

Options to access flexibility in E.ON Hungary DSOs

Flexible connection agreements, market-based flexibility, redispatch and distribution tariffs

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E.ON Hungary Power Network

EED

Customers: 1 071 000
Distributed energy (GWh): 8 700
Service area (km²): 18 200
Network length (km): 32 000
Substations (pcs): 80
SAIDI (min/customer): 57.8
SAIFI (pcs/customer): 0.78
Employees: 1175

EDE

Customers: 779 000
Distributed energy (GWh): 4 500
Service area (km²): 18 300
Network length (km): 25 900
Substations: 37
SAIDI (min/customer): 61.6
SAIFI (pcs/customer): 0.83
Employees: 970

EEL

Customers: 1 601 000
Distributed energy (GWh): 10 800
Service area (km²): 4 000
Network length (km): 24 900
Substations (pcs): 55
SAIDI (min/customer): 47.7
SAIFI (pcs/customer): 0.75
Employees: 945

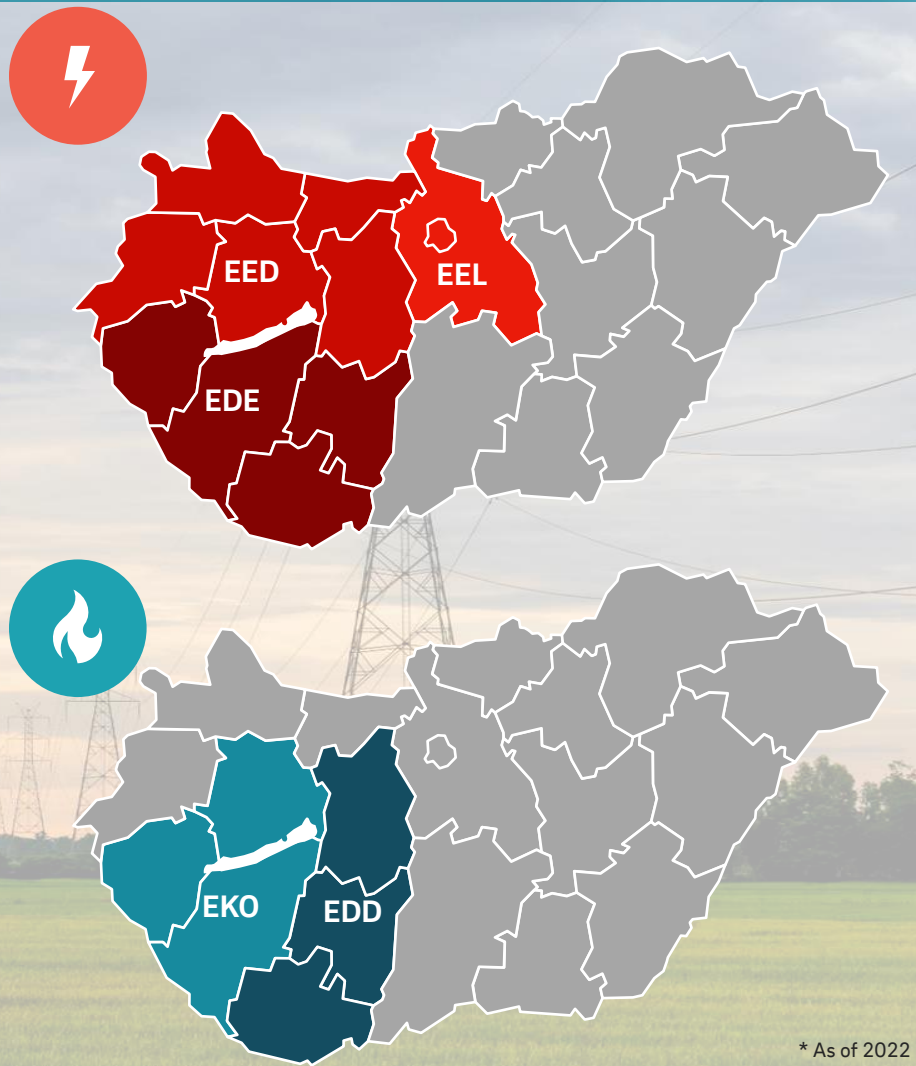
E.ON Hungary Gas Network

EDD

Customers: 305 000
Distributed energy (GWh): 8 600
Network length (km): 9 100
Pressure regulators: 348
SAIDI (min/customer): 1.4
SAIFI (pcs/customer): 0.008
Employees: 223

EKO

Customers: 310 000
Distributed energy (GWh): 7 000
Network length (km): 9 100
Pressure regulators: 556
SAIDI (min/customer): 11.24
SAIFI (pcs/customer): 0.081
Employees: 210



Flexibility „toolbox” and its order of use for DSOs in Hungary

DSO
Policy

1

Flexible connection agreement

Compensated through a reduced connection fee or shorter lead time of connection

2

Market-based flexibility

Service providers: operating and newly connected power plants, storage facilities, customers

3

Redispatch with compensation

Used when market-based flexibility is not possible (e.g. lack of market, inefficient market procurement).

Distribution tariffs

Not included in the toolbox.

Flexible connection agreements in Hungary

- Flexible connection agreement already existed before the CEP.
- After CEP implementation new types of agreements have been created.
- It is used in case of distributed generators and storage.
- It is a transitional tool to help accelerate the energy transition.

	Types of agreements in E.ON HU DSOs	Number of agreements*
N-1	Limitation in not-standard network situations	1392
	As specified above + specific network section's outage can lead to limitation	6
	As specified above + the number of events when the critical grid state occurred in the previous 5 years (CEP implementation)	1
Normal	<i>Limitation in standard operating condition during a predetermined period**</i>	12

* As of 2023 Autumn

**Only technical and economic information sent, not signed agreement yet.

Local flexibility market pilot project in E.ON Hungary



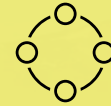
Market concept

- Day-ahead local flexibility market.
- Resolve network congestion in N-1 situations.
- Flexibility demand calculation in W-1.
- All voltage levels included.



Market coordination

- DSO flexibility procurement in D-1, 11 am.
- FSP notified in time so schedule modification can be made.
- No imbalance due to local flexibility use.
- „Locality first” principle.



Market operation

- Defined power-limit products (Pmin, Pmax).
- Hourly products
- Auction duration 24 hours.

Challenges of market-based flexibility in Hungary

Market development takes time (transition from DA to ID).

Cost recognized by NRA - but detailed rules are not clarified.

Alignment of regulatory expectations and cost recognition methodologies.

How to incentivize producers to participate at market-based tenders?

What does the principle of least cost mean in case of flexibility?



Non-market based redispatch and distribution tariffs in Hungary



Non-market based redispatch

- If market-based option is not available.
- Regulated compensation fee included in the Distribution Policy.
- Restriction $\geq 5\%$ of annual production of generator.
- Implemented, but non-market based redispatch have not taken place yet in case of E.ON Hungary,



Distribution tariffs

- Not part of the flexibility toolbox.
- New distribution tariff is under development for costumers with smart meters.
- The tariff will include 3 zone times.
- Effect is hard to predict because of the energy cost subsidies in Hungary.

Key messages

Time for market development

Transition is happening, but DSOs need time for market practices, allow for experimentation and not expect standardization at first.

Regulatory and revenue framework

DSO risk-taking ability is limited thus cost recognition needs to be ensured and clear guidance should be provided for this.

All flexibility tools should be allowed

Flexibility sometimes just temporary method, there are not one-size-fits-all solutions, local problem should be solved with local solution and DSOs should be able to choose the most suitable flexibility options.

**Thank you for
your attention!**

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