



ADE DRAFT Response to Open Networks Flexibility consultation | 25 September 2020

Context

The Association for Decentralised Energy welcomes the chance to respond to **Open Networks' Flexibility consultation**. The ADE is the UK's leading decentralised energy advocate, focused on creating a more cost effective, efficient and user-orientated energy system. The ADE has over 150 members active across a range of technologies, and they include both the providers and the users of energy. Our members have particular expertise in demand side energy services, including demand response and storage, as well as combined heat and power, district heating networks and energy efficiency.

This consultation response is structured as follows. First, we provide a list of key priorities for the DSO transition that would help to deliver the flexible, low-carbon, resilient system of the future. We then respond directly to the questions raised in the consultation.

ADE priorities for the DSO transition

Market Design

Recommendation 1: All DNOs should put in place flexibility markets procuring standard products across three timeframes (different timescales will be essential in allowing different assets to participate):

- Day-ahead market for constraint management and reactive power to relieve real-time constraints and reduce need for renewable curtailment
- 1-2 year ahead market for reinforcement deferral
- Yearly market for long-term reinforcement avoidance, procured as reserve capacity and used closer to real-time, with contracts awarded on a rolling basis as providers continue to dampen demand

Long-term contracts are not efficient, particularly in the context of falling tender prices, and therefore should not be tendered, unless there is a very strong reason to do so.

Recommendation 2: Any additional, regionally specific needs should be addressed through targeted local products, potentially developed via innovation projects, using standard parameters to determine what, when and how flexibility should be provided to accurately reflect network needs. All innovation projects should be conducted in a transparent manner with stakeholder involvement, as required by the Clean Energy Package. Any potential implications of regionally specific products for flexibility offered in existing markets should be identified and communicated clearly to industry.

Recommendation 3: All DNOS should commit to eliminating non-financially firm connections at Distribution and direct control of flexibility assets (including Active Network Management or DNO control of EV smart charging) to manage network constraints by 2028, and use flexibility markets and products instead. Use of curtailment and direct control should reduce over the RIIO-ED2 period and have reached zero by 2028. This commitment mirrors the ESO's goal of zero carbon system operation and comprises the DNO's contribution to decarbonisation over the RIIO-ED2 period.

Recommendation 4: All ANM contracts should be migrated to financially firm connection contracts where operation is managed through tradable constraints markets by 2028. A 'red, amber, green' approach should be taken, assessing where tradable flexibility markets can replace ANM contracts in the short term (the 'amber' areas) and where this will take longer (the 'red' areas). A fixed, declining cap on curtailment for all generation on ANM contracts should be introduced, with usage time-limited and standardised, both in terms of costs and numbers of curtailments.

Recommendation 5: DNO flexibility markets and services should be designed to be open to all technologies that could provide the required service and in consultation with industry, as mandated by the Clean Energy Package. Common standards should be put in place with regard to market design, judgement criteria in tenders, interoperability and security standards, and approaches to dispatch.

Recommendation 6: All DNOs should allow a standard 1-year lead time to indicate likely flexibility requirements. For reinforcement deferral, DNOs should allow a 1-2-year lead time between contracting and delivery of flexibility services to allow aggregation and/or construction of flexibility.

Recommendation 7: A single, portal should be shared by all DNOs for prequalification and registration of assets. This portal should be as automated and user-friendly as possible, allowing type testing of assets and portfolio-level testing, including objective pass/fail criteria for all parameters and containing as few manual information inputs as possible. The portal should be independently owned and managed and allow open access to commercial marketplaces and independent Flexibility Platforms.

Recommendation 8: Processes, such as dispatch signals from DNOs to aggregators, should happen in an automated, scalable manner which allows multiple small assets to be dispatched concurrently and in merit order. The approach to dispatch should be standardised across DNOs, either through APIs or standard systems, to ensure that providers do not have to invest in multiple bespoke platforms or systems. Further consideration is also needed of how dispatch instructions will work across DNOs and ESO.

Recommendation 9: DNOs should ensure that no unjustified barriers exist to service provision, removing any unjustified exclusivity clauses and reviewing historic connection agreements to establish whether any restrictions in those agreements are still required.

Recommendation 10: DNOs and ESO should establish clear service prioritisation rules to dispatch, moving to auto-reconciliation of dispatch instructions as soon as possible, with providers fully rewarded for providing responses that fulfil multiple system needs simultaneously.

Recommendation 11: Work undertaken by DNOs should not preclude, and where possible should support, innovative offerings, including independent trading platforms.

Recommendation 12: A Distribution Design Authority should be established to allow industry stakeholders to co-design any information systems or IT infrastructure that will be used to underpin flexibility markets or services.

Valuing flexibility correctly

Recommendation 13: All DNOs should be mandated to use a common, published evaluation methodology for flexibility v. reinforcement decisions. The methodology should appropriately incorporate option value, per day value to customers of faster connections and value of faster rollout of low-carbon generation.

Recommendation 14: DNOs should publish a cost-benefit analysis for all decisions to reinforce the network, rather than procure flexibility, using a standardised template approved by Ofgem.

Recommendation 15: When conducting market tests, as required by the Clean Energy Package, DNOs should run multiple tenders for flexibility services, allow sufficient lead times, ensure that services requirements are designed to minimise costs to providers and offer sufficient volumes to attract interest. A Code of Conduct, outlining the correct approach to market tests should be designed by Ofgem, the ENA and industry and DNOs mandated to follow it.

Recommendation 16: DNOs should be given explicit incentives based on the speed of connection

Data and Transparency

Recommendation 17: DNOs should adopt a presumed open approach to data, as recommended by the Energy Data Taskforce, with all data made publicly available in accessible formats via a universal catalogue of data sets.

Recommendation 18: By the start of RIIO-ED2, all DNOs should take a signposting and forecasting approach to publication of future system requirements, such that flexibility providers can clearly understand where flexibility services will be needed and have sufficient information to take a credible view on likely revenues.

Recommendation 19: DNOs should adhere to the requirements of the Clean Energy Package in relation to transparency of pricing and utilisation rates, publishing the results of all DNO tenders in accessible and consistent formats, with similar details included to those in the STOR tender results.

Recommendation 20: All DNOs should publish in real-time, on an anonymised basis, the locations where providers are being dispatched and the volumes that are being dispatched for.

Recommendation 21: All DNOs should publish the average number of times providers are dispatched in each procurement zone per year.

Recommendation 22: All DNOs should be mandated to share all information on the location and characteristics of DERs and all other network data needed to carry out any DSO function that could potentially be undertaken by a commercial provider.

Recommendation 23: DNOs, or any flexibility market operator in the future, should create a Digital System Map, then release GIS mapping of electricity zones where flexibility may be required.

Recommendation 24: DNOs, or any flexibility market operator in the future, should include sufficiently detailed categorisation in contracts to allow them to estimate the carbon content of each aggregated unit providing balancing services and to publish this data. This should be measured separately in terms of availability and utilisation, and both figures should be reported.

Neutral market facilitation and competition for DSO roles

Recommendation 25: DNOs should tender for system needs as Neutral Market Facilitators; they should not be allowed to provide services where clear commercial alternatives exist, including owning and operating storage and providing services like CLASS in line with the Clean Energy Package.

Recommendation 26: Ofgem should ensure that no element of RIIO-ED2 prevents DSO functions from being put out to competitive tender at a later date. Assessment of which functions could be put out to tender should be completed before the start of the RIIO-ED2 period, if possible. Any tender should be open to all commercial providers and DSOs and sufficient data should be publicly available to allow competition on level terms

Recommendation 27: Ofgem should require all DNOs to organise their governance structures such that DSO functions can be easily separated out in the future if necessary. This would involve, for example, having separate heads of DNO and DSO activities, an approach that Western Power Distribution have already implemented.

Consultation Questions & Responses

P1: Common Evaluation Methodology

The ADE welcomes the development of a common evaluation methodology and tool to assess flexibility against other options to meet network needs, however, the tool presented in this consultation does not adequately account for the options value of flexibility.

While the included functionality to assign probabilities to load growth scenarios is positive, the ADE considers that this should be a core (not optional) functionality. A transparent and standardised framework for assigning probabilities should be developed. A good example of this can be found in a **model developed by Frontier Economics** for SSEN (p. 21-22).

Moreover, the tool presented in this consultation only considers the value of flexibility based on the deferral of reinforcement costs. In order to correctly value flexibility, it is critical that decision making tools account for the value of optionality provided by flexibility solutions. Again, **the Frontier model** provides a good example: it details a backwards induction approach to valuing future optionality in the assessment of the most optimal course of action.

It is critical that the common evaluation methodology reflects optionality; the ADE would support a similar approach as that set out in the Frontier Model.

We also note that, while the CEM is presented as a tool to assess flexibility vs network reinforcement vs ANM (or other network flexibility options) the material presented as part of the consultation focuses primarily on flexibility vs network reinforcement. Insufficient consideration

has been given to how network-based technological solutions like ANM should be considered and valued. Considering ADE and wider industry concerns about the use of ANM, if the CEM tool is going to be used to evaluate this option it will need to capture all potential costs and any wider impacts on stakeholders. The CEM, as presented in this consultation, fails to take this into account, considering only costs and benefits from a network perspective.

Moreover, current ANM contracts do not allow the connected party to see the value that they forego by accepting a flexible connection and therefore cannot be priced against storage or DSR. A better comparison between ANM and storage/demand turnup needs to be incorporated into the common evaluation methodology.

P2: Procurement Processes

A single, portal should be shared by all DNOs for prequalification and registration of assets. This portal should be as automated and user-friendly as possible, allowing type testing of assets and portfolio-level testing, including objective pass/fail criteria for all parameters and containing as few manual information inputs as possible. The portal should be independently owned and managed and allow open access to commercial marketplaces and independent Flexibility Platforms.

Q2 – Would stakeholders see greater value in holding PQQ stages (1,2 in the associated presentation) at point A or point B in the timeline with rationale?

The ADE considers that having a technical parameter weighting in the procurement process is not technology agnostic and shows preference for particular types of technology. Any technical concerns/requirements should be captured in the minimum requirement.

A central repository of assets with basic technical data, which system operators can refer to in their early due diligence, could add value to this process. This would speed up the tender process and prevent providers having to produce very similar data for all the system operators for each market, they participate in.

In terms of standardisation, the ADE recommends the implementation option A, with a separate Stage 2 (prequalification). This would help to identify tenders that are not relevant to proceed with, due to limitations of a flexibility providers' asset, thereby helping parties to target their activities.

Q3 – Do you agree with the alignment of timing for procurements on the proposed cycle of 2 procurements per year and if not, why?

The ADE welcomes the proposal to align the timing of procurement across DNOs. It is important to ensure that these do not clash with other market tendering timelines (e.g. the CM). At present, two procurement cycles per year is reasonable. However, the ADE would like to see DNO markets develop across timeframes (see recommendation 1). If DNOs start to procure closer to real time, the timing of procurement rounds will need to be different for shorter-term products.

P3: Active Power Services Parameters

Q4 – Do you agree that implementation of these consistent parameters helps to remove barriers to entry?

The ADE welcomes the proposal to standardise these parameters, which will help to ensure greater consistency across products. The decision to remove the minimum capacity value for aggregated services is also welcome.

Q5 – Should any other parameters be considered and if so, why?

The ADE does not have any remarks on this question.

P4: Commercial Arrangements

While Open Networks are not formally consulting here on Product 4, the ADE would welcome clarification from Open Networks on how they view the interaction between these standard contracts and flexibility markets.

P5(2020): New DSO Services

Q6 – At what point do you believe it is appropriate to standardise new products? For example, should we initiate standardisation early on limited experience, or allow more than 2-3 DNOs to develop and procure similar products before commencing standardisation?

In standardising new products, it is essential to strike a balance between allowing innovation and avoiding a fragmented approach to product design. Standard products should therefore be rolled out across DNOs, with targeted local products permitted to address additional regionally specific needs. For these targeted products, it is essential that standard parameters are used to determine what, when and how flexibility should be provided to accurately reflect network needs. A basic level of standardisation is therefore needed for all products, while allowing some flexibility around product design in the early stages of the DSO transition.

In developing new products, until they reach their final version, DNOs should make very clear where products are still developing. This will allow market participants to prioritise their work, and avoid spending time automating solutions, which may subsequently need to change.

Q7 – Which new DSO services do you believe are ready for standardisation now, if any, and why?

We believe that the DSOs should agree the 4 standard product definitions and a consistent way to operationalise them as the first step. When the key terms of the standard contract is then finalised they should look to trial an enduring solution for further market feedback before launching a standardised solution.

We welcome the standardisation of contracts but request that they are written as simple as possible recognising that FSP will need to translate to agree their own contracts with asset owners and demand response customers.

P6: Market Facilitation – Non DSO Services

Q8 – What input can you provide to help us prioritise non-DSO Service development?

The ADE considers the following non-DSO services to be of greatest relevance¹:

- Demand Turn Up
- Exceeding MIC / MEC
- Trade ESO / DSO Contracts
- Trade ESO / DSO Obligations
- Virtual Power Plant
- Virtual Power Purchase Agreements
- Wholesale Trading
- Within Gate Closure Balancing

The ENA should engage with stakeholders in the further development of non-DSO services.

P7: Baseline Methodology

Q9 – What challenges are flexibility providers currently facing in respect of baseline requirements?

A number of flexibility services require providers to submit a baseline an hour in advance of real time. This is extremely difficult for flexibility providers to fulfil and would often lead to submission of inaccurate baselines, thereby creating uncertainty for the network operator.

This is because flexibility providers often only manage certain assets on a customer site or a certain amount of a battery. This means that they do not have visibility of what the other assets on that site (or the rest of the battery) is doing. This means that a provider may deliver perfect response but, due to changes in the baseline caused by assets not under their control, will not be seen to have delivered it.

Allowing providers to submit baselines *ex ante* close to real time or using a methodology to calculate them *ex post* helps to address this issue, enabling better calculation of what else is happening on the site.

Work to address these issues is happening in a number of areas, including industry discussions with NGENSO about allowing close to real time baselines to evidence service delivery, P376, which proposes to allow use of baselining methodologies for settlement purposes, and P375 which proposes to use asset metering for settlement purposes

Q10 – Open Networks Project will consider if differing DER types such as demand turn up, storage, generation etc should be subject to different methodologies. Do you feel this would be a fair outcome for providers or, would a simple one-size fits all approach encourage more participation?

The ADE welcomes the focus on achieving a consistent approach to baselining. Different baseline methodologies will likely be required for different types of DER – it is essential that flexibility providers are allowed to use a baseline that enables them to effectively demonstrate service delivery.

¹ This should not be interpreted as an expression of support for these services; ADE support for any of these services will be subject the details of their design and development.

It is important to ensure that different technologies are allowed to compete effectively, and that the methodology(/ies) does not discriminate against or favour particular technologies and does not create additional barriers for revenue stacking in other DNO flexibility services.

Q11 – Are there any other key aspects Open Networks should consider when investigating potential methodologies?

As Open Networks plan to appoint a consultant to research existing baseline practices, it should be noted that there is a risk, by placing too much emphasis on existing methodologies, of developing an outdated solution.

Innovative industry work being done in this area (e.g. under P376 and in relation to Dynamic Containment) should be taken into account; the ADE would welcome the opportunity to engage with Open Networks on this topic.

When considering baseline methodologies, it is important to ensure that they are as correct as possible, and to avoid that baselines can be manipulated, to ensure a well-functioning and liquid market. This issue has been considered and solved in many markets, including via use of statistics to spot-check baselines.

P5(2019): Interactions between Flexible Connections (ANM) & Flexibility Services

Q12 – Please provide feedback on the proposed future activity for consideration and which of these activities should be prioritised in any future scheduled development work in the Open Networks Project?

As set out in recommendation 4, above, the ADE would like to see all ANM contracts migrated to financially firm connection contracts where operation is managed through tradable constraints markets by 2028. A 'red, amber, green' approach should be taken, assessing where tradable flexibility markets can replace ANM contracts in the short term (the 'amber' areas) and where this will take longer (the 'red' areas). A fixed, declining cap on curtailment for all generation on ANM contracts should be introduced, with usage time-limited and standardised, both in terms of costs and numbers of curtailments.

The ADE welcomes the proposed future activity, and recommends advancing these in future scheduled work under the Open Networks Project. Implementation of these actions will mean important progress towards competitive markets for flexibility services. We particularly welcome the ambitions set out in actions B4, B6, B7 and B8, as per table 7 in the Open Networks report, **The Interactions between Flexible Connections (ANM) and Flexibility Services**.

However, where several of the actions refer to the use of the CEM, we reiterate our comment to Product 1: it is not clear from the consultation documents how the tool would be used for ANM and how wider cost and societal implications would be measured.

The aim to implement several of the proposed actions ahead of ED2 is positive, but further clarity is needed around the time frame of actions proposed for the ED2 period (i.e. are actions to be delivered by the end of the ED2 period or throughout?). Moreover, the ADE would welcome a more holistic approach on the role of ANM with greater clarity on the governance of how and when ANM will be used.

Q13 – Under the current arrangements do you receive sufficient information, in the right format, and at the right time to be able to manage your curtailment risk effectively?

The ADE does not have any remarks on this question.

Q14 – Are there barriers preventing customers with assets with Flexible Connections (ANM) providing flexibility services to the ESO or DSO today?

The ADE does not have any particular remarks on this question.

Q15 – How could DNOs better enable customers with Flexible Connections (ANM) to use Flexibility Services to mitigate the current and future curtailment?

The ADE does not have any remarks on this question.

P5(2019): DNO Flexibility Services Revenue Stacking

Q16 – Please provide feedback on the identified barriers and proposed recommendations and which of these recommendations should be prioritised in any future scheduled development work in the Open Networks Project?

The ADE welcomes Open Networks’ focus on this area, particularly establishing clear rules to address conflicts, considering use of a multi-buyer flexibility procurement platform, and removing barriers to revenue stacking. Addressing rules preventing assets on Flexible Connections from providing flexibility services will also be crucial in enabling revenue stacking.

Many of the recommendations set out in the Open Networks **DNO Flexibility Services Revenue Stacking** report will be important for progressing efficient flexibility markets. In particular, actions to improve coordination between ESO and DNOs are a key priority, including the clear definition of principles and primacy rules for addressing flexibility services conflicts.

Moreover, development of closer to real-time procurement of flexibility services should be a key priority for future work.

See ADE comments to individual proposed recommendations in the below excerpt of table 14 from the report:

Report Recommendation	Implementation option	ADE comment
DNOs to implement an accurate and common baselining methodology for Flexibility Services	WS1A P7 to take forward potential options for baselining approaches (July 2020 consultation)	See responses to Q10-11 It is critical that any common approach to baselining is developed with careful consideration and stakeholder engagement. This should enable closer to real time baselining.

<p>Alignment of DSO service non-delivery penalties</p>	<p>Seek stakeholder feedback on convergence and timescales for implementing common non-delivery penalties</p>	<p>The ADE considers that non-delivery penalties are not the most appropriate mechanism, at this early stage of flexibility market development, for ensuring delivery, and may unnecessarily stifle markets. Until the rules of engagement are fully evolved there should not be any penalties other than possibly lost revenue.</p>
<p>Alignment of exclusivity and information sharing position between ESO contracts and to DNO/ON Common Contract</p>	<p>Open Networks to enable a level playing field between flexibility services by aligning to exclusivity and information sharing terms</p>	<p>DNOs should ensure that no unjustified barriers exist to service provision, removing any unjustified exclusivity clauses and reviewing historic connection agreements to establish whether any restrictions in those agreements are still required</p>
<p>ESO and DNO to provide better visibility of contracted positions</p>	<p>ESO and DNO to review asset and contracts visibility provided by the DNO System Wide Resource Registers (SWRRs) alongside the ESO approach; share findings with FSPs to agree best practice and seek alignment across the whole system Flexibility service data will be published in line with EDTF principles. Where it cannot be published open, ESO and DNO will clarify the data exchanged bilaterally for operational purposes, recognising the impact the CLASS determination might have.</p>	<p>All data should be open, except in clearly defined, exceptional cases.</p> <p>The ADE welcomes proposals for the ESO and DNOs to improve data exchange and sharing, in a consistent way which will be essential in moving towards a whole systems approach. In this context, however, it is essential that DNOs are not able to bid into commercial tenders, such as bidding CLASS solutions into frequency response markets.</p> <p>DNOs would be entering these markets with a clear competitive advantage due to the privileged access to information implied by the data sharing arrangements required to implement a whole systems approach. It is therefore essential that, if the ESO is sharing information with DNOs about system risks, issues and contracted positions, that DNOs are not able to bid into commercial tenders.</p>
<p>DNO to provide better visibility of flexibility actions</p>	<p>ESO and DNO to review flexibility reporting arrangements; share findings with FSPs to agree best practice and seek alignment across the whole system</p>	<p>The ADE welcomes action on this recommendation. Notably, while NGENSO has made significant progress in this area, there remains scope to further improve transparency to the market of actions taken. The ADE thus recommends ESO/DNO collaboration to deliver consistent reporting requirements.</p>
<p>Flexibility Service coordination issues</p>	<p>Building on the work identified in DSO Services – Conflict Management & Co- optimisation (2019 WS1A P5 delivered March 2020);</p>	<p>Key priority. This is essential. For market FSPs to participate in DNO flexibility there needs to be clarity on</p>

between DNO and ESO to be resolved	<p>develop a set of principles and primacy rules for addressing flexibility services conflicts (T-D). Needs to balance technical requirements / risks for the whole system and value for FSPs / end consumer.</p> <p>ESO Pathfinders' reports to provide more visibility on service design and options considered to optimise flexibility alongside DSO Flexibility Services</p>	revenue stacking and dispatch priorities with the ESO.
Address potential for supplier imbalance and CM penalties due to FSPs participating in DSO services	<p>Option 1: Transmission Licence C16 to be amended to include requirement for ESO to coordinate with DNOs on ABSVD data. DNOs to report data on flexibility usage to ESO (HH to 2 day window). BSC Section Q changes required</p> <p>Option 2: Distribution Licence to mirror requirements for ABSVD methodology. DNOs to report on flexibility usage to Settlement Administration Agent. BSC Section Q changes required.</p>	The ADE welcomes action on this recommendation.
Address potential conflicts with the CM	Amend the CM rules to include DSO services specifically under the exclusions for Relevant Balancing Services	Very positive initiative ² , which should be relatively straightforward to implement.
Visibility on the timetable of procurement actions across the ESO and DSO services	Provide a co-ordinated view of the flexibility service calendar across ESO and DSO services.	
Alignment on Flexibility Service tendering timescales	(Incl. recommendations from 2019 WS1A P2) WS1A P2 to report on good practice for alignment of tendering process and make recommendations on convergence and timescales. This will include implementation plans to achieve alignment.	
Flexibility Procurement Timescales	Initiatives developing the procurement of flexibility services closer to real-time will be reviewed by Open Networks for future implementation. Closer to real time procurement removes barriers for FSPs who cannot accurately forecast their availability over longer time horizons but may become available closer to delivery timescales. E.g. Flexible Connections (ANM); wind and solar generation.	Key priority to move towards liquid markets for flexibility services. Notably, in addition to wind/solar generation, this has relevance also for DSR.

² The ADE considers that positive inclusion of DSO services under the CM Relevant Balancing Services may not be the most effective approach to address potential conflicts with the CM, and would welcome further discussion with the ENA and BEIS on this point.

Residential Flexibility

Q17 – Do you have any ideas on how we might better engage and encourage participation of residential flexibility in flexibility service provision? Can you identify any barriers that might currently exist, along with potential solutions?

The ADE welcomes work to encourage participation of residential flexibility. The ADE’s report **“Let’s Talk About Flex”** sets out key barriers and proposed solutions to increase the uptake of domestic flexibility. Some of these are addressed in the proposed actions for consideration, e.g. standardisation across DNOs, data sharing, enabling revenue stacking, removing unjustified exclusivity clauses and establishing clear prioritisation rules between DNOs and the ESO.

Other actions which would help to facilitate greater engagement of domestic flexibility include:

- enabling testing and delivery at portfolio level allowing for dynamic allocation of assets from a portfolio;
- removing requirements for symmetrical delivery in service contracts – this requirement should be removed from all contracts unless there is a clear operational reason why bids must be linked;
- avoiding requirements for excessively costly metering equipment;
- while work is being done to align contracts and standardise services across all DNOs, more work is needed to do the same across DNO and ESO services to reduce barriers to entry for domestic DSR.

For further information please contact:

Caroline Sejer Damgaard, Researcher
ACE Research | Association for Decentralised Energy

mail: caroline.sejer.damgaard@theade.co.uk
