

# Octopus Energy Response to DNO Final ED-2 Plans

*Octopus Energy • February 2022*

Authors: [kieron.stopforth@octoenergy.com](mailto:kieron.stopforth@octoenergy.com), [rachel.fletcher@octoenergy.com](mailto:rachel.fletcher@octoenergy.com);  
[alex.schoch@octoenergy.com](mailto:alex.schoch@octoenergy.com)

The ED-2 period is a critical time for energy system decarbonisation. The five years from 2023 to 2028 will see rapid growth in renewable capacity and sharp increases in customer demand, with electric vehicles and heat pumps reaching maturity. Distribution Networks can either put the building blocks in place for the future system or continue in an incremental fashion and rely on old methods.

Octopus as a tech company, retail utility, renewable energy generator, and flexibility provider seeks to accelerate the deployment of low carbon technology, use this to provide a flexible resource to the grid and reduce customer bills. In our previous paper<sup>1</sup>, we highlighted some areas where DNOs could go further on flexibility faster based on their draft plans. These included to: i) raise ambition and targets for flexibility solutions; ii) include stronger mechanisms to ensure accountability on flexibility commitments; iii) require DNOs to create a level playing field; iv) provide clearer strategies on transition to DSO; v) accelerate plans to develop data and digitalisation capabilities.

We have reviewed the DNOs final plans and note that progress has been made since the drafts. In particular, DNOs have published much more detail on some of the key missing pieces, which is welcome. There are concrete details on DSO strategies. Several DNOs have published clear proposals on uncertainty mechanisms and methodologies for load vs. flexibility spending. This paper provides a summary of the areas requiring further attention if the ED2 period is to take a big step towards achieving Government and Ofgem's ambition for a "smart, flexible, energy system".

There are a number of missing pieces that Ofgem should push DNOs to address in its final review:

## **1. Flexibility should be Plan A for load management**

There remains a wide spread between the DNOs both in the extent to which flexibility will be used to manage increased load on the system and in the strength of commitment to flexibility, with some DNO commitments appearing aspirational rather than firm. There is still much for Ofgem to do to challenge those companies making unambitious and/or vague commitments.

---

<sup>1</sup> Five Steps to Make RIIO-ED2 Fit for a Flexible Future, Octopus Energy, November 2021

We accept that there is uncertainty in the volume of flexibility that DNOs will be able to procure and that if flexibility does not materialise then load related expenditure will be needed. But, in order to move beyond 'flexibility first' as a slogan, all DNOs need to:

- make firm commitments on spend or MW procured;
- provide a five year view on where this is expected to be required, with annual or semi-annual forecasts tied to specific areas; and
- have a clear set of rules for reallocating spend away from flexibility to load related expenditure in the event that the flexibility does not materialise

The DNO targets should be in a consistent format and imply the same firmness of commitment, e.g. DNOs should publish flexibility spend as a percentage of load related expenditure, and methodologies for reallocating spend should be uniform across the sector. 'Flexibility first' should mean - in a robust way - that load related expenditure is truly a last resort that is only mobilised where flexibility either cannot deliver or would be higher cost. We are pleased to see the work that UKPN has put into designing an uncertainty mechanism that looks to achieve this aim. We ask Ofgem to explore which features should be applied more generally across all DNOs.

UKPN's 'assessment cycle' methodology (Chapter 8) is the most robust method we saw for allocating spend. This provides a regularly updated forecast of load at each substation, analysing where flexibility could fill gaps and only releasing load related expenditure where more capacity would be required. The decision making logic for forecasting load and releasing new capacity is clear and transparent. It is underlined by a default commitment for flexibility expecting to bring £410m in savings. We would encourage other DNOs to review and adopt a similar methodology.

The WPD business plan shows a clear ambition towards deferring reinforcement with flexibility. In particular, 58 out of 193 schemes that would otherwise require conventional reinforcement are expected to have that reinforcement deferred outside of the RIIO-ED2 period via the use of flexibility in those zones, avoiding £94 million of reinforcement costs. The assessment of which zones will be able to benefit from flexibility was made using the CEM tool comparing flexibility with reinforcement across a range of scenarios, and WPD have committed to undertaking this comparison on an ongoing basis.

One of the key benefits of using flexibility is its option value, allowing for scenarios to be realised in which predicted reinforcement is not, in fact, needed. Some DNOs have mentioned this option value in their business plan, but we would like to see this reflected in the Common Evaluation Methodology (CEM) and all DNOs applying it in their decision making.

## **2. There should be a true technology-neutral approach to flexibility, load management and reinforcement**

Further to the previous point, DNOs should establish an evaluation methodology that is a true level playing field between different options and thinks broadly about new sources of flexibility. In particular, we are concerned that some DNOs are over-reliant on Active Network Management, which distorts the playing field for flexibility, and that there is a lack of

recognition from DNOs on the role that time of use tariffs are already playing to help reduce load at key times.

First, we were concerned to see Active Network Management regarded as an 'innovative' approach by several of the DNOs such as SSEN and ENWL. An over-reliance on ANM undermines the ambition of DNO/DSOs becoming "neutral" market facilitators. We believe there are more efficient market mechanisms and ANM is a blunt instrument which leads to market inefficiencies; increasingly flexible demand and distributed storage are able to help relieve constraints.

We would like to see Ofgem challenge the DNO to devote more effort to investigating alternative mechanisms or augmenting the ANM scheme to allow for curtailment in merit order (ie by applying a market mechanism such as allowing secondary trading) and facilitate ANM sites to participate in higher value balancing applications (where there is a value to more certainty over dispatch). Any improvement upon ANM must balance the needs of providing dispatch/cost certainty to the DSO, enabling fast connection of new resources and efficient dispatch of resources to resolve local constraints; in ignoring the last there is danger of wasting valuable renewable resource and incentivising unnecessary network build.

Second, custom tariffs for low carbon technologies - such as Octopus Go and others from different retailers - are playing a valuable role in shifting electric vehicle load out of peak times and into the overnight window. A customer pool of 50,000 with 7kW EV chargers, could be incentivising 350MW of load to shift. DNOs are taking steps to incorporate this in flexibility tenders, but there are issues over metering and baselines which were designed with conventional generation (diesel generators) in mind and do not always provide a natural fit for domestic flexibility. DNOs need to take faster steps to recognise and procure greater levels of tariff-based load shifting, making the design changes necessary to unlock this flexibility - WPD is a good example of having done this already through Future Flex project, which is now being adopted into business as usual. This would also provide an opportunity to address any secondary peak effects in the early hours. Tariff-based modes of load shifting should be adopted by all DNOs as a mode of flexibility provision.

The above discussion underlines the importance of creating independent and properly resourced DSOs as soon as possible. Significant investment is planned to create DSO capabilities over the ED2 period. However, we note that DNOs are showing different levels of ambition in capabilities and independence. We would like to see Ofgem challenge those who are moving more slowly so that by the end of the period the gap has narrowed.

### **3. Much more coordination and standardisation across DNOs needed**

There are many areas where DNOs / DSOs carry out similar functions across the six businesses but implement these in six different ways. For instance, in the field of flexibility services, even though the DNOs have worked together through Open Networks, there are different service parameters for the four services (e.g. UKPN Secure is a real-time dispatch service, committed six months ahead; WPD and SPEN Secure is committed and dispatched week ahead). The standard contract has some variations between DNOs. Although there has been some unification, multiple procurement and dispatch platforms are still used. This

places a severe burden on flexibility providers. We urge more standardisation across DNOs in this area.

In our previous paper, we highlighted the need for greater digital capabilities in DNOs and the potential for greater use of publicly available data to help market participants identify new solutions for flexibility and managing the network. We are pleased to see more information about these strategies in the final business plans. But, it is crucial that the datasets and topologies are uniform across DNOs - otherwise the burden of processing data will be too high and the potential in collaborating on datasets will be lost. We would like to see Ofgem challenge the industry explain how they will achieve this standardisation.

#### **4. DNOs should raise ambitions to realise benefits from digitalisation and data**

We are pleased to see the details showing that most DNOs plan to make considerable investment in digital infrastructure for markets, particularly in low voltage monitoring. Lessons can be learned from NGENO balancing markets where outdated Control Room systems are the blocker to applying more dynamic market structures, which ultimately is delaying the transfer of services from thermal generation to low carbon technology. Such mistakes should not be repeated at the Distribution level and IT investments should be strategic and forward looking wherever possible.

We reiterate the call for all DNOs to collect and make more data available. We would like to see more uniform attention paid across all DNOs to creating visibility of the LV network via monitoring and data analytics of load per substation, noting that some but not all are looking to provide 100% visibility. We see this as instrumental in helping to predict and signal where constraints and flexibility provision can be made in real-time. We also note that this level of understanding of the network will be required to move to more dynamic network charging in due course and this should be considered an investment for ED3 and beyond.

#### **5. Ofgem should keep an spotlight and monitoring on DNOs within period**

We see many positive developments in the DNO business plans which should promote the use of flexibility and ultimately the development of lower cost, more resilient, low carbon distribution systems over time. As well as the steps above to improve the business plans between now and the start of the regulatory period, we would like Ofgem and the DNOs consider what measures will ensure that the focus on flexibility does not diminish during the period, and any delays in progress are quickly spotted and addressed.

We note that UKPN and WPD are setting up panels for DSO oversight for this purpose and we would like to see other DNOs considering how they can use relevant stakeholders to help drive progress. We ask Ofgem to consider producing a regular report on the extent to which DNOs are complying with the “flexibility first” principle, the progress being made in establishing DSOs and in developing digital capabilities and providing more data. This report should include key metrics on enabling flexibility provided in a standardised format across DNOs - forecast needs earmarked for flexibility, MW procured and delivered, budgets, carbon intensity of flexibility procurement, customer savings related to flexibility. We note that

some DNOs, such as SPEN, have provided estimates on the customer benefits they expect to be created through their DSO functions over the period. We would like to see a much clearer picture of where the sector expects to get to by the end of the regulatory period, the system and customer benefits provided, and a regular spotlight shone on progress.