

CEER Citizens' Q&A

CEER Paper on Paper on DSO data exchange relating to flexibility and NRAs' role 19 January 2024

1 What is flexibility & flexibility data exchange?

Flexibility in the power system generally refers to the system's ability to adjust to the fluctuating generation and consumption of energy and ensure that the system and system components remain within operational limits. The System Operator (SO) responsible for network management utilises the system flexibility in order to ensure an efficient and reliable operation of the grid. For instance, the Distribution System Operator (DSO) may procure flexibility to manage congestion and voltage in the distribution network.

Flexibility data exchange refers to the necessary information collection and exchanges between relevant parties involved in enabling the use of flexibility resources. For instance, this may refer to the information exchange between a DSO and a flexibility service provider, which may in turn have flexibility related data exchange with individual generation or demand units ultimately providing the flexibility.

2 Why is flexibility data exchange important?

The current European wide ambition to decarbonise energy systems and electrify energy demand puts pressure on local electricity grids. In the context of grid congestion issues, i.e. the existing grid infrastructure being unable to accommodate new loads or generators or causing instability of the grid, grid operators have traditionally solved these issues solely by investing into reinforcing the grid. As an intermediary or alternative to grid reinforcements, the use of system flexibility can act as a tool for DSOs to manage their networks more efficiently, reliably and accelerate the connection of new generation capacity and loads. In this context, flexibility related data exchange between DSOs and other parties is a basic building block for the use of flexibility. This is especially important in order to efficiently integrate large volumes of renewable energy sources (RES) to the network and new electricity uses such as the charging of electrical vehicles (EV); to manage the inherent uncertainty from intermittent RES; and empower and protect the consumer i.e. by enabling their active participation in providing flexibility services while ensuring adequate security and confidentiality regarding data exchange.

3 Is flexibility data exchange already used in practice?

In general, the use of flexibility resources and consequently flexibility related data exchange by DSOs is still quite new and targets specific use cases. No common standards or generalised practices have been identified from the use cases or procedures implemented by DSOs. Although it is in its early stages, flexibility resources that are increasingly involved in flexibility data exchange include technical solutions from DSOs' own assets, connection agreements, dynamic network tariffs and market-based flexibility procurement including flexibility services and smart solutions, for example, related to electric vehicle charging or energy communities that can use real-time data to manage local flexible resources for their own benefit or to provide grid services.

4 Why is this important for energy customers and what is the impact on them?

In the context of the energy transition, customers are expected to become increasingly active players in the electricity system. Enabling and utilising the flexibility on the demand side, notably via customers, is generally deemed necessary for an efficient transition to minimize costs, ensure the timely connection of new generation and loads, and to balance the intermittent nature of RES. Active customer participation in flexibility, directly or through flexibility service providers, enabled in part by flexibility data exchange where DSOs may play a role, can create new opportunities for customers to keep their energy bills lower while contributing to the efficient system functioning. The framework and practices in place regarding flexibility data exchange can thus have direct implications for energy customers. It is therefore important to assess DSOs' and NRAs' existing and potential future roles and responsibilities relating to flexibility data exchange as done in the [CEER paper on DSO data exchange relating to flexibility and NRAs' role](#).