addresses concerns about perceived conflicts;
- Promotes transparency;
- Keeps options open for future institutional arrangements; and
- Minimises unnecessary costs before the case for any particular future arrangement has been made.

This is a 'no regrets' arrangement which also allows for greater degrees of separation to occur should future evidence show that it is objectively in customers' best interests to do so.

In the context of this Call for Input, Framework Model 1 (internal separation of DSO roles within DNOs) is the most advantageous of the models proposed. Our proposed approach not only meets the ambitions within Model 1; but delivers more. For example, as detailed in our response to question 4, our stakeholder-endorsed proposals in our RII0-ED2 business plan will ensure better planning alignment and represents an easy-to-implement solution allowing for regional policy and statutory differences, rather than a significant and costly institutional change.

²¹ [open-networks-2018-ws3-14969-ena-futureworlds-aw06-int.pdf \(energynetworks.org\)](https://open-networks-2018-ws3-14969-ena-futureworlds-aw06-int.pdf)

²² World B is described as "Coordinated DSO-ESO procurement and dispatch – a World where the DSO and ESO work together to efficiently manage networks through coordinated procurement and dispatch of flexibility resource."

Framework Model 2 – Independent Distribution System Operator(s) ('IDSOs')

Framework Model 2 may serve to satisfy concerns of stakeholders around perceived conflicts of interest. However, Ofgem has not explained what actual conflicts of interest exist. If these are present, then these should be clearly stated so there is no ambiguity for industry and stakeholders.

We are currently working with Oxera to undertake independent research to understand the barriers currently faced by flexibility service providers and plan to implement their recommendations post-Summer 2022. We will share the results of this research with Ofgem and would support Ofgem carrying out a similar market investigation related to perceived conflicts of interest.

In considering whether the asset owner (DNO) and system operator (DSO) should be separated, it is natural to look to the transmission system arrangement. The Energy Act 2004 marked when transmission functions in GB were split into two parts: System Operator and Transmission Operators. It took 15 years from this point for the ESO to become a legally separate company within the National Grid Group (1 April 2019). Government are now planning for the FSO to be established by, or in, 2024, representing a further 5 years. Therefore, the evolution to the FSO governance model will take 20 years, in full, for transmission.

In contrast, initial DSO activity in GB has only taken place in RIIO-ED1, and even then, that is not the full range of DSO which will be delivered in RIIO-ED2. RIIO-ED2 represents the first price control to fully support DSO activity on the distribution network, and so should be used to gather evidence rather than make changes before it has been given a chance to yield insights as to its operation.

We believe that the separation of traditional asset reinforcement decisions from flexible solutions would undermine the strength of the TIM, as outlined in our response to Question 3.

Framework Model 3 – Regional System Planner and Operator(s)

Our comments raised under Framework Model 2 also stand for Framework Model 3.

We also question the additional value that a new institution(s) would bring to regional energy system planning. DNOs have established close working relationships with the Local Authorities in their licence areas over a number of years on various issues. The reason that planning is not currently aligned is two-fold: (1) the historical needs of the network have not required alignment to local authority energy plans and (2) DNOs have not been funded to do so. This is why in RIIO-ED2 we have proposed Strategic Optimisers, which will offer a more efficient solution to this problem. More detail on this interaction is outlined in our response to question 4.

Framework model 4 – Interacting organisations

Our comments raised under Framework Model 2 and 3 also stand for Framework Model 4.

Furthermore, the impact on accountability and risk allocation, particularly in relation to public safety and network reliability must be considered before roles and responsibilities are split across multiple institutions.

DNOs are currently incentivised and penalised, under the RIIO framework, against their network performance and reliability. To manage the risks of penalty associated with faults and loss of supply, the DNOs carefully plan their networks and conduct network feasibility studies when connecting equipment. Therefore, if roles and responsibilities are split out between multiple parties, DNOs would no longer have full control of the design and operation of their network, and therefore could not be held accountable for network issues caused by the other parties' decisions or processes.

Reflecting on Ofgem's 'base model', under Framework Model 4, we also have concerns around the market facilitation role potentially sitting with the FSO. As highlighted in our response to question 3, there are significant differences between the ESO and distribution markets. Actively operating the distribution network would be a new activity for both the ESO/FSO and the DNO. However, DNOs already have the communications infrastructure, control centres, and deep knowledge of how distribution networks work required to operate them. Given the scale and configuration of the transmission network, it makes sense for one party to operate the whole network as what happens in one area of the country can affect the network hundreds of miles away (e.g., output from generation in the north of Scotland affecting the B6 boundary). In that instance, having one party responsible for managing transmission power flows is operationally efficient.

However, at distribution voltages the largely radial nature of the network, and lack of connectivity between distribution grid supply point (GSP) groups, means what happens on one circuit rarely affects more than a small area. There is therefore no material operational efficiency to be gained from one party operating the whole distribution network. This is compounded by the fact that the ESO/FSO would need to duplicate many of the capabilities of the DNO – meaning customers would be paying twice, for no discernible benefit.

Furthermore, a powerful tool that Ofgem uses to counter the knowledge imbalance with DNOs is to benchmark the DNOs against each other. This approach introduces competition and helps keep prices down. If the ESO/FSO takes on DSO roles, then the competition that arises from benchmarking and helps keep costs to customers down would disappear.

We also have reservations around the FSO taking on any responsibilities in relation to sub-national energy planning. As detailed throughout our response, the local knowledge of the distribution network and its stakeholders lie with the DNOs, not the ESO/ FSO. There are stark differences regionally in local energy planning, as explained in our response to question 4, to which the ESO has no experience. For example, the Scottish Government has made it a statutory requirement for Local Authorities to have LHEES in place by the end of 2023, and we have been actively involved in the discussions around this with the Scottish Government. We do not believe that a centralised institution, such as the FSO, is best placed to effectively manage these regional differences, without impeding the goals of devolved governments.

Finally, we note that Ofgem have stated that they believe a 'base model' could be implemented without establishing new institutions and would not require amendment to primary legislation. However, in any situation where the FSO was to take on DSO roles, amendments to primary legislation would be required to allow a single company to hold both transmission and distribution licences.

General Points

Whilst we understand that Ofgem have intentionally left the scope of this Call for Input open so as to encourage new ideas, this has resulted in a lack of detail which makes analysis of the models in question difficult. For example, proposed timelines for any potential institutional changes would make it easier to assess the impact these may have on Net Zero delivery.

We recognise that there may be some point in the future where it is in customers benefit to move towards a different DSO governance model. However, in the short term, there is fundamental work needed to ensure the DSO model is fully defined, with legal responsibilities and liabilities fully explored.

10. What do you consider to be the biggest implementation challenges we should focus on mitigating?

In our response to question 7, we have set out a number of additional risks associated with change including impacts on safety, the transition to Net Zero, and costs to consumers.

We believe that minimising these risks should be Ofgem's focus when looking to implement any new governance models. This should be done through the use of robust CBA and IA methodology, and working with industry through a coordinated Transformational Programme that allows effective engagement with a wide range of stakeholders, as outlined in our response to question 6.

11. Taking into account the varying degrees of separation of DSO roles from DNOs under framework model 1, do you consider there are additional measures we should consider implementing, in particular in the short term (e.g. changes in accountability etc)?

We understand potential concerns around managing perceived conflicts of interest through the integration of DNO and DSO functions. We have therefore set out the additional measures for RIIO-ED2, building on established layers of protection well-tested over RIIO-ED1.

Currently, we are separating our DSO function within SPEN. As per our DSO Strategy²³, for RIIO-ED2, we will deliver a new DSO directorate within SPEN, discrete from our traditional DNO business. This will fulfil the DSO responsibilities for our two distribution licence areas (SPD and SPM). There are four key attributes of this new DSO directorate:

1. **A dedicated DSO Director.** The DSO directorate will have its own dedicated Director who will report directly to the SP Energy Networks CEO. The Director's sole responsibility will be DSO – they will not job-share across DNO parts of the business. This means there is a single named executive who is accountable for DSO in RIIO-ED2, and it ensures visibility and representation of DSO at Board level.
2. **A DSO expert stakeholder panel.** We will create an independent panel of expert stakeholders to guide and inform our delivery of DSO through RIIO-ED2. We will seek representatives from energy suppliers, flexibility market participants, other network companies, academia, technology providers, government / Local Authorities, and customer representatives. This panel is in addition to direct engagement with stakeholders. The panel's remit will be to:
 - i. Challenge and advise us on the transparency and openness of our Decision Making Framework (DMF).
 - ii. Monitor our progress against the DSO outputs, listed in Appendix B of Annex 4A.3 (DSO Strategy) of our RIIO-ED2 Business Plan submission.
 - iii. Provide oversight and input to investment appraisal and data sharing processes.
3. **Transparency of intervention decisions.** Our new dedicated DSO directorate will increase transparency through:
 - i. Publishing a range of information on all network constraints, initially for the 33kV and 132kV network, so that customers and stakeholders can follow each constraint from initial identification through to how they are managed or resolved. This includes publishing our options assessment and intervention decision rationale.

²³ [Annex 4A.3 - DSO Strategy .pdf \(spenergynetworks.co.uk\)](#)

- ii. All load-related intervention decisions over £2m will be externally assured and the results made public within 10 working days of assurance completion. We will publish supporting information (including our assessment of solutions), so our decisions are transparent.
 - iii. Data share across all voltage levels, our Network Development Plan, and publishing flexibility tender results all increase network investment transparency.
4. We will maintain and comply with a **Conflict-of-Interest Management Plan** which will be developed with stakeholder input.

As per our response to question 4, we are also seeking Ofgem approval of allowances for our stakeholder endorsed Strategic Optimiser role within RIIO-ED2. Funding this initiative will help close gaps between local authority planning and distribution network planning. This will also be key to enable devolved government ambitions for Net Zero. Delivering this initiative for the five years of RIIO-ED2 will gather significant evidence for Ofgem to make informed decisions about whole-systems energy vector planning.

We are also currently working with Oxera to undertake independent research to understand the barriers currently faced by flexibility service providers and plan to implement their recommendations post- Summer 2022. We will share the results of this research with Ofgem and would support Ofgem carrying out a similar market investigation related to perceived conflicts of interest, to inform any additional measures that should be implemented.

Finally, any separation requirements that go further than functional separation should be properly evidenced by Ofgem as being in consumers best interest through detailed CBA and IA, taking learning from the recent Oxera report into retail markets²⁴, commissioned by the Ofgem Board, and sufficient funding should be given to DNOs to implement these changes.

12. Are there other key changes taking place in the energy sector which we have not identified and should take account of?

There are a range of other changes and initiatives occurring in the energy sector which need to be considered in these models, namely:

- The Access and Forward-Looking Charges Significant Code Review²⁵: will affect price signals driving connection activities and consumer behaviours once connected, thereby affecting flexibility markets.
- Changes to customer tariffs: discussions on locational pricing being reviewed by Ofgem could have the effect of providing implicit flexibility and should be factored in. These will also have an effect on the size and location of flexibility markets, and on how networks are used.
- The upcoming Energy Bill recently announced in the Queen's Speech.
- Reforms associated with the transition to FSO.
- Changes required to national planning regimes and net zero responsibilities placed on Local Authorities. Many of the planning processes are outside of energy networks' and Ofgem control, and hence changes to these systems will need to be factored into the models e.g., Scottish Governments statutory requirements for LHEES from local authorities.
- New and emerging "Non-DSO" services. For example, peer-2-peer trading and community energy trading, which could have a significant impact on how the energy market functions.

²⁴ [Ofgem publishes report into its regulation of the energy market | Ofgem](#)

²⁵ <https://www.ofgem.gov.uk/news-and-views/blog/changes-charging-how-ofgem-preparing-very-different-grid>

- BEIS Retail Market Review and Review of Electricity Market Arrangements (REMA).
- The significant growth of private networks and IDNOs, which are not subject to the same regulatory framework as DNOs.

We believe that there will also be indirect impacts from transmission reform activity, for example:

- OTNR.
- Holistic Network Design.
- Introduction of new competition delivery models.
- Reforms to the treatment of ancillary services.

13. What do you consider to be the most important interactions which should drive our project timelines?

It is fundamental that any decisions taken by Ofgem do not delay delivery of critical Net Zero infrastructure. Delivering wholesale legal and structural changes would divert a significant amount of focus and resource at a time when we need to deliver a substantial increase in interventions, tools, and processes to enable Net Zero. Our customers and stakeholders want us to enable Net Zero – the industry and our customers cannot afford distractions.

We note that Ofgem plan to make a decision on governance reforms in early 2023. We believe that this is far too early, and that DSO structures (both within and outside of the DNO) will not be evolved enough to be evaluated in a meaningful way. Therefore, Ofgem should give certainty to DNOs to continue with their DSO Strategies until at least the end of the next price control period.

Until now, there hasn't been any regulatory allowances to fully deliver DSO. RIIO-ED2 represents the first opportunity for this and will enable the investment that will deliver the DSO foundation. In the future, this can then be used to inform the evolution to any new arrangements, should the evidence present itself that it is in the customers' best interest.

By way of comparison, the Energy Act 2004 marked when transmission functions in GB were split into two parts: System Operator and Transmission Operators. It took 15 years from this point for the ESO to become a legally separate company within the National Grid Group (1 April 2019). Government are now planning for the FSO to be established by, or in, 2024, representing a further 5 years. Therefore, the evolution to the FSO governance model will take 20 years, in full, for transmission.

Ofgem should make low regret decisions now, that allow industry to move forward with their plans to deliver Net Zero and ensure customers benefit from DSO activities. However, a great deal of uncertainty still remains around future pathways, and so we believe that time is needed before wholesale institutional changes are decided upon to avoid un-intended consequences. The cover letter submitted alongside this response clearly details the activities we believe need to be undertaken before a decision to move to a different governance framework is made.

Appendix A- Local Case Studies

Laid out below is a sample of the local projects we have been/ are involved in within Scotland, England, and Wales. Further detail of our previous work, and our proposals for RIIO-ED2, can be found in our Strategic DNO Annex submitted alongside our RIIO-ED2 Business Plan²⁶.

1.1 Project PACE

As part of a Strategic Partnership looking at the decarbonisation of transport with SSEN and Scottish Government, SPEN delivered an innovative pilot project, Project PACE. Project PACE worked in collaboration with Transport Scotland and 2 Local Authorities (North and South Lanarkshire Councils) to deliver 180 new public EV chargers in more than 40 locations across North and South Lanarkshire, targeting areas and communities where the commercial market has not yet delivered and is unlikely to deliver in the short to medium term. Project PACE was an innovative trial of a DNO-led, strategic approach to the siting of cost-effective, universally accessible public EV charger infrastructure.



SP Energy Networks CEO Frank Mitchell launching the EV Strategic Partnership with First Minister of Scotland Nicola Sturgeon on 29th August 2019

The first phase of Project PACE involved using £500,000 of SPEN's Green Economy Fund²⁷ to carry out a sophisticated site selection study in which SPD, on behalf of SPEN, utilised its extensive network knowledge and worked collaboratively with local stakeholders in optioneering, to identify the optimal locations for public EV charging hubs in North and South Lanarkshire, on local authority owned land.

By carrying out a site selection process (i.e. optioneering) involving sophisticated electricity network analysis, as well as considering other factors such as land ownership and environmental restrictions, Project PACE achieved a saving of between £1.5m - £2.8m on electricity grid connection costs across the 44 sites. Scaling this activity up across the UK could save over £310m.

In addition to these connection savings, the optioneering process is expected to have enabled other significant efficiencies and time savings in the delivery of the 44 EV charging hubs²⁸. These benefits

²⁶ [Annex 4A.27 - Strategic DNO.pdf \(spenergynetworks.co.uk\)](#)

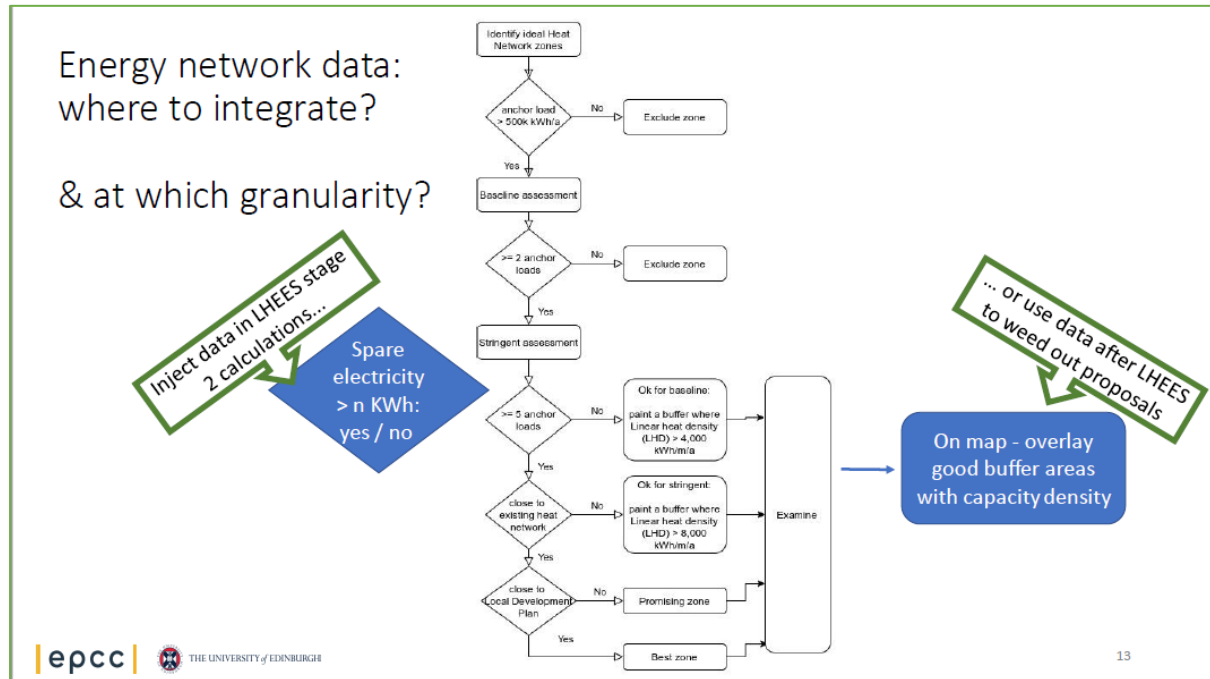
²⁷ https://www.spenergynetworks.co.uk/pages/green_economy_fund.aspx

²⁸ This will be fully tested and validated in the delivery phase with Transport Scotland.

are delivered through completion of network feasibility studies and through working collaboratively with local authorities at the planning stage.

1.2 Fife Council LHEES Partnership

We are working with Fife Council on their Net Zero Masterplan and are a member of their Action on Climate Change Board. The team involved from SPEN includes electrical engineers, stakeholder engagement specialists and data analysts. A key question that has been explored through this partnership is how electricity network data can be integrated into LHEES.



Scottish Government has recognised the LHEES Partnership with Fife Council as an exemplar for the rest of Scotland

1.3 Energy Networks in Wales

Through the Energy Networks in Wales Working Group with Welsh Government, we are involved in a number of projects. These include:

- Future Energy Grid for Wales Project:** This project is being run by the Energy Systems Catapult on behalf of the Welsh Government. It aims to achieve a joint view, across all network operators, of the likely future energy needs in Wales to 2050 and the steps needed to evolve networks to support them. Currently, grid reinforcement works in Wales is being driven by connecting renewable generators. This is delivering sub-optimal network solutions for the wider network needs of Wales.
- LAEP Pilots:** We were involved in the Conwy and Newport pilot LAEPs. Welsh Government now intend to support other Local Authorities with their own LAEPs, based on the learnings from the Conwy and Newport. Whilst the Welsh Government is taking a regional approach on the development of LAEPs, each Local Authority will hold and deliver their own and there will be consistency across plans in neighbouring areas.

1.4 Net Zero North West

One of the most high-profile initiatives we are involved in is Net Zero North West Cluster Plan, a partnership between government and industry to create the UK's first Low Carbon Industrial Cluster by 2030, and a Net Zero Cluster by 2040. The Net Zero North West Cluster Plan will create a deliverable investment, technology, and infrastructure blueprint for the North West's net zero transition. It will recommend the technologies, infrastructure changes and investment necessary to transition the North West, working with North Wales, to net zero carbon by 2040.

The Cluster Plan is being developed by a consortium of partners including Net Zero North West, Peel NRE, North West Business Leadership Team, Cheshire & Warrington LEP, University of Chester, Liverpool City Region LEP, EQUANS, Uniper, Progressive Energy, Cadent Gas and SP Energy Networks.

We are leading Work Package 8, which is looking at the electricity network requirements from all of the decarbonisation plans in the cluster. As part of this, a report will be published on the implications of the Cluster Plan on our SP Manweb licence area. This will include assessing our distribution future energy scenarios (DFES) for the Cluster Plan area, and any proposed/ possible future connections to our network. For example, the 99MW hydrogen production plant being delivered, over 100MW of solar generation sites and at least 50MW of biofuel generation sites. The report will also analyse the need for flexibility in the area to be able to facilitate all these connections as efficiently as possible

Appendix B- Letter of Support from Liverpool City Region Combined Authority (LCRCA)

Liverpool City Region Combined Authority (LCRCA)

Support for inclusion of Strategic Optimiser role in RIIO-D2 submission to work with LCRCA on network optimisation

Liverpool City Region electrification

LCRCA represents over 1.5 million people in the SPEN MANWEB distribution area that covers our six local authority areas (Halton, Knowsley, Liverpool, Sefton, St Helens and Wirral). The city region is diverse and centred on the port city but has a mix of dense urban, town, rural and heavy industrial areas that drive a complex set of challenges for low carbon generation and emission reduction as we seek to reduce consumption, drive efficiency, address regeneration and consider new development.

Our current electrical demand is in the region of 6 TWh with peak demand of c 3 GW, and mean demand of [700] MW. We have the anticipation of this demand doubling as decarbonisation of energy, transport and heat advance but have poor understanding of how, where and when the consumption and demand will change and hence how the supply network will need to adapt.

Regional Challenge

Within the LCRCA region we have a number of themes that dominate our concern related to future energy/emissions and the landscape of the changing network-

- Around 500,000 dwellings at EPC band D or below that need action
- Concerning levels of fuel poverty
- Over 300 parcels of brown field residential land for development, driving [1.2] GW of connections
- Major town centre, commercial and industrial regeneration with a new connection demand estimated at 1 GW
- Lower than (national) average car ownership
- Requirement for fuel switching across transport and industry

We have significant challenges in developing an energy network fit for the future and to achieve this in line with our Net Zero 2040 ambitions.

More collaboration, more effective

We welcome the concept of working more closely with SPEN to develop a regional network at the right pace and scale for our future needs and to improve the strategic alignment and visibility of our own infrastructure plans with the objectives of RIIO-D2 and beyond.

We need additional time and effort to increase co-ordination, improve development transparency, align technology roll out assumptions and to align the future expansion and reinforcements with a credible regional plan that avoids the inaccuracy, ineffectiveness and wasted connection time analysis associated with our current system where only 1 in 10 connection applications are converted to completion in original planned time. We want to align new capacity to need and to demystify the constraints, restraints and enhancements into a more visible joint plan for regional energy.

Our priorities are-

- Understanding how we can drive behaviour change to reduce consumption
- Providing the passive measures in forms of insulation and to reduce wasting energy / reducing leakage
- Exploring the scenarios for retrofit, regeneration and development in a structured manner against time
- Understanding the technology mix and deployment window for switching heating over next decade
- Understanding the optimum mix of private, shared and public charging facilities for EV
- Creating demand side management systems that promote flexibility and agility in dense urban area

We need support from our DNO to create a shared vision that can optimise and improve our network as we look to develop and change on our journey to Net Zero.

M W Land -28 June 2021