



Ofgem's approach and regulatory priorities for distribution system operation

Northern Powergrid's response to the Ofgem position paper

KEY POINTS

- **The actions and areas of strategic focus are generally appropriate but the approach is overly cautious and focuses only on the short term.**
- New net zero targets requires commitment and urgency from both companies *and* Ofgem.
 - Ofgem exhorts the need for urgency from companies but then leaves too many issues open or ambiguous - specifically roles for companies (i.e. who does what).
 - **Ofgem must do more to clearly set out what is required for the ED2 period.**
 - Proven solutions and proven capability are required.
 - DNOs could play an effective role in facilitating *whole system* decarbonisation.
- **DNOs are the right party to optimise their own network and Ofgem should confirm this.**
 - The RIIO framework already contains much of what is needed.
 - DNOs are already performing network optimisation functions as DSOs and are strongly incentivised to use new solutions like flexibility ahead of traditional investment.
 - It is not clear that any new incentives are needed – if they are Ofgem should deal with that as a core part of the ED2 methodology.
 - **Ofgem must avoid re-introducing distortions in cost treatment that would create conflicts of interest, e.g. do not treat flexibility cost allowances any differently to traditional costs.**
 - In parallel, strong, comprehensive and stakeholder-backed action is being taken by DNOs to address perception of conflicts of interest.
- **Ofgem's ED2 business plan guidance must confirm an industry baseline of what DSO functions will be performed by the network operator.**
 - This should be completed by mid-2020 to enable stakeholder dialogue.
 - This baseline could be built through a combination of industry proposed definition and Ofgem-led consultation.
- There is no need for any ring fencing in relation to network-only optimisation decisions - the totex framework has 'regulated away' conflicts of interest in this business as usual activity.
 - **Ofgem must give early clarity if any additional ring fencing is required for wider activities, recognising the costs of any such requirements.**
 - Contingent separability guarantees additional cost for an uncertain future value.
 - Without clarity on this issue, DNOs cannot produce meaningful business plans.

Summary

1. Ofgem's DSO position paper is a useful addition to framing the future regulatory framework for distribution system operation. The actions and areas of strategic focus are generally appropriate. However, the approach is overly cautious and focuses only on the short term.
2. Decarbonisation has risen in importance through 2019 with greater stakeholder interest in the role that the energy system will take to support new national and regional targets. The role of DSO is an important development to provide information provision and co-ordination of activity on the distribution networks to ensure that low carbon goals are taken forward at the same time as minimising cost and enhancing system resilience. New net zero targets require commitment and urgency from both companies and Ofgem.
3. Ofgem exhorts the need for urgency from companies but then leaves too many issues open or ambiguous. It must extend the scope of its thinking to set out what is required in the ED2 period that will be an important time to drive further decarbonisation in electricity supply and establish foundations for the decarbonisation of transport and heat. The facilitation of these objectives by distribution system operators is crucial to enable achievement of societal net zero goals for the 2030s.
4. Ofgem should be seeking to promote business as usual implementation in the ED2 period of established proven solutions. DNOs are the right party to optimise their own network and have existing proven capability to deliver. Ofgem should confirm this. It is unhelpful to leave this ambiguous (as per para 1.18 in the policy paper).
5. DNOs could play an effective role in facilitating *whole system* decarbonisation. Our vision for DSO is for a trusted and neutral platform that supports optimisation decisions and underpins the rapid transition to carbon-free electricity, transport and heat. For example, under the current role for DNOs, this includes helping to facilitate optimal decisions being taken by generators on whether network constraints on low-carbon generation dispatch should be removed (or indeed whether other solutions would offer better value, such as combined generation/battery installations).
6. In developing its framework for distribution system operation, Ofgem needs to continue to progress its thinking on how whole system efficiency is to be optimised in the ED2 period. There is a role for setting price signals to promote efficient use of the system with reform being developed through the network access and forward looking charges significant code review.
7. The RIIO framework already contains much of what is needed. DNOs are already performing network optimisation functions as DSOs and are strongly incentivised to use new solutions like flexibility ahead of traditional investment. It is not clear that any new incentives are needed. But this should be considered as a core part of the ED2 methodology.
8. Ofgem must avoid re-introducing distortions in cost treatment that would create conflicts of interest where they do not exist in the ED1 period. For example, flexibility costs should not be treated any differently to more traditional costs.

9. DNOs recognise the importance of earning trust with our stakeholders as we take steps to introduce more flexibility and grow markets. Therefore comprehensive and stakeholder-backed action should continue to be taken by DNOs to address the perception of conflicts of interest. This is happening collectively through the Energy Networks Association (ENA) Open Networks project and also through individual actions being taken by DNOs.
10. Ofgem's ED2 business plan guidance must confirm an industry baseline of what DSO functions will be performed by the network operator. It is inappropriate to leave this point undefined for plans to be based on different expectations as incentive properties will be diluted and benchmarking rendered less effective.
11. Business plan guidance should be completed by mid-2020 to enable stakeholder dialogue in the preparation of plans ahead of formal submission in 2021. This baseline could be built through a combination of industry proposed definition in the ENA Open Networks project supplemented by Ofgem-led consultation.
12. There is no need for any ring fencing in relation to network-only optimisation decisions - the totex framework has 'regulated away' conflicts of interest in this business as usual activity.
13. However, Ofgem must give early clarity if it believes any additional ring fencing is required for any new functions beyond network-optimisation and recognise that this would load customers' bills with additional costs to make businesses more separable. Introducing contingent separability guarantees additional cost for an uncertain future use. Without this clarity on what functions need to be made easily separable, DNOs cannot produce meaningful business plans.
14. Our own stakeholder engagement on DSO has been captured in DSO v1.0 (December 2018), and the successor DSO v1.1 is to be published soon¹.
15. In the following pages we provide our responses to the three questions posed by Ofgem in its policy paper:

Question 1: Do you agree with our strategic outcomes?

Question 2: Do you agree that our work programme will help to deliver the strategic outcomes?

Question 3: Do you have anything to add to the thinking and analysis that informs how we propose to deliver our programme of work?

16. This response should be read in parallel to our response to Ofgem's ED2 Open letter.

¹ Documents available from www.northernpowergrid.com/DSO

Responses to specific Ofgem questions

Question 1: Do you agree with our strategic outcomes?

17. In summary, our response argues that:

- Clear boundaries and clear accountability are vital to ensure good outcomes. But it is important Ofgem is not overly dogmatic, and does not prevent DNOs from participating in markets where this reduces costs.
- The strategic outcome on competition should widen to include all markets and is an opportunity for DSOs to add significant value through co-ordination or information provision in competitive energy markets.
- Neutrality must be a priority, but in respect of other flexibility use cases and not just reinforcement deferral.
- Whole electricity system outcomes need to be a priority by thinking about the impact of DSO on the whole energy bill. Arrangements for independent distribution network operator (IDNO) networks are as yet unclear.
- Ofgem needs to establish baseline responsibilities for distribution system operation ahead of ED2 business plan submissions, and in time for planning and setting of incentives.
- Those DSO functions that are to be made more easily separable need clarifying as there could be cost implications.
- Ofgem should consider its changes as extension or development of the existing framework rather than reforms.

18. Below we set out more details on each of these points.

Clear boundaries and clear accountability are vital to ensure good outcomes. But it is important Ofgem is not overly dogmatic, and does not prevent DNOs from participating in markets where this reduces their costs

19. We agree that clear boundaries, and accountability for actions, are essential for the proper functioning of a complex system like energy.
20. Where clear boundaries cannot be defined, Ofgem should establish the boundary elsewhere, to avoid the inevitable distortions that result when a boundary is established within an activity. This is the reason we think that DNOs should remain responsible for ownership and operation of the electricity distribution network. If these two roles are separated, an unclear boundary will be created and accountability for system stability will be blurred. Likewise, Ofgem's ability to enforce

penalties for any failures will be diminished, as it will be difficult to attribute responsibility for the failure.

21. Some of the proposals Ofgem is contemplating in its RIIO-2 framework will, however, do the exact opposite of creating clear boundaries. For example, Ofgem's decision to take ahead its proposal for a co-ordinated cross-sector reopener that revises responsibilities and funding, and reallocates projects to different sectors, will be highly damaging. As we set out in our response to the GD2 and T2 methodology consultation:

[Proposals 3, 5 and 6 represent] Highly damaging and distortionary mechanisms to re-allocate accountability and funding on an on-going basis, subject to discretionary within-period decisions, which will create perverse incentives to focus more on lobbying than achieving low costs and leave it unclear as to who is to blame when things go wrong.²

22. It is also important that Ofgem is not overly dogmatic in its pursuit of a model that denies DNOs any role or ability to participate in wider energy markets. For example, in the previous decision on operation of generation capability (like storage) by DNOs, Ofgem decided to prevent DNOs from operating any form of generation³. This creates barriers to DNOs acting as minor participants in these markets in a way that would cause no distortions whatsoever. In doing so, it prevents DNOs from minimising their costs in the future.

- a. For instance, it prevents DNO vehicles from participating, on a level playing field with third party electric vehicle on the road, in battery charging flexibility schemes.
- b. Instead, a policy of allowing such action, within constraints, would be sufficient to protect the market while still allowing DNO customers and local stakeholders to benefit from the value it brings to the DNO's cost base.

23. An overly simplistic view that DNOs should not be involved in contestable services, including any contestable 'distribution system operation functions' that go beyond optimisation of the DNO's network, is also likely to cause customer detriment.

The second strategic outcome about competition should widen to include *all* markets and is an opportunity for DSOs to add significant value

24. The most significant value from distribution system operation could come from co-ordinating access to markets rather than delivering network services to manage constraints on the distribution system. Providing data to enable competitive markets to flourish could become one of the key ways in which DSOs can deliver customer benefit by helping to minimise the size of the whole customer energy bill. We therefore support Ofgem setting this as one of its priority areas.

² Northern Powergrid response to Ofgem's T2 and GD2 methodology consultation, page 25, paragraph 123.

³ Electricity distribution licence conditions require that DNOs do not operate storage without Ofgem's consent. More from: <https://www.ofgem.gov.uk/publications-and-updates/decision-enabling-competitive-deployment-storage-flexible-energy-system-changes-electricity-distribution-licence>

25. Our Customer-Led Distribution System (CLDS) innovation project is examining these issues to understand how the DSO role sits within the wider energy system. No market should be considered in isolation, but as one of a number of markets needed to fulfil customers' complete energy needs.
26. CLDS⁴ has shown that owners and users of distributed energy resources (DERs) can obtain real value from their flexibility and their assets by participating in local energy markets that are designed for that purpose. This is a world in which customers can play an active part in contributing to the UK's decarbonisation and be rewarded for doing so, at the same time as delivering benefit for everyone by improving the efficiency of the energy system and reducing its cost.
27. We have demonstrated how local energy markets can incentivise customers with flexible load to follow and buy locally produced renewable energy, and that owners and users of DERs can get significantly more value from their assets by participating in local energy markets compared to providing services only to the distribution network. The benefits to DERs from participating in local energy markets are between 20 and 63 times greater than the benefits from participating in the network services market, dependent on the network conditions (e.g. whether the networks are dominated by domestic or commercial load and whether they are lightly or heavily loaded). The benefits to DER owners and users from local energy markets are estimated to be of the order of £90bn during the period 2030 to 2050.
28. Bearing in mind the relative value of energy markets to network services markets, there is an imperative to ensure that there is sufficient focus on how DSOs may assist customers to access future local energy markets. Going forward, the provision of network services needs to be considered alongside the higher value available to customers of trading energy.

The third strategic outcome about neutrality must of course be a priority but erroneously reduces flexibility to a single use case

29. The third outcome describes flexibility only as a means to create capacity for load-related constraints, when the current standard defined by industry⁵ identifies two other use cases to manage unplanned and planned system resilience. This has consequences in terms of ED2 business plans (our proposition for customers) and deployment processes (creating a level playing field, tendering, building a cost benefit analysis (CBA)).
30. We agree that neutral tendering of network and customer solutions is a key near-term priority for the industry. Methods used to compare network and customer solutions should indeed be fair and effective, and Northern Powergrid is taking action to provide visibility on this point⁶.

⁴ <https://www.northernpowergrid.com/innovation/projects/customer-led-distribution-system-nia-npg-19>

⁵ Defined as part of as part of the Open Networks Work Stream 1, Product 2. More from: www.energynetworks.org/assets/files/ON-WS1-P2%20DSO%20Service%20Requirements%20-%20Definitions%20-%20PUBLISHED.pdf

⁶ In our DSO v1.1 document, published in October 2019, we are making specific commitments for a neutral and transparent roll-out of customer flexibility, and describe how we are delivering against the ENA's six steps for delivering flexibility services

Whole electricity system outcomes need to be a priority

31. As per its fourth strategic priority area, Ofgem should progress its thinking on whole electricity system outcomes for the ED1 and ED2 periods. We believe that there is a case to make for DNOs to seek to ensure outcomes are maximised for customers in terms of whole energy bill cost efficiency, decarbonisation and air quality targets, and improved resilience and power system availability.
32. Similarly, Ofgem should consider how it will also include consideration for customers connected to IDNO networks. What DSO means for such customers needs more careful consideration. The principle of DSO bringing benefits for all is an important one.

Ofgem needs to prioritise and not defer decisions on responsibilities for distribution system operation in time for ED2 planning

33. Ofgem is encouraging significant progress from the DNOs while leaving many decisions open - it needs to be unequivocal on the expectations of DNOs. Specifically, Ofgem needs to be clearer as to which parties have responsibility for distribution system operation. Ofgem is being unhelpful in its ambiguity.
34. In an effort to avoid committing itself to a sub-optimal future, Ofgem risks being unclear with expectations on which party is expected to do what now and in the future. And by explicitly de-scoping the ED2 framework from the priorities set out in its paper, Ofgem is ignoring the most important priority of all: a baseline understanding of which distribution system operation functions are to be delivered by the DNOs and incorporated into ED2 business plans.
35. Such a baseline would be of benefit to stakeholders and Ofgem in comparing, contrasting and benchmarking plans at ED2 – a fundamental process to recognise and incentivise the best plans. Without such a DSO baseline it is difficult to see how Ofgem will be able to deliver a transparent and effective evaluation process.
36. In terms of how such baseline is achieved, Ofgem should consult with the industry to develop a final view of DSO functions (i.e. a revision of Figure 2). This needs to be completed by mid-2020 to enable meaningful stakeholder engagement on plans. We provide some further views on how this could be achieved in response to question 2.
37. Our initial views on Figure 2 are:
 - a. It omits a few functions (network asset financing, whole system optimisation, and local energy planning).
 - b. Most of the functions are being performed by DNOs today, incentivised under the RIIO framework. A DNO is at the interface of what is commercially preferable (for local balancing), and physically possible (network capacity), which gives it a critical facilitation role. And to reiterate the point made earlier, the fact that operational functions are unified under a single operator, facing a single set of incentives where all the costs and benefits of

its decisions are internalised, means that its profit-seeking motive acts to deliver benefits that are passed on to customers.

- c. Some functions may be incorrectly described; for instance “design of principles of system access...” sounds like defining connection rights, since system access is obtained through a connection. If we are correct as to the meaning, this is an existing role that has been carried on by electricity distribution companies for many decades, not a new role as described in the diagram.

- 38. Ofgem needs to clarify that DNOs will continue to act as distribution system operators (DSOs). It must then, as part of the ED2 review, put in place incentives for DNOs to seek to outperform business plans.

Ofgem must be clearer about the DSO functions that it may open to markets at a later stage, beyond ED2 and how it wishes companies to include separability of functions

- 39. Ring fencing must not apply to network-only optimisation decisions, since the totex framework has regulated away conflicts of interest. This should be considered a business as usual activity.
- 40. Ofgem must give early clarity if it believes any additional ring fencing is required for any new functions beyond network-optimisation and recognise that this would load customers' bills with additional costs to make businesses more separable. Introducing the contingency for new functions of distribution system operation to be more easily separable in the future (as per para 1.14 in the paper) guarantees additional cost when the any future separation in the future is uncertain.
- 41. Without this clarity on what functions need to be made easily separable, DNOs cannot be expected to produce meaningful business plans. Again, this is a case of guidance required for ED2 business plans so that companies may bring forward innovative efficient plans that Ofgem may then benchmark reliably. If companies are pricing proposals on an ill-defined basis then the incentive properties will be diluted and benchmarking rendered less effective.

Ofgem should consider its changes as extension or development of the existing framework rather than reforms

- 42. Ofgem should not view these as DSO 'reforms' as it states in the paper. Rather it is about development of the existing regulatory framework, using many of the existing tools that it already has in RIIO.
- 43. This is not a question of 'what arrangements need to be dismantled and rebuilt' (i.e. reform), but rather 'what are the gaps in the current regulatory framework' (i.e. development).
- 44. In figure 2, Ofgem makes clear that many of the functions for distribution system operation are existing or extended – strengthening the view that this is about development as opposed to reform. This mindset need not restrict ambition or indeed urgency.

Ofgem is right to recognise and take account of the numerous regulatory changes that are related to DSO

45. Ofgem is right to list the various regulatory initiatives that could impact on DSO in paras 1.7-1.10 of its paper. Significantly, its list includes initiatives that span regulated networks and retail markets.
46. A key priority for Ofgem on DSO is therefore continuing to scan these changes in order to ensure the changes envisaged for DSO are both compatible and appropriately sequenced with these wider changes.

Question 2: Do you agree that our work programme will help to deliver the strategic outcomes?

- In summary, there are some key decisions required by Ofgem in the short term that are not included in its work programme.
 - Ofgem needs to make low regrets decisions on baseline DSO functionality definition for ED2 business plans. It should determine such guidance by mid-2020 and could achieve this by tasking the industry to produce such guidance and then consult on the output.
 - The Ofgem work programme is sensible to achieve the four strategic priorities it sets out although it needs to be careful that its drilling down on exactly how that will be achieved is left to those parties that can best determine it - the network companies.
47. We set out more on each of these points below.

Producing DSO business plan guidance using industry expertise and collaborative forums...

48. We outline here how Ofgem could take forward business plan guidance for DSO. Essentially, it could ask industry to create it through the Open Networks project. This is a pre-existing vehicle to take forward this thinking such that it could an expedient, expert and transparent method to develop a solution.

...enabling an Ofgem draft decision by mid-2020

49. Ofgem could then consult on this guidance, providing material that companies may use to produce their plans and engage with their stakeholders through 2020.
50. This would be base or core distribution system operation. If companies could see a way to provide more value with new or extended functions in a way that would better meet their stakeholders' needs then that would come out in this consultative process.
51. Comparative benchmarking may therefore still be used to determine effectiveness (outputs) and efficiency (costs) of ED2 business plans as companies may then propose to do more or less than this DSO baseline following their stakeholder engagement.

52. The aim here is drive convergence of thinking where it is of more value to customers than divergence. It is also a pragmatic way in which Ofgem may manage the complexity of assessing and benchmarking plans. The competition for efficient and innovative plans should be maintained at the ED2 price control review.

The Ofgem work programme is sensible to achieve the four strategic priorities it sets out...

53. Notwithstanding the content above on what we consider to be missing from the plan, the thinking set out in the paper appears sensible.

... although Ofgem needs to be careful that its drilling down on exactly how that will be achieved is left to those parties that can best determine it - the network companies

54. Ofgem should be focussing its attention on what needs to be done (and why) as well as how it will use its powers as an economic regulator to incentivise or direct those priorities. There is a risk that Ofgem seeks to design and/or manage the details of the arrangements. This risk needs to be avoided by Ofgem since it is not best placed to do this.
55. Ofgem needs to task the industry to define core DSO, mandate that DNOs as DSOs deliver it and then ensure incentives drive the right outcomes for customers.
56. Within the remainder of the ED1 price control period and on receipt of ED2 business plans Ofgem may then compare, contrast and assess how well each company is rising to the challenge.

Question 3: Do you have anything to add to the thinking and analysis that informs how we propose to deliver our programme of work?

- **Ofgem needs to set out explicitly how it will manage strategic direction of the wide range of industry change programmes that are related to DSO policy.**
 - **It also needs to explicitly recognise the value of the RIIO incentive framework and how this establishes a platform for continued development of DSO functions by DNOs.**
57. We set out more on these two points below.

**With six significant code reviews⁷ and various other related energy system changes in progress
Ofgem should do more to explicitly manage strategic direction**

58. As Ofgem sets out in paras 1.7-1.10 of its paper, this is a time where there are numerous changes to the regulatory system all proceeding in parallel. It is important that a strategic focus is maintained on all these parallel workstreams such that they are complementary and there are no unintended consequences arising from the change taking place concurrently. Ofgem should consider and seek input to maximise the effectiveness of the changes being made.
59. This full and wide visibility may be best achieved through the Smart Systems Forum.

In its first strategic outcome Ofgem needs to recognise the value of incentives in regulated monopolies and the strong platform this provides for the developing DSO role

60. We agree with the idea of forming a distinction between regulated and market activity, but Ofgem needs to recognise and value the commercial pressures that the regulatory environment brings for the benefit of customers. The distribution market sector involves privately-owned companies, operating as monopolies in a regulated market. Such a model is the right environment for DSO functions because the totex approach to regulation removes the main conflict of interest: minimisation of totex costs means there is a strong incentive to prefer external solutions if these are cheaper than internal ones, and part of these benefits is passed on to customers.
61. The proposals Ofgem has made in its ED2 open letter, to set allowances for flexibility tenders outside of the totex framework, would be a retrograde step, introducing a conflict of interest of the type Ofgem had previously worked hard to remove from the regulatory system.
62. In summary the current model:
- strongly incentivises DNOs to minimise costs (including by deferring traditional reinforcement through flexibility solutions) both in their business plan submissions and on an ongoing basis;
 - ensures DNOs carry clear accountability to customers for the outcomes of our decisions, for example through the interruptions incentive; and
 - uses comparative benchmarking at successive price control reviews to ensure the benefits are passed on to energy customers.

⁷ Ofgem significant code reviews – Electricity network access and forward-looking charging, Targeted charging, Half hourly settlement, Faster switching, Retail code consolidation, and Reforming energy industry codes