ACER

European Union Agency for the Cooperation of Energy Regulators

Demand response and other distributed energy resources: what barriers are holding them back?

ACER 2023 Market Monitoring Report

ACER Webinar

19 January 2024

ACER
European Union Agency for the Cooperation of Energy Regulators

Agenda

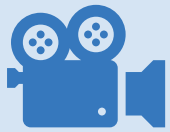
Indicative time	Webinar items	Speakers
09:45 - 10:00	Webinar open for log-in	
10:00 - 10:05	**Opening**	Christian Zinglersen, ACER
10:05 - 10:20	**Presentation of the ACER 2023 Market Monitoring Report: Demand response and other distributed energy resources: what barriers are holding them back?**	Cristina VAZQUEZ HERNANDEZ, ACER
10:20 - 10:35	**Panel discussion: Barriers to distributed energy resources**	**Moderator:** Johan ROUPE, Ei (Swedish NRA) **Panelists:** Michael VILLA, Smart Energy Europe (SmartEn) Naomi CHEVILLARD, SolarPower Europe Leen PEETERS, Think E Julia MAJEWSKA, European Commission, DG COMP
10:35 - 10:50	**Q&A**	**Moderator:** Johan ROUPE, Ei (Swedish NRA)
10:50 - 11:05	**Panel discussion: Barriers for bringing flexibility through the electricity market**	**Moderator:** Johan ROUPE, Ei (Swedish NRA) **Panelists:** Thomas LEWIS, Climate Action Network (CAN) Europe Martin ROACH, European Association for Storage of Energy (EASE) Peter CLAES, International Federation of Industrial Energy Consumers (IFIEC) Europe Mathilde LALLEMAND-DUPUY, European Commission, DG ENER
11:05 - 11:20	**Q&A**	**Moderator:** Johan ROUPE, Ei (Swedish NRA)
11:20 - 11:30	**Closing**	Christophe GENCE-CREUX, ACER

ACER
European Union Agency for the Cooperation of Energy Regulators

Housekeeping rules

Please pose your questions using the Slido tool within Microsoft Teams

You can also access Slido through this direct link: https://app.sli.do/event/eaH94EXaFHDtAczUgvoosm



This meeting is being recorded

Questions from other participants can be 'liked' to increase their visibility

Slides and recording of this webinar will be uploaded to ACER website

Keep your microphone muted unless the chair gives you the floor

Substance-related questions will be addressed during the relevant Q&A session; although they can be posed at any point

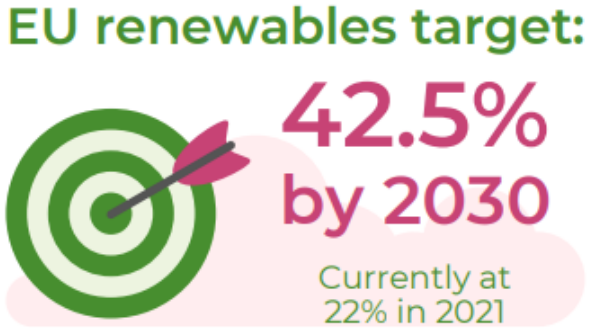
ACER
European Union Agency for the Cooperation of Energy Regulators

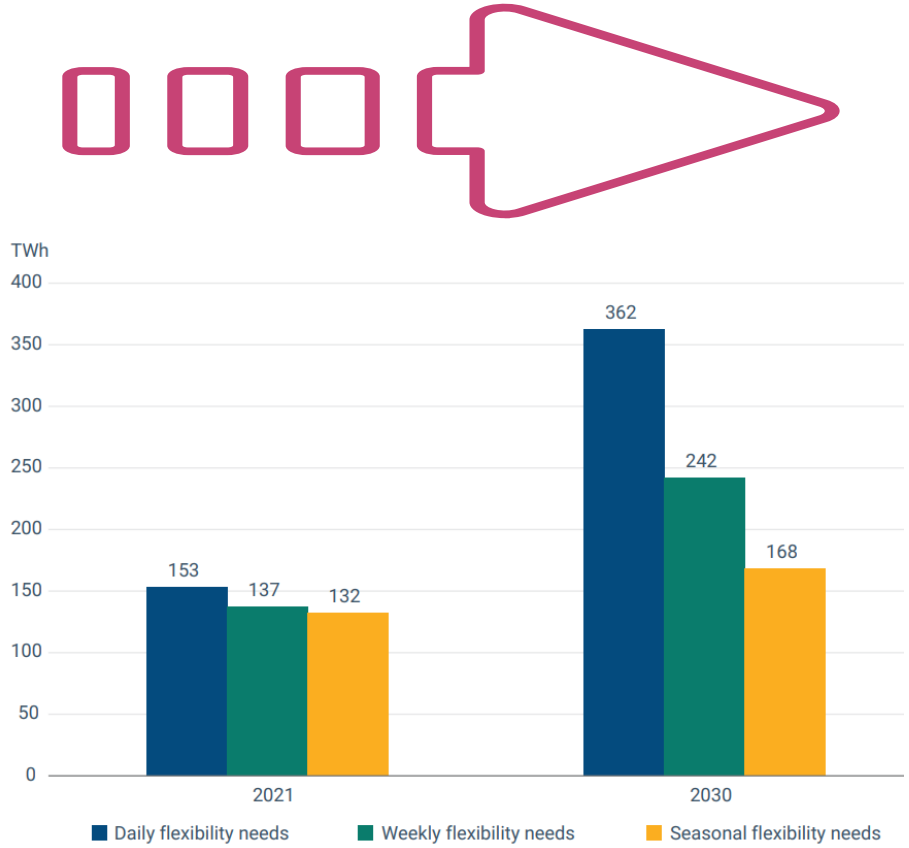
Opening

10:00 – 10:05

Christian ZINGLERSEN, ACER Director

Flexibility is becoming the ‘name of the game’ …





Flexibility in the EU power system **needs to double** by 2030

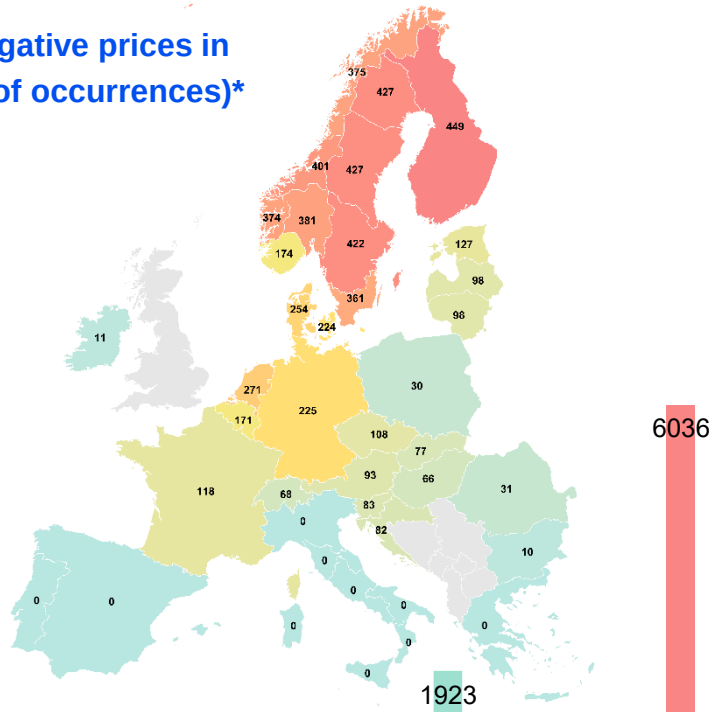
The **energy transition** implies a surge in intermittent renewable energy sources and further electrification of energy needs, such as heating. As such, **future flexibility needs will increase significantly**.

Source: ACER-EEA report Flexibility solutions to support a decarbonised and secure EU electricity system, October 2023.

ACER
European Union Agency for the Cooperation of Energy Regulators

Negative prices: indicators ‘telling us something’

Day-ahead negative prices in 2023 (number of occurrences)*



Yearly occurrences of negative prices in the EU*

John Doe, place unknown

High/low wholesale prices send signals to generators (*where to invest / when to produce*), to traders (*where to trade*) and to consumers (*if/when to consume*).
Consistently low or high prices call for attention, possibly signalling the need for **a more responsive power system**.

** Source: ACER calculation based on ENTSO-E data.*
Note: One occurrence corresponds to one hour during which prices are negative.

ACER
European Union Agency for the Cooperation of Energy Regulators

Bringing challenges, yes, but also opportunities

More cost-efficient market and system operation

- Reducing peak prices
- Helping to balance the power system
- Preventing blackouts

More cost-efficient network development

- Reducing the risk of grid overload
- Helping to solve network congestion as an alternative/complement to more costly grid build-out

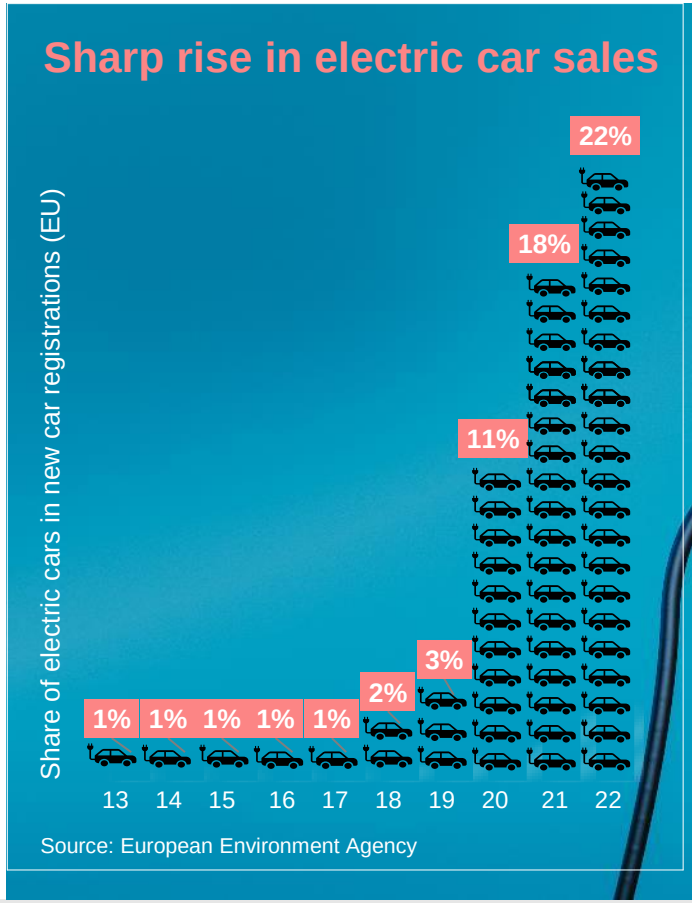
Savings for consumers

- Electricity bill savings for **ALL CONSUMERS,** not just for those providing demand response

Making the most out of your resources

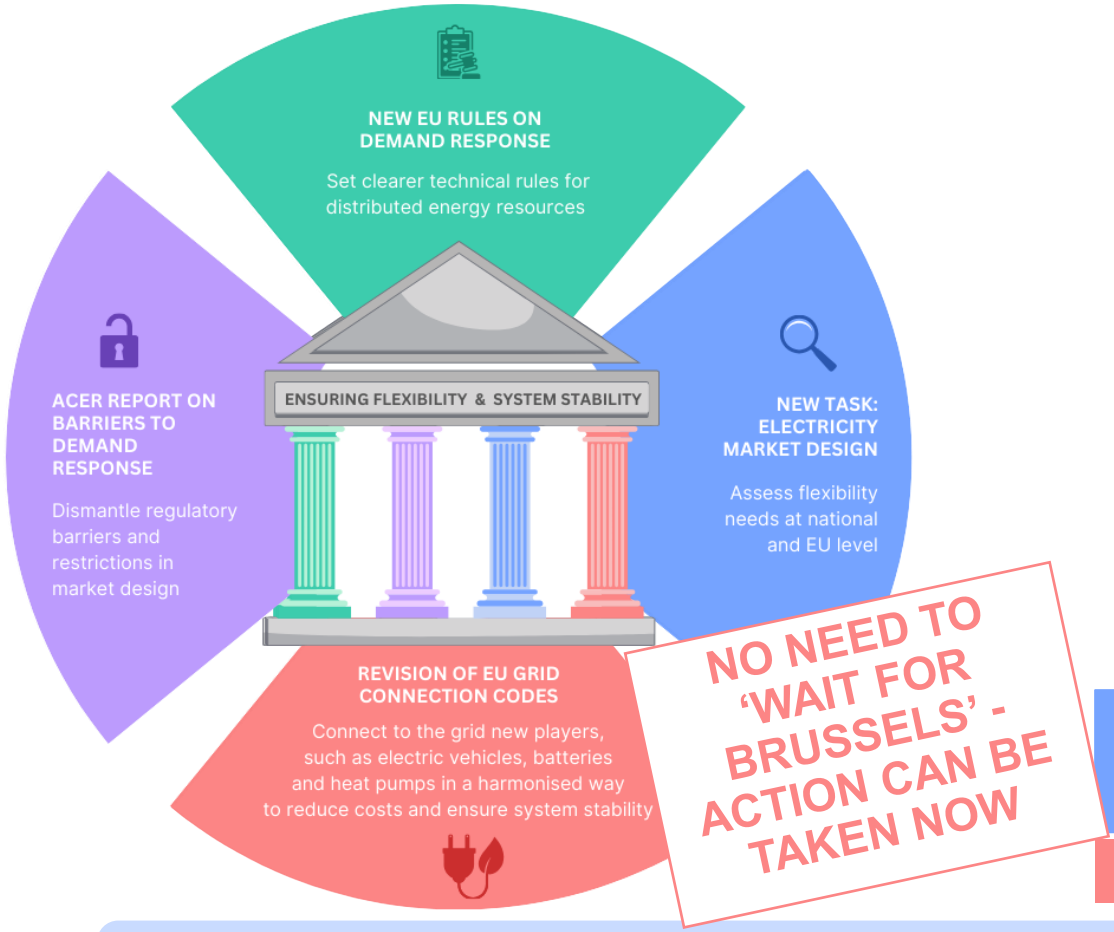
- Many consumers will invest in electromobility, rooftop solar panels, batteries, etc. They can become **AN ACTIVE PART OF THE SOLUTION.**

Unlocking demand response and other **distributed energy resources** can bring **significant opportunities.**

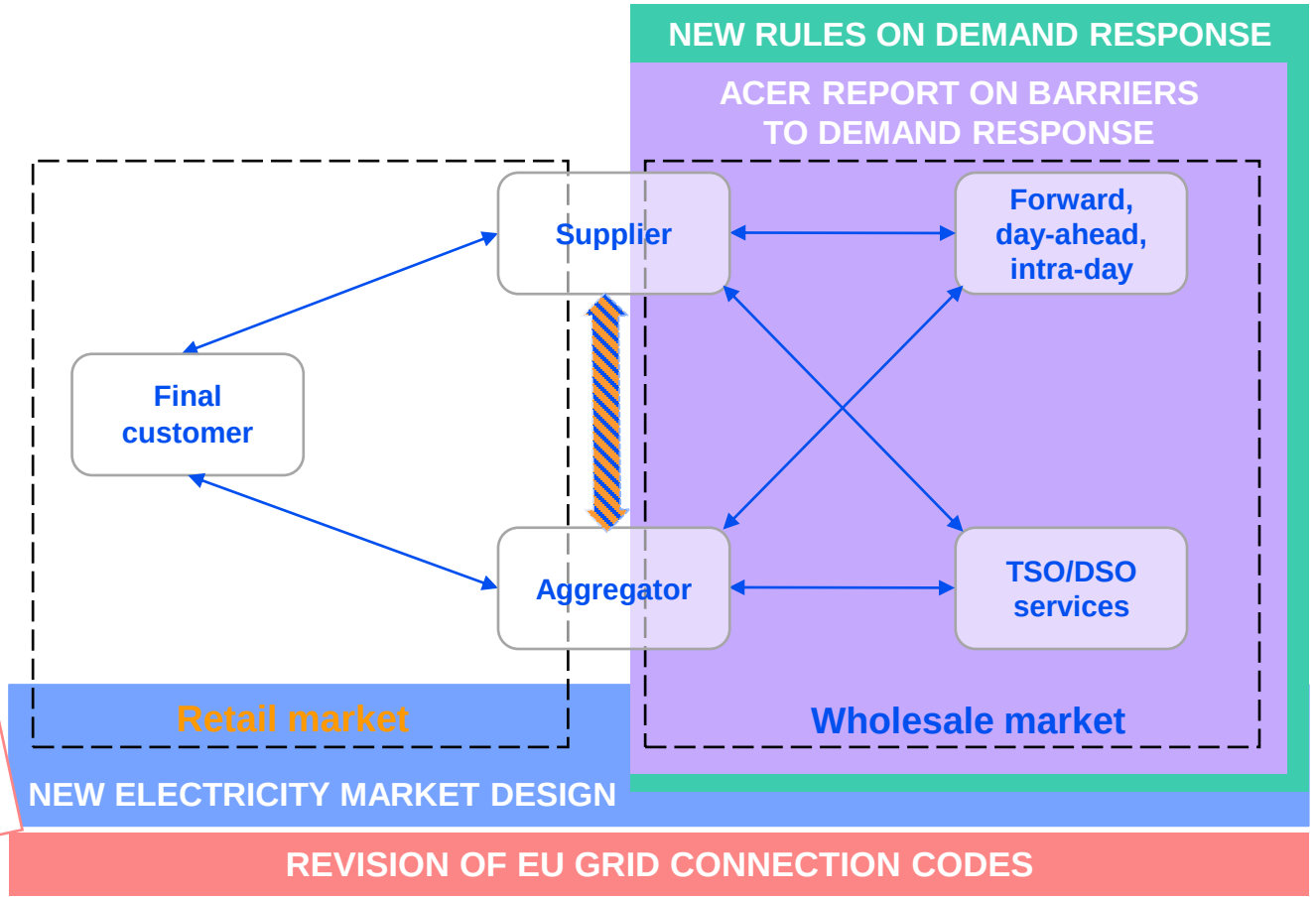


ACER
European Union Agency for the Cooperation of Energy Regulators

Multiple EU efforts ongoing to 'unlock' flexibility



NO NEED TO 'WAIT FOR BRUSSELS' - ACTION CAN BE TAKEN NOW



This report presents **regulatory barriers** and **restrictions in market design** that **merit further consideration and possible removal.**

ACER
European Union Agency for the Cooperation of Energy Regulators

Agenda

Indicative time	Webinar items	Speakers
09:45 - 10:00	Webinar open for log-in	
10:00 - 10:05	**Opening**	Christian Zinglersen, ACER
10:05 - 10:20	**Presentation of the ACER 2023 Market Monitoring Report: Demand response and other distributed energy resources: what barriers are holding them back?**	Cristina VAZQUEZ HERNANDEZ, ACER
10:20 - 10:35	**Panel discussion: Barriers to distributed energy resources**	**Moderator:** Johan ROUPE, Ei (Swedish NRA) **Panelists:** Michael VILLA, Smart Energy Europe (SmartEn) Naomi CHEVILLARD, SolarPower Europe Leen PEETERS, Think E Julia MAJEWSKA, European Commission, DG COMP
10:35 - 10:50	**Q&A**	**Moderator:** Johan ROUPE, Ei (Swedish NRA)
10:50 - 11:05	**Panel discussion: Barriers for bringing flexibility through the electricity market**	**Moderator:** Johan ROUPE, Ei (Swedish NRA) **Panelists:** Thomas LEWIS, Climate Action Network (CAN) Europe Martin ROACH, European Association for Storage of Energy (EASE) Peter CLAES, International Federation of Industrial Energy Consumers (IFIEC) Europe Mathilde LALLEMAND-DUPUY, European Commission, DG ENER
11:05 - 11:20	**Q&A**	**Moderator:** Johan ROUPE, Ei (Swedish NRA)
11:20 - 11:30	**Closing**	Christophe GENCE-CREUX, ACER

ACER
European Union Agency for the Cooperation of Energy Regulators

2023 ACER MMR: Demand response and other distributed energy resources: what barriers are holding them back?

10:05 – 10:20

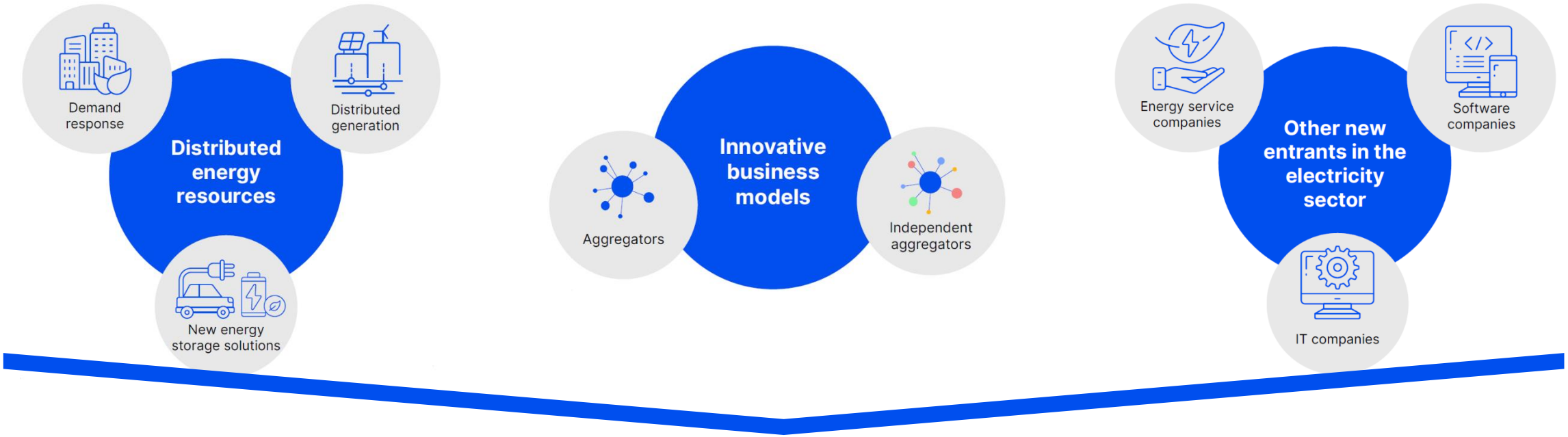
Cristina VAZQUEZ HERNANDEZ, Electricity Department, ACER

ACER
European Union Agency for the Cooperation of Energy Regulators

Scope and methodology …

ACER
European Union Agency for the Cooperation of Energy Regulators

Scope



Regulatory barriers & market restrictions

- Clean Energy Package & some existing EU Guidelines
- Market design and structure

Day-ahead and intraday markets

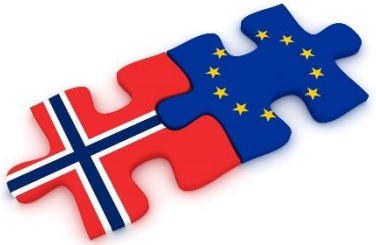
Balancing services

Congestion management services

Capacity mechanisms and interruptibility schemes

2022 data

Geographical scope

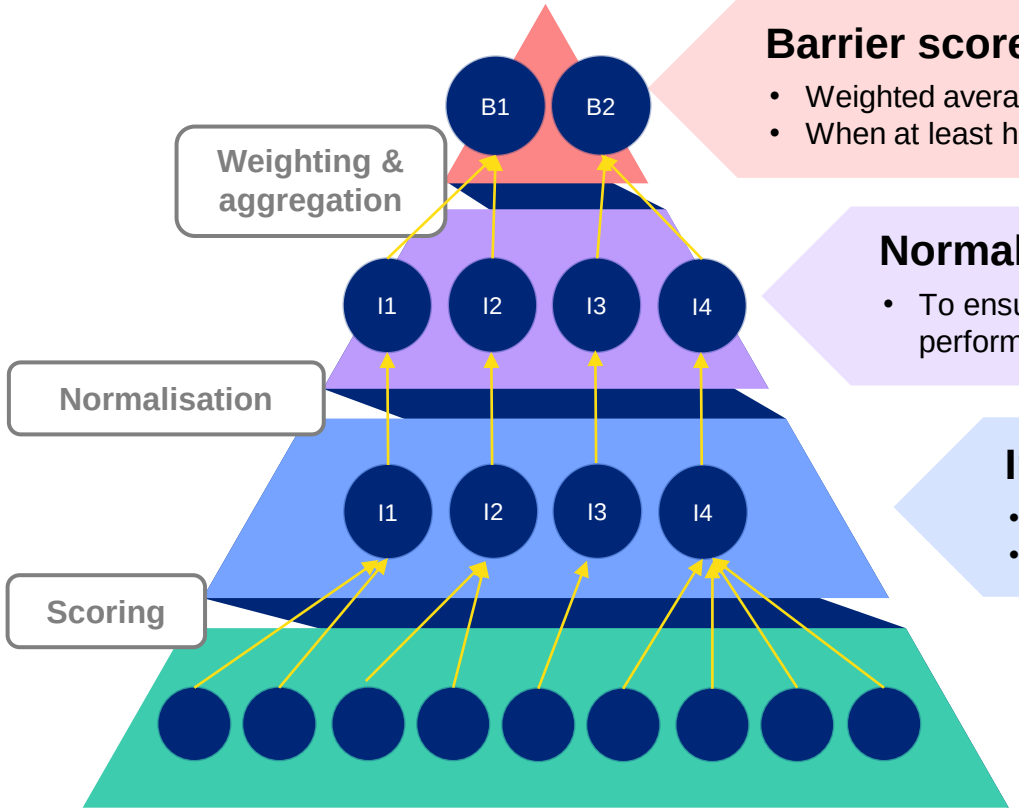


ACER
European Union Agency for the Cooperation of Energy Regulators

Barriers come in many sizes and shapes …

ACER
European Union Agency for the Cooperation of Energy Regulators

Our methodology in a nutshell



Barrier scores (8 barriers)

- Weighted average of the normalised indicators. All indicators have the same weight.
- When at least half of the indicators per barrier are missing, the barrier score is considered as N/A (not available).

Normalised indicators

- To ensure comparability each indicator is normalised onto a common scale ranging from 0 (worst performance) to 1 (best performance).

Indicator scores (> 40 indicators; some comprise more than 20 questions)

- Different scoring system per indicator.
- When missing data: lowest performance or N/A (not available).

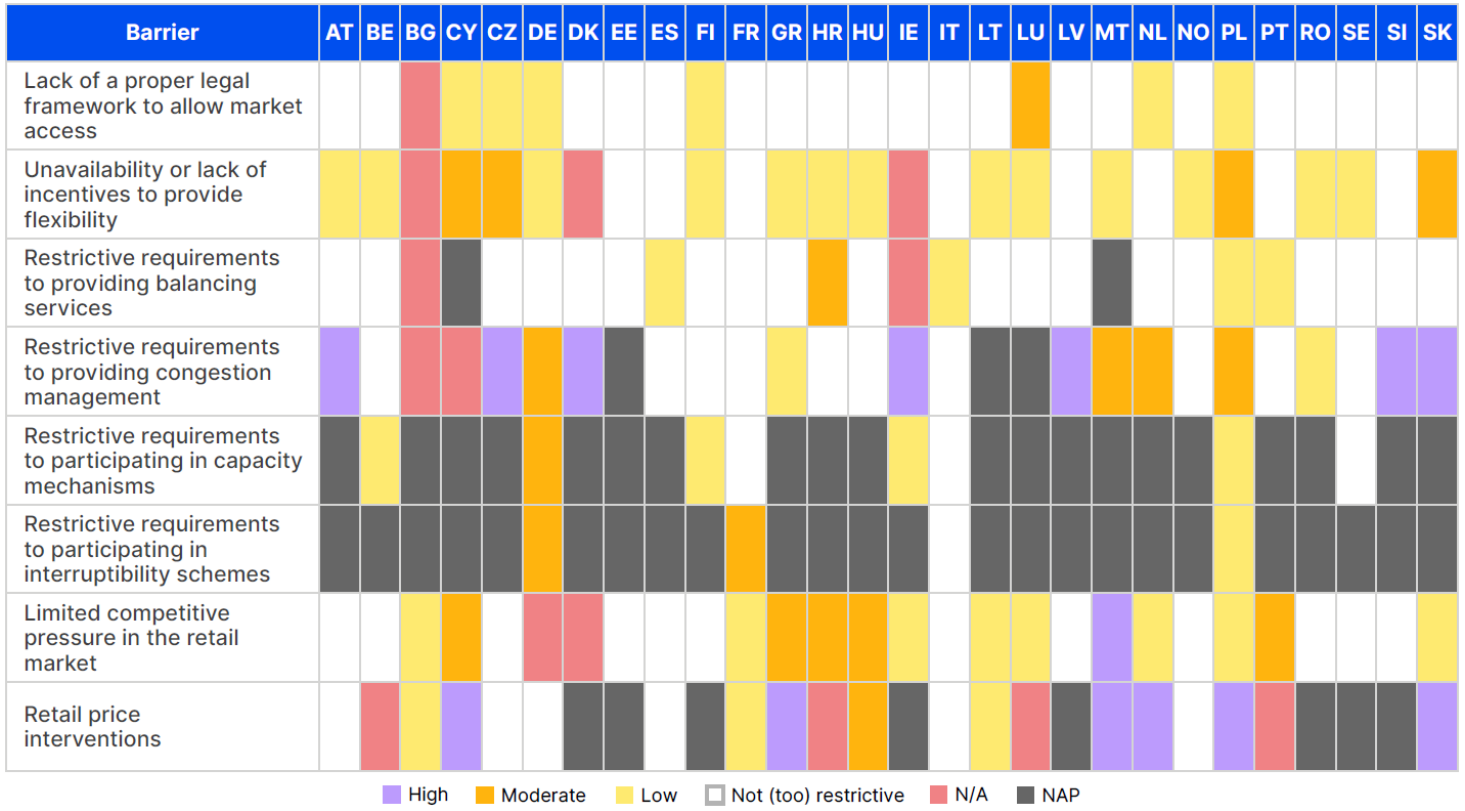
Raw data

- Raw data to calculate each indicator.

Notes: More information on the methodology:
ACER´s 2023 Market Monitoring Report – Demand response and other distributed energy resources: what barriers are holding them back? (Annex I).
ACER's 2020 Market Monitoring Report - Electricity Wholesale Market Volume (Annex 4).
DNV's 2021 study on a methodology for benchmarking the performance of the EU Member States in terms of efficient price formation and easy market entry and participation for new entrants and small actors.

ACER
European Union Agency for the Cooperation of Energy Regulators

Barriers to distributed energy resources, zooming in …



Barriers to distributed energy resources (including demand response) are **often 'hiding in plain sight'**.
The **sum of many small obstacles can add up to significant barriers**, impeding system flexibility.

ACER
European Union Agency for the Cooperation of Energy Regulators

Some examples of barriers holding back distributed energy resources …

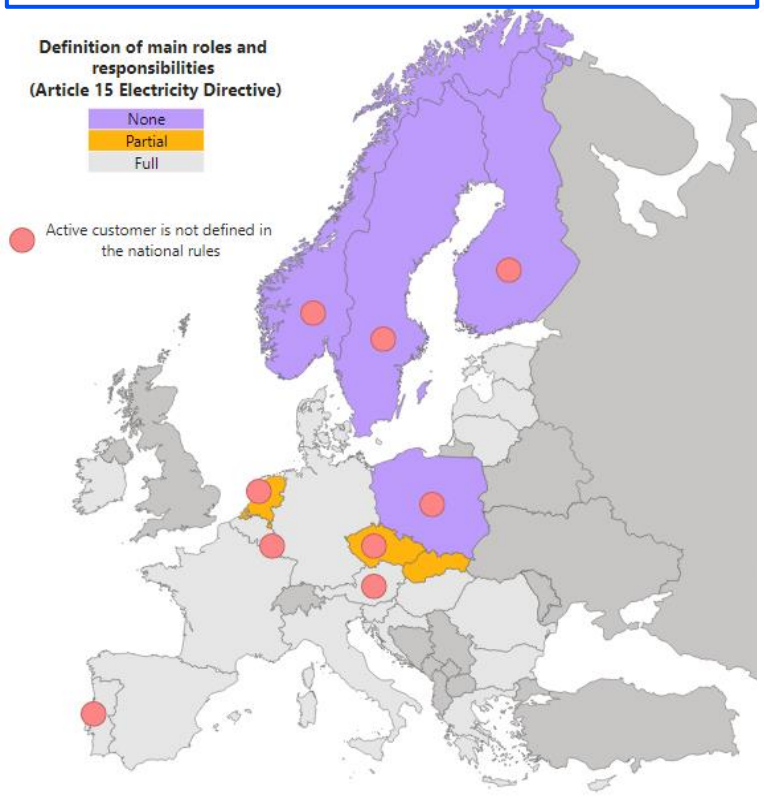
ACER
European Union Agency for the Cooperation of Energy Regulators

Lack of a legal framework to allow market access

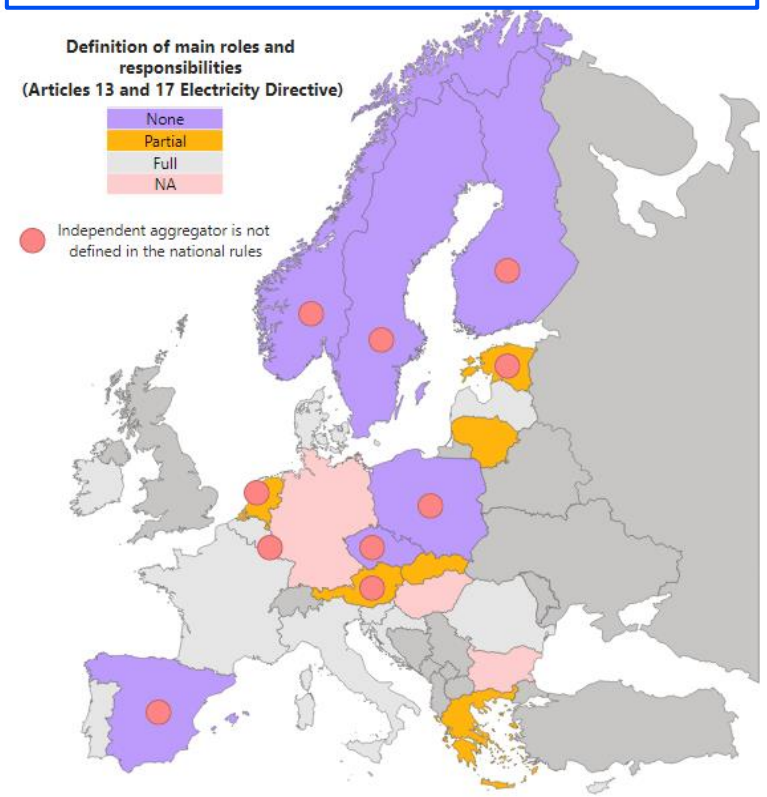
ACER
European Union Agency for the Cooperation of Energy Regulators

Legal preconditions… still not implemented

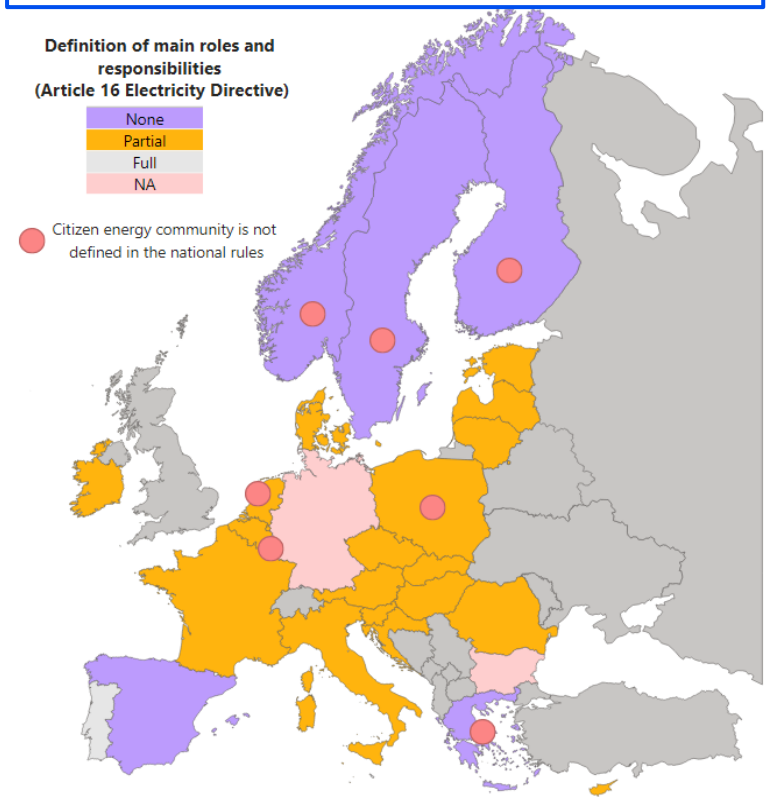
ACTIVE CUSTOMERS



AGGREGATION AND INDEPENDENT AGGREGATORS



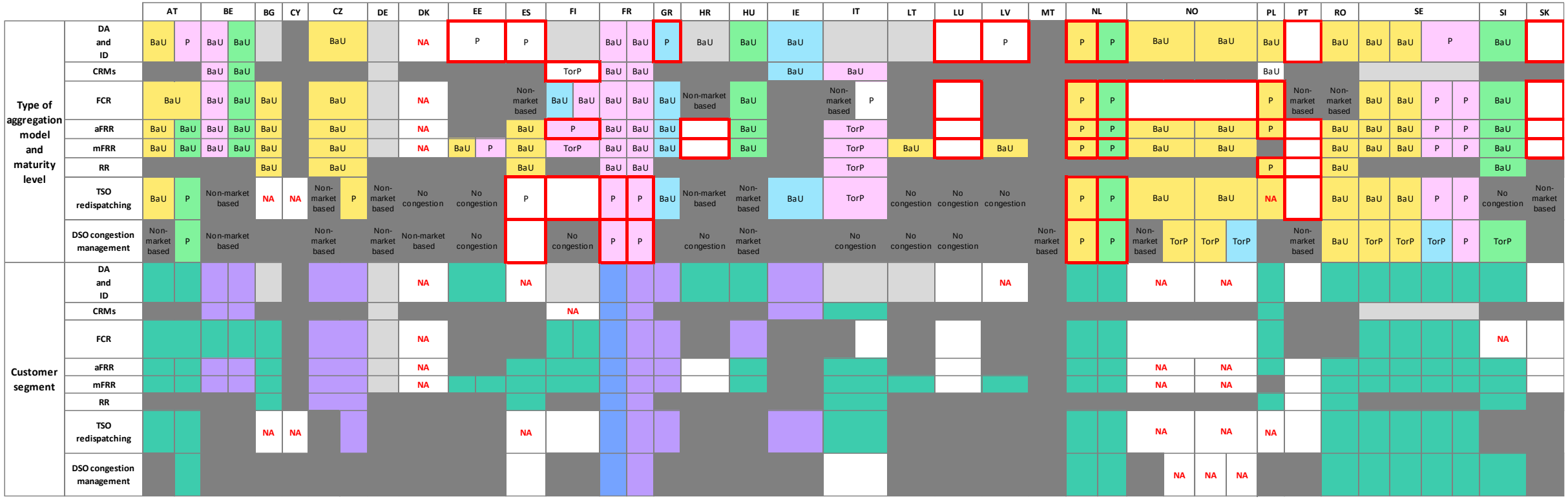
CITIZEN ENERGY COMMUNITIES



Many Member States have not yet defined the **main roles and responsibilites** of new entrants and small actors in line with the **Clean Energy Package**.

ACER
European Union Agency for the Cooperation of Energy Regulators

Aggregation models in place?



Type of aggregation model

- 1 BRP/connection point + 1 metering point
- Multiple BRPs/connection point + Multiple metering points
- Multiple BRPs/connection point + 1 metering point + No correction of the BRPs
- Multiple BRPs/connection point + 1 metering point + Correction of the BRPs
- NA (Not available: there is an aggregation model in place but the NRA does not have any information)
- NAP (Not applicable: the market/SO service is not in operation or the SO service is non-market-based)
- No aggregation model implemented as BAU or TorP

Maturity level

BaU: implemented as a business as usual approach

TorP: implemented on a trial stage or in a pilot project

NA: NRA does not have information on the maturity level

Customer segment

- Applicable to all customers
- Only applicable to customers connected to LV level
- Only applicable to customers connected to MV and HV level

NA: NRA does not have information on the customer segment

ACER
European Union Agency for the Cooperation of Energy Regulators

Aggregation models in place?

		AT		BE		BG	CY	CZ	DE	DK	EE	ES	FI	FR		GR	HR	HU	IE	IT	LT	LU	LV	MT	NL		NO				PL	PT	RO	SE				SI	SK
Type of aggregation model and maturity level	DA and ID	BaU	P	BaU	BaU			BaU		NA	P	P		BaU	BaU	P	BaU	BaU	BaU				P		P	P	BaU	BaU			BaU		BaU	BaU	BaU	P	BaU	
	CRMs			BaU	BaU								TorP	BaU	BaU				BaU	BaU										BaU							
	FCR	BaU		BaU	BaU	BaU		BaU		NA		Non-market based	BaU	BaU	BaU	BaU	Non-market based	BaU		Non-market based	P				P	P				P	Non-market based	Non-market based	BaU	BaU	P	P	BaU	
	aFRR	BaU	BaU	BaU	BaU	BaU		BaU		NA		BaU	P	BaU	BaU	BaU		BaU		TorP					P	P	BaU	BaU		P		BaU	BaU	BaU	P	P	BaU	
	mFRR	BaU	BaU	BaU	BaU	BaU		BaU		NA	BaU	BaU	TorP	BaU	BaU	BaU		BaU		TorP	BaU		BaU		P	P	BaU	BaU				BaU	BaU	BaU	P	P	BaU	
	RR					BaU		BaU				BaU		BaU	BaU					TorP									P			BaU				BaU	
	TSO redispatching	BaU	P	Non-market based		NA	NA	Non-market based	P	Non-market based	No congestion	No congestion	P	P	P	BaU	Non-market based	Non-market based	BaU	TorP	No congestion	No congestion	No congestion		P	P	BaU	BaU		NA		BaU	BaU	BaU	P	P	No congestion	Non-market based
	DSO congestion management	Non-market based	P	Non-market based				Non-market based	Non-market based	Non-market based	No congestion		No congestion	P	P		No congestion	Non-market based		No congestion	No congestion	No congestion	No congestion	Non-market based	P	P	Non-market based	TorP	TorP	TorP		Non-market based	BaU	TorP	TorP	TorP	P	TorP	
Customer segment	DA and ID									NA		NA											NA				NA	NA										
	CRMs												NA																									
	FCR									NA																											NA	
	aFRR									NA																	NA	NA										
	mFRR									NA																	NA	NA										
	RR																																					
	TSO redispatching					NA	NA					NA															NA	NA	NA									
	DSO congestion management																											NA	NA	NA								

Type of aggregation model

NA (Not available: there is an aggregation model in place but the NRA does not have any information)

No aggregation model implemented as BAU or TorP

Maturity level

NA: NRA does not have information on the maturity level

Customer segment

Only applicable to customers connected to LV level

Only applicable to customers connected to MV and HV level

NA: NRA does not have information on the customer segment

- Lack of at least one aggregation model (up and running or in a trial stage/as a pilot project) in some electricity markets or market-based system operation services in almost half of Member States.
- Missing aggregation models for some customer segments and lack of monitoring of aggregation models.

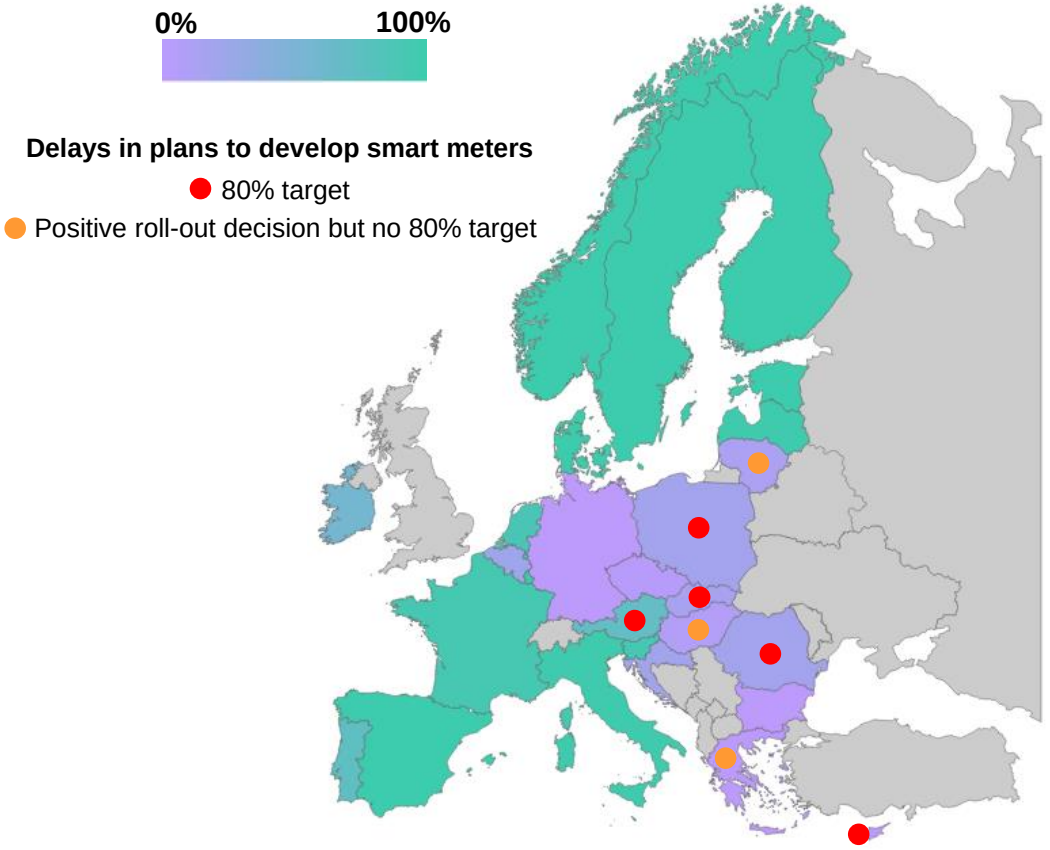
ACER
European Union Agency for the Cooperation of Energy Regulators

Unavailability or lack of incentives to provide flexibility

ACER
European Union Agency for the Cooperation of Energy Regulators

Lack of technical means to activate flexible resources

Smart meters roll-out - 2022



- Ten Member States with a rollout rate lower than 20% (with five being (almost) 0%).
- Delays in development plans.

Functionalities of smart meters installed (% ranges) - 2022

	STANDARD VALUE PROPOSITIONS									ADVANCED VALUE PROPOSITIONS					
	Leverage smart meters data	Bill forecasting	Real-time consumption display	Real-time cost display	Unusual usage alert	Historical consumption overview	Real-time carbon impact	Pre-payment capacity	Day-ahead prices	Ability to valorise the provision of explicit demand response to the power markets	Fuel poverty detection	Energy sharing	Integrate prosumers in the market	Facilitate smart charging of EVs at home	Facilitate smart charging of batteries
AT	100%		100%			100%						100%			
BE			0% - 20%									0% - 20%			
BG	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CY	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CZ															
DE															
DK															
EE	100%	100%	100%			100%	100%		100%						
ES	0%	0%	100%	0%	0%	100%	0%		100%	100%	0%	100%	0%	0%	0%
FI															
FR	80% - 100%	80% - 100%	80% - 100%	0% - 20%	0% - 20%	80% - 100%	0% - 20%	0%	0%	80% - 100%		80% 100%		100%	100%
GR	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
HR															
HU															
IE															
IT	0%	0%	80% - 100%	0%	80% - 100%	100%	0%	80% - 100%	0%	0%	0%	0%	0%	0%	0%
LT	100%	0%	100%	0%	0%	100%	0%	0%	100%	100%	0%	0%	100%	100%	100%
LU	0%	0%	100%	0%	0%	100%	0%	0%	0%	100%	0%	100%	0%	100%	100%
LV	60% - 80%	0% - 20%	100%	60% - 80%	0% - 20%	100%	20% - 40%	20% - 40%	0% - 20%	0%	0%	0%	0%	0% - 20%	0% - 20%
MT	0%	0%	100%		0%	0%	0%	0%			0%	0%			
NL															
NO	100%	100%	100%	100%	0%	100%	0%	0%	100%	0%	0%	100%	100%	100%	100%
PL															
PT	0%	0%	60% - 80%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
RO		100%	100%		0%	100%	0%	0%							
SE															
SI	60% - 80%	60% - 80%	80% - 100%	0%	0%	60% - 80%	0%	0%	0%	0%- 20%	0%	0%	0%	40% - 60%	40% - 60%
SK	100%	20% - 40%	60% - 80%												

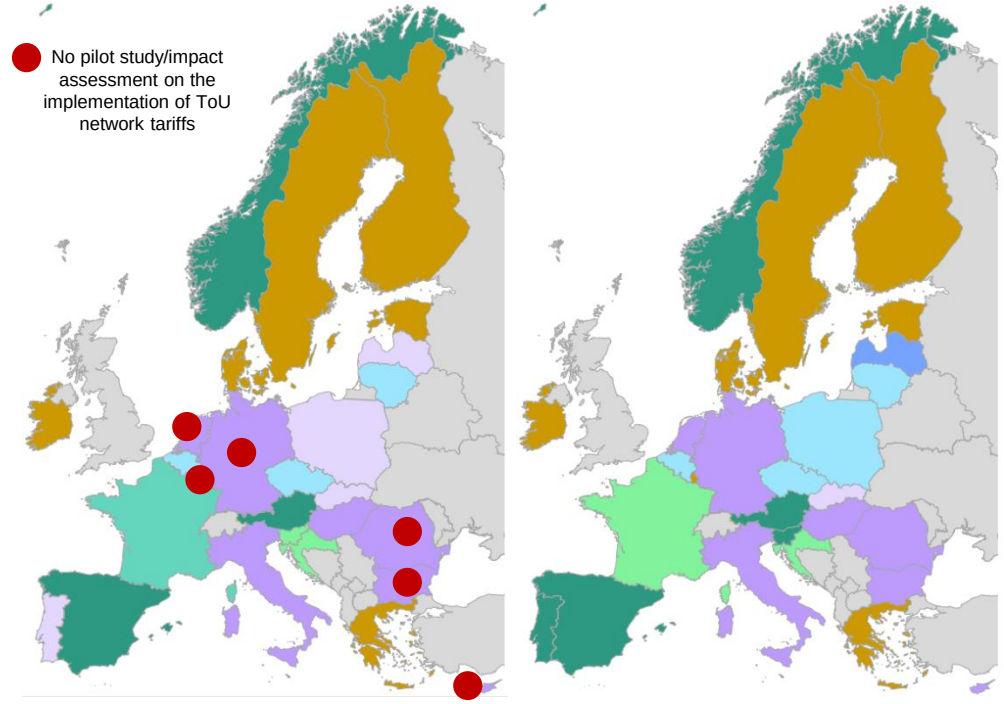
0%
0% - 20%
20% - 40%
40% - 60%
60% - 80%
80% - 100%
100%
N/A

- Limited information on functionalities.
- Many consumers likely not having full advantage of smart meters.

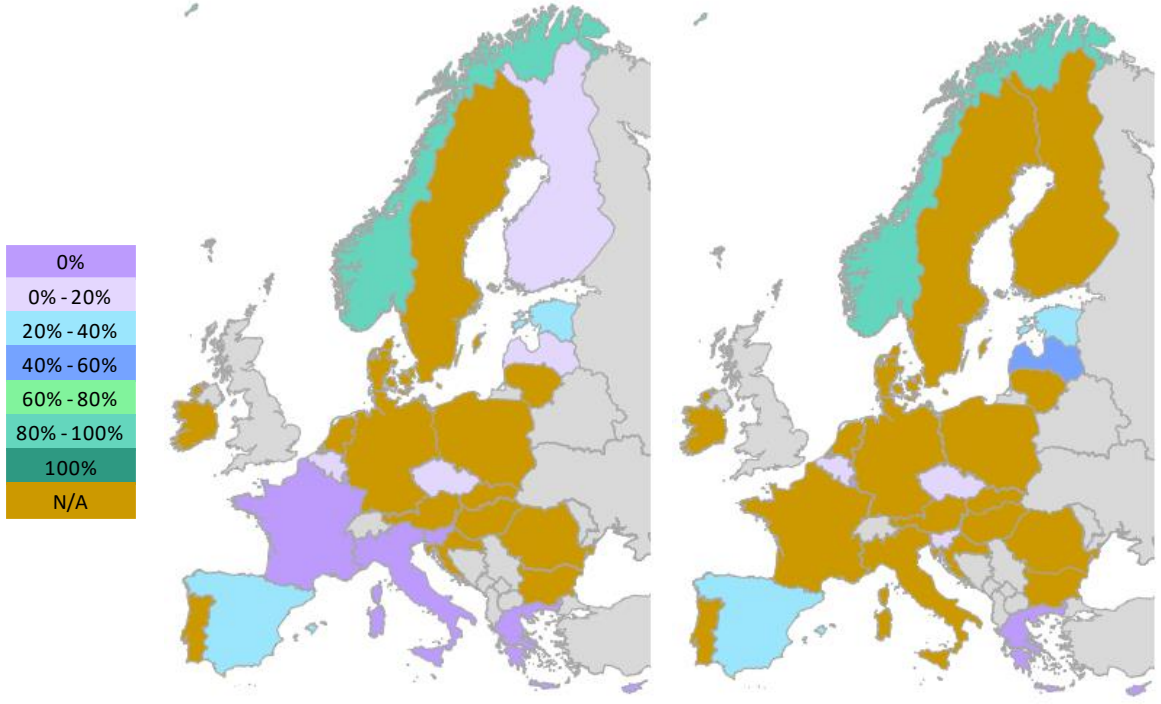
ACER
European Union Agency for the Cooperation of Energy Regulators

Without price signals or incentives… why respond?

Households (left) and non-households (right) with Time of Use network tariffs with differentiation within the day (% ranges) - 2022



Households (left) and non-households (right) with dynamic electricity price contracts (% ranges) - 2022



- Limited penetration of ToU network tariffs in some Member States.
- Lack of a proper implementation assessment in a few Member States.

Little information on the penetration of retail electricity contracts with time differentiation (e.g. dynamic electricity price contracts)

► Do consumers receive proper price signals?

Note: ToU refers to Time-of-Use network tariffs.

ACER
European Union Agency for the Cooperation of Energy Regulators

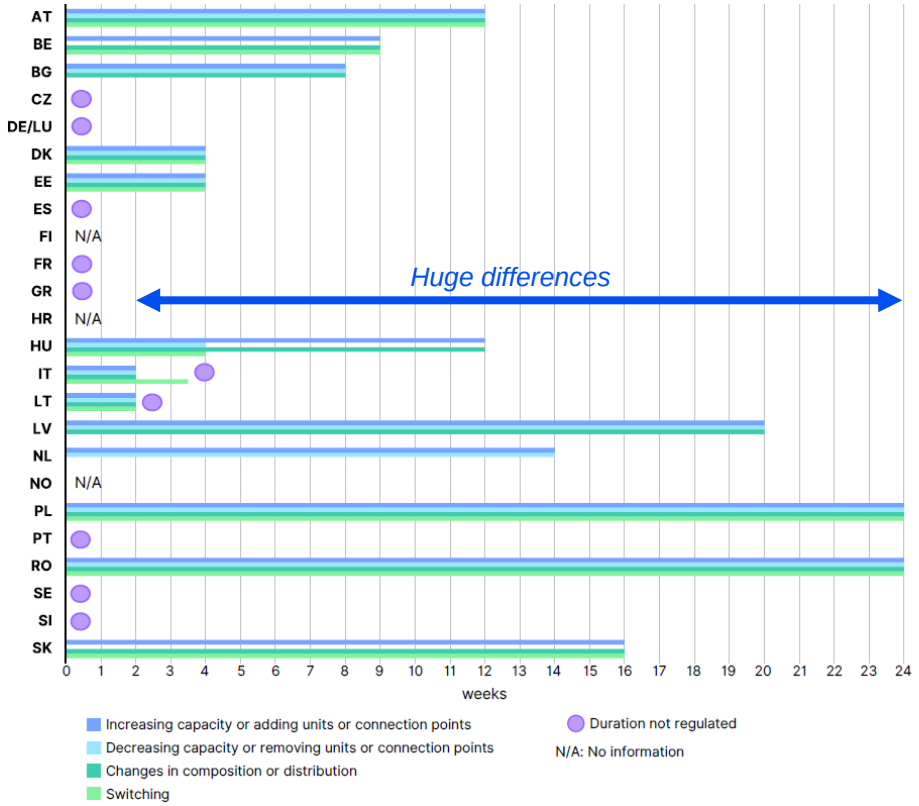
Restrictions to providing balancing services

ACER
European Union Agency for the Cooperation of Energy Regulators

Prequalification: restrictions to aggregation or unregulated/protracted duration

Restrictions in prequalification of reserve providing groups or aggregating all technologies - 2022

Maximum duration of prequalification process <u>after changes</u> in reserve providing units/groups (weeks) - 2022



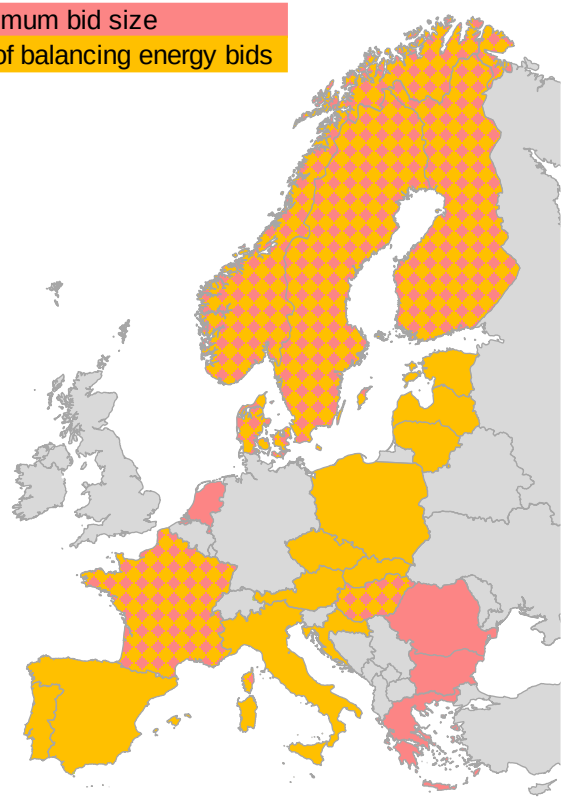
Still limitations to prequalify reserve providing groups or to aggregate generation+demand+storage

Protracted duration (even unregulated) for re-prequalification processes. With an increasing aggregation in the upcoming years, this can be a no-go for new business models.

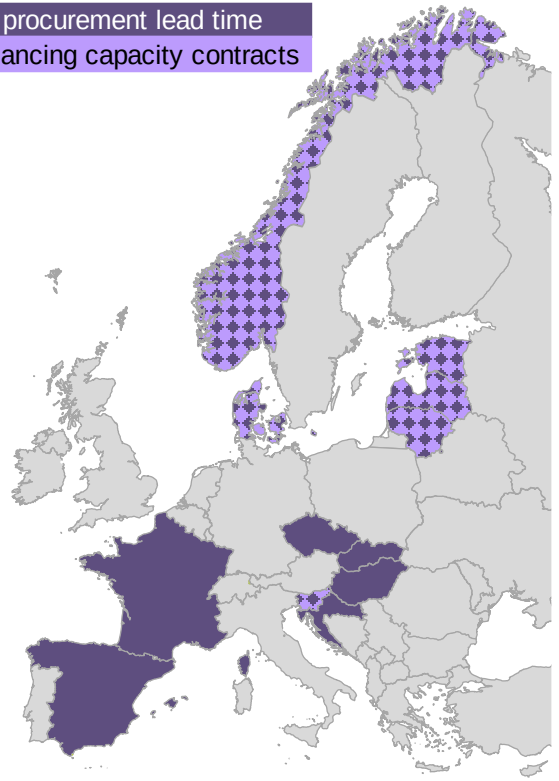
ACER
European Union Agency for the Cooperation of Energy Regulators

Restrictions in product design and structure

Large minimum bid size
Long validity period of balancing energy bids



Long procurement lead time
Long balancing capacity contracts

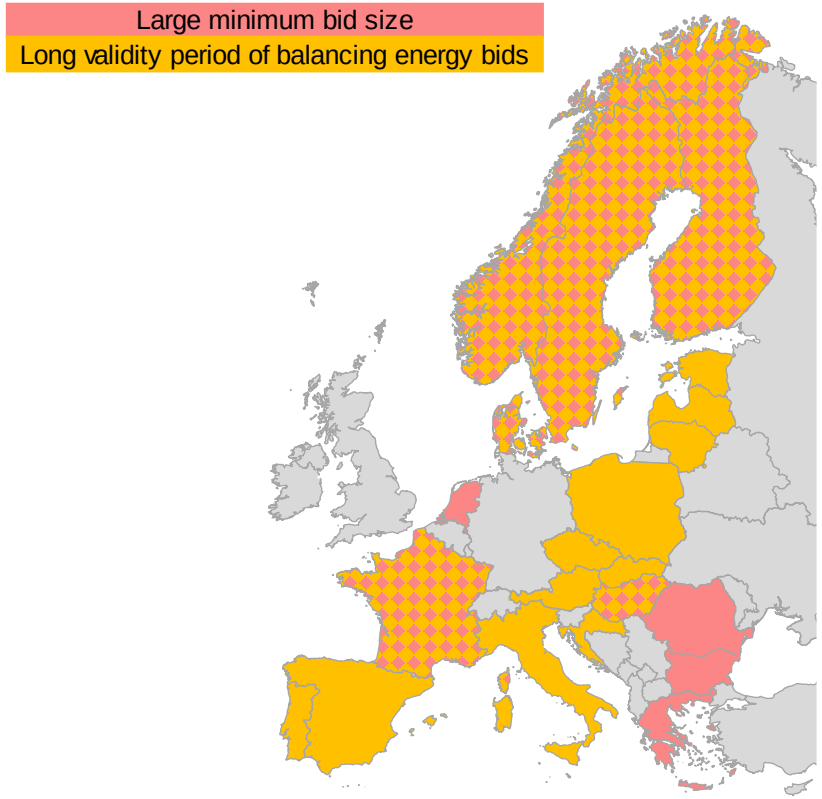


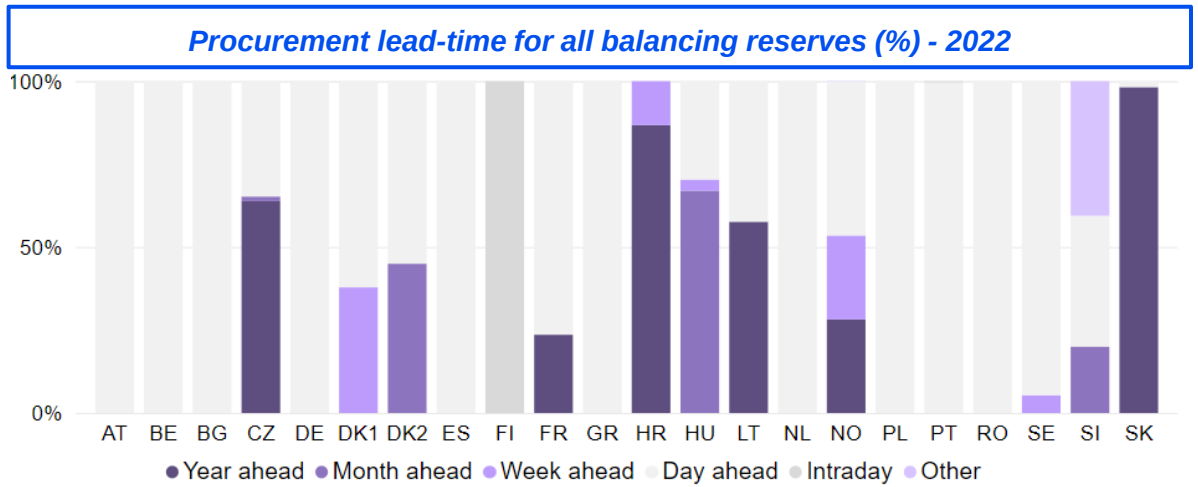
A minimum bid size larger than 1 MW (with aggregation sometimes not allowed) and balancing energy bids with a validity period longer than 15 min hinder the participation of demand response and storage in many Member States.

Multiple Member States with balancing capacity contracts and procurement lead times much longer than 1 day. Difficulties for distributed energy resources to commit a long time ahead of delivery and for long delivery periods.

ACER
European Union Agency for the Cooperation of Energy Regulators

Restrictions in product design and structure



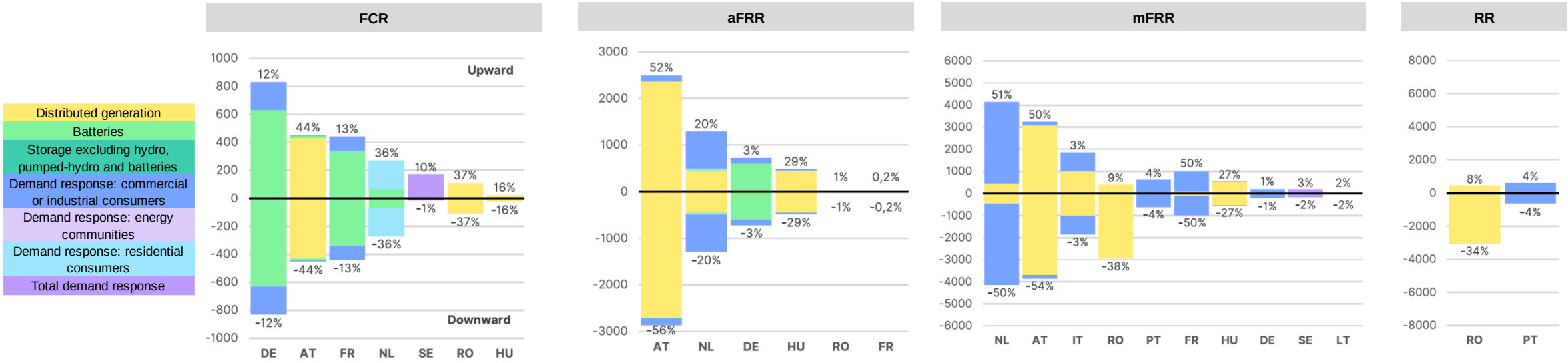


A minimum bid size larger than 1 MW (with aggregation sometimes not allowed) and balancing energy bids with a validity period longer than 15 min hinder the participation of demand response and storage in many Member States.

Multiple Member States with balancing capacity contracts and procurement lead times much longer than 1 day. Difficulties for distributed energy resources to commit a long time ahead of delivery and for long delivery periods.

Limited capacity prequalified (when known)

Capacity prequalified of distributed energy resources (MW and %)* - 2022



- Limited capacity prequalified of distributed energy resources with some exceptions for distributed generation (mainly distribution-connected hydro), industrial or commercial consumers and batteries.
- Almost no information on actual participation (portfolio-based systems).

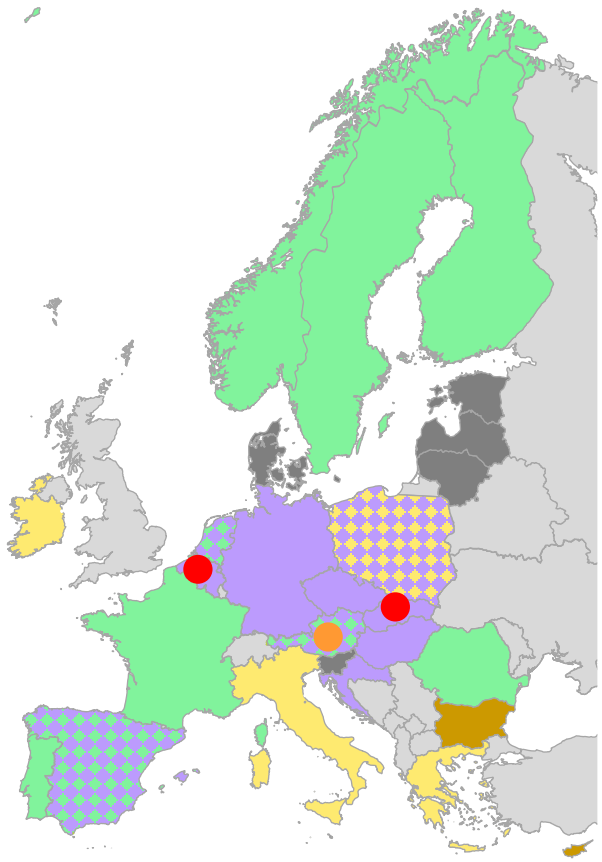
*Note: Capacity prequalified as of 31 December 2022 for local, specific, and standard balancing products. Shares of distributed energy resources prequalified over the total capacity prequalified per Member State and per balancing product.

ACER
European Union Agency for the Cooperation of Energy Regulators

Restrictions to providing congestion management services

ACER
European Union Agency for the Cooperation of Energy Regulators

Is market-based re-dispatching typically used?

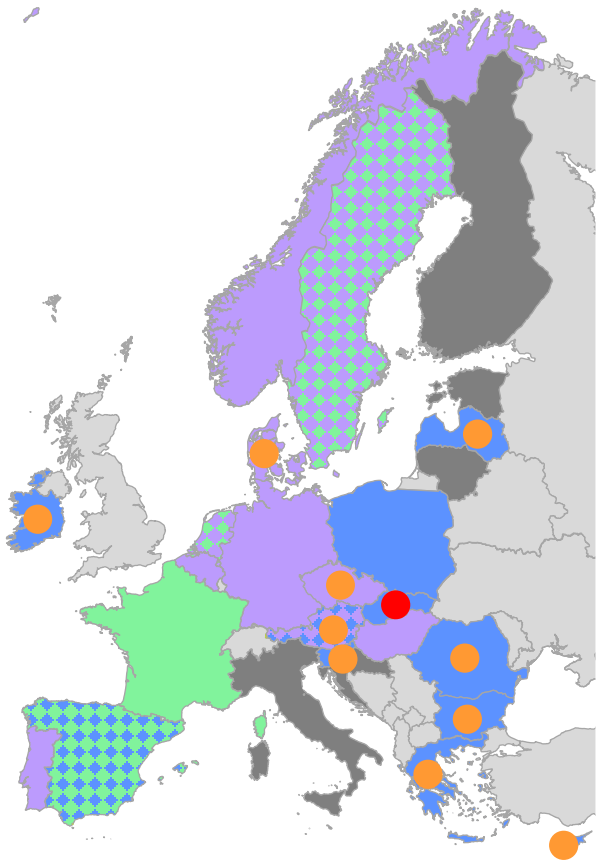


TSO(s) business-as-usual approach to solve congestions

- Market-based redispatching
- Non-market-based redispatching
- Integrated scheduling process
- NAP (No congestions in the transmission network)
- N/A

Reason(s) for not using market-based re-dispatching

- Not in line with CEP exceptions
- N/A



DSO(s) business-as-usual approach to solve congestions

- Market-based congestion management
- Non-market-based congestion management
- DSO(s) does not take any congestion management measure
- NAP (No congestions in the distribution network)
- N/A

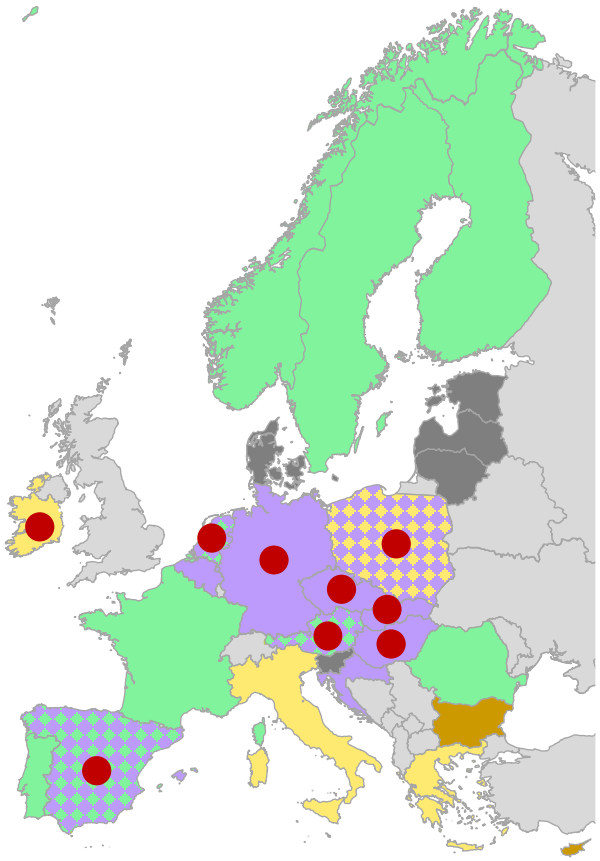
Reason(s) for not using market-based re-dispatching

- Not in line with CEP exceptions
- N/A

- No, congestion management measures are usually based on non-market-based procedures, especially at distribution level.
- In many Member States, NRAs cannot ensure whether the reasons for not using market-based re-dispatching, especially by DSOs, are in line with the exceptions allowed by the Clean Energy Package.

ACER
European Union Agency for the Cooperation of Energy Regulators

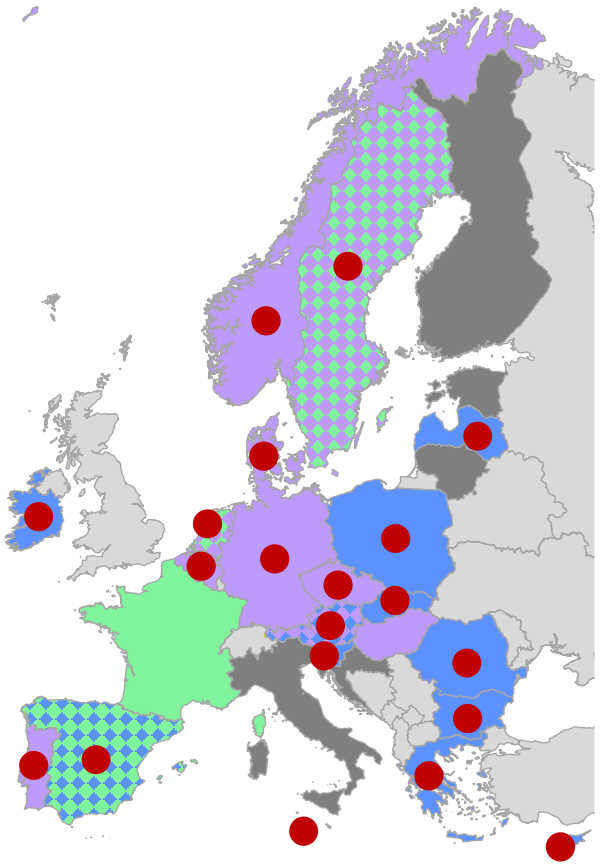
Difficulties for local markets to develop and mature



TSO(s) business-as-usual approach to solve congestions

- Market-based redispatching
- Non-market-based redispatching
- Integrated scheduling process
- NAP (No congestions in the transmission network)
- N/A

● **No iterative national reassessment process to review the exceptions from using market-based re-dispatching**



DSO(s) business-as-usual approach to solve congestions

- Market-based congestion management
- Non-market-based congestion management
- DSO(s) does not take any congestion management measure
- NAP (No congestions in the distribution network)
- N/A

● **No iterative national reassessment process to review the exceptions from using market-based re-dispatching**

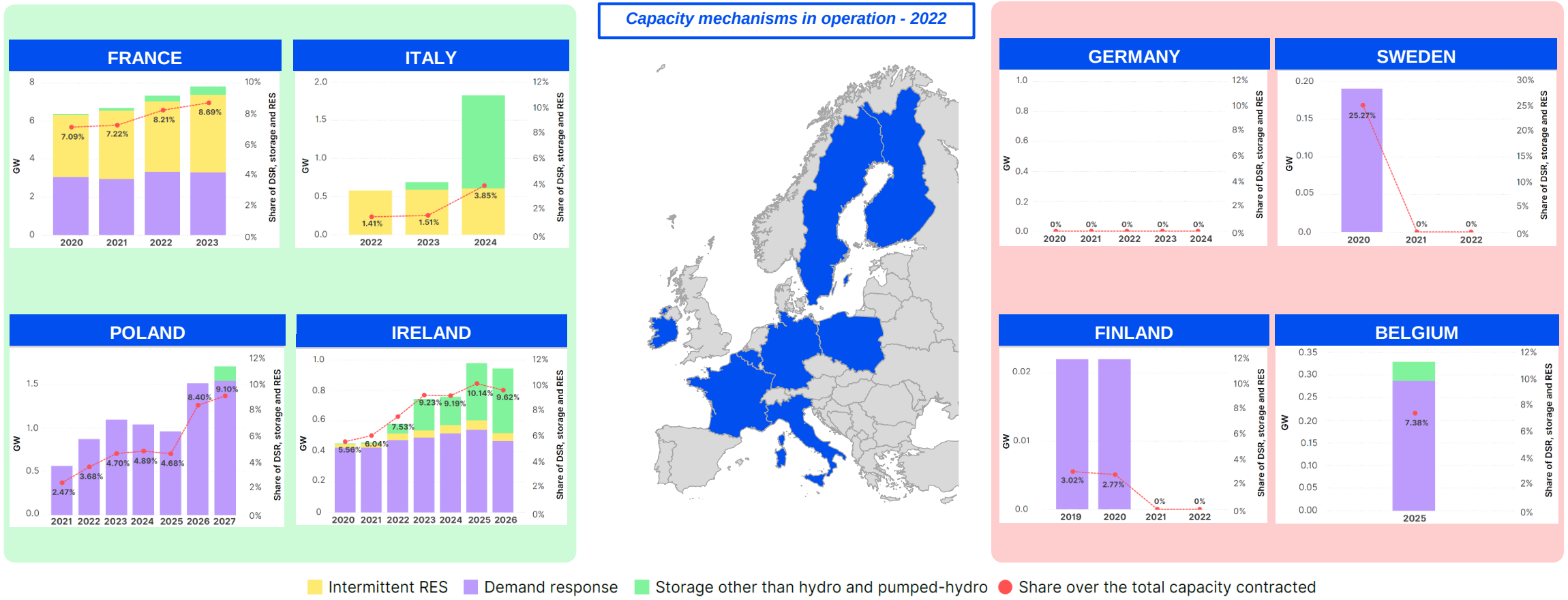
Most Member States lack an iterative national reassessment process with a transparent decision-making procedure to review whether the exceptions from using market-based re-dispatching.
This hinders distributed energy resources from playing a role in “local markets”.

ACER
European Union Agency for the Cooperation of Energy Regulators

Restrictions to participating in capacity mechanisms or interruptibility schemes

ACER
European Union Agency for the Cooperation of Energy Regulators

Capacity mechanisms: different constraints in product design



CRM

- Some Member States relaxed some requirements in the last years, but some product design features still discourage distributed energy resources.
- Limited capacity contracted of distributed energy resources although steadily increasing over time in some Member States.

Note: The list of restrictions shown is not exhaustive. For more information, ACER 2023 MMR: Demand response and other distributed energy resources: what barriers are holding them back?, December 2023

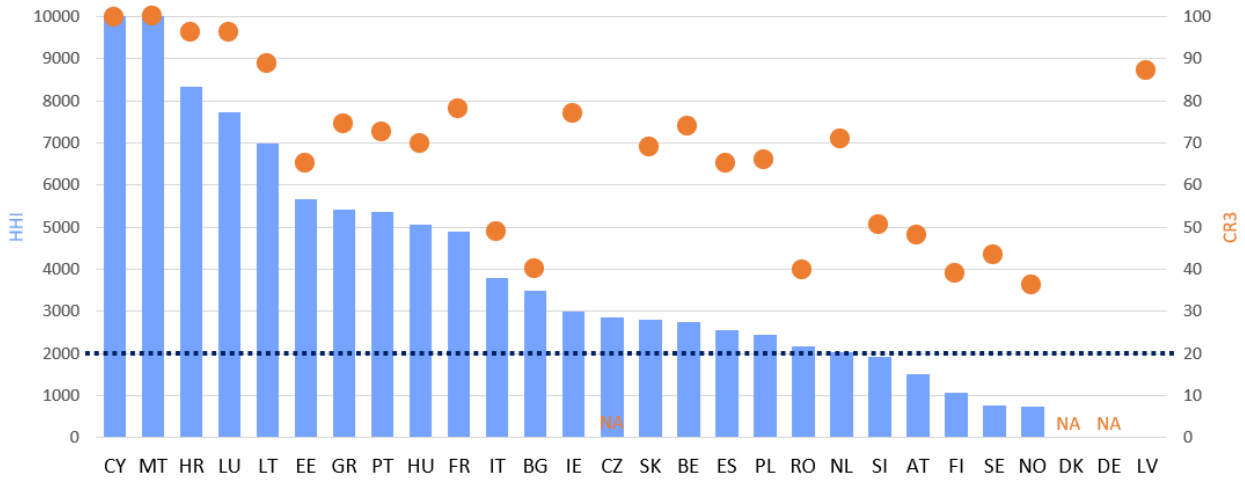
ACER
European Union Agency for the Cooperation of Energy Regulators

Limited competitive pressure in retail markets and retail price interventions

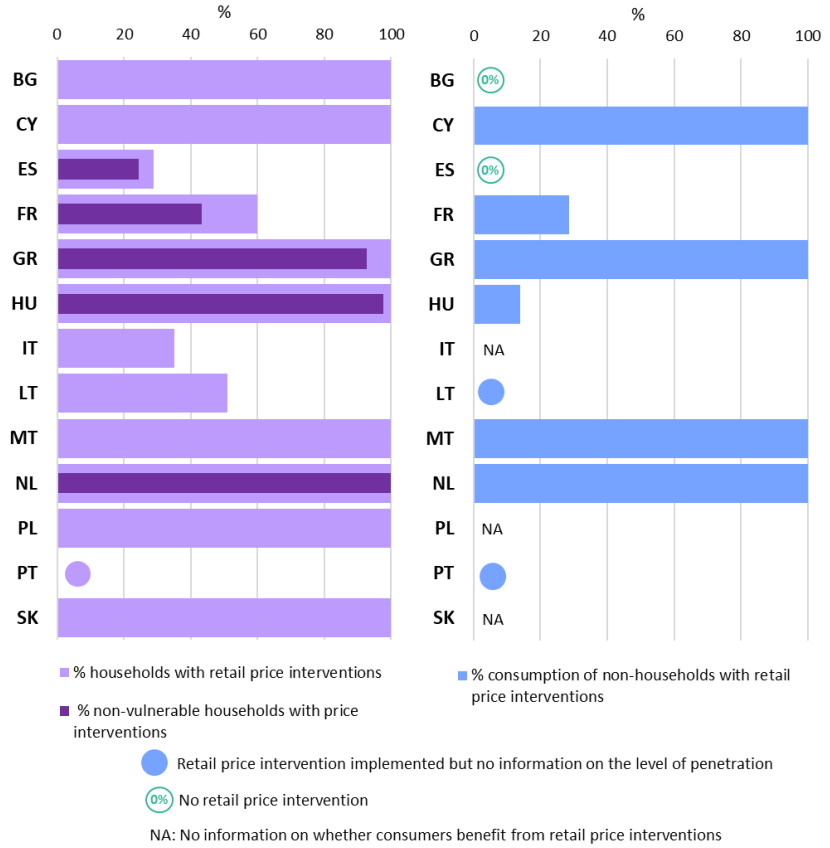
ACER
European Union Agency for the Cooperation of Energy Regulators

Some developments in the retail markets also hold back distributed energy resources

Retail market concentration ratios



Level of penetration of retail price interventions



Room to improve competition in retail electricity markets. High market concentration in many Member States. New entrants with new business models can find it difficult to enter.

Widespread retail price interventions, way beyond vulnerable consumers. Many consumers may not receive proper price signals.

ACER
European Union Agency for the Cooperation of Energy Regulators

A possible “To-do list” to address barriers…

ACER
European Union Agency for the Cooperation of Energy Regulators

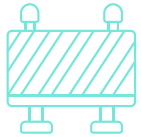
ACER´s main recommendations for governments, regulators and system operators to remove regulatory barriers and restrictions in the market design for demand response and other distributed energy resources

1 **Speed up** implementing regulatory changes to **remove persistent barriers**.

2 Set suitable **rules for new entrants**: clarify roles and responsibilities, define aggregation models, ensure data access, etc.

3 Ensure **open access** to all electricity markets and system operation services (balancing and congestion management services).

4 Provide the **technical means** and **incentives** by speeding up the rollout of smart meters, giving proper price signals in the electricity bills and raising consumer awareness.



5 Remove **restrictive requirements** to participate in balancing markets, capacity mechanisms and interruptibility schemes.

6 Ensure that **local markets for congestion management** have a chance to develop and mature. Define a transparent national process to assess when/where local markets may be implemented.

7 Facilitate new entrants' **access to retail electricity markets**.

8 Be **targeted, tailored and temporary** when considering retail price interventions.

9 Ensure **sufficient granular data** on all restrictions to demand response and other distributed energy resources.

Want to learn more?

Check out our ACER Market Monitoring Report on Demand response and other distributed energy resources: what barriers are holding them back?

ACER
European Union Agency for the Cooperation of Energy Regulators

Panel discussion: Barriers to distributed energy resources

10:20 – 10:35

Moderator: Johan ROUPE, Ei (Swedish NRA)

Panellists:

- Michael VILLA, Smart Energy Europe (SmartEn)
- Naomi CHEVILLARD, SolarPower Europe
- Leen PEETERS, Think E
- Julia MAJEWSKA, European Commission, DG COMP

ACER
European Union Agency for the Cooperation of Energy Regulators

Barriers to distributed energy resources

- ***Are there ways that public authorities can move quicker and e.g. facilitate business and technological innovation with regards to distributed energy resources?***

- ***If you had to pick one or two main reasons for why we only see limited participation of distributed energy resources (demand response, storage, and distributed generation) in wholesale electricity markets and system operation services, what would they be?***

ACER
European Union Agency for the Cooperation of Energy Regulators

Michael VILLA
Smart Energy Europe (SmartEn)

ACER
European Union Agency for the Cooperation of Energy Regulators

Naomi CHEVILLARD
SolarPower Europe

ACER
European Union Agency for the Cooperation of Energy Regulators

Leen PEETERS
Think E

Stick to the principles of regulation

The 14-year old

ACER
European Union Agency for the Cooperation of Energy Regulators

Julia MAJEWSKA
European Commission, DG COMP

Studies on demand response at the EU level

- **ACER** - *2023 Market Monitoring Report on Demand Response and other distributed energy resources*
- **European Commission, DG ENERGY** (with ENTSO and EU DSO) - *Proposal for the Network Code on Demand Response*
- **European Commission, DG COMPETITION -** *Barriers for demand response participation in electricity markets and State aid support (July 2024)*

DG COMP Demand response study – scope and objectives

General objective: identifying the barriers for DR participation in electricity markets and State aid support, providing qualitative and quantitative input to support DG Competition in the SA control and assessment of the State Aid measures.

Focus of the research:

- What are the legal and regulatory, financial, market and technical barriers for DR participating or willing to participate in electricity markets and SA mechanisms?
- What are the costs and revenues for the operators participating in wholesale electricity markets and SA measures?

Final report: July 2024

Webinar: **5 March 2024** – presentation of pre-liminary results and stakeholders workshop.

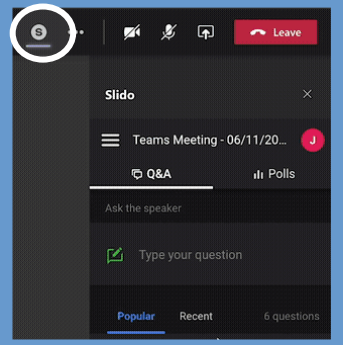
ACER
European Union Agency for the Cooperation of Energy Regulators

Q&A session

10:35 – 10:50

Ways to connect to Slido

- **Directly in MS Teams**
- Through www.slido.com #MMR2023
- Scan the QR code below
- Use the direct link: https://app.sli.do/event/eaH94EXaFHDtAczUgvoosm



Johan ROUPE, Ei (Swedish NRA)

ACER
European Union Agency for the Cooperation of Energy Regulators

Panel discussion: Barriers for bringing flexibility (beyond distributed energy resources) through the electricity market

10:50 – 11:05

Moderator: Johan ROUPE, Ei (Swedish NRA)

Panellists:

- Thomas LEWIS, Climate Action Network (CAN) Europe
- Martin ROACH, European Association for Storage of Energy (EASE)
- Peter CLAES, International Federation of Industrial Energy Consumers (IFIEC) Europe
- Mathilde LALLEMAND-DUPUY, European Commission, DG ENER

ACER
European Union Agency for the Cooperation of Energy Regulators

Barriers for bringing flexibility through the electricity market

- ***To accommodate rising flexibility needs, do you believe we can mainly rely on markets or mainly on subsidies / state support to get us there?***

- ***What is in your view the most important source of flexibility EU power systems have today? How do we tap into it?***
- ***What about 2040? What will be important then and how do we tap into that source?***

ACER
European Union Agency for the Cooperation of Energy Regulators

Thomas LEWIS
Climate Action Network (CAN) Europe

ACER
European Union Agency for the Cooperation of Energy Regulators

Martin ROACH
European Association for Storage of Energy (EASE)

Reflection 1: How to meet future flexibility needs?

- To accommodate rising flexibility needs,
  - It is better to have a market-driven approach (but we do not have perfect markets)

- The most important source of flexibility in EU power systems,
  - Today: Fossil fuels
  - Up to 2040: *Non-fossil* flexibility, including energy storage technologies across all timeframes

Reflection 2: Energy storage barriers related to ACER report

- Existing EU legislation should be implemented without delay
  - End non-market-based procurement of balancing services (FCR & aFRR in ES & PT, aFRR in FR)
  - Lower the minimum eligible capacity (>10 MW in ES & PT)

- More clear EU guidance on the legal framework for energy storage
  - Remove double charging of taxes, network fees, and other charges

- Greater incentives and market mechanisms for energy storage are necessary to support congestion management
  - Ensure network tariffs are aligned with incentives to provide flexibility
  - Valorise non-wire alternatives
  - Expand use of local flexibility markets and non-firm connection agreements
  - Bring greater transparency around grid capacity and faster new grid connection processes

ACER
European Union Agency for the Cooperation of Energy Regulators

Peter CLAES
International Federation of Industrial Energy Consumers (IFIEC) Europe

ACER
European Union Agency for the Cooperation of Energy Regulators

Mathilde LALLEMAND-DUPUY
European Commission, DG ENER

First, implementation

- Electricity Directive and Regulation

Open the electricity markets to demand response and other flexibility sources, incl. distributed

Use of flexibility by system operators, in particular in distribution networks

Active customer

Demand response through aggregation

European Commission

Complement the existing framework with rules on Demand Response

➔ Address remaining regulatory barriers for the development of demand side flexibility and other flexibility resources in the electricity market.

- Network code on demand response, including rules on aggregation, energy storage and demand curtailment
- Draft to be submitted by ENTSO-E and EU DSO Entity by May 2024

- Current draft would cover in particular:
  - Market access (aggregation models, baseline, settlement)
  - Prequalification and process to engage in the market
  - Market design for congestion management and voltage control
  - TSO-DSO coordination, data exchange

Looking forward:
the reform of the electricity market design

➔ **Boost non-fossil flexiblity: accelerate RES, impact positively the prices, bring system/grid services**

Assessment of flexility needs at MS level

- Based on a EU methodology
- ACER analysis at EU level and recommendations of cross-border relevance, including on removing barriers

Indicative national objective for non-fossil flexibility

- including specific contributions of both demand response and energy storage

Non-fossil flexibility support scheme

Enhance the use of flexibility services by system operators

- Network tariffs to incentivise the use of flexibility services
- Possibility to use data from dedicated metering devices

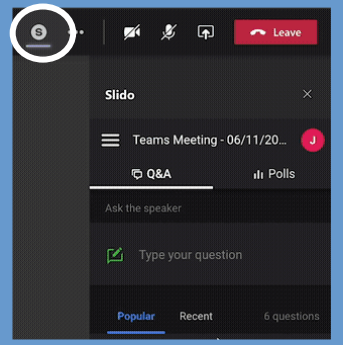
ACER
European Union Agency for the Cooperation of Energy Regulators

Q&A session

11:05 – 11:20

Ways to connect to Slido

- **Directly in MS Teams**
- Through www.slido.com #MMR2023
- Scan the QR code below
- Use the direct link: https://app.sli.do/event/eaH94EXaFHDtAczUgvoosm



Johan ROUPE, Ei (Swedish NRA)

ACER
European Union Agency for the Cooperation of Energy Regulators

Closing

11:20 – 11:30

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

ACER
European Union Agency for the Cooperation of Energy Regulators

Wholesale electricity market monitoring in 2024


KEY DEVELOPMENTS

- Electricity consumption & generation
- Electricity prices
- GHG emissions

CROSS-BORDER CAPACITY

70% transmission capacity available for cross-zonal electricity trade

MARKET INTEGRATION

- Evolution of electricity markets
- Remedial actions

FLEXIBILITY & BARRIERS

- Barriers to distributed energy resources
- Bringing flexibility through the electricity markets

SUMMARY

- Presentation for ITRE committee
- Possible formal recommendation or opinion

[Learn more about our Market Monitoring Reports!](#)

ACER aims to continue monitoring all barriers to market integration.
This includes barriers to distributed energy resources and challenges to bring flexibility through the electricity markets.
Increasing the flexibility and interconnection of the EU electricity system is key to meet the EU Green Deal targets.

ACER
European Union Agency for the Cooperation of Energy Regulators

Have your say!

- On 19 December 2023 ACER launched a public consultation seeking feedback on the ACER 2023 Market Monitoring Report and aiming to gather input to bring more flexibility through the markets.

- ACER will use your input to:
  - ✓ Narrow the scope of ACER 2024 MMR: focus on the most relevant regulatory barriers and restrictions to distributed energy resources
  - ✓ Assess how to unlock flexibility from all resources through the markets
  - ✓ Help define the scope of this MMR in the upcoming years
- If you have any questions, please do not hesitate to contact us (ewpmm@acer.europa.eu).

Thank you for your attention

ACER
European Union Agency for the Cooperation of Energy Regulators

info@acer.europa.eu
acer.europa.eu
@eu_acer
linkedin.com/in/EU-ACER/