



Northern Powergrid response to the Ofgem Call for Input: The Future of Distributed Flexibility

KEY POINTS

- Ofgem's case for a strategic reorientation of the energy industry to create a shared vision, direction and tone to prioritise distributed flexibility is well made. The call for input asks many of the right questions in terms of where and how to converge more strongly on changes to the structure or approaches across the energy system to support the country's net zero goals.
- It is right to highlight that most of the customer value with flexibility is associated with building fewer power stations and more efficient reserve services.
 - As a distribution operator our role is to support customers in unlocking this ca, 80% value,
 - while also opening access to the remaining 20% value from using flexibility as an alternative to local network reinforcement.
- Creating a more explicit distinction between behind the meter consumer energy resources (CER) and distributed energy resources is useful as it shines a spotlight on the need to accommodate both; with the growing future benefits from CER in line with increased electrification at the local level.
- Whole system focus is required when thinking about the potential solutions so that the energy services market with 80% of the value takes explicit centre stage.
- The implications of the delayed roll-out of smart meters and market-wide half-hourly settlement are not discussed in setting out the case for change or potential solutions.
 - These industry programmes are central to establishing the consumer mechanisms for distributed flexibility in energy markets.
 - They also offer points of reflections when we consider next steps.
- An 'inherently digital' route has to be the right way forward for a world where we see millions of CERs providing the distributed flexibility.
- Ofgem needs to pick a path for common digital energy infrastructure that is incremental and inter-operable in design, focusses on direction rather than destination, and plays to the strengths of the parties tasked with implementation.
 - The area of thin or medium is likely to offer these qualities.
 - The two extremes of BAU and thick should be avoided. The thick option suffers from too much risk and a lack of a successful implementation exemplar.
- The FSO is a reasonable suggestion for the party to perform the central infrastructure role.
 - It fits with the market facilitation role suggested in the companion Ofgem consultation on Local Energy Institutions and Governance.

Detailed responses to the questions

Section 1 - The imperative, potential, and challenges of flexibility

1. What do you think distributed flexibility could contribute to the energy system?

1. We face the challenge of facilitating an overall increase in demand for electricity as well as managing greater volumes of intermittent generation connecting directly to our network. We recognise that flexibility services will play a key role in enabling us to manage the capacity on our network and allow us to continue providing a safe and reliable network at least cost to our customers. As such we recognise our role in promoting flexibility markets and developing systems and processes that enable wide participation.
2. In addition, we agree that the majority of the value of flexibility will be realised through behind the meter flexibility used to flatten peak energy demand, and manage overall energy demand. As such we acknowledge that our role in promoting and developing the flexibility market in our region goes beyond distributor procured flexibility to address system constraints.
3. The value of flexibility to the wider energy system has been well documented since the 2016 report produced by Imperial College and the Carbon Trust and updated in 2021.¹

2. Will a focus on CER flexibility also help enable other forms of flexibility, especially distributed flexibility?

4. Yes, a useful distinction is drawn in separately identifying the smaller distributed flexible consumer energy assets (CER) from the grid scale assets (DER). We agree that a focus on smaller CER units is necessary to drive the 80% of value through managing overall energy demand, and agree that this will drive inclusion of all network users whilst enabling progress that will also benefit larger DER.

Section 2 - An approach pivot: The case for change

3. Is there a 'case for change' and a need for a common vision for distributed flexibility?

5. Yes.
6. As an industry we set out the options for how distributed flexibility could be advanced in the work we did in 2018 – the Future Worlds project was delivered through the Energy Networks Association Open Networks project. At that time, Ofgem were consulted and agreed that 'World B' (DNOs/ESO collaborate) should prevail while recognising that this approach would need review in the future and would probably need review later on. The current Call for Input is a good vehicle to re-assess the situation.
7. This is not the only area where the Open Networks project has made good progress in progressing the use of flexibility across network companies. As part of Open Networks we have made progress in developing inter-operability between DSO and ESO network services markets.

¹ [Key findings - Flexibility in Great Britain - The Carbon Trust](#)

8. There has been less progress, and arguably where there is a greater case for change, on the integration between networks and energy markets. Most value for customers is in the energy market². As such it is the integration between networks and energy that is arguably the greatest prize.
9. Although there is a case for change it should be recognised that the GB electricity industry is leading the way in flexibility internationally. We have achieved great progress through innovation over the last decade, and any realignment of direction should not stifle that innovation.

4. What is your vision for how to accelerate the delivery of accessible, coordinated and trusted markets for distributed flexibility?

10. Our DSO strategy sets out our vision for enabling and developing the flexibility market in our regions. Our strategy will see us develop two main enablers over the ED2 period:
 - Systems and processes to more effectively engage, onboard and procure flexibility; and
 - Data provision that aims to make flexibility market and operation data open, accurate and accessible. This will develop the primary and secondary flexibility markets in our region.
11. We believe open data and common data formats will provide the greatest benefit to enabling open, inclusive, and innovative flexibility markets.
12. In addition, innovation projects are key to accelerating the development of flexibility markets in our region. For example our Community DSO project³ will explore the use of flexibility services to balance at a local level within communities. Any future common infrastructure should not prevent innovative approaches.

5. Will certainty of an end vision help accelerate enabling work and make it cohesive?

13. A clear trajectory will help all actors work towards enablers that takes the whole industry in the right direction. On the basis that the flexibility market is breaking new ground there should be recognition that it may be too early to define an end vision, and doing so could be detrimental, setting us on the wrong path. A clear trajectory and an incremental approach rather than a defined end point may be more appropriate.
14. In these early stages clarity of requirements for key enablers is critical – certainty on requirements for data and information to be made available in consistent format would provide significant benefit in moving all parties forwards together.

6. When should a common digital energy infrastructure be in place? And therefore, when should development begin?

15. In a holistic sense a solution to enable significant distribution network flexibility will need to be in place to coincide with a need for significant deployment of flexibility, however, to put a timescale on this seems arbitrary. We agree that there is a case for change, and a clear challenge to deliver solutions soon enough to address the changing landscape – as such rather than timescales to

² This value from flexibility was established from the work led by Imperial College and the Carbon Trust. Northern Powergrid validated this thinking in its innovation project – Customer-Led Distribution System – that replaced the generalised network data with more representative data.

³ The Northern Powergrid Community DSO project commences in 2023 having been awarded funding in the 2022 round of the Network Innovation Competition.

deliver systems, it would be preferential to define policy and incentives around enablers to provide immediate and incremental benefits.

Section 3 - What that future could look like

7. What should a common energy digital infrastructure look like, and why? Please consider the archetypes or develop your own proposition.

16. We believe the trajectory should be set towards a solution that lands in the area of the thin and medium archetypes set out.
17. Standardised data exchanges are key to ensure interoperability between markets and flexibility providers, and as a step themselves may drive significant change, naturally enabling directories and exchanges that do not necessarily need to be centrally orchestrated. Using Open Banking in the UK as an example, setting standardised and open data requirements created more liquidity of customers and enabled new third-party products in the industry. Although a comparison to Open Banking does not extend fully to the issues of distributed flexibility it offers a good example for the value to be unlocked from standardised and open data.

8. What is your view on the desirability and feasibility of the archetypes or your own alternative proposition?

18. In the context of the challenges the industry faces to enable net zero, it is clear that doing nothing is not an option. At the opposite extreme, creation of a single platform carries significant risk of deliverability and potentially stifles innovation at a time of rapid change.
19. The preferred solution on the balance of feasibility and desirability would be somewhere between the thin and medium archetypes, a fusion of the directory and flexibility exchange models. This could allow individual markets to maintain an element of independence, however allows participants a means to accessing multiple markets more conveniently.
20. Acknowledging that there is a need to set a path in order to drive urgent action, defining a destination at this point may not be the solution – as set out in our response to question 5, there is a risk that become single minded on a destination will lead to delivery of a solution that doesn't meet the requirements of a developing market.

Section 4 - Delivery considerations

9. Should a common digital energy infrastructure be new-build, or should it build-out from existing infrastructure?

21. An incremental approach to delivery would provide benefit more quickly and continue to create value throughout development. By nature an incremental approach would naturally involve a mix of new build and existing infrastructure. This would limit abortive costs of current development within DNOs and likely provide greater value for money.

10. What are the important areas for consideration when designing institutional delivery models for a common digital energy infrastructure?

22. There must be clear roles and accountabilities for organisations involved in delivering any parts of the common digital energy infrastructure to ensure value for money and delivery to plan.

23. Equally there must be appropriate incentives to ensure that market participants, engage and use the infrastructure. The call for input focusses on digital solutions, however equally important is the policy, regulation and incentives that surround the system – ensuring market participants act in a contributory manner.

11. What are the important areas for consideration when designing financial delivery models for a common digital energy infrastructure?

24. A central body appointed to develop common digital infrastructure will operate a monopoly position and as such must be appropriately regulated. There must be clear roles and responsibilities and an appropriate mechanism to manage financial delivery of systems and fair use and charges for ongoing operation.