David Smith
Chief Executive
Energy Networks Association
4 More London Riverside
London
SE1 2AU

Email: flexibility@ofgem.gov.uk
Email: smartenergy@beis.gov.uk

Date: 16th July 2019

Dear David,

Upgrading our energy system

Decarbonisation and decentralisation are transforming our electricity system. In 2018, 52.8% of our electricity was generated by low carbon sources[1], and much of this low carbon generation capacity is connected at the distribution network. Parliament recently legislated to require us to target net zero greenhouse emissions by 2050. This will require us to increase our efforts even further. To remain fit for purpose in this transforming system, energy networks will need to evolve too. Flexibility will be crucial, facilitating significant deployment of renewables, electrified transport and, potentially, electrified heat. A smarter and more flexible system could save the UK £17-40bn by 2050[2], and many of these benefits will be realised at the distribution level.

The Government and Ofgem's 2017 Smart Systems and Flexibility Plan and 2018 Progress Update set out actions for the Government, Ofgem and Industry to deliver a smarter, more flexible electricity system. This included an action calling for the Energy Networks Association's (ENA) Open Networks Project to develop processes to open up the delivery of network requirements to the market and to coordinate to enable whole system network requirements to be identified and acted upon efficiently, in the best interests of consumers. We are pleased that the Open Networks Project has taken a proactive approach to delivering progress in these areas, but further change is needed to deliver our joint vision of an energy system fit for the future.

A clear direction of travel

Your members have asked for more clarity on our direction of travel and how we're considering the implications of the Future Worlds work for policy and regulation. The annex to this letter sets out our views on the work of the Open Networks project to deliver the

---

[1] Provisional figure. Final figure will be published in DUKES.

[2] Carbon Trust & Imperial College London. (2016). *An analysis of electricity system flexibility for Great Britain.* Available at:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/568982/An_analysis_of_electricity_flexibility_for_Great_Britain.pdf

DSO Transition, ahead of the Government's forthcoming energy white paper and Ofgem's open letter in the summer that will commence the RIIO-ED2 price control discussions.

The annex sets out a list of clear actions for network and system operators, including:

- Standardising flexibility procurement across network and system operators.
- Demonstrating transparency in evaluating flexibility tenders.
- Providing clear information on current and future system needs.
- Setting out a clear roadmap for data transparency, taking into account recommendations from the Energy Data Taskforce.
- Improving the availability of network information in an interoperable format.

A need for tangible results

The ENA Open Networks Project is a useful vehicle for improved coordination across network and system operators and for delivering change as part of the energy transition. We welcome the progress made to date, including their recent commitments[3,4], and are keen that progress continues and tangible changes are implemented.

The Future Worlds work has identified critical capabilities and coordination mechanisms that network companies and system operators need to develop, and the impact assessment has offered insights on the trade-offs for how responsibilities for these capabilities could be allocated. The Open Networks Project should progress with delivering tangible least regrets actions now – changes that will be needed in any future scenario - and identify the pathway for future development.

Since the publication of the Smart Systems and Flexibility Plan, we have seen a positive step change in efforts to open up network needs to competition and support network coordination, with the Open Networks Project helping to push this forward. In this letter we have set out some of the actions we consider important for the ENA Open Networks Project to take forward, as well as actions for individual networks and the system operator. We believe implementation and delivery of the changes referred to in this letter will be a determining factor in achieving a smarter, more efficient electricity system.

Yours sincerely,

Dan Monzani
Director, Energy Security, Networks & Markets
BEIS

Frances Warburton,
Director, Energy Systems Transition,
Ofgem

[3] Energy Networks Association. (2018). *Energy Networks Association's Flexibility Commitment.* Available at: http://www.energynetworks.org/assets/files/ENA%20Flex%20Committment.pdf
[4] Energy Networks Association. (2019). *Our six steps for delivering flexibility services.* Available at: http://www.energynetworks.org/assets/files/ENA%20Flexibility%20Commitment%20Our%20Six%20Steps%20for%20Delivering%20Flexibility%20Services.pdf

Annex

Future Worlds

We welcome progress made through the Future Worlds project

The development of the Future Worlds analysis has been useful. This work has identified new system operation capabilities and coordination mechanisms required to efficiently operate the future electricity system. The five scenarios outlined by the Future Worlds represent a range of options for how responsibilities for operating the system could be allocated between the Electricity System Operator (ESO), Transmission Operators (TOs), DSOs and other parties.

Baringa's Impact Assessment accompanying this work offers a valuable step forward in our understanding of the trade-offs associated with different allocations of these responsibilities. It acknowledges that the right model will depend both on policy priorities and the emerging energy landscape. We do not consider the worlds to represent binary choices, nor to be exhaustive; we expect that the future electricity system is likely to embed elements of the different Future Worlds alongside other policy and technology developments.

Turning the Future Worlds into a plan for action

Some elements of the future system will be the same in any future world, and there are actions which industry, the ENA and ENA members can start delivering now. However, there are areas where the Government and Ofgem may need to consider how roles and responsibilities should be allocated to ensure efficiency in system operation in future. The Future Worlds work will be an input into these future policy and regulatory decisions.

Activities for the ENA's Open Networks Project
Following this consultation, we expect the ENA to:

- Set out a clear plan with ambitious timelines for identifying and delivering least regrets actions needed across all the Future Worlds.
- Identify where decisions need to be made before these further actions can be delivered, including where current policy or regulation is a barrier, and discuss tangible recommendations with Ofgem or BEIS, as relevant, to remove these barriers.
- Set out a process for ensuring that appropriate information will be available to enable these decisions to be taken, and that actions are taken once these decisions are made.

Flexibility services will be a core part of all future worlds, and realising the value of flexibility will require coordination across new and existing markets. Following the Future Worlds work, we expect the ENA to take steps to ensure that new flexibility markets and products are co-ordinated with each other and with other electricity markets – including balancing and network services procured by the ESO. We would like to see specific actions and deliverables on:

- Facilitating coordination between flexibility markets and national balancing/ancillary markets to enable stacking of flexibility products and services.
- Deliver more efficient and transparent processes for curtailment at distribution, including coordination and clarity on the interaction between active network management and flexibility markets.

- Identifying where other organisations, including Ofgem and BEIS, need to take action, including to improve coordination, and producing specific recommendations for those parties.

Activities for the Government and Ofgem

As seen in Future World C, price signals which reflect network costs can minimise the need for network reinforcement, including flexibility procurement by system operators (either by the ESO, DSO or a flexibility coordinator). The Baringa Impact Assessment supports our view that price signals, which form the basis of World C, are not limited to one Future World scenario but will be a core part of any future electricity system.

The Government and Ofgem have roles in developing markets arrangements, and Ofgem for regulating network charging arrangements, which together incentivise efficient network use. This includes considering what actions could be taken to expose users to price signals more reflective of the costs they impose on the system and networks. Ofgem's Future Charging and Access programme should result in significant progress in delivering efficient price signals. We will also consider whether there is further scope to embed signals in electricity markets, encouraging market participants to solve network constraints with less need for system operator intervention.

Delivering change in our networks

More widely, we want to see the Open Networks Project deliver the tangible changes in network and system operation that are needed to support a smarter system. The current approach to delivery has achieved some positive outputs. We want to see these built on, with the ENA members focussed on implementing the changes needed.

The ENA has recently started to think about how network and system operator's progress in implementing actions and outputs from the Open Networks Project could be monitored. We support this development and believe that transparent monitoring and reporting could enable further progress and deliver change more quickly. This could be taken forward in form of a live or regularly updated dashboard indicating network and system operator's progress in implementing Open Networks outputs (for example procuring flexibility and implementing good practice). We consider that it would also be useful to include information about the actions needed to complete delivery and enduring monitoring of roll-out into BAU across networks.

Opening networks to competition

Table 1 below summarises the actions that network companies should take to maximise the value achieved from flexibility. These actions follow three core themes.

Consider flexibility services for all new network requirements

The DNOs' published commitment[5] to opening up network requirements to the market, and recent update[6], is a welcome step in making more efficient use of the networks. The network companies now need to build upon these commitments, understand the needs of prospective flexibility providers as they develop offers, and share learnings as different approaches to tendering for flexibility are rolled out. We want to see standardised and coordinated flexibility procurement processes being established across networks, that meets the needs of all market participants, and is coordinated with other markets. Ofgem is

---

[5] Energy Networks Association. (2018). *Energy Networks Association's Flexibility Commitment.* Available at: http://www.energynetworks.org/assets/files/ENA%20Flex%20Committment.pdf
[6] Energy Networks Association. (2019). *Our six steps for delivering flexibility services.* Available at: http://www.energynetworks.org/assets/files/ENA%20Flexibility%20Commitment%20Our%20Six%20Steps%20for%20Delivering%20Flexibility%20Services.pdf

developing the next set of distribution price controls, RIIO-ED2, and will be considering how flexibility procurement will be considered within this price control.

Address conflicts of interest

We are pleased to see DNOs starting to take steps to address actual and perceived conflicts of interest. The ENA Open Networks Project members must be proactive in engaging with stakeholders' concerns and ensure that these concerns are addressed with appropriate mitigation measures. Government and Ofgem are prepared to take further action if DNOs do not take adequate measures to address conflicts of interest.

Support the development of flexibility platforms and markets

Flexibility platforms are facilitating the procurement and trading of flexibility products and services and will play a key role in the success of flexibility markets. Platforms can offer a range of functions, including the ability to independently facilitate seamless access to multiple markets, facilitate data exchange, provide transparency of needs and prices, facilitate settlement, and deliver services such as prequalification for market access. We expect network companies and the system operator to facilitate the development of these platforms and associated infrastructure. As well as ensuring they are providing data to the platforms, they should work together and with platform providers and other stakeholders to ensure that flexibility products and services are compatible with revenue stacking across multiple markets. This is likely to include measures such as prequalification rules that are not unnecessarily restrictive, a common framework for defining products, and enhanced data exchange measures based on interoperability to ensure flexibility platforms and markets can deliver the desired outcomes.

The Open Networks Project has already taken promising steps towards supporting flexibility markets through their new dedicated flexibility services workstream. We want to ensure that the ambition of the ENA to develop standardised approaches across the DNOs translates into meaningful change.

Ofgem will shortly be publishing a report on platforms for flexibility as part of its Future Insights series, and is engaging with stakeholders on our views and implications for facilitating regulation. In addition, the Government's Flexibility Exchange Demonstration Projects competition (FleX)[7] is making funding available to drive the development of this new area.

Table 1 – We expect networks and the system operator to work together to support competition

Theme	We expect networks and system operator to work together to:
Consider flexibility services for all new network requirements on a business as usual basis.	• Roll out the full range of standardised flexibility products in line with those set out by the Open Networks in 2018[8]. Determine whether further products are needed to address other system needs (e.g. voltage management). • Engage with prospective flexibility providers so that products can be formulated with their needs taken into account.

---

[7] Further information available at: https://www.gov.uk/government/publications/flexibility-exchange-demonstration-projects-flex-competition
[8] 2018 Workstream 1, Product 2 DSO Service Requirements. Further information available at: http://www.energynetworks.org/electricity/futures/open-networks-project/open-networks-project-workstream-products.html/workstream-1-t-d-process.html

Department for Business, Energy & Industrial Strategy
1 Victoria Street, London SW1H 0ET
Tel +44 (0) 20 7215 5000
www.beis.gov.uk

The Office of Gas and Electricity Markets
10 South Colonnade, Canary Wharf, London, E14 4PU
Tel 020 7901 7000
www.ofgem.gov.uk

	• Actively consider longer and shorter-term flexibility products, taking account of factors such as option value and future technology costs. • Develop robust and transparent processes for identifying costs and benefits across solutions (including network reinforcement, distributed flexibility and network flexibility solutions).
Address conflicts of interest - building market confidence to invest in competitive flexibility.	• Demonstrate transparent processes for evaluating flexibility tenders, ensuring outcomes are transparent, predictable and justified. • Implement measures that provide confidence in independence of decision making (e.g. independent auditing, ring-fencing of certain activities).
Support the development of flexibility platforms and markets - facilitating increased levels of liquidity in flexibility markets.	• Standardise processes and methodologies for flexibility procurement across network and system operators. • In discussion with platform and flexibility providers, identify and implement actions to facilitate the development of flexibility marketplaces and the participation of flexibility providers, for example common product descriptions, etc.

Network and system co-ordination

Table 2 below sets out our expectations on networks and the system operator to deliver improved network and system co-ordination.

Driving planning and forecasting across network sectors

The Smart Systems and Flexibility Plan set out an expectation on network companies to develop a whole systems approach to managing networks. The Open Networks Project is developing elements of whole systems coordination, including contributions on whole systems planning and forecasting. We expect to see the improved processes implemented. Greater focus should be placed on outputs and the realisation of consumer benefits now. Each Open Networks product should be able to demonstrate meaningful outputs.

Non-build and market-based solutions should continue to be included and scoped by the Open Networks Project, and must be given appropriate consideration in comparison to traditional build solutions. Work on whole systems should include published case studies which should be, wherever practicable, real world studies providing evidence and experience in this area.

The Energy Data Taskforce and data provision enabling a smart energy system

The Government and Ofgem commissioned the Energy Data Taskforce (EDTF) to review the current energy system data landscape and provide recommendations for Government, Ofgem and industry to take forward. The EDTF consider that open and useful access to energy system data is important to allow the coordination of the future energy system as it becomes more decarbonised, diverse and decentralised The taskforce's final recommendations[9] consider five key areas for change: improved data visibility, infrastructure and asset visibility; Operational optimisation through data; Opening markets through data; and ensuring agile regulation. BEIS and Ofgem welcome the Taskforce's report[10] and we are working together and with others to ensure that better use of data unlocks a brighter future for energy consumers.

---

[9] Energy Systems Catapult. (2019). *A strategy for a Modern Digitalised Energy System*. Available at: https://es.catapult.org.uk/news/energy-data-taskforce-report/
[10] Further information available at: https://www.ofgem.gov.uk/about-us/ofgem-data-and-cyber-security

The networks are a key partner in our ambition to develop this open energy data framework. It is critical, therefore, that the Open Networks Project takes into account the taskforce recommendations when progressing its data focused products, and continues to engage with relevant policy makers.

Key Enablers

To deliver effective system operation at the distribution level, more progress is needed on key enablers - the hardware, software and associated data and interoperability standards required for efficient system operation functionalities within and across network boundaries, whether these are performed by networks and system operators or other parties. This is a priority policy area for Ofgem[11], and is designed to ensure that distribution system operation can be developed in the near-term.

System operators and networks must make significant improvements to the informational and operational technology, digital and communications infrastructure. Whilst DNOs have made some efforts in this area, we expect a more proactive approach to implementing improvements where there are clear and tangible benefits to consumers.

Delivery of short-term actions, combined with a detailed roadmap for key enablers, with specific and reportable timelines for deliverables, would provide confidence for third parties to invest in systems which engage with this new smart infrastructure. It is crucial that networks and the system operator facilitate the development of the smart energy ecosystem.

Table 2 – Our expectations on networks and the system operator to work together to deliver improved network and system co-ordination

Theme	*We expect the networks and system operator to work together to:*
Driving planning and forecasting across network sectors	• Deliver integrated planning and forecasting across both Distribution and Transmission Networks. • Consider non-build solutions across distribution and transmission on a BAU basis • Identify where cross-vector approaches may deliver better outcomes for energy consumers and decarbonisation. • Provide clear information on current and future system needs in a consistent interoperable format, developed in consultation with stakeholders.
Data provision enabling a smart energy system	• Set out a clear roadmap for timely data transparency and accessibility, taking into account recommendations from the Energy Data Taskforce.
Key Enablers for system operation at the distribution level	• Improve the availability of network information in an interoperable format for planning and forecasting, such as load flow models; network headroom; asset data; and GIS data. • Improve digital monitoring and communications infrastructure. • Improve operational monitoring and real-time information to enable cost efficient flexibility markets.

---

[11] Key Enablers is an Ofgem workstream with the purpose of creating a supportive policy environment to take forward industry recommendations.