ACER workshop on the framework guidelines on demand response

28 June 2022
9.30 – 11.30 CET
Online workshop

Public information
Opening
9:30 – 9:40

Christophe GENCE-CREUX, Head of the Electricity Department, ACER

Context
Agenda
Housekeeping rules
The framework guideline (FG) aims at the development of **new European rules** enabling **market access** for demand response, including load, storage and distributed generation (aggregated or not), as well as facilitating the **market based procurement of services** by distribution and transmission system operators.

Although the formal process which started with the priority list is for the establishment of a **network code (NC)**, the strong links with the existing legal framework require us to use as starting point the relevant provisions, without excluding the possibility of **amendments in the existing framework**; moreover, a NC includes requirements directly applicable to all Member States, however, in the FG we also include the development of methodologies in the context of the new European rules, which points to **guidelines**.

The FG is for European rules on demand response; although the term **flexibility** has been broadly used, ACER understands that since it is a non defined term, a lot of confusion comes from using this term in multiple different contexts instead of using the respective term which is appropriate for each of the contexts; we consciously try to address this topic in the FG.

It is important to note that the FG is a **high-level document** and should **not be confused with the new rules** that should be developed in the next phase. The FG includes **objectives, principles, processes, definitions** and **high-level requirements**.
## Opening – Agenda

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<td>9:20-9:30</td>
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<td>9:30-9:40</td>
<td>Opening</td>
<td>Christophe Gence-Creux, ACER</td>
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<td>9:40-9:50</td>
<td>European Commission’s request to acer for drafting framework guidelines</td>
<td>Sabine Crome, European Commission</td>
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| 9:50-10:30      | Content of the framework guidelines on demand response submitted to public consultation  
|                 | - General provisions  
|                 | - General requirements for market access  
|                 | - Prequalification | Athina Tellidou, ACER  
|                 | Cristina Vazquez Hernandez, ACER  
|                 | Guro Grotterud, ACER |
| 10:30-10:40     | *Coffee break* |          |
| 10:40-11:25     | Content of the framework guidelines on demand response submitted to public consultation  
|                 | - Data exchange and SOs coordination  
|                 | - Congestion management  
|                 | - Voltage control | Athina Tellidou, ACER  
|                 | Cristina Vazquez Hernandez, ACER  
|                 | Guro Grotterud, ACER |
| 11:25-11:30     | Closing session | Mathieu Fransen, ACER |
For posing questions, use Slido

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  ✓ Or use direct link https://app.sli.do/event/aUd9LqaV9eAktx1q4yVX6P

• At the end of the main sections we will address some questions, as time allows.

• The slide pack will be shared with you after the webinar via email and on the ACER website (including a recording of this webinar).
European Commission’s request to ACER for drafting the FGs on DR
9:40 – 9:50

Sabine CROME, European Commission
Network Code on Demand Side Flexibility

Sabine Crome
European Commission – DG Energy
Internal Energy Market

28 June 2022
Legal basis and process

• Article 59(1)(e) Electricity Regulation

  The Commission is empowered to establish a network code on rules implementing Article 57 of the Regulation and Articles 17, 31, 32, 36, 40 and 54 of the Electricity Market Directive in relation to demand response, including rules on aggregation, energy storage and demand curtailment.

• Priority list for the development of network codes and guidelines – 14 October 2020

• ACER scoping exercise September 2021 to January 2022

• Communication “Short-Term Energy Market Interventions and Long Term Improvements to the Electricity Market Design – a course for action” – 18 May 2022

  The Commission also proposes to accelerate the development and adoption of a new network code dedicated to demand response
Request for framework guidelines to ACER – 1 June 2022

Guiding principles

• *Ensure that no undue regulatory barriers hamper the participation [of demand side flexibility] in any of the existing electricity markets*

• *Enable the participation [of demand side flexibility] in market-based procurement of services needed by the system operators, where applicable*

Elements to be covered

• *Load, storage (in particular when combined with load), distributed generation*

• *Particular focus on products and services to solve physical congestions and on electricity balancing markets*

• *SO cooperation, information and data exchange, value stacking and interaction between markets, prequalification processes, baseline methodology (incl. measurement and validation), aggregation, TSO/DSO owned storage*
Content of the FGs on DR – General provisions
9:50 – 10:00

Athina TELLIDOU, Electricity Department, ACER

Ask question via Slido in MS Teams, by scanning the QR code or using the direct link:
https://app.sli.do/event/aUd9LqaV9eAktx1q4yVX6P
New European rules on Demand Response

**Framework Guideline drafting:**

- **Para 3:** EC establishes priority list for the areas of the new rules
- **Para 4:** EC asks ACER to submit FG in 6 months
- **Para 5:** ACER consults for at least 2m
- **Para 6:** ACER submits the FG to the EC
- **Para 7-8:** Optional (in case of failure): ACER resubmits or EC develops FG
- **Para 9:** EC requests EUDSO & ENTSO-E to draft a NC in 12 months
- **Para 10-13:** New NC drafting and adoption (incl. ACER 6 months revision)

**Informal scoping phase**

(current practice before the submission of the FG, although not envisaged in the Electricity Regulation)

- The EC sent a letter to ACER to initiate the scoping phase.
- ACER submitted the result of the scoping exercise to the EC.

**Process based on Article 59 **Electricity Regulation**

The FG shall set out clear and objective principles for the development of a network code on demand response, including rules on aggregation, energy storage and demand curtailment.

**ACER expert group** on demand side flexibility
Scope of the Framework Guideline

Scoping criteria

- Article 59 of ER lists concerned articles
  - In the Electricity Directive
  - In the Electricity Regulation
- Need for European harmonization
  - Impact on XB markets
  - Market integration/avoid fragmentation

Scoping result

- Resources:
  - Load
  - Storage
  - Distributed generation
  - No resources excluded
- System operators:
  - DSOs
  - TSOs
- Wholesale markets:
  - Balancing
- Congestion management:
  - Market based procurement of explicit demand response
- Non frequency ancillary services:
  - Voltage control
- Wholesale markets:
  - Forward
  - Day ahead
  - Intraday
- Aggregated or not

SO-owned storage
- Non frequency ancillary services
  - Black start
  - Island operation capability
  - ...
- Retail markets
- SO incentives for flexibility procurement
- Adequacy
  - Capacity mechanisms
  - Interruptibility schemes
- Non firm connection agreements
- Implicit demand response
  - Dynamic tariffs
- Baseline methodology, measurement, validation
- Aggregation
- Market interaction
- SO coordination
- Data exchange
- Prequalification
- Implicit demand response
- Dynamic tariffs
Main topics for the Framework Guideline

**General requirements for market access**
- Requirements to be further specified and clarified at European level, to ensure a level playing field for the participation of all the resources in the electricity wholesale markets.

**Prequalification**
- European principles for the prequalification, in order to smoothen the process and lift any unnecessary barriers for the participation of all the resources.

**SOs interactions and data exchange**
- Principles for the coordination of local markets with wholesale markets, and between TSOs/DSOs, ensuring coherence in the interaction across different markets and different time frames.

**Congestion management**
- Requirements for the market-based procurement of products used for congestion management.

**Voltage control**
- Requirements for the market-based procurement of products used for voltage control.
• Demand response and other relevant resources **do not participate** to a large extent in European electricity markets.
• A future European framework should
  • Ensure that no undue regulatory barriers hamper participation in existing markets
  • Enable participation in market based procurement of services needed by the system operators
• Uncertain benefits of defining Europe-wide target models today
• Further harmonisation may be needed on a later stage
Interlinks with existing legal framework

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The blue boxes indicate other Chapters of the respective Regulations, which were assessed with respect to their relevance to the new rules, but at this point they are excluded from the scope of the new rules

* = due to the size of the SO regulation it was split into the three main parts II, II and IV in this overview

** = The ACER recommendation on CACM 2.0 proposes to move this chapter and the provisions on CGM and GLDP to the SO part III on Operational planning
Content of the FGs on DR – General requirements for market access
10:00 – 10:10

Athina TELLIDOU and Guro GRØTTERUD, Electricity Department, ACER

Ask question via Slido in MS Teams, by scanning the QR code or using the direct link:
https://app.sli.do/event/aUd9LqaV9eAktx1q4yVX6P
European focus: wholesale electricity markets

- Final customer
- Supplier (may also be an aggregator)
- Aggregator
- BRP
- Fwd, DA, ID
- TSO
- DSO
- Relevant for the EU framework

Retail market
Wholesale market

Suppliers
Aggregator contract
Supplier contract
A market participant has different roles: **at least a balancing responsible party, BRP**, and may also be a **service provider** (balancing or other, depending on its participation in the SOs’ procurement of services).

The new rules will define the **service providing unit/group and service provider (SP)** for **any market participant providing any system operator (SO) services** (for any or both the TSO and the DSO), in particular for congestion management and voltage control – in addition to balancing services which already exist.
No matter which models are selected for aggregation in each MS, it should be clear in the European rules how the calculation of the following values is conducted in each of the cases: final position, allocated volume, imbalance adjustment, imbalance.

In order for this to be achieved, the different cases should be exhaustively described in the new rules as a grouping of the different aggregation models based on specific parameters:

- the number of BRPs per connection point and per metering point, as well as
- the type of the applied compensation mechanism.
No obligation for applying a baseline, nor to be restrictive when setting the requirements for the establishment of a baseline.

When the baseline is assumed as reference for checking the delivery, SOs to follow common general principles for its establishment.

If the control of the provision of an SO service is based on measurement:

- the granularity of the meter needs to be at least equal to 15 min (ISP);
- the new rules will describe the conditions for the use of sub-metering for the measurement of the provision of the service.

Process for achieving further standardization, subject to an assessment to evaluate the benefit in achieving the aims of the Electricity Regulation.
SO-owned storage facilities

SO-owned storage facilities – subject to derogation

Derogation conditions: a tendering procedure concludes that the service may not be provided by a third party

New EU rules

- Principles for the tender, including transparency, technology neutrality
- Principles for the NRA approval of the tendering process, including maximisation of social welfare compared to an SO-owned storage

Third party owned storage facilities

By default, storage facilities are owned and operated by a third party

New EU rules

The storage facility may be owned and operated partly by an SO, partly by a third party. Derogation conditions apply only to the SO-operated part.

The storage facility may be owned and operated by an SO alone

SO-owned storage facilities – outgoing conditions

CEP: regular public consultation to assess the interest of third parties

New EU rules

- A third party can provide the necessary service
- CBA gives preference to phasing out of SO-owned storage facility

New EU rules

• Principles for the tender, including transparency, technology neutrality
• Principles for the NRA approval of the tendering process, including maximisation of social welfare compared to an SO-owned storage
Content of the FGs on DR – Prequalification
10:10 – 10:20

Cristina VAZQUEZ, Electricity Department, ACER

Ask question via Slido in MS Teams, by scanning the QR code or using the direct link:
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Prequalification: scope

- **Prequalification** = **Product prequalification** + **Grid prequalification**

**New EU rules**

- SOs assessment criteria to accept delivery of the service
- Conditional grid prequalification – SOs criteria to set limits
- Dynamic grid prequalification – SOs criteria to reexamine limits

**Ex-ante product prequalification**

**Ex-ante grid prequalification**

**Ex-post product verification**

**Ex-ante grid prequalification**
Simplifying and avoiding duplications in product prequalification

**STANDARD BALANCING PRODUCTS**

- Unique ex-ante prequalification process at EU level

**SPECIFIC BALANCING PRODUCTS, CONGESTION MANAGEMENT AND VOLTAGE CONTROL PRODUCTS**

- Ex-post verification based on service delivery
- Ex-ante prequalification at national level

New EU rules
- Steps and timeline
- Technical requirements
- Process per scenario
- EU threshold requiring new prequalification process or test after any change

New EU rules
- Options for national verification criteria
- National verification criteria
- National process

National TCMs
- Multiple SOs procuring same product – one prequalification
- One SPU/SPG participating in multiple products - principles for national ToE (3.3)
- Process and min requirements for congestion management and voltage control (3.1)

New EU rules
- Technical criteria justifying prequalification process

National TCMs
- National ToE (3.3)
- National process and requirements
- National threshold requiring new prequalification process or test after any change

New EU rules
- 2 years
- 3 years

EU methodology for further harmonisation
Q&A for Session 1
10:20 – 10:30

Mathieu FRANSEN, Team leader – Electricity Department, ACER

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Coffee break
10:30 – 10:40
Content of the FGs on DR – Local SO services and market interaction
10:40 – 11:00

Guro GRØTTERUD, Electricity Department, ACER

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https://app.sli.do/event/aUd9LqaV9eAktx1q4yVX6P
• The Clean Energy Package provides the legal basis for market based procurement of local SO services, with explicit emphasis on demand response and other relevant resources.

• Only market based local SO services relevant for European rules have been included in the scope of the Framework Guideline.
Local SO services: products and pricing

Local SO services

- Congestion management
  - Long term, short term, from years ahead to real time
  - No restrictions on the product design for congestion management
- Voltage control
  - Energy products, capacity products, dispatch limitation...
  - Same principles as congestion management
  - Active power
  - Reactive power
  - Mainly long term products

Products and pricing of local SO services

New European rules

- National framework
  - Attributes for product description
  - Procurement principles
  - Standardised products
  - Pricing mechanism
- Non market based procurement
  - CEP: NRA derogation to market based procurement if economically not efficient

New European rules

- NRA assessment
  - Principles
  - Frequency
- Non market based procurement
  - Principles/guidance
Local markets for SO services, interaction with wholesale markets

Local SO services may be purchased in a wholesale market or in a local market for SO services.

Local markets for SO services may be organised by SO(s) or a third party.

The new rules shall define common principles for such local markets.

Interaction with wholesale markets is particularly relevant for (shorter term) local SO services based on active power.

Uncoordinated markets may cause:
- Market fragmentation
- Loss of liquidity
- Possibilities for gaming/market abuse

New European rules:
- Common principles for
  - Neutrality & non-discrimination
  - Transparency
  - Data protection
  - Data exchanges between platforms and SOs
  - Independence

*subject to national rules
The new European rules shall provide high level principles for purchase of local products in
- wholesale markets
- local markets for SO services

They shall also provide principles for interaction of these activities with wholesale markets.

New European rules

- Minimise possibilities for withholding of capacities and for market abuse
- Maximise liquidity in each market
- Possibility to propose bids that are not procured in one market in another (if qualified)
- SOs shall not unduly distort electricity wholesale markets by procuring SO services
- Data exchanges between platforms to enable SPs to be active in several markets

National framework

- Overall market design
  - All SOs
  - NRA approval
Although the FG provides that most features of the market design are set on MS level today, further harmonisation may be relevant in the future, once further knowledge is reached.

The process for harmonisation aims at detecting and discussing if, how, when and for which features further harmonisation is required.

**European harmonisation**
- XB relevance, especially through BAL
- Enhanced competition
- Lower prices/higher volumes

**National network codes** which do not affect cross-zonal trade
- Local/regional specificities
- Costs of harmonisation

**Congestion management**

1. Joint ENTSO-E/EU DSO Entity report
2. ACER approval
3. Harmonisation made mandatory

**Voltage control**

1. Joint ENTSO-E/EU DSO Entity report
2. ACER approval
Content of the FGs on DR – SO coordination and data exchange
11:00–11:10

Guro GRØTTERUD and Cristina VAZQUEZ, Electricity Department, ACER

Ask question via Slido in MS Teams, by scanning the QR code or using the direct link:
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Overall aim of coordination: optimal use of available resources

- SOs may activate resources in the grid of another SO
- Each SO responsible with solving congestion in its own grid, including covering the related costs
- An SO may refuse activation of a resource if this aggravates congestion/voltage issues. Guidance on remuneration of concerned SP, including mitigating risk of gaming.

New European rules

- Common terminology
- Principles for SO coordination and data exchange
- Principles for forecasting and solving congestion and voltage issues

National framework

- Terms
- Conditions
- Methodologies

SO coordination group

- Requesting SO
- Affected SO

SO coordination area

Congestion
# Data exchange

## Preparation phase
- from long to shorter before real time

## Operation phase
- shorter before real time till real time

## Settlement phase
- after real time

### New EU rules
- • Centralise all applications for all SO products (prequalification and ex-post verification processes)
- • Avoid duplications in applications, simplify access, etc.
- • Data governance including data quality, responsibilities, data privacy and confidentiality and interoperability

### New EU rules
- • TSO&DSO process to determine and exchange:
  - ✓ Physical congestions
  - ✓ Available volumes of SPUs/SPGs that may be affected by physical congestions and SO activations
  - ✓ Contracted capacities of SPUs/SPGs for each product.
  - ✓ Selected energy volumes

### New EU rules
- • Data exchange for SO-related services including validation, baseline related data, when required, at least for each aggregation model.
- • Data (at least activated energy volumes per SPU/SPG per product)
- • Data aggregation where possible, single point of contact receiving data, transparency and traceability and error detection and correction

### SO service provision tool

### National framework
Q&A for Session 2
11:10 – 11:20

Mathieu FRANSEN, Team leader – Electricity Department, ACER

Ask question via Slido in MS Teams, by scanning the QR code or using the direct link:
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Closing
11:20 – 11:30

Mathieu FRANSEN, Team leader – Electricity Department, ACER
The FG as a deliverable and the public consultation

• For the public consultation draft: we would very much welcome your comments and concrete proposals
  • you have the possibility to comment to each separate paragraph, expressing your opinion on a likert scale, but also adding your specific comment or even a wording suggestion for amending the draft;
  • all the responses will be published after the end of the public consultation, and the ACER reply to the (summarised) responses will follow (together with the publication of the FG).
1. Is the draft framework guideline fit for its purpose?

2. Are there chapters/sections that would need further clarification? (max. 2 answers)

3. Are there any topics that are not covered in the current draft framework guideline, which you would consider should be included? (Open text question)
Thank you for your attention