

Observations on:
Electricity Market Design Proposals¹
21 April 2023
Final version

About DSO Entity:

DSO Entity is a technical expert body mandated by the Electricity Market Regulation (2019/943/EU) to promote the functioning of the electricity market and to facilitate the energy transition. DSO Entity is representing **more than 900 diverse Distribution System Operators (DSOs) connecting 250 million customers to the electricity grid in 27 Member States**. Among DSO Entity's core tasks are the development of technical rules for the electricity system in the form of Network Codes together with the mandated organisation of the Transmission System Operators (ENTSO-E), the facilitation of the integration of renewables and the promotion of the digitalisation and smartening of the grid as well as sharing knowledge and best practices, to name but a few.

Development of Network Code Demand Response and its connection to EMD reform:

Together with ENTSO-E, DSO Entity was assigned by the European Commission **to develop a Network Code on Demand Response (NCDR) until March 2024 which will be a vital part to achieve this energy transition**. Given the increase of renewable and volatile generation, the system is in need for more flexibility such as demand response or storage. The NCDR establishes the technical rules to enable and thrive flexibility solutions in the future and must, thereby, be seen as closely connected to the targeted electricity market reform (EMD). Given the technical nature of the exercise, not all stakeholders might be aware of these important works that are ongoing in parallel to the current EMD reform. DSO Entity is following the EMD proposal with great interest since it contains proposal for demand response, flexibility and metering that are closely related and connected to its work on the NCDR and beyond, and would like to share some observations in this paper.

¹ Amendments to: Electricity Market Regulation (2019/943) and Electricity Market Directive (2019/944)

Executive summary

Flexibility (*Art.19c of the Regulation*): DSO Entity acknowledges the invitation regarding a new task to be performed jointly with ENTSO-E, related to the assessment of flexibility needs. DSO Entity will strive to ensure that redundancies with the existing provisions of the Electricity Market Directive and the Framework Guidelines on Demand Response are avoided, however, it voices concerns regarding the extremely tight timeline of less than a year.

Dedicated metering device (*Art.7b and Art. 2 (79) of the Regulation*): According to DSO Entity's interpretation, the introduction of "dedicated metering devices embedded in an asset" sets a clear distinction to "regulated meters" which are directly connected to the network, i.e. the public grid connection point. The proposal is perceived positive as long as it is clear that all meters that are used for billing of energy and / or settlement of a service need to fulfil a certain set of requirements as to be officially accepted by market parties.

Free choice of supplier (*Art. 4 Directive of the Directive*): DSO Entity underlines that in many Member States DSOs are already facilitating the right of customers to have two different suppliers and will continue to do so. Feasibility on-site, such as enough space in the cabinet, is a precondition to enable this right. To avoid the socialiaion of costs, customers, who voluntarily wish to have an additional meter, should cover the costs.

Transparency on grid capacity (*Art. 57 (3) of the Regulation; Art. 31 (1) of the Directive*): DSO Entity acknowledges the new requirements for transparency on grid capacity and stresses that in several Member States DSOs already make grid capacity data publicly available. In this respect, also measures to incentivise grid-friendly behavior" is an option to steer investments in the right direction which is lacking in the proposal (*Art. 19f, 19b of the Regulation*).

Energy sharing (*Art. 15a of the Directive*): DSO Entity takes positive note of the introduction of the right to share energy and the clarification that no consequences arise for network charges when the shared electricity is netted from the total metered consumption. This provision is important to avoid the socialisation of costs that would otherwise occur (*need for cost-reflective tariffs*). With the introduction of another energy sharing concept alongside the already existing options of renewable energy communities and citizen communities, another layer of complexity to exiting IT infrastructures and data processes will be added. Although DSO Entity supports the further empowerment of consumers and will actively be involved as facilitator (70% of renewables are connected to the distribution grid), the implementation and operation of all these concepts will require intensive work and resources from the DSOs' side.

Anticipatory Investments (*Art. 18 (2) in the Regulation*): DSO Entity appreciates the emphasis on the need for "anticipatory investments" since more support to enable proactive investments are urgently needed, especially for deploying renewables, empowering consumers and expanding and smartening the grid. Given the magnitude of the investment challenge, even further guidance for NRAs to ensure a stable and reliable regulatory framework with sufficient economic return on investments in the proposal would have been welcome.

Detailed observations

1. Assessment of flexibility needs with new obligation for DSO Entity (Art 19 c)

Art. 19 c-f introduces a new obligation for national regulatory authorities (NRAs) to produce assessments on the needs for flexibility in the electricity system every two years (starting on 1 January 2025) based on the data and analysis provided by DSOs and TSOs. On the basis of these assessments, Member States will define an indicative national objective for demand-side response and storage in their National Energy and Climate Plans (NECPs). In Art. 19 c (6) DSO Entity and ENTSO-E are assigned to provide ACER with a joint proposal regarding the type of data and format to be submitted to NRAs and the methodology for the analysis of the flexibility needs by 1 March 2024.

DSO Entity's interpretation and assessment:

DSO Entity acknowledges the relevance of assessing flexibility needs in the system as a means to work towards the achievement of the EU's climate objectives.

DSO Entity would like to point out that **several reporting obligations already exist to assess flexibility in the system**, such as the European Resource Adequacy Assessment (ERAA), the Ten-Year Network Development Plan (TYNDP) report and others. Further, the existing provisions on Network Development Planning (NDP) in the Electricity Market Directive (2019/944/EU, Art. 32 (3)) explicitly stipulate that transparency shall be provided on the medium- and long-term flexibility services needed and the use of demand response, energy storage or other resources. Also, ACER's Framework Guidelines on Demand Response (FG DR, points 95-97) state that during the Network Code on Demand Response (NCDR) development, detailed principles on the establishment of these NDPs shall be elaborated, among others principles on the planning methodologies and guidance on how to take into account demand response and other relevant resources.

Given these existing provisions and reporting obligations, DSO Entity emphasises the **importance of not creating inconsistencies or redundancies** with the new foreseen flexibility reporting obligations. To ensure consistency also with the ongoing works of the NCDR, DSO Entity will closely align the works on both aspects in the weeks to come. **The given timeframe until 1 March 2024 is, however, very ambitious**, especially considering the parallel works on the drafting of the NCDR and the fact that the text is still under negotiation, i.e. working on a concrete methodology while the assignment might still be changed is a challenging task.

Nevertheless, DSO Entity is ready to take up the assigned task and **start exploring these aspects in close relation with the work of the NCDR together with ENTSO-E** in a way that guarantees a clear methodology in line and complementary with existing reporting obligations.

2. Metering-related questions

Dedicated metering device (Art. 2 (79), Art. 7b Regulation)

In Art. 2 (79) of the Regulation, a new definition for a “dedicated metering device” is introduced as a device attached to or embedded in an asset that sells demand response or flexibility services on the electricity market or to TSOs / DSOs. In this context, it is proposed that Member States shall allow TSOs / DSOs to use data from these devices for the observability and settlement of demand response and flexibility services, including from storage systems. The establishment of requirements for the data validation process to check and ensure the quality of the respective data is left to Member States (Art. 7b of the Regulation 2019/943/EU).

DSO Entity’s interpretation and assessment:

Currently, the Electricity Market Directive only **defines smart meters² and conventional meters³**. In this text, we refer to both of them as “**regulated meters**” to clearly distinguish them from the new element added in this proposed revision of the Regulation of a “dedicated metering device”.

According to DSO Entity’s interpretation, the new provisions in Art. 7b (1) and Art. 2 (79) are positive since they **create a clear distinction between the “regulated meter”, which can be a main meter (connected at the connection point) or a second meter (when more than one metering is connected at the same connection point), and a “dedicated metering device” (embedded in an asset)**. Dedicated metering devices are attached to or embedded in an asset, not directly connected to the network and located behind a regulated meter. As a result, there is always a regulated meter at the connection point that stands in-between the device and network. Dedicated metering devices can only be used to make the settlement of the flexibility service and observability, **but not for billing energy**.

The new provision creates **the possibility, but not an obligation to use data from these dedicated metering devices**, for instance, where smart meters, with the appropriate functionalities, are not yet available. Therefore, such dedicated metering devices can be used for the settlement of the flexibility service and observability⁴. In countries where the smart meter rollout has not yet been completed, dedicated metering devices can potentially have a positive effect on the development of distributed flexibility. However, for Member States where smart meters are fully rolled out, the settlement should be measurable at the connection point in order to validate the service. So, generally, flexibility is best measured at the regulated meter, so that the DSO can see the service at the connection point.

Also, the proposal in Art. 7b (2) to leave **the establishment of requirements for the data validation process of such dedicated metering devices at the Member State level** is deemed positive since it leaves room for national characteristics and needs. Nevertheless, if a European approach was desired, minimum requirements or common rules should be developed within the already ongoing works for the upcoming Implementing Act on data access and interoperability focusing primarily on the development of role

² Art 21 of the Directive (EU) 2019/044 of the European Parliament and of the Council

³ Art 22 of the Directive (EU) 2019/044 of the European Parliament and of the Council

⁴ Regarding **observability**: since the concept is not yet defined in the Regulation, the best reference is the definition of “observability area” included in the Commission Regulation 2017/1485 with mandatory implementation by Member States. This Regulation establishes that real-time data must be sent at the connection point. So, our interpretation is that data of regulated meters that are installed at the connection point could be used for observability already. Given these already existing conditions, the additional benefit of this new proposal could be questioned.

models for customer switching and demand response (as provided for in Art. 24 of the Directive 2019/944/EU). If needed, this could be the right place to define roles and responsibilities for procedures to ensure interoperability. Specific technical requirements for the meters such as calibration should, however be left to Member States.

Free choice of supplier (Art. 4 Directive):

In Art. 4 of the Electricity Market Directive (2019/944/EU), which stipulates that customers are free to have more than one electricity supply contract at the same time, the proposal specifies that “[...] for this purpose customers are entitled to have **more than one metering and billing point covered by the single connection point** for their premises.”

DSO Entity’s interpretation and assessment:

The Electricity Directive already provides that customers are entitled to more than one supplier, however, it was required to have a separate billing point at the same connection point. Thus, in several Member States, **DSOs are already facilitating this right of customers to have two different suppliers**. The important question for the DSO is how the consumer’s right can be put in practice from a technical (metering) point of view when there are two suppliers acting at the same connection point. The installation of more than one meter under the same connection point is possible without problem if they fulfil the applicable requirements for measuring devices (following the EU Measurement Instruments Directive) and are integrated into the prevailing market communication architecture (e.g. interoperability).

As we interpret the proposal, it states now that a customer can have multiple suppliers behind the connection point, therefore, more than one meter could be necessary and could be connected in serial or in parallel, fulfilling all necessary technical and legal requirements. These second meters are also regulated meters – the same as you have at the connection point – but behind this one or in parallel, fulfilling all necessary technical and legal requirements (*for details please see info box*). This is already a living practice in several Member States.

DSO Entity recommends to consider a certain maximum number of meters since it is questionable if the entitlement of an unlimited number of meters is really desirable and applicable (scarcity of space and costs). **To avoid the socialisation of costs**, additional meters, i.e. more than one meter on a voluntary basis at the customer’s location, can only be placed upon the cost of the customer and if enough space is available in the cabinet.

Info Box:

Relevance of metering-related questions for system stability (DSO)

The EMD proposal includes several articles and recitals that are related to metering questions, such as Art. 7b in the Regulation on dedicated metering devices or Art. 4 in the Directive on the free choice of supplier, which are directly connected to DSO's primal mission: **the guarantee of a reliable and safe electricity supply for consumers.**

The main objective of DSOs is to run the distribution grids in a secure and efficient way to ensure a reliable electricity supply to the customers (grid stability) while at the same time enabling innovation and fostering the development of a competitive market of energy services (market facilitator). As market facilitators, DSOs are keen on empowering consumers and facilitating solutions that improve their ability to use smart appliances to use energy more efficiently.

To combine the two tasks (system operability & market facilitator), it is important that the overall framework guarantees to DSOs the **necessary observability and controllability of their grids**, e.g. through a clear definition and evaluation of the final result of the dedicated metering devices handled assets movements at the connection point of the distribution grid (regular meter / regular second meter). The main connection point of the distribution grid represents the physical point of sensitivity where all the effects (energy, power, voltage, phase shift...) have to be measured and controlled. Also, to ensure the reliability of the system, flexibility is better measured at the main meter connected to the grid.

Therefore, DSO Entity assesses the proposals of the EC as positive since it creates **a clear distinction between the regulated meter and dedicated metering devices**. To avoid any misunderstanding in the future, the terms are clearly described below:

Regulated meter (smart meter or conventional meter) means a main meter or a second meter behind or parallel to the main meter and constitutes the measurements in the connection point to the distribution grid. A regulated meter is attached to a supplier which can offer billing, normal supply services and/or flexibility services and could be use also for observability, and which fulfils all the applicable requirements for metering devices (as provided under the EU Measurement Instruments Directive 2014/32/EU and in the Directive (EU) 2019/944 smart metering systems).

Dedicated metering devices are attached to an asset but not to the network on the public grid connection point. There is always a regulated meter that stands in-between the device and the grid and they can only be used for flexibility services (observability/settlement) but not for billing energy by suppliers.

Every meter used for billing and/or settlement of a service needs to fulfill a certain set of requirements to be officially accepted by the market parties.

3. Transparency on grid capacity and optimal locations for renewables

Information on grid capacity and status of network request (Art. 57 (3) Regulation, Art. 31 (3) Directive)

In Art. 57 of the Regulation and Art. 31 of the Directive, DSOs and TSOs are requested to cooperate in publishing information on the capacity available for new connections in their respective areas of operation in sufficient granular visibility. DSOs will have to (1) publish and update information on the capacity available for new connections in their area of operation (at least on a quarterly basis) and (2) to provide clear and transparent information to system users about the status of their connection requests.

DSO Entity's interpretation and assessment:

DSO Entity is convinced that in an interconnected energy system, close cooperation and transparency between all actors, especially, project planners of generation units and the grids is central for a successful delivery of the energy transition. In this context, DSO Entity would like to stress that in several Member States, **DSOs are already now providing relevant data on grid capacity in a transparent way**. This is the case, for instance, in Spain or Portugal where the DSOs show monthly the capacity available for new renewable connections at substation level. Again here, the level of granularity is important and detailed insights down to household level would not be desirable for different reasons, also keeping in mind that the electricity grid is still critical infrastructure and not all data can be shared freely.

Furthermore, **information about the status of grid connection requests is usually handled with ultimate care and speed**. In several countries, such as Luxembourg, for instance, you can easily log into your online profile and access the current status of your request at any time. In other countries, the DSO informs within 24h about requests regarding connections and grid capacities in the area.

DSO Entity would like to stress that **transparency is a two-way street and DSOs are also reliant on the cooperation and information from generation project developers**, i.e. the sooner DSOs are informed and involved, the better for the outcome. Also, measures to incentivise "grid-friendly behavior" is an option to steer investments in the right direction. How this could be facilitated and supported in the current proposal is described below.

Support schemes for new renewable investments (Art. 19b Regulation) and support schemes for flexibility (Art. 19f Regulation)

Art. 19b of the proposal on support schemes for new renewable investments prescribes conditions for the schemes but does not take into consideration locational criteria to ensure that new investments in generation take place in optimal locations that do not create congestion in the grid. Also, in Art. 19f, where design principles for flexibility support schemes are described, does not consider locational criteria to ensure that investments in new capacity takes place in optimal locations and that they do not worsen grid congestion.

DSO Entity's interpretation and assessment:

In order to ensure that new investments in generation take place in optimal locations that do not create congestion in the grid, it would help to explicitly mention that **direct support schemes for new investments** in generation in energy from renewable sources should **take into consideration locational criteria** (Art. 19b). The same addition would be helpful for flexibility schemes in Art. 19f.

4. New energy sharing provisions

Right to energy sharing (Art. 2(10a) and Art. 15a. in Directive)

In Art. 2 (10a) in the Directive, a new definition of ‘energy sharing’ and a new dedicated article 15a is introduced to guarantee the right to energy sharing to all households, SMEs and public bodies. For customers participating in energy sharing, the shared electricity can be netted from their total metered consumption within a time interval no longer than the imbalance settlement period and *without prejudice to applicable taxes, levies and network charges*. TSOs and DSOs or other designated bodies monitor, collect, validate and communicate metering data related to the shared electricity with relevant final customers and provide a relevant contact point to register energy sharing arrangements, receive information on relevant metering points etc.

DSO Entity’s interpretation and assessment:

DSO Entity takes positive note of the introduction of the right to share energy and the provision in Art. 15a (d) that clarifies that there are **no consequences for network charges when the shared electricity is netted from the total metered consumption**, independently of the customer category or contracted power. This provision is important to avoid the socialisation of costs that would otherwise occur (*need for cost-reflective tariffs*).

DSO Entity would like to add for consideration that with the introduction of another energy sharing concept alongside the already existing options of renewable energy communities and citizen communities, **another layer of complexity to existing IT infrastructures and data processes will be added**. Although DSO Entity supports the further empowerment of consumers and will actively be involved as facilitator, the implementation and operation of all these concepts will require intensive work and resources from the DSOs’ side.

5. Right conditions for infrastructure investments

Infrastructure investments (Art. 18 (2); Art. 18 (9f, 9i) in Regulation)

In Art. 18 (2, 9f, 9i) of the Regulation the need to include anticipatory investments in the DSO and TSO tariff methodologies and innovative solutions to optimise the existing grid and facilitate demand response is highlighted.

DSO Entity’s interpretation and assessment:

DSO Entity appreciates the emphasis on the need for “**anticipatory investments**” since more support to enable proactive investments are urgently needed. Given the magnitude of the investment challenge, even **further guidance for NRAs to ensure a stable and reliable regulatory framework with sufficient economic return on investments** in the proposal would have been welcome. Given the massive transition of the energy system, severe grid investments will be needed in the physical infrastructure (i.e. reinforcement of capacities, expansions, roll out of smart meters) and in the smartening of the grid, (i.e. improving operations and network management, digitalisation and sensorisation). Even if all possible flexibility options could be harvested for free a major grid expansion is necessary and urgently needed.