

Energy UK positions with regards to the move to Distribution System Operators

Position 1: Realising the value of flexibility.

It is expected that the future electricity system will require more flexibility services. The market should be designed to reflect the proper value of flexibility, and should facilitate the access and integration of flexibility technologies and services into existing markets, including Distributed Energy Resources (DER) and Demand Side Response (DSR), to deliver this effectively.

- Growth in competitive markets for flexibility is required to provide the GB electricity system with the flexibility it needs to evolve from a conventional centralised generation system to one that is much more dynamic and has significant contributions from variable sources of generation as set out in the BEIS/Ofgem Smart Systems and Flexibility Plan.
- Flexibility Services can be used in a variety of ways to provide numerous benefits:
 - Provide flexibility for the ESO/DNO to be used to balance electricity supply and demand both on short timescales, for frequency response services, and longer term, in the Capacity Market to ensure periods of high demand can be met.
 - Reduce demand peaks on Transmission and Distribution networks, deferring or avoiding reinforcement costs for both and optimising utilisation of infrastructure.
 - Suppliers and aggregators may also use DER/DSR to reduce wholesale costs for consumers, or reduce exposure to imbalance charges.
 - Improve customer service, choices and costs through facilitation of more market competition in these services.
 - Provide a source of value for consumers e.g. rewards changing consumption behaviour as load shifting reduces the costs of electricity.
 - Improve resilience by reducing consumer dependency on the transmission system.

Position 2: Transmission – Distribution responsibilities.

As flexibility is increasingly important in system design and operations, it is essential we have aligned positions and processes between ESO, DNOs, Suppliers, Generators, Consumers and other flexibility stakeholders on how to manage this increase in system flexibility.

- The separate uses for flexibility identified above have different requirements: for example, location may be important, the notice period to initiate the DER/DSR, the duration of the service, and the frequency of events will all impact availability.
- Whilst some flexibility services and products may be better suited for specific actions, others can provide multiple uses; as a result, there may be conflicts or synergies for the ESO (and/or DSOs) in managing their deployment.
- The ESO should have overall responsibility for national system security, while DSOs should have responsibility for the secure operation of their respective distribution network territories. This means that the ESO will need to continue to have the leading responsibility for national balancing, frequency control and system restoration across the whole network, whereas DSOs may be able to take a more active role for congestion and voltage management on the networks.

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- To avoid conflicts and duplication, DSOs should have visibility of DER and DSR on their networks. When the ESO requires access to these resources the DSO (or a third party) should, where possible, facilitate the co-optimisation of their use in a way that benefits the flexibility provider. This should not include DSO aggregation or resale of services, and is instead based around the DSO enabling ESO access to distribution network connected assets for use in wider system operation. DSO and ESO should be neutral facilitators of markets, and cannot own or operate the services tendered for.
- As an increasing share of generation connects at distribution level, one of the major operational challenges for the ESO will be maintaining overall system security. Scarcity of system services will become more acute in future, necessitating new operational arrangements between ESO and DSOs to unlock the capabilities of DER and DSR and maintain security on both the distribution and transmission networks.

Position 3: Information provisions.

The ESO and DSOs will both have a responsibility for providing a set of standardised and timely information and support to market participants at their respective network levels. They must act as neutral facilitators when providing connections, assessing flexibility services and communicating system needs. They also must act in a transparent and non-discriminatory way. Neither the ESO, nor the DSOs, nor any commercial subsidiaries could therefore be active as commercial service providers due to a clear conflict of interest that would distort the commercial market operation. This provision already exists for the current System Operator.

- The ESO should provide visibility of all the flexibility providers connected to the distribution network (and timely information around the deployment of emerging technologies such as electrical vehicles and energy storage). Visibility will help the ESO maintain security of supply, lessen demand forecast errors, and limit increases in reserve margins increasing the overall cost-efficiency of the system. Communication between the ESO and DNOs is today relatively poor, and this needs urgent remedy.
- DER/DSR should be integrated into the market on equitable and transparent terms to those offered to generation and storage. This will require opening existing and future markets to DER/DSR on a non-discriminatory basis and creating suitable products and services allowing markets to deliver appropriate price signals and incentives to develop the provision of flexibility. The design of these markets should also consider the role of aggregators and suppliers in unlocking the potential of lower voltage DER and DSR.
- Over time following a period of transition, system trialling and testing to enable learning from the ESO experience, DSOs should have a clearly defined set of procurement principles. For example, when instructing balancing actions or calling balancing services, the DSO shall be obliged to:
 - Contract for balancing services in a non-discriminatory manner, after relevant price and technical differences have been taken into account;
 - Purchase from the most economical sources available, having regard to the quality, quantity and nature of such services;
 - Procure that service via an appropriate competitive process where there is sufficient competition;
 - Only contract on a negotiated bilateral basis where able to demonstrate to Ofgem that competition is insufficient to provide a required service;
 - Provide equal transparency on the procurement and utilisation of balancing resources regardless of technology, connection level and specific mechanism used;
 - Advertise and tender if balancing services are required over a relatively long term; and,
 - Publish in a timely, standardised manner all relevant information relating to such activities.

- ESO and DSOs cannot be on both sides of the market as both the market facilitator and service provider. ESO and DSOs that have the capability to operate system flexibility using existing (regulated) network assets, should be expected to do so. How they are remunerated for any additional costs and risk associated with this activity needs to be determined.
- DSOs are encouraged to contract flexibility services as an alternative to traditional network reinforcement where it is cost efficient to do so. The criteria for assessing the value of network and non-network options must be clearly defined and well thought through. For example, a cost-benefit analysis must consider appropriate lifetime values and the ability of a new resource to facilitate competition, which ultimately lowers whole system costs.

Position 4: Barriers to entry and market enablers.

The balancing arrangements (including the Balancing Market and Ancillary Services) will require appropriate change to take account of: the need for more flexibility services; the number and range of flexibility players; and the need to solve operational constraints of ESOs and DSOs which may conflict.

- The DSOs may facilitate the development of local markets, but must avoid creating exclusive, fragmented markets within their respective areas. To do so would impact the ability of DER/DSR resources to maximize their economic potential at scale, and could ultimately impact the market efficiency and overall effectiveness of system operation. Any new markets should be integrated with the ESO, and coordinated with wider national markets to ensure no conflicts arise across the wider system.
- Providers of flexibility should be able to sell their services where it is the most profitable for them (e.g. balancing, system services, valuation in the energy market, congestion management, contracts with DSO or ESO as an alternative to grid reinforcement, etc.). It is, therefore, important that market value is representative of where the provision of flexibility offers the least cost option for the general customer base. This price should reflect ESO and DSO constraints, encouraging a market solution to the constraint. In certain cases, reinforcement of the network by the DNO may be required to facilitate the increased activities of DER/DSR.
- Suppliers will need to be protected from imbalances created by third party aggregation of their consumers. This includes arranging access to relevant information regarding activation, critical to ensuring appropriate and efficient pricing and contractual arrangements are made. An assessment around the impact on the central Settlement System will be necessary and sufficient time factored in to fully trial, test and implement any required System and supporting procedural changes.
- Information on the activity of DSO, ESO, market players and all flexibility assets being operated in these markets should be provided on a consistent basis, including details of pricing and volumes produced/consumed.

Energy UK's preference is to evolve the current arrangements, rather than pursue fundamental reforms

- DNOs should identify their current and future operational needs and develop/test local arrangements for flexibility services, including how these interact with the ESO activity. The additional responsibilities and obligations that need to be reflected in the future DSO Licence(s) are not yet defined, but these will need alignment with the principles outlined above and a full industry consultation.
- Stakeholders will require DSOs to provide clarity of the local arrangements, full transparency and non-discrimination. Much of this is already established for National Grid as the ESO for GB. Electricity Transmission Licence Standard Condition C16 - ESO Balancing Services represents the current ESO arrangement and will need to be adapted for a DSO.