

The EU Market Monitor for Demand Side Flexibility

Key points and resulting implications

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DELTA-EE



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**PORTUGAL
RENEWABLE
ENERGY**

About Delta-EE

Delta-EE is a specialist European Energy Research and Consulting Service provider. We help organisations to develop the best strategies, business models and customer propositions for their energy transition.

Flexibility Research Service

Capturing opportunities in the growing demand side flexibility market



Energy Storage Research Service

Capturing the best opportunities for distributed energy storage



Connected Home Service

The opportunities in the growing connected home market and how to capture them



Local Energy Systems Research Service

Understand and respond to the challenges and opportunities from the growth in energy communities, microgrids and local energy markets



EV Charging Service

How to best develop position and activities to succeed in the rapidly growing eMobility market



Electrification of Heat Service

Identify and capture the increasing range of opportunities from growing electrification of heat



Heating Business Service

How to evolve from selling individual products and commodities to become a successful home energy solution provider



Gas Heating Service

What is the future of gas in buildings and how can you best capture the opportunities and respond to the threats?



Energy Insights +

How can we best use energy insights to enhance residential customer engagement and create value for us and our customers?



New Energy Business Model Service

Understand, identify and implement the most promising commercial opportunities from the increasing disruption in the energy sector



Global Hydrogen Intelligence Service

How the global hydrogen sector is developing



Distributed Power Service

How to succeed in the global distributed power market



EU Market Monitor 2020



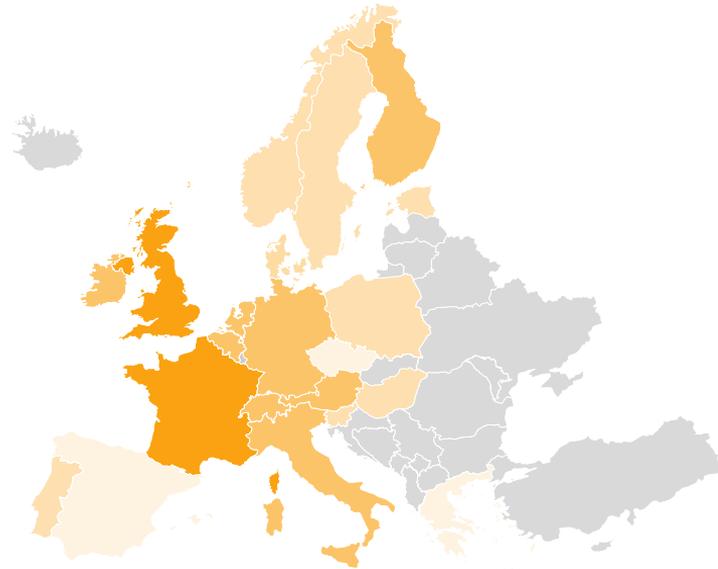
France and Great Britain are the highest-ranking countries for market activity, followed by Ireland, Germany and the Netherlands.

We find activity in demand side flexibility (DSF) to different degrees in all 21 analysed markets.

The report is a high level summary of the current market activity, based on our primary research across each market.

Key takeaways:

- More ancillary services opened to DSF in 2020, with DSO-specific products emerging.
- Industrial loads and distributed generators remain the most commonly used assets.
- Industrial customers are the most engaged with DSF. The domestic sector and EVs increased their activity in the past year.
- Aggregators are typically the market creators and dominate the landscape.



Scope of the report:

1. Availability and accessibility of DSF to value streams
2. Monetisation of DSF in value streams
3. Breadth of asset types used
4. Breadth of customer segments engaged with DSF
5. Number of stakeholders active with DSF

Key: 1 2 3 4 5

Flexibility: What will change?



Faster post fault services

- Compensate the lack of inertia and subsequent rapid frequency drops.
- Already happening in GB (DC), the Nordics (FFR) and Ireland (DS3).

More pre fault services

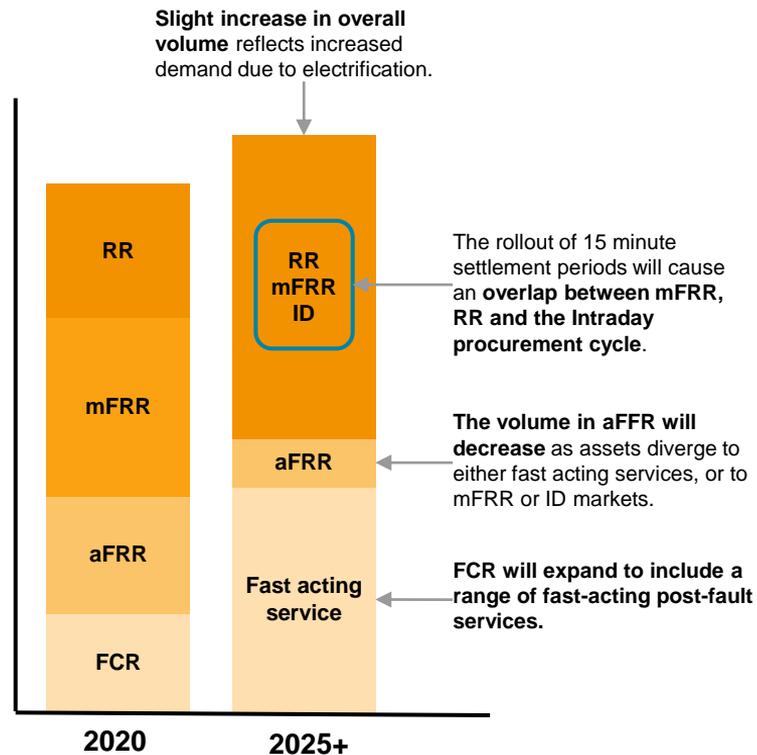
- Maintain a stable frequency to reduce the likelihood of a major disturbance.

Volume increase

- Non-dispatchable renewables lower the system's inertia.
- More flexibility is needed to mitigate the enhanced frequency deviations.
- Inverter-controlled assets are smaller than spinning reserves, so a greater volume will be required.

Reserve design change

- The current "single largest infeed loss" method does not accurately reflect the system's needs.
- Reduced centralised generation means the flexibility of the largest generator will fall short.



VPP value chain

A VPP is an aggregated group of distributed assets that trades in value streams as a single, coordinated unit.

Distributed assets

Controlled as a single unit

Traded into value streams



Customer acquisition

Marketing and contracting with customers.



Asset monitoring and control

Monitoring for availability and performance. Control assets individually.



Aggregation

Aggregate assets in a coordinated group, acting as a single entity.



Optimisation

Determine the best use of assets and the VPP based on data.



Interface with value stream

Trade energy and flexibility with buyers. It includes TSOs, DSOs and other traders.



Billing/settlement

Sharing value with asset owners.

A VPP requires all six parts of the value chain.

EU CEP: Impacts to flexibility



Is there a 15-minute settlement period for DA/ID trading?

- Lowering barriers to entry in wholesale markets will improve distribution asset participation and increase revenue potential.



Can energy storage participate in ancillary services?

- This will allow grid operators to cope with the phase-out of fossil-fuel power plants and the resulting quicker and more frequent frequency deviations.



Muito obrigado!



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