

# Call for Input: Future of local energy institutions and governance– ENA Response

June 2022

## DOCUMENT CONTROL

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### Related documents

|             |  |
|-------------|--|
| Reference 1 |  |
| Reference 2 |  |

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# Energy Networks Association

## About ENA

Energy Networks Association (ENA) represents the owners and operators of licenses for the transmission and/or distribution of energy in the UK and Ireland. Our members control and maintain the critical national infrastructure that delivers these vital services into customers' homes and businesses.

ENA's overriding goals are to promote UK and Ireland energy networks ensuring our networks are the safest, most reliable, most efficient and sustainable in the world. We influence decision-makers on issues that are important to our members. These include:

- Regulation and the wider representation in UK, Ireland and the rest of Europe
- Cost-efficient engineering services and related businesses for the benefit of members
- Safety, health and environment across the gas and electricity industries
- The development and deployment of smart technology
- Innovation strategy, reporting and collaboration in GB

As the voice of the energy networks sector, ENA acts as a strategic focus and channel of communication for the industry. We promote interests and good standing of the industry and provide a forum of discussion among company members.

## Our members and associates

Membership of Energy Networks Association is open to all owners and operators of energy networks in the UK.

- Companies which operate smaller networks or are licence holders in the islands around the UK and Ireland can be associates of ENA too. This gives access to the expertise and knowledge available through ENA.
- Companies and organisations with an interest in the UK transmission and distribution market are now able to directly benefit from the work of ENA through associate status.

## ENA members



# Our Response

## Key Messages & Overview

- **Commitment to Net Zero:**
  - We, the UK Energy Networks, are at the forefront of the energy transition, and are committed to enabling Net Zero. We are undertaking a wide range of world leading initiatives and implementations to support Net Zero, all while maintaining very high service and quality of supply. Our RIIO2 Business Plans have been developed with Net Zero, reliability and customers at their centre. All of our members are working hard to enable the Net Zero transition today.
  - In December 2018 all our Electricity members committed to a to the “Flexibility First” approach, coordinated by ENA, under which Electricity Networks have committed to test the market to compare traditional network-based solutions to flexibility services from the market.
- **Regulation:**
  - Ofgem’s RIIO framework is seen as a world-leading performance-based mechanism for monopoly networks. For example, the TIM (TOTEX Incentive Mechanism) has been essential in ensuring electricity distribution networks always select lowest cost solutions for customers, regardless of whether they are traditional reinforcements, smart grid or flexibility service solutions. This has enabled Networks to build up a strong and varied ‘toolbox’ of solutions, which have delivered reliable capacity to customers at lowest cost.
  - While it appears that much of this consultation focuses on Energy Networks, agile regulation and policy is required for the whole energy system, including other actors, to ensure clear roles and responsibilities, aligned goals and to mitigate potential conflicts of interest elsewhere.
  - In order to enable whole system outcomes, there is a need for regulation to shift the balance towards more collaboration between actors, rather than competition, to deliver the best outcomes for customers. To achieve Net Zero, we believe that institutional and governance arrangements for Networks need to be far more collaborative than ever before, and the supporting regulation needs to reflect this.
- **Coordination and whole systems:**
  - We believe that coordination and cooperation across Electricity and Gas networks, as well as Local Authorities, adjacent sectors (e.g. transport) and other players in the energy value chain, will be fundamental for achieving Net Zero at lowest cost – this is what we term a whole energy systems approach.
  - There is a need to think holistically about energy system planning, from a national to a local level, to ensure consistency across the country and that the right decisions are made for UK consumers. As recognised in the Smart Systems and Flexibility Plan, coordination across markets will be critical to operating an efficient zero carbon system.
- **Urgency to deliver Net Zero:** We would like to highlight the urgency of the transition to legally binding Net Zero targets by 2050, and 2045 in Scotland; and the implications of this for any institutional reform agenda. The Prime Minister was clear that the electricity system must also be operationally Net Zero by 2035 and many local authorities have their own aspirations for Net Zero with implementation dates far sooner than 2050. We must also be ready to implement government policy on hydrogen blending in 2023 and hydrogen for heat in 2026. That does not allow any substantial time for significant institutional reflection. Reforms must therefore be capable of being implemented rapidly and without interfering with existing plans to deliver Net Zero related change (e.g. the RIIO-2 Business Plans). Ability to deliver institutional and governance change with minimal disruption and within a limited timeframe has to be one of the key criteria for assessing options.
- **Need to understand barriers and broader market distortions:** If we were to only consider the models in this report, it is highly unlikely that one of these institutional changes will enable Net Zero by itself. We believe that the barriers to achieving Net Zero and broader distortions in the market (such as capacity hoarding) need to be properly understood first, and then the regulation and institutional governance that supports the energy system needs to be designed in an agile manner that can adapt to the different Net Zero policies and industry trends that will be required between now and 2050.

- **Approach to change and next steps:**
  - Building on our current success, we believe that an evidence driven, iterative approach to governance, regulatory reforms and changes to institutional arrangements would be most suitable for now.
  - Any major changes should be made at appropriate inflection points (for example at major policy decisions) after robust analysis, consideration and stakeholder engagement, and not on perceptions.
  - We welcome further clarity from Ofgem on the timelines, next steps and the way forward for this work. In particular, we would welcome further clarity on how decisions on local governance will be factored into the regulatory framework.
- **Commitment to collaborate and lead:** Energy Networks want to work with Ofgem and Government to understand what we can do to further support Net Zero, balancing local and national system requirements. We are ready and willing to collaborate with Ofgem and industry and lead this work to develop a coherent framework to take forward.

## Introduction

- This document sets out the response to the Ofgem Call for Input on Future of local energy institutions and governance<sup>1</sup>. Please note that this response is on-behalf of all of our Gas and Electricity transmission and distribution network members. Some members have submitted additional company specific responses.
- The Call for Input is wide-ranging, extending from strategic decision-making about the very future of local networks to operational management decisions about network safety and reliability. Given the broad scope, there is a risk of encroachment into political decision making, for example the powers of Local Authorities vs. powers of Ministers vs. the powers of an independent regulator in terms of who is responsible for delivering Net Zero. We welcome Government decisions to bring clarity to how the public sector will exercise decision-making, however the focus of our response is on the role of energy networks.
- Gas and Electricity networks have a fundamental role in enabling the UK to meet its ambitious Net Zero targets. Our members are at the forefront of this energy transition through initiatives such as the Open Networks Programme<sup>2</sup> and Gas Goes Green Programme<sup>3</sup>.
- The Open Networks Programme is laying the foundations of a smart and flexible energy system for a Net Zero future. Electricity Networks have implemented tangible changes within the current price control period to become smarter and more flexible, including establishing the world's largest local flexibility markets, with around 3GW of local flexibility services being sought. The volume of flexibility services contracted by DNOs for local constraint management has increased exponentially in just four years from 116MW in 2018 to 1.6GW in 2021.<sup>4</sup> This is just one example of how all our members are already working at pace to enable Net Zero at minimal cost to consumers at a local and national level.
- Through ENA's Gas Goes Green programme, gas network companies have made clear their commitment to creating the world's first zero carbon gas grid here in the UK, and to delivering the innovation projects needed to tackle the operational and technical challenges associated with the deployment of hydrogen together with other low carbon gases like biomethane. This covers the full end to end production to supply for hydrogen including both domestic and industrial customers.

## Specific Questions

### Strategic Energy Context

#### **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?**

- At a high-level, we broadly agree with the functions highlighted in the consultation. These are consistent with what Ofgem has put in its RIIO-ED2 Business Plan guidance. Given this, each DNO has set out a DSO Strategy as part of their RIIO-ED2 submission to Ofgem which satisfies each of these functions.
- However, Ofgem have not set out sufficient detail for these functions in terms of definition, scope and interactions across the value chain in a Whole System context. For example, there is no description for how these functions would be applicable to Gas networks, adjacent sectors (e.g. transport) and other actors (e.g. aggregators, suppliers, etc). There is also no description of the impact on customers and how this would be taken into account, particularly those in vulnerable situations.
- Specific comments on the functions:
  - Energy system planning: need to define the scope of system planning and what it means. This would need to include a clear approach on local area energy planning, clarifying scope, roles, responsibilities, governance and funding arrangements. It should be noted that there is a need to

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<sup>1</sup> <https://www.ofgem.gov.uk/publications/call-input-future-local-energy-institutions-and-governance>

<sup>2</sup> <https://www.energynetworks.org/creating-tomorrows-networks/open-networks/>

<sup>3</sup> <https://www.energynetworks.org/creating-tomorrows-networks/gas-goes-green>

<sup>4</sup> 1609 MW of contracted flexibility up to 30 July 2021. Data source: ON21-WS1A-Flexibility 2021 Full Update (30 Jul 2021)

look beyond gas and electricity and consider other sectors such as waste, telecoms, transport, water, heat, etc – i.e. a true whole systems approach. Our customers expect the planning to be undertaken by an entity who is trusted, credible and impartial, which will also ensure that a whole systems approach is undertaken. It is important to note that, while this energy system planning role is critical to supporting delivery of Net Zero, Government has the ultimate responsibility for Net Zero, supported by devolved and local administrations. In the context of Energy Networks, the focus should be on the planning of networks and the most efficient delivery of network capacity and reliability.

- Market facilitation: deep co-ordination is required across all energy markets, including DSO and ESO markets. It is noted that 'implicit' flexibility, i.e. flexibility that is enabled via variable network tariffs, is not mentioned. We believe that this must be considered in light of proposed reforms to Use of System (UoS) charges. The role of suppliers in accurately and fairly reflecting network markets/price signals down to customers must also be considered.
- Real time operation of networks:
  - Gas Networks operators already manage the gas system in real time. On the high-pressure system, we manage high pressure storage embedded in the network and ensure additional gas capacity is obtained if required. On the low-pressure system, we actively manage injection by biomethane producers and provide additional within day capacity to embedded electricity generation.
  - For Electricity Networks, the transmission network is already managed in real time. Distribution networks are not currently managed in real time at all voltages, but we believe real time operation will likely be required in the future as more and more DER is connected. There is an important need to understand when this real time operation is required for distribution networks (e.g. due to the mass uptake of EVs), and how it could be phased-in in an efficient manner. As a part of this, it is also important to note the impact on customers – networks may need to have access to customer smart meter and asset data, potentially in real time, to be able to operate networks efficiently.

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

- In relation to competence, accountability and credibility, we would like to see stronger recognition of the importance of network safety, security of supply and reliability in the context of increased societal dependence on energy and more complex balancing of supply and demand in future. The weight of responsibility in this area makes clarity of roles and accountability even more important.
- There are additional criteria that need to be considered for assessing the effectiveness of institutional governance arrangements (and any replacement arrangements), which are not entirely covered by the criteria presented. These additional criteria include:
  - Cost-effectiveness and efficiency: including transition costs to change governance, and especially the avoidance of duplication. The extent to which institutional and governance arrangements maximise available synergies in operations, finance, information, and know-how is critical, as all future models involve the interaction of multiple stakeholders to deliver Net Zero at lowest cost to consumers.
  - Deliverability: including the ability to deliver Net Zero, amount of time taken to transition, interaction with wider government(s) timelines for Net Zero related activity and the complexity of delivering change. Some models for example are dependent on primary legislation and require new industry codes to define new transactional relationships.
  - Adaptability and agility: the regulatory and governance framework will need to be agile, resilient and versatile to accommodate continued sector and economic change. To achieve Net Zero, and the investment required to support it, we need to be able to progress quickly once policy decisions are made. Consumers and investors value policy certainty in the Net Zero transition, but also recognise the need for evolution of arrangements. Continued institutional change without clearly



- defined benefits cases and harmonisation with wider changes erodes confidence, creates delays by diverting resources from delivering Net Zero and increases costs.
- Innovation: including the ability for the market to enable novel approaches and creativity must be retained. Incentives for whole system innovation need to be retained within regulatory frameworks, as the innovation enabled in the RIIO framework is considered world leading, and we need to build on this.
  - We believe that, when considering all criteria, they must be considered from a whole energy systems perspective, including all relevant actors, to support the delivery of Net Zero in the most efficient and collaborative manner possible.

### **Strategic case for change**

#### **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?**

- Ofgem's RIIO framework is seen globally as a world-leading performance-based mechanism for networks. The assessment fails to accurately capture the success in current regulatory mechanisms to ensure that monopoly companies act in the interest of consumers.
- The TIM (TOTEX Incentive Mechanism) aspect of RIIO has been essential in ensuring lowest cost solutions for customers.

- With Electricity Networks, this has enabled them to select lowest cost solutions for customers, regardless of whether they select a traditional reinforcement, smart grid or flexibility service solution. This has enabled Networks to build up a strong and varied 'toolbox' of solutions, which have delivered reliable capacity to customers at lowest cost.
- There is a perceived risk that Electricity Networks favour asset solutions. However, the TIM provides important mitigations on any incentives for to favour these solutions. As NERA<sup>5</sup> highlight in their Assessment of Alternative DSO Governance models:

*"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 costs. The TIM therefore seeks to remove any incentive to favour capital over operational expenses, or to favour DNO-provided solutions over flexibility contracts."*

- Beyond the TIM there are other regulatory mechanisms that have been critical to keeping costs low for consumers such as Cost Assessment methodology and benchmarking Ofgem applies across network companies.
- Supporting this the Energy Networks through the ENA have introduced the Common Evaluation Methodology (CEM) tool across all DNOs to allow an objective evaluation of the choice between flexibility solutions and traditional interventions by defining a common strategy DNOs should adopt to evaluate flexible vs. non-flexible solution to meet network needs
- The RIIO framework was led to a number of world leading initiatives and implementations, all while maintaining very high service and quality of supply. These have been co-ordinated by ENA's Open Networks and Gas Goes Green Programmes, which provide consistent and consolidated strategies for rolling out flexibility, the smart grid and green gases across the country:

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<sup>5</sup>[https://www.nera.com/content/dam/nera/publications/2022/2022.03.21\\_NERA\\_Report\\_DSO%20Strategy\\_for\\_publication.pdf](https://www.nera.com/content/dam/nera/publications/2022/2022.03.21_NERA_Report_DSO%20Strategy_for_publication.pdf)

- Over 30GW of Distributed Energy Resources (DER) have already been deployed – we already have a smart grid in global terms.
  - We have implemented the world's largest local electricity flexibility markets, with 2.9GW being put out to tender by DNOs in 2021 alone.
  - Opening local electricity flexibility markets to demand response, renewable energy and new low-carbon technology and removing barriers to participation.
  - Significantly improved coordination between DNOs and the ESO across a number of core functions, including primacy rules and planning activity.
  - Opening data to allow DER and flexible resources to identify the best locations to invest.
  - Significantly improved planning and decision-making functionality across Transmission and Distribution networks.
  - Exceptional stakeholder engagement across a broad range of industry participants and actors.
  - Cross sector trials on hydrogen for industry, transport and heat, both 100% hydrogen and hydrogen blending in the gas networks.
  - A broad evidence base being created on the safety of hydrogen in the existing gas networks and in domestic properties.
- Within the RIIO framework, there needs to be a balance of competition and collaboration between Networks such that it delivers the best outcomes for customers. To achieve Net Zero in the most efficient and timely way for energy consumers, we believe that Networks need to be far more collaborative than ever before, and the supporting regulation needs to reflect this.
  - Under current arrangements, we have been able to deliver these functions and activities with incremental change rather than wholesale revolution. This has allowed the industry to take a least-regrets approach whilst still leading the way globally in terms of Energy Networks progress.
  - We note that most of the risks highlighted with DNO activities under the current arrangements are perceived risks only and no evidence has been produced to substantiate them. We believe that if Networks focus on transparency and openness of data, methodologies and decision making, it will significantly alleviate these concerns. We have already seen this in practice with liquidity in local flexibility markets – trust in local flexibility markets is rising and we are seeing year-on-year increases in contracted flexibility.
  - We would challenge the point on DNOs hindering market facilitation, growth and liquidity – we have built the world's largest local flexibility markets in just four years since 2018 and far more is planned going forward as we recognise that more needs to be done. As markets become closer to real-time, further possibilities will open up and all DNOs have ambitious plans to deliver further customer benefit. The establishment by DNOs of operationally separate DSO functionality and processes within their businesses will improve transparency and confidence and encourage market participants to engage. We believe that these are natural, iterative steps from where we are now, and we are already building and learning about real-time markets via the ESO and innovation trials. It is too early, therefore, to conclude that the current institutional arrangements are flawed. 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 already has the tools to then evaluate the effectiveness of licensees efforts and judge whether further action is required.
  - Caution should also be taken when comparing ESO and DSO markets. While there are some similarities with respect to services, there is a need for the industry to 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. Furthermore, the regulatory arrangements are substantially different between the DNO/DSO and the ESO. 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. There does still need to be greater optimisation across ESO and DSO markets to ensure lowest cost for consumers, but careful attention should be paid to ensure their differences are respected.

- We share the view that the Local Authority role in energy systems planning is sub-optimal at present, because many local authorities do not or cannot allocate sufficient resource and deploy sufficient expertise to make it work better. All networks are willing to engage with Local Authorities but at present, in many areas, there is little with which to engage. In most cases there is a gulf between ambitious local Net Zero aspirations and limited understanding of what local Net Zero looks like in practice, let alone what instruments, decisions, resources and policy levers that are needed to turn it into reality. The Energy Systems Catapult's Local Area Energy Planning work<sup>6</sup> offers a useful starting point to build from, but Local Authorities need to be properly supported to engage with it.
- With respect to energy systems planning, a whole energy systems approach will be required to plan the future energy system at lowest overall cost to consumers – focussing on local planning alone will not enable Net Zero. As such, co-ordinated local and national governance structures that are scalable will be required, to allow local choices to be made for a particular area, while driving consistency across the country so that no-one is left behind. Consideration needs to be given to:
  - The overall energy planning process and the sectors to be included within the planning (not just gas and electricity, but wider areas mentioned below).
  - Who's currently undertaking these roles.
  - Solutions that need to be put in place for an effective whole energy systems planning approach.
- With regards to differing roles and responsibilities at a local level, and hence potentially fragmented approaches across the country, we do agree that this is an issue that needs to be looked at, and we are keen to work with Ofgem and other stakeholders to deliver the most value for customers.
- This issue is much broader than what is covered currently in Energy Networks regulation and focussing on the wrong type of institutional change will detract the industry from the real changes needed to planning to achieve Net Zero. Focus needs to be on a whole systems approach that best delivers Net Zero at a local level, encompassing Local Authority powers and budgets, transport, buildings, heat, consumer views, gas and electricity, all under a national framework that drives consistency across the country. For example, the Committee on Climate Change's (CCC) remit could be extended to developing regional/local models of what Net Zero looks like, so that Local Authorities can see what change is needed and start planning to achieve it.
- 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. As recognised in the Smart Systems and Flexibility Plan, coordination across markets will be critical to operating an efficient zero carbon system. As such, Energy Networks want to work with Ofgem and Government to understand what we can do to support the transition to Net Zero, particularly at a local level.
- If we were to only consider the models in this report, it is highly unlikely that one of these institutional changes will enable Net Zero by itself. We believe that the barriers to achieving Net Zero need to be properly understood first, and then the regulation and institutional governance that supports the energy system needs to be designed in an agile manner that can adapt to the different Net Zero policies and industry trends that will be required between now and 2050. As such, we believe that an iterative approach to governance and changes to institutional arrangements would be more suitable for now, with any major changes made at appropriately inflection points after robust analysis, consideration and stakeholder engagement.

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

- There are a range of blockers in realising effective energy system planning and operation at sub-national level, which we detail below:

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<sup>6</sup> <https://es.catapult.org.uk/report/local-area-energy-planning/>

- Changes to institutional arrangements and governance should be designed such that they do not provide a distraction or delay to the transition to Net Zero.
- Speed and level of cross-vector coordination in decision making needs to get faster and be more agile, especially with local and national government. This is essential in ensuring that a flow of funding is made available as-and-when required.
- Need greater policy direction and framework for local area energy planning and what Net Zero looks like at a local level. At a Local Government/Authority level, there are a wide variety of ambitions and timeframes, which will lead to significant differences if we don't have consistency via an overarching national framework.
- Confused understanding of roles and responsibilities at a whole system level. This is a particular blocker to enabling cross-vector or whole energy systems decisions. Local Authorities also have different views on what their roles should be (some want to be more active than others). See further Q4 above.
- There is increasing complexity as DER connects to lower voltages, which DNOs are already developing their capabilities on, but more co-ordination between DER providers/owners and Networks will be required.
- Lack of funding/resources for Local Authorities and relevant local planning authorities, particularly in the energy skills space.
- Lack of digitalisation and availability of data from participants across the value chain. There is no standard for energy data that is easily accessible and understandable to local planning authorities. ENA is working with members on a National Energy System Map (NESM<sup>7</sup>) which will help, but we need the rest of the energy industry to step-up as well.
- A lack of dynamic network charging. As well as suppliers not translating network needs (eg: the need for flexibility services) into customer bills – this is essential, as they have the main customer relationship under the supplier hub model.
- Uncertainty on who pays. Understanding who pays is essential to bringing stakeholders along. This includes the need to ensure that fairness is at the heart of determining where costs fall. Limited and/or conflicting incentives for the wider value chain participants to coordinate on the achievement of common goals, for example the potential for gaming.

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

- Broadly speaking, 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.
- We note that Energy Networks are 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.
- To achieve Net Zero, we have to 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.

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<sup>7</sup> <https://www.energynetworks.org/newsroom/new-digital-energy-system-map-shows-the-power-potential-of-energy-digitalisation>

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

- Ensuring suitable standards (eg: for data) alongside agile Energy Code management would also be an opportunity for change that could accelerate the transition.
- Given the risks highlighted in Q7 below, we believe that we should consider where synergies can be maximised between existing actors (national and local), by ensuring there is effective information exchange and coordination.
- Synergies in planning with other sectors that are critical in the delivery of Net Zero, for example transport, need to be more explicitly considered.
- It is also important to ensure that more detail is provided to understand the synergies. This will ensure that the synergies can be quantified, and hence a judgement can be made on what benefits are actually achievable by any change made, as well as the costs associated with it.

## 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?

- Broadly speaking, we agree with the risks highlighted in the consultation.
- We would especially like to highlight that implementing significant changes to local energy and DSO governance arrangements could result in large (unnecessary) additional costs, distractions, loss of synergies (including operational and information), loss of momentum and delays to the delivery of Net Zero.
- We have also identified additional risks that need to be considered:
  - Responsibilities: Need clear roles and responsibilities for all relevant actors. We see the potential addition of new parties and/or diluting responsibility for maintaining reliability and quality of supply as a large risk with the proposed institutional and governance changes. The same point can be made for operational safety for customers, staff, and the general public. Whilst we recognise that the energy system is becoming much more complex, we believe that this means strong accountability for reliability and performance will be critical and splitting responsibility for this across different parties increases risk significantly.
  - Incentives: The TIM (TOTEX Incentive Mechanism) currently incentivises network companies to pick the most efficient solution, whether build or non-build, which benefits the consumer. It is unclear how the TIM would work when build and non-build solutions are largely split between different companies, and whether this undermines the existing incentive regime.
  - Market Efficiency: Local electricity flexibility markets will be effectively based on the availability, status and health of large numbers of individual network assets, i.e. they will be highly locational. Separation between the asset owner and the market facilitator would likely lead to additional costs, more complex interfaces and data transfer and general inefficiency in how the market is run. We believe there would be significant duplication in functions when making these sorts of changes. For example, with greater separation of DSO from DNO, there will be duplication of activities like network planning, operational forecasting, digitalisation, innovation, regulatory reporting and other business support functions. Other international studies<sup>8</sup> have demonstrated similar points.
  - Scalability: Any solution proposed needs to be scalable across the whole country.
  - All DNOs identified significant costs associated with increasing amount of separation of the December RFI. This should be captured in any analysis Ofgem undertakes.
  - See also Chapter 5 of NERA report<sup>9</sup> on potential losses of synergy by splitting the DSO from the DNO.

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<sup>8</sup> <https://ceepr.mit.edu/restructuring-revisited-competition-and-coordination-in-electricity-distribution-systems/>

<sup>9</sup> [https://www.nera.com/content/dam/nera/publications/2022/2022.03.21\\_NERA\\_Report\\_DSO%20Strategy\\_for\\_publication.pdf](https://www.nera.com/content/dam/nera/publications/2022/2022.03.21_NERA_Report_DSO%20Strategy_for_publication.pdf)

## **Framework model options**

- We have reviewed the four models presented in the consultation document, however we do not believe there is enough detail in these models to accurately assess and compare them, particularly in light of their ability to achieve Net Zero. We also believe there are a range of sub-options within each model that could occur, which would need to be considered in any assessment.
- To determine the most appropriate model going forward, substantially more detail on each model and how they would interact in the energy system needs to be provided. Then a full impact analysis would need to be undertaken, including robust cost benefit analysis, and assessment of qualitative parameters. We would advocate for taking a similar approach to our Open Networks 'Future Worlds'<sup>10</sup>, which consist of fully developed SGAMs (Smart Grid Architecture Model), that were then assessed appropriately via a detailed qualitative and quantitative impact analysis<sup>11</sup>. The approach should also consider other examples and case studies, such as the aforementioned NERA report on the Assessment of Alternative DSO Governance Models.
- The criticality of this work being undertaken was highlighted in Oxera's Review of Ofgem's regulation of the energy supply market<sup>12</sup>. It found that there was no evidence of quantitative impact analysis being undertaken to inform policy choices at the time of significant regime changes in the supply market.
- Late last year, all DNOs responded an Ofgem Request for Information (RFI) to quantify cost associated with potential DSO change. We are happy to continue work with Ofgem to focus on what data is needed to enable robust decision making, and use the RIIO2 framework to ensure that we capture that data.
- Further development of the models and understanding the detail should also be done in a collaborative manner across all industry stakeholders, and in a whole systems manner. Our Future Worlds work was developed collaboratively with all ENA Members, Ofgem, BEIS and broader industry stakeholders. Collaboration occurred via a series of workshops, roundtables and webinars, and we would advocate a similar approach for this activity.
- While we recognise that similar models were considered for the Future System Operator (FSO) governance changes, we need to recognise the differences with DSOs and local energy systems (as detailed above).

### **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?**

- General comments:
  - The assumptions that have been provided are high-level and lack detail and so it's not clear any of them are workable in practice. No qualitative or quantitative impact assessment of the 'right solution' has been undertaken, and hence it is difficult for us to judge the accuracy of the assumptions with a strong level of certainty. There is a range of areas that would need to be clarified and additional assumptions likely added.
  - For example, it is unclear what the assumptions and the impact(s) will be on Ofgem and their role in the different models. There could be very large changes in regulation, particularly for options 3 and 4, including how risk is apportioned across entities. It is also unclear how incentives would work if functions were to be split across different entities.
  - Other missing or unclear assumptions include: roles and responsibilities of DNOs/DSOs, how working level functions and activities are split/shared/apportioned across entities and the associated cost implications, local government, FSO and other industry actors at an activity level, how national government will interface into each framework model, the extent of new codes and

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<sup>10</sup> <https://www.energynetworks.org/industry-hub/resource-library/open-networks-2018-ws3-14969-ena-futureworlds-aw06-int.pdf>

<sup>11</sup> <https://www.energynetworks.org/assets/images/Resource%20library/ON19-WS3-Baringa%20Future%20World%20Impact%20Assessment%20report-PUBLISHED%20060319.pdf>

<sup>12</sup> [Review of Ofgem's regulation of the energy supply market | Ofgem](#)

- contracts required, how system and network charging will work and who will bear one-off and ongoing costs of change in different models.
- The role for broader energy actors such as EV charging providers, aggregators, suppliers, and trading platforms are not mentioned in any of the models, which leaves a confusing gap for how participants in this area of the value chain will participate and what might be different for them in the future.
  - Specific comments on model assumptions:
    - Model 1: a key assumption missing is around transparency and openness of data, methodologies and processes – this would significantly reduce perceptions around conflicts of interest.
    - Model 2: the assumption implies that this model is the only way to ensure conflicts of interest are fully mitigated. We do not believe this is the case for the reasons set out above.
    - Model 3:
      - How would this body interact with planning beyond the energy system (eg: water, telecoms, etc)?
      - The assumption for this model states that planning is the biggest issue – what about system operation roles?
      - It is unclear what the role of the Local Authority or LAEP/LEP is in this model or how democratic accountability would otherwise be satisfied. Would the new bodies be advisory only or empowered to take decisions (as well as have accountability for security of supply) – if the latter they might have to be public bodies answerable to Government, in which case retaining Ofgem regulatory control is likely to be challenging. If they are to be advisory only, it may not be necessary to set up new bodies for this purpose.
      - We have concerns with the suggestion that in Models 3 and 4 the DNO does not set its own network plans and we would question how this is compatible with being accountable for network reliability.
    - Model 4:
      - While maximising "within-function synergies" sounds sensible, there are so many variations and not enough detail of how this model would work for us to accurately comment on the assumptions.
      - It is especially unclear how this model would be regulated.

**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.**

- As discussed, there is not enough detail provided in the models for us to unequivocally select one as having the most advantages over the status quo.
- There are big risks associated with large scale change without properly quantifying and understanding the benefits. We thus strongly advocate for evidence driven decision making when considering these changes.
- An independent impact assessment was undertaken in the Open Networks 'Future World's'<sup>13</sup> work that provides some insight on the potential costs and benefits associated with models similar (although with far more detail) to Ofgem's framework models presented in this consultation.

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<sup>13</sup> <https://www.energynetworks.org/industry-hub/resource-library/open-networks-2019-ws3-baringa-future-world-impact-assessment-report.pdf>

- Based on the high-level detail available, Model 1 from this consultation is most closely related to World B<sup>14</sup> from our Future Worlds work. The subsequent independent Impact Assessment showed that in the 2020's "All of our identified transition paths diverge from a starting point of World B (Stage 1). This is because World B seems to align most closely to today's arrangements and the results of the Impact Assessment have not presented an obvious reason to move away from World B". In other words, World B was shown to be the least regrets pathway in the 2020's. The National Grid ESO FES<sup>15</sup>, which are based on delivering the Government's decarbonisation targets, illustrate that a very large uptake in DER is forecast to ramp up considerably in the late 2020s and early 2030s. Analysis in our Impact Assessment showed that this may be a trigger for other models (or Worlds) to be considered, and four different transition pathways were identified.
- Without analysing further detail, it appears that, Model 1 could provide the most advantages, in a reasonable timeframe with minimal disruption to the status quo. However, we again note that our degree of confidence in the models presented is low given the lack of detail provided, and there may be hybrid or new models that emerge in the future. Model 1 would in particular have the following benefits:
  - It would ensure consistency amongst stakeholders.
  - It would minimise interfaces, costs and complexity.
  - Roles, responsibilities and incentives would be the clearest out of all the options, although we note that further clarity on whole systems functions would be required.
  - It provides the least amount of disruption and change; minimising distractions in the race to Net Zero.
- This is not to say that there are no advantages in the other models. For example, elements of Model 3 may enable better whole energy system planning, as there would be clear Governance on cross-vector decision making. However, this could also be factored into other models, or indeed other models could evolve in the future to adopt those elements. Hence again more detail would need to be provided, including all the different sub-options, and a full impact analysis of the options undertaken.
- Other considerations:
  - We believe that the DSO Strategies set out by DNOs as part of Ofgem's requirements for RIIO-ED2 already satisfy the goals that Ofgem are trying to achieve.
  - These models present potentially major institutional change to the energy system. How to effectively ensure any transition, minimise complexity/disruption and the maintain pace of change will be critical success factors.
  - We are unclear exactly what the status quo is with respect to these models. We would argue that the RIIO-ED2 submissions are already effectively predicated on a Model 1-type world. For example, with respect to Local Authority engagement we have all included very ambitious engagement initiatives.
  - All Networks have done extensive stakeholder engagement through their RIIO-2 business planning processes and ongoing engagement plans. The impacts on wider stakeholders do not seem to be factored here. Open Networks Future Worlds looked at the broader implications to 23 different industry stakeholders or "actors", and we would propose that a similar level of consideration is included within this work.
  - See also comments in Q3 on the status quo.

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<sup>14</sup> 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."

<sup>15</sup> <https://www.nationalgrideso.com/future-energy/future-energy-scenarios>



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

- Implementing major institutional changes and changing roles and responsibilities like those presented in these models will come at significant cost, time and complexity.
- This also comes with significant risks to our stakeholders and their businesses, which has the knock-on effect of potentially slowing the energy transition and Net Zero.
- When functions are dispersed across multiple organisations, there are more interfaces, data flows and more entities involved. This can increase costs, create inefficiency, lead to additional/duplicated/inefficient data transfer and cause more confusion for stakeholders.
- Any mandated divestment of DSO functions from DNOs would require existing shareholders to be appropriately compensated.
- Any change to local energy institutional and governance arrangements will also be undertaken whilst there are broader institutional and market design reforms under consideration by Government (e.g. REMA). A key challenge will be sequencing and harmonising all these changes to avoid negative impacts and unintended consequences.
- See also Q7 on risks.

#### **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)?**

- Broadly speaking, in the short-term we agree with the proposals set out by Ofgem in their RIIO-ED2 Business Plan guidance regarding DSO functionality. DNO Business Plans for the RIIO-ED2 period have been submitted on this basis.
- At this stage, there is not enough detail provided in Model 1 to understand the sub-options and provide further comment.

#### **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 taken into account in these models, which we list below.
  - The Energy Bill recently announced in the Queen's Speech.
  - Future Government decisions on hydrogen blending in 2023, hydrogen for heating in 2026 and heat network zoning policy.
  - More detail about the interaction with the ESO, and then the FSO, and all associated reforms.
  - 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.
  - The role of storage in the energy system.
  - Changes to markets and networks tariffs: both the discussions on Locational Marginal Pricing (LMP) and the UoS charging reforms being reviewed by Ofgem as a part of the SCRs<sup>16</sup> (which could have the effect of providing implicit flexibility to Networks), need to be factored in. These

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<sup>16</sup> <https://www.ofgem.gov.uk/publications/access-and-forward-looking-charges-significant-code-review-consultation-minded-positions>

changes will likely have an effect on the size and location of flexibility markets, as well as how Networks are operated.

- BEIS Retail Market Review and Review of Electricity Market Arrangements (REMA).
- There are 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.
- The growth of private networks and IDNOs, which are not subject to the same regulatory framework.
- Government will also need to be cognisant of the multiple changes that we believe will be required to governance and institutional arrangements on the journey to Net Zero. These changes will be triggered by different policies and industry trends, and hence we need to have a more agile and iterative approach.

### **Next steps**

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

- There is a need to think holistically about energy system planning, from a national to a local level, to ensure consistency across the country and that the right decisions are made for UK consumers. In particular, this will require an understanding of the role the FSO will undertake.
- We believe that working with Networks and the broader energy industry to provide more detailed models, define roles and responsibilities and assess costs/benefits, will deliver the best whole systems outcomes.
- We would value more clarity on the timelines, next steps and the way forward for this work. In particular, we would welcome further clarity on how decisions on local governance will be factored into the RII02 timeframe.
- We would be happy to work with Ofgem and collaborate on this critical piece of work.



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**Energy Networks Association**

4 More London Riverside

London SE1 2AU

t. +44 (0)20 7706 5100

w. [energynetworks.org](http://energynetworks.org)

 [@EnergyNetworks](https://twitter.com/EnergyNetworks)

Energy Networks Association Limited is a company registered in England & Wales No. 04832301  
Registered office: 4 More London Riverside, London, SE1 2AU

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