

Energy Networks Association response to Ofgem's Position paper – Distribution System Operation: our approach and regulatory priorities

Introduction

1. Energy Networks Association (ENA) represents the companies that operate and maintain the gas and electricity grid network in the UK and Ireland. Serving over 30 million customers, they are responsible for the transmission and distribution network of 'wires and pipes' that keep our lights on, our homes warm and our businesses running.
2. Understanding the strong track record of our energy networks since privatisation in 1990 in improving services and lowering costs is key to understanding the role that they can play in the future. Continued high quality and efficiently delivered energy networks services are essential for consumers and to help the government meet its short, medium and long-term objectives for energy policy.
3. Our energy networks are recognised around the world for their strong track record of safely and securely providing the UK with the heat and power it needs in three key areas.
 - I. *Trusted performance.* The average gas customer will experience an unplanned interruption once every 140 years. For electricity customers, since 1990, there has been a 59% reduction in the number of customer interruptions, and an 84% reduction in length of customer interruptions.
 - II. *Reduced costs and increased investment.* Network costs are now 17% lower than they were at the time of privatisation. By 2020, the UK's energy networks will have attracted some £100 billion of investment since 1990. A significant proportion of which is spent with UK companies. New investment in the networks is forecast at £45bn between 2013 and 2023.
 - III. *Strong innovation.* As set out in Ofgem's recent State of the Market report, independent research carried out by Pöyry for Ofgem has shown that innovation projects by electricity Distribution Network Operators (DNOs) could deliver up to £1.7bn of benefits by 2031. Additional benefits will also flow from the innovation undertaken in the other network sectors which was not quantified by Pöyry's last study but was acknowledged.

Introduction to Our Response

4. ENA welcomes this position paper and the opportunity to provide views on behalf of our electricity networks members. We are aligning our response to the questions posed within the consultation document where we can, as well as providing input on points made elsewhere in the position paper.

5. ENA has been delivering the Open Networks project over the last three years, making progress towards the delivery of Distribution System Operation (DSO) and the strategic outcomes set out in this Ofgem position paper.
6. We welcome Ofgem's recognition in paragraph 1.3 of the role of ENA and our Open Networks project in the progress towards a smarter energy system. Through the work of the Open Networks project ENA and our members will continue to concentrate on the delivery of actions now to support the implementation of DSO as well as support planning for RIIO2 for the future. The clarity on Ofgem & BEIS priorities and actions provided in the open letter to ENA on Open Networks was extremely useful in helping us to shape our work, as set out in our response¹. As set out in our response, ENA will:
 - Facilitate flexibility markets, provide decision-making transparency and standardise processes and commercial arrangements across network and system operators for flexibility services;
 - Plan for the implementation of electricity Distribution System Operation to deliver the least regrets pathway set out in the clear direction from our electricity Future Worlds Impact Assessment consultation²;
 - Increase transparency of data as part of a wider ENA gas and electricity initiative to progress digitalisation and Energy Data Task Force recommendations; and
 - Continue to deliver interoperability and whole systems development for transmission & distribution, as well as continuing the work between electricity and gas networks on whole energy system.
7. We agree with Ofgem's conclusions in paragraph 1.18 that "*At this time, we believe it is too early to implement institutional reform at distribution level as DSO functions are still developing.*" This was a key conclusion of ENA's electricity Future Worlds Impact Assessment consultation³ within the Open Networks project which set out options for Future Worlds and least regrets pathway to deliver DSO.
8. The conclusions of ENA's consultation are consistent with the vision set out in the position paper and we can therefore continue our development work in Open Networks safe in the knowledge that it is consistent with Ofgem's view whilst noting the following:
 - We received a clear steer from respondents that DSO transition starts with development of DSO-ESO coordination; this is the least regrets path, building upon existing practices whilst delivering our Flexibility Commitments and not excluding any other models in the future when we understand more on the liquidity of flexibility markets and the impact of charging reforms.

¹ <https://www.ofgem.gov.uk/publications-and-updates/open-letter-ena-open-networks-project-ofgem-and-beis>

² <http://www.energynetworks.org/assets/files/Impact%20Assessment%20Consultation%20-%20ONP%20Response.pdf>

³ <http://www.energynetworks.org/assets/files/Impact%20Assessment%20Consultation%20-%20ONP%20Response.pdf>

- Some DNOs have demonstrated benefits of enhanced coordination between DSO-ESO, and the learning will inform the work being delivered by Open Networks; this is consistent with the DSO-TSO cooperation approach of in Europe through Article 57.
- Incorporating price driven Flexibility enhances the benefits for all development; DNOs are becoming increasingly active with increased DER/LCT take up, contracted DSO flexibility services, contracted ESO services and constraint management systems.
- ED2 framework must support the progress at which DSOs evolve and be flexible to allow for regional differences to be taken into account in the future, where the evidence suggests a more efficient approach is best suited. DSO development is not a “one size fits all” development and different network operators will implement change at a pace and scale that reflects the needs of the individual geographies.
- In distribution networks that are becoming increasingly active in the way they are evolving (i.e. increased DER/LCT take up, contracted DSO flexibility services, contracted ESO services, constraint management systems) it is prudent that development towards a model more suited to the emerging environment continues. This should take the form of a least regrets approach which can be evidenced as the most efficient and economically beneficial solution.

9. The Ofgem position paper makes the point that *“A number of the topics we cover here will support the delivery of RIIO-ED2 objectives, but the focus is on actions now, progressing tangible change prior to 2023.”* In paragraph 1.19, it also highlights that *“emphasise that there are least regrets actions to be taken now to progress DSO, in advance of RIIO-ED2.”* This is how we have approached the Open Networks project at ENA, with a focus on tangible results. We have been monitoring the implementation of the outcomes to date from Open Networks⁴ and amongst the work set out in our response to the Ofgem & BEIS Open letter, our 2020 workplan will include:

- Monitoring implementation of Open Networks outcomes and Flexibility Commitments on a 6-monthly basis.
- Defined outcomes with planned timescales in the 2020 workplan, which this open letter response will feed into. We have provided indicative timings in this letter where we can.
- Raising appropriate change within electricity network companies and/or electricity Codes.
- identifying any barriers to development where we may need Ofgem or BEIS policy intervention.

10. In paragraph 1.15. the position paper states *“are encouraging the development of DSO functions now with optionality embedded, rather than defining a hypothetical future world of institutional arrangements based on assumptions and working backwards. This agile approach is coherent with Ofgem’s Strategic Narrative: 2019-2023”*. We agree with optionality and the ability to adapt and develop as networks go through this fundamental transition. In ENA’s ‘Future Worlds’ consultation, we set out a number of pathways to deliver

⁴ [http://www.energynetworks.org/assets/files/ON-PRJ-Monitoring%20Implementation%20\(Q2%202019\)%20-%20v3%20\(for%20publishing\).pdf](http://www.energynetworks.org/assets/files/ON-PRJ-Monitoring%20Implementation%20(Q2%202019)%20-%20v3%20(for%20publishing).pdf)

DSO (see Figure 1. Below), and the overwhelming conclusion of that consultation was to start along the pathway of least regrets and then react to market developments when it becomes necessary due to characteristics of the market (e.g. the level of liquidity in the market from flexibility price signals from charging reforms, where we are seeing DER connected onto our networks).

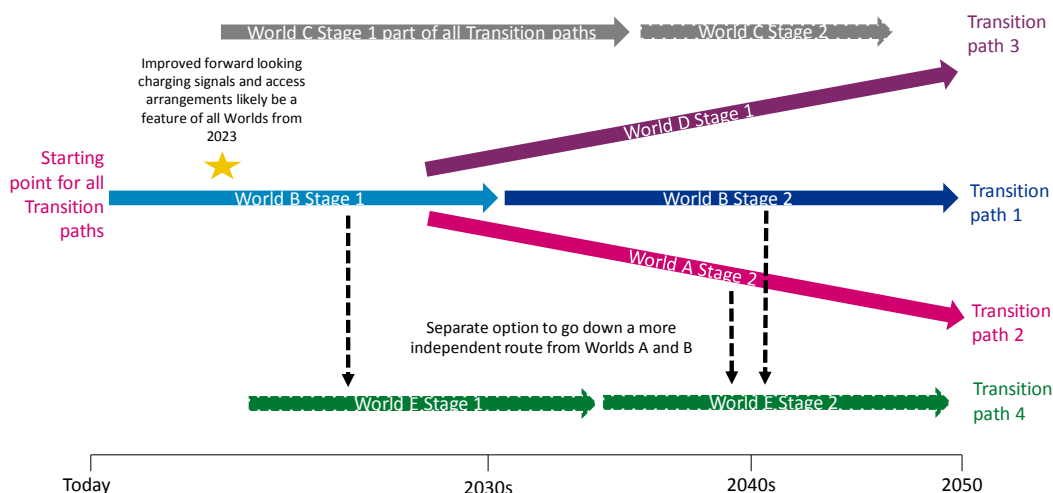


Figure 1. Distribution System Operation Transition Paths

11. We think that it is important that all interested parties are consistent in the use of the term “Distribution System Operation” and it is important to talk about “operation”, rather than companies acting as “operators”. As set out in the position paper, it is the functions of DSO that are key and we have then assessed the most cost-effective way of discharging those functions with roles and responsibilities allocated across industry. Our definition of DSO is set out below⁵:

A Distribution System Operator (DSO) securely operates and develops an active distribution system comprising networks, demand, generation and other flexible distributed energy resources (DER). As a neutral facilitator of an open and accessible market it will enable competitive access to markets and the optimal use of DER on distribution networks to deliver security, sustainability and affordability in the support of whole system optimisation. A DSO enables customers to be both producers and consumers; enabling customer access to networks and markets, customer choice and great customer service.

12. Within Open Networks, we have defined 8 core functions for Distribution System Operation with a set of associated activities⁶. These have been developed with input from a wide range of industry stakeholders and are a source of the DSO functional breakdown identified in Figure 2 of the position paper. We will continue our development work from this stable baseline of functions in our development of DSO and adapt them through change as we

⁵ [http://www.energynetworks.org/assets/files/electricity/futures/Open_Networks/ON-WS3-DSO%20Definition%20\(updated\)%20-%20published%20v1.pdf](http://www.energynetworks.org/assets/files/electricity/futures/Open_Networks/ON-WS3-DSO%20Definition%20(updated)%20-%20published%20v1.pdf)

⁶ <http://www.energynetworks.org/assets/files/ON-WS3-P2%20DSO%20Functional%20Requirements.pdf>

progress through the transition to DSO, as discussed with Ofgem as part of our project discussions. We will provide input to the Ofgem workstream from our development work to ensure that we are aligned.

13. It is essential to ensure that the work we are delivering in Open Networks is aligned with the Ofgem workplan and making best use of all of our resource when there is a large amount of industry change and development in progress. We look forward to engaging with Ofgem's workstreams and for the continued input from Ofgem to Open Networks to ensure that our work is aligned and delivering on Ofgem's needs.
14. It is also important to emphasise the link to RIIO-ED2 and below we describe how we are identifying tangible change for implementation before ED2 and supporting the planning of change within ED2, particularly with the proposed DSO Implementation Plan in 2020 from Open Networks. The timing of any policy decisions from Ofgem that are integral to ED2 policy development and companies business plans is key and these dependencies need to be identified early to ensure that they are a focus for early delivery.

In the following sections we respond to the three broad questions posed in the position paper.

Q1. Do you agree with our strategic outcomes?

15. We agree with the four outcomes for DSO reforms and these are consistent with the work that we have been developing within ENA and particularly in the delivery of the Open Networks Project, which has been working towards these objectives for three years now. We will continue to evolve our development work and it may be better to reflect these outcomes as part of ongoing development work across Ofgem, BEIS and industry towards the Smart System and Flexibility Plan. We are focusing on tangible change to deliver towards these outcomes.
16. We need to ensure that the full breadth of DSO functions is delivered through future development, which is why we will continue to work from the functions we have defined in Open Networks and we look forward to providing input into any Ofgem workstream development.
17. We suggest that there should be further outcomes defined at this high level associated with transparency of data and decision-making criteria. Open Networks is delivering on this philosophy of transparency and it is a key outcome to deliver confidence to customers and stakeholders and to mitigate against any perceptions of conflict of interest.
18. We have included some more specific feedback on the four outcomes in turn below.

Outcome 1: Clear boundaries and effective conflict mitigation between monopolies and markets.

19. The key to this is delivering the most cost-effective outcomes for consumers whilst maintaining secure, reliable, safe networks.
20. Through the work of the Open Networks project (across its Workstreams), ENA and our members will deliver visibility of network data and opportunities for DSO services, transparency and openness in the decision-making criteria to be used in the procurement of DSO services and clarity on the comparison of Active Network Management solutions, flexibility procurements and traditional network investment in the processes set out by networks. Our analysis of these decisions in procurement are being covered in our Flexibility Workstream 1A, as well as our investment planning work in Workstream 1B in the development of improvements to the Networks Options Assessment process. Our Flexibility Commitment next steps highlighted below cover transparency through the flexibility process from assessment of system needs, visibility of opportunities, transparent procurement and dispatch and reporting.
21. Open Networks has recently published its Risk Register for potential Conflicts of Interest and Unintended Consequences⁷ and this highlights owners for mitigating action to risks which will be progressed and has been agreed for progression with network operators, Ofgem and BEIS. This is a comprehensive analysis that has had input from external stakeholders through our Advisory Group as well as Ofgem & BEIS.

Outcome 2: Effective competition for balancing and ancillary services, and other markets.

22. Open Networks has been progressing the development of flexibility products and services through our Flexibility Workstream 1A activities. We are coordinating flexibility markets across DNOs, GTC (as an iDNO representative) and the ESO. Key objectives of WS1A is to deliver:
 - Convergence and standardisation of flexibility products and services.
 - Coordination between ESO, DNOs and iDNOs.
 - Removal of barriers to stack value across multiple markets, including across DSO services as well as between ESO and DSO services in the drafting of the common commercial arrangements/contract
 - Support to non-DSO and ESO markets, including liaison with BEIS Flex competition and taking the output from the Industry-led (non-Access Significant Code Review) development on Trading of Non-firm distributed generation curtailment obligations and Exchange of capacity between users with non-curtable capacity⁸

⁷ <http://www.energynetworks.org/electricity/futures/open-networks-project/workstream-products/ws3-dso-transition/ws3-dso-transition.html>

⁸ <http://www.chargingfutures.com/charging-reforms/task-forces/industry-led-access-working-group/resources/>

Outcome 3: Neutral tendering of network management and reinforcement requirements, with a level playing field between traditional and alternative solutions.

23. Britain's six Distribution Network Operators (DNOs), announced their Flexibility Commitment in 2018. Through this, they and now independent DNO GTC, committed to openly test the market to compare relevant reinforcement and market flexibility solutions for all new projects of any significant value.
24. Building on this, the DNOs, GTC, the Transmission Owners (TOs) and National Grid Electricity System Operator (ESO) have committed to six key steps as flexibility services are rolled out more widely and we transition to a more efficient, smarter and low-carbon energy system fit for Britain's future⁹. This commitment is being made to ensure this transition is successful and delivers flexibility through open, transparent access to markets while maintaining secure and safe electricity supplies and delivering best value for customers.
25. These steps apply to how networks will procure and use flexibility services to maximise benefits to households, businesses and communities. They will act as the foundation for enabling, supporting and growing flexibility markets across the country. This commitment will directly benefit all customers; not only will flexibility markets help reduce the cost of traditional network reinforcement and support decarbonisation progress towards "net zero", but they will create new revenue streams for all customers by enabling them to sell their services from flexible technologies into these new markets.
26. We have worked extensively and inclusively with stakeholders, sharing our flexibility developments and listening to wide reaching feedback at every step to arrive at these commitments and we are seeking further feedback through our Open Networks flexibility consultation that has recently closed (responses are under analysis).
27. The detail underpinning these six steps will be further developed into consistent, tangible processes, procedures and agreed working methodologies by all participating electricity networks through the ENA Open Networks Project. We will be building on these steps across the breadth of the Open Networks development work on flexibility.
28. Our next steps are that we will:
 - Champion a level playing field.
 - Ensure visibility and accessibility.
 - Conduct procurement in an open and transparent manner.
 - Provide clarity on the dispatch of services.
 - Provide regular, consistent and transparent reporting.
 - Work together towards whole energy system outcomes.

ENA has also begun some work to look at how flexibility is valued across the industry.

⁹<http://www.energynetworks.org/assets/files/ENA%20Flexibility%20Commitment%20Our%20Six%20Steps%20for%20Delivering%20Flexibility%20Services.pdf>

Outcome 4: Strongly embedded whole electricity system outcomes.

29. In ENA's response to the Ofgem/BEIS open letter on Open Networks, we have demonstrated the work that has been underway on whole electricity system outcomes, largely driven by our Transmission – Distribution Workstream 1B which has been delivering improvements in the following areas:

- WS1B P1 (Investment Planning) is looking at expanding the Network Options Assessment process (NOA) process to consider flexibility services both at transmission and distribution level and using a more holistic transmission-distribution process.
- WS1B P2 (Whole System FES) is developing a process that enables a more coordinated approach between the ESO, TOs and DNOs in the development of Future Energy Scenarios through common building blocks to improve regional outputs. Improved distribution level assumptions are also being built into GB wide scenarios.
- WS1B P3 (Real Time Data Exchange) is taking the learnings from the RDPs and other projects assessing data exchange to develop operational data exchange standards and control architectures to facilitate whole electricity system coordination in real time.
- WS1B P4 (Data Exchange in Planning Timescales) is considering what data should be shared between Electricity Transmission and Distribution to improve whole system planning and how this data can be shared more efficiently between Transmission and Distribution through improved mechanisms for data exchange.
- WS2 P1 (System Wide Resource Register) is making information on the resources connected to Electricity Transmission and Distribution networks more accurate and more accessible so that whole system network investment and services can be more effectively planned.
- Flexibility Commitment to non-build solutions and implementation as per previous sections.

30. We expect our 2020 Workplan to include:

- Investment Planning development from HV case study for end 2020, or earlier if possible, from case study input.
- Completion of T-D data exchange in planning timescales, a view of potential implementation plans and raising potential Code changes by February 2020.
- Enhanced collaboration during the development of GB FES 2020 and development of common standards and format to facilitate benchmarking between GB FES and regional DFES.
- Completion of WS1B P3 T D Operational Planning in real time depending on RDP output.
- Further consideration of T-D improvements.
- Implementation of flexibility commitment next steps for non-build solutions.

31. In addition to electricity whole system thinking, we have also expanded our development work to include whole energy system thinking in our Workstream 4, primarily looking at the benefits of including gas networks in investment planning and operational data exchanges.
32. ENA has been supporting networks currently submitting business planning information for RIIO2 by highlighting the areas of common development.

Q2. Do you agree that our work programme will help to deliver the strategic outcomes?

33. Yes, and in Open Networks, we are identifying tangible change for implementation before ED2 and supporting the planning of change within ED2. There is a clear dependency from the DSO implementation work underway in Open Networks and the Ofgem workplan and the policy development and business planning for ED2. For example, Open Networks will be delivering a DSO Implementation Plan in 2020 that will highlight key areas for development across network operators that will feed into change programmes and ED2 business planning.
34. The Ofgem workplan and workstreams are not yet clear on stakeholder engagement and involvement, but we would welcome participation in any workstream workshops and development work. The plans would benefit from more definition on stakeholder workshops, dependencies and milestones. We would also welcome continued dialogue to ensure that the work we are delivering in Open Networks is aligned with the Ofgem workplan and making best use of all of our resource when there is a large amount of industry change and development in progress. We hope that Ofgem's input in our workstreams and at the Open Networks Steering Group will ensure that our work is aligned and delivering on Ofgem's needs.
35. We will highlight any areas where we believe that we need support from Ofgem and BEIS policy measures and can tailor our Open Networks development work to provide any supporting evidence.
36. We have highlighted above that we believe there should be an additional outcome on data and transparency of data, consistent with the outcomes of the Energy Data Taskforce. ENA has initiated a Data Working Group across both gas and electricity to take forward the transparency of data in networks and this will report to a stakeholder event in early 2020 as set out in the Digitalisation Strategy section of the revised guidelines for business planning for RIIO2 recently published by Ofgem. We are expecting a consultation from Ofgem later this year on the transparency and convergence of the Long Term Development Statements from DNOs and we expect to take developments from that initiative forward either in the new Data Working Group or within Open Networks. Delivering on interoperability is an important consideration as part of any development in this area.

37. Development of Coordinated Flexibility Markets: We are grateful to Ofgem for referencing the work of the Open Networks project in this section and we will continue to develop our work, which we have adapted to align with Ofgem priorities, as described in our response to the Ofgem/BEIS open letter.

Q3. Do you have anything to add to the thinking and analysis that informs how we propose to deliver our programme of work?

38. We are happy with the stated approach for industry to take ownership of the development of key enablers and we expect this to be progressed through the Open Networks project with ongoing input from the wide range of stakeholders at our Advisory Group and through consultation.
39. We are supportive of Ofgem providing guidance on the development of key enablers and other developments within the Open Networks and we look forward to the ongoing participation in our workstream development work and Steering Group.
40. We believe it is important to focus on mitigating action that can be taken to avoid risks and there is mitigating action that can be taken by industry, Ofgem and BEIS, as highlighted above in the publication from Open Networks on Conflicts of Interest and Unintended Consequences.
41. In Open Networks DSO development, we have concentrated on the functions and activities that are required to deliver DSO and then looked at where the roles and responsibilities might lie. There are functions that are intrinsic to DNOs, the ESO and Transmission Owners to deliver against their regulatory requirements and this is key to maintaining safe, secure, efficient, and reliable networks.
42. In Ofgem's consideration of how to take forward data initiatives, we would like to again highlight that we have just initiated an ENA-wide Data Working Group, covering both gas and electricity.
43. Engineering analysis of DSO functions: Through the work of the Open Networks project, ENA and our members will continue with our definition of DSO, DSO functions and activities as this gives us a defined and agreed baseline from which to develop.
44. Key enablers: forecasting and planning data: We are working on convergence of week 24 & week 42 data and we expect other network data, including GIS and LTDS data, to be covered in the ENA data initiative.
45. Development of Coordinated Flexibility markets: This recognises the work done to date in Open Networks and we plan to continue to develop this work into 2020. Our focus will be to ensure that this development work is implemented into tangible change at network operators.

46. ENA has already undertaken a comprehensive analysis and comparison with the expectations and themes from the Ofgem & BEIS Open letter to ENA on Open Networks to ensure that we are aligned with Ofgem and BEIS expectations of our work on DSO.
47. Finally, ENA and its members look forward to continuing to work with Ofgem and BEIS to lead the way towards the transition to the smarter and more flexible energy system that the country needs.

If you have any questions on the points raised in this response, please contact John Spurgeon, Head of Regulatory Policy: john.spurgeon@energynetworks.org

Energy Networks Association
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