

European Energy Regulators' White Paper # 3

Facilitating flexibility

Relevant to European Commission's Clean Energy Proposals

22 May 2017

1. Introduction

This Regulatory White Paper presents the views of the Agency for the Cooperation of Energy Regulators (the Agency) and National Regulatory Authorities in the Council of European Energy Regulators (CEER) on facilitating flexibility. The aim of this White Paper is to deepen understanding and to assist the EU Institutions in assessing the proposals contained in the "Clean Energy for All Europeans" legislative package of 30 November 2016¹.

2. Regulators' Key Recommendations

Flexibility can be defined as the ability of the electricity system to respond to fluctuations of supply and demand while, at the same time, maintaining system reliability.

European Energy Regulators strongly support a market design that ensures all sources of flexibility efficiently contribute to dealing with growing intermittency and changing load patterns, taking advantage of opportunities offered by new technologies. European Energy Regulators consider that a high level, harmonised, principles-based approach to underpin the regulatory framework in relation to facilitating flexibility is the optimal way to deliver a more affordable, secure and efficient electricity system. Such a framework should take into account differing Member States' (MSs') market characteristics so that we ensure delivering the best outcomes to EU energy consumers. In this context, we recommend the following legislative changes, as further detailed in the next sections.

- ***Holistic approach to support market flexibility is needed***

1. There should be a requirement that all consumers have the opportunity to participate in all relevant markets and other arrangements for valuing flexibility, including through aggregation.
2. European Energy Regulators recognise the benefits of introducing independent aggregation² and propose that MSs enable independent aggregation, unless a national implementation assessment suggests an alternative that better serves system efficiency and can be implemented effectively. Such an assessment might be supported by an

¹ For ease of reading, reference to the Electricity Regulation refers to the re-cast Electricity Regulation (EC) COM/2016/0861final/2 - 2016/0379 (COD), and reference to the Electricity Directive refers to the re-cast Electricity Directive COM/2016/0864 final/2 - 2016/0380 (COD). References to specific Articles in the proposed recast legislation relate to the revised texts (corrigenda) published by the [European Commission](#) on 23.02.2017.

² In the Clean Energy legislative package proposal for a revised electricity Directive: "independent aggregator" means an aggregator that is not affiliated to a supplier or any other market participant".

analysis of the state of competition in MSs' retail markets. This reflects a focus on the facilitation of aggregation (the activity), rather than aggregator type (the agent).

3. In implementing models of independent aggregation, MSs should ensure that:
 - market access by independent aggregators is not foreclosed by suppliers to the detriment of consumers;
 - arrangements provide for payments for resold energy ('compensation'). This payment for resold energy could be facilitated through a central financial settlement or be based on contractual relationships between the customers and suppliers, but would not require any contractual relationship between the supplier and the independent aggregator.
- **Flexibility to support (distribution) network operation**
 4. Distribution System Operators (DSOs) should be required to act in a non-discriminatory manner when procuring and using flexibility, and, in this context, adequate unbundling is essential.
 5. The use of flexibility by DSOs should not be exclusive, and should allow the provider of flexibility to take advantage of other arrangements for valuing flexibility e.g. through participation in the balancing market.
 6. Transmission System Operators (TSOs) and DSOs should be required to coordinate with each other, including in procuring and accessing flexibility.

3. Holistic approach to support market flexibility is needed

This section provides background, illustrates the growing importance of flexibility, outlines principles for efficient realisation of flexibility and offers recommendations for further development of the provisions contained in the Clean Energy for All Europeans legislative package.

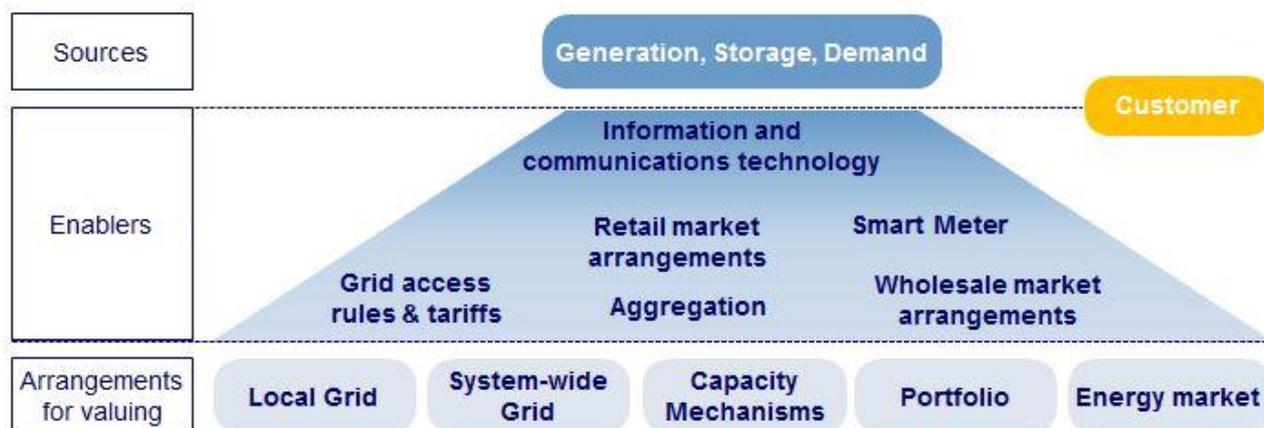
3.1 Background and importance of flexibility

European energy systems have experienced significant changes, envisaged to continue, mainly from:

- a. wide-scale deployment of renewable generation of an intermittent nature (e.g. wind, solar); and
- b. changes in how energy is consumed, e.g. electric vehicles, combined with electricity storage, home automation and progress in information communication technologies, which may facilitate the provision of flexibility from new sources.

These changes have had a significant impact on electricity markets and networks, at a system-wide and local level, and are likely to continue to increase their influence in the future. They require greater flexibility of markets and systems and thus the fostering of all sources of flexibility in the most efficient way possible. Therefore, the removal of undue barriers restricting the participation of sources of flexibility in the market, to ensure a broader level playing field amongst all such sources, is crucial in serving the interests of Europe's energy consumers. The focus should be on new and growing types of flexibility – which current regulatory arrangements may not accommodate efficiently – such as storage, or innovations that allow consumers to engage with decentralised energy sources. More broadly, flexibility needs to be encouraged through a set of different but complementary measures that capture the many components of flexibility provision.

The following diagram presents a simplified framework of the integrated elements of flexibility.



Sources of flexibility (top box) include power generation, storage and changes in demand, such as the turning down of consumption upon request. The range of **arrangements for providers to value flexibility** is presented in the bottom box, e.g. balancing market as an aspect of system-wide grid. **Enablers** (middle box) support sources in accessing options for valuing flexibility. For example, the terms under which aggregators – who bundle and sell changes in multiple consumer demand profiles – can access energy markets depends on wholesale market arrangements.

3.2 [Principles and practice](#)

European Energy Regulators support arrangements for facilitating flexibility that promote efficiency. To this end, arrangements should comply with the following high-level principles:

All flexibility sources should be able to participate in all arrangements for valuing flexibility whenever this participation is efficient. In practice, this means for example that:

- flexible resources compete on a level playing field in all arrangements for valuing flexibility, and are not unnecessarily restricted from providing services across a range of value streams;
- requirements of products for managing grids should be free of any resource bias, and products should allow participation of flexibility from all relevant sources, including aggregated consumption;
- a framework that facilitates participation and avoids introducing inefficiencies should be put in place to enable new and growing innovations that blur lines between supply and demand, such as storage and aggregation. Differences in national circumstances mean that different approaches to promote flexibility may be merited across MSs. In this context, MSs shall enable independent aggregation unless a national implementation assessment suggests an alternative that better serves system efficiency and can be implemented effectively. Such an assessment might be supported by an analysis of the state of competition in MSs' retail markets.
- TSOs and DSOs should access and use flexibility services, in a coordinated way, to manage their networks in an efficient manner. Markets and regulatory frameworks will need to support this and deliver efficient system-wide outcomes;

- TSOs, working with DSOs where relevant, should be responsible for organising European balancing markets and should strive for their integration, keeping the system in balance in the most efficient manner.

Enablers to facilitate flexibility should be put in place where efficient. In practice this requires that:

- settlement be based on balance responsibility and accurate / timely measurement, requiring roll-out of smart meters (subject to a forward-looking cost benefit analysis), and arrangements support rapid and agile switching;
- TSOs coordinate and work in close cooperation with one another and with DSOs;
- system operators share all relevant data with the market in a timely manner, while respecting data protection legislation and consumer ownership of data.

3.3 [Aggregation and demand-side flexibility](#)

European Energy Regulators' interpretation of the European Commission's proposals on aggregators and demand-side response is that:

- independent aggregators shall have access to all markets on a level playing field and are financially responsible for the imbalances they cause;
- compensation between aggregators and suppliers is not envisaged, but MSs could exceptionally allow payments for imbalances between aggregators and Balance Responsible Parties (BRP);
- independent aggregators shall be able to sell their customers' flexibility without consent of associated suppliers.

<p>European Energy Regulators support the following aspects of the European Commission's proposals:</p> <p>(1) the principle of addressing barriers to flexibility;</p>	<p>European Energy Regulators see scope for improvement of the European Commission's proposals, to the effect that:</p> <p>(1) a holistic approach is provided including a requirement that all consumers, including aggregated, should have the opportunity to participate in all relevant arrangements for valuing flexibility;</p>
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<p>(2) the possibility for consumers to bring their flexibility – whether individually or aggregated – to the market for valuing flexibility;</p> <p>(3) that the requirements for the participation of demand side response in markets should be on the basis of the needs of these markets; and</p> <p>(4) that all market participants (including independent aggregators) shall be subject to balance responsibility and shall be financially responsible for imbalances they cause in different energy markets.</p>	<p>(2) MSs shall enable independent aggregation unless a national implementation assessment suggests an alternative that better serves system efficiency and can be implemented effectively³. This reflects that aggregated access in national markets with strong retail competition and low entry barriers may be efficiently achieved through integrated retail-aggregation, in particular in energy markets subject to complex retail interactions. A flexible and non-prescriptive approach – on whether to facilitate aggregation through putting in place these enablers of flexibility, such as reforms that strengthen retail competition, or whether additionally to implement models of independent aggregation – avoids imposing unnecessary cost and regulatory burden, ultimately borne by the consumer;</p> <p>(3) Where the independent aggregation model is implemented, MSs shall ensure that (i) market access by independent aggregators is not foreclosed by suppliers to the consumer detriment, and that (ii) arrangements provide for payment for resold energy ('compensation'). This payment for resold energy is necessary to serve system efficiency and ultimately to keep consumer bills down; and</p> <p>(4) This payment for resold energy could be facilitated through a central financial settlement or be based on contractual relationships between the customers and suppliers, but would not involve any contractual relationship between the supplier and the independent aggregator.</p>
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4. Flexibility to support (distribution) network operation

European Energy Regulators' interpretation of the European Commission's proposals in relation to DSOs is that:

- (a) DSOs will perform tasks related to the use of flexibility;
- (b) DSOs must exchange relevant network information and co-ordinate with TSOs;
- (c) DSOs must develop network development plans that include reports on DSOs' use of alternatives to system expansion;
- (d) DSOs should be incentivised to consider innovative solutions to managing their network; and
- (e) an EU DSO entity will be established.

To avoid market distortions, it remains essential that DSOs are neutral when performing their tasks and are sufficiently unbundled. The greater the responsibilities given to the DSOs, and the more

³ This reflects the fact that as conditions vary across MSs the potential merits of facilitating independent aggregation will vary. These benefits may be compared with potential negative effects for end customers such as through retail price adjustments due to elevated supplier risk, distortions and regulatory burden associated with introduction of independent aggregation. These are not considered in the [EC impact assessment](#).

DSOs are involved in non-core activities, the greater the need for regulatory control or effective unbundling.

<p>European Energy Regulators support the following aspects of the European Commission's proposals:</p> <ol style="list-style-type: none"> (1) the use of flexibility by DSOs to manage the distribution system and minimise costs; (2) the requirement for DSOs to report on the use of alternatives to system expansion in managing the network, e.g. in their network development plans; and (3) the establishment of a single EU DSO entity. 	<p>European Energy Regulators see scope for improvement in the following areas of the European Commission's proposals, to the effect that:</p> <ol style="list-style-type: none"> (1) TSOs and DSOs are required to coordinate with each other, including in procuring and accessing flexibility. In particular, they should treat all resources on a level playing field, minimise undue distortion of wholesale or retail markets, and maximise opportunities for flexibility providers to access value (revenue or cost savings) from both networks and other options for valuing flexibility; and (2) DSOs are adequately unbundled in order to perform new tasks in a neutral manner.
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Annex 1: Relevant ACER/CEER Papers

This White Paper builds on the "[European Energy Regulators' Overview Paper - Initial Reactions to the European Commission's Proposals on Clean Energy](#)", published by ACER and CEER on 23 January 2017. It is part of a series of regulatory White Papers covering key topics related to the Clean Energy package. For further background reading and positions please see below the list of relevant publications of the European Energy Regulators.

1	European Energy Regulators (ACER-CEER) White Paper #2 Role of the DSO , May 2017
2	European Energy Regulators (ACER-CEER) White Paper #1 Renewables in the Wholesale Market , May 2017
3	CEER White Paper (no. I) on the Distribution and Transmission Network Tariffs and Incentives , May 2017
4	CEER Guidelines of Good Practice for Flexibility Use at Distribution Level: CEER Consultation Paper , March 2017
5	CEER Report on Incentives Schemes for Regulating DSOs, including for Innovation: CEER Consultation Paper , January 2017
6	European Energy Regulators' Overview Paper, "Initial Reactions to the European Commission's proposals on Clean Energy" , January 2017
7	European Commission's Impact Assessment study on Downstream Flexibility, Price Flexibility, Demand Response & Smart Metering , July 2016
8	CEER Guidelines of Good Practice on Electricity Distribution Network Tariffs , January 2017, Ref: C16-DS-27-03
9	CEER Position Paper on the Future DSO and TSO Relationship , September 2016, Ref: C16-DS-26-04
10	CEER Position Paper on the Principles for Valuation of Flexibility , July 2016, Ref: C16-FTF-09-03
11	CEER Discussion Paper on the Scoping of Flexible Response , May 2016, Ref: C16-FTF-08-04
12	The Future Role of DSOs: CEER Conclusions Paper , July 2015, Ref: C15-DSO-16-03
13	CEER Advice on Ensuring Market and Regulatory Arrangements Help Deliver Demand-Side

	Flexibility , June 2014, Ref: C14-SDE-40-03
14	CEER Position Paper on Well-Functioning Retail Energy Markets , October 2015, Ref: C15-SC-36-03