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EU4ENERGY PHASE II

Integration of Renewables and Active Customers: Overview of legislation and key factors

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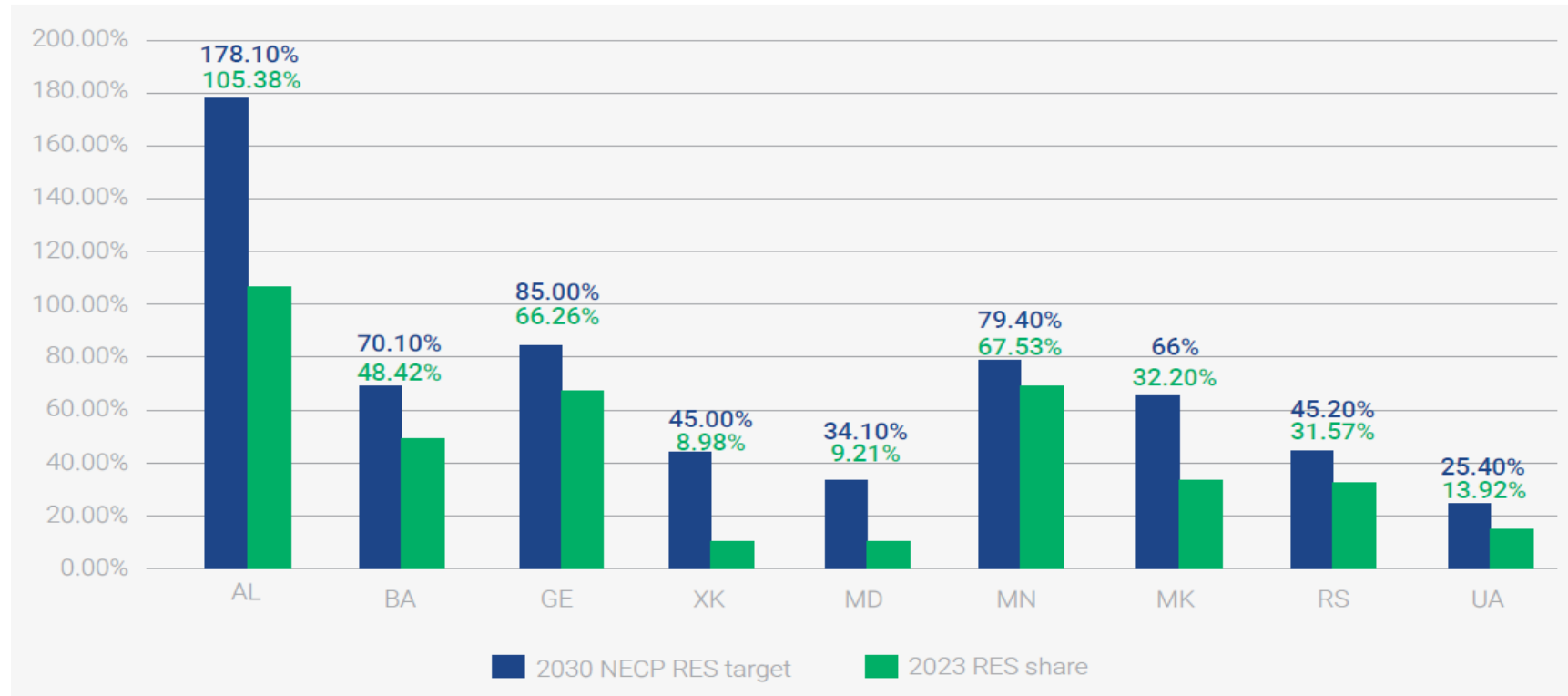


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RES share in electricity demand in the Energy Community Contracting Parties

Share of renewables in gross final electricity consumption

ENERGY
COMMUNITY
CBAM-
Readiness
Tracker



For Bosnia and Herzegovina, Kosovo and Montenegro, the data from the draft NECPs was used as no NECPs have been adopted in those Contracting Parties yet



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Active consumers in the EnC CPs

Contracting Party	Number of consumers generating their own electricity		Volume of electricity being generated by consumers (in MWh)		Capacity installed for renewables self-consumption in operation (in MW)
	Households	Non-households	Households	Non-households	
Albania	274	613	NA	NA	NA
Bosnia and Herzegovina	108	482	NA	NA	80
Georgia	907	794	3,780	60,415	144
Kosovo*	366	243	883	5,010	17
Moldova	4,691	1,649	39,219	67,698	151
Montenegro	4,480	354	44,195	8498	24
Serbia	3,039	1,228	17,085	15,015	83
Ukraine	63,099	451	1,710,852	19,711	1,931

North Macedonia:

Installed Capacity of Prosumers (MW): 30

Electricity Fed to the Grid by Prosumers (GWh): 12,3

Source: EnCS

Source: ECRB, data for 2024

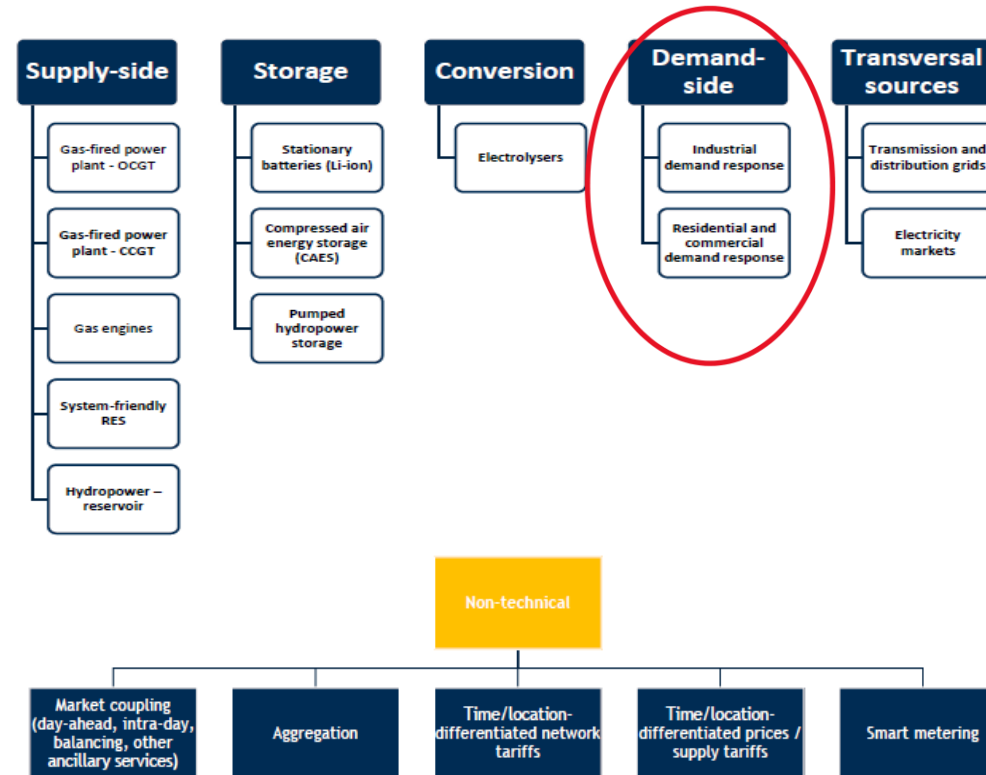
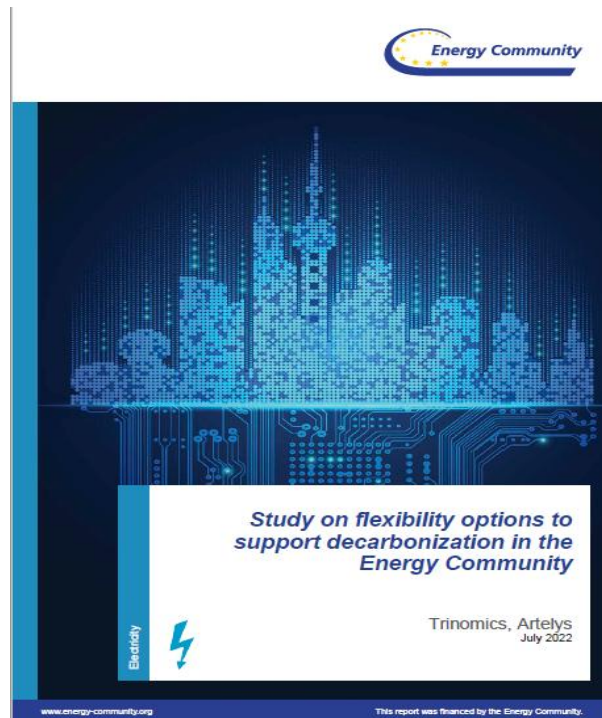




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Active customers and flexibility

- Are active customers part of the problem or of the solution?



Selected
technical
flexibility
sources

Selected non-
technical
flexibility
sources



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Barriers to flexibility sources

- Uncertainty regarding the direction and speed of the transition
- The lack of liquid, integrated spot (day-ahead, intraday) and balancing markets
- Availability of interconnector capacity for trading purposes is low
- Blanket retail price regulation or wholesale/retail market concentration
- No large-scale roll out of smart meters.
- The policies and markets do not yet provide adequate incentives (e.g. economic signals via market-based electricity prices and time-of-use network tariffs) and instruments (e.g. smart meters, access to markets via aggregators) for the development of distributed flexibility.



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Active customers (1)

entitled to operate either
directly or through
aggregation;

entitled to sell self-generated
electricity, including through
power purchase agreements

entitled to participate in
flexibility schemes and
energy efficiency schemes

entitled to delegate to a third
party the management of
the installations required for
their activities

subject to cost-reflective,
transparent and non-
discriminatory network
charges that account
separately for the electricity
fed into the grid and the
electricity consumed from
the grid

financially responsible for
the imbalances they cause in
the electricity system

Existing schemes that
do not account
separately for the
electricity fed
into the grid and the
electricity consumed
from the grid shall not
be granted after
31.12.2026.

Both net metering
and net billing
schemes are still
used in the
Contracting Parties



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Active customers (2)

Active customers that own an energy storage facility:

have the right to a grid connection within a reasonable time after the request, provided that all necessary conditions, such as balancing responsibility and adequate metering, are fulfilled;

are not subject to any double charges, including network charges, for stored electricity remaining within their premises or when providing flexibility services to system operators;

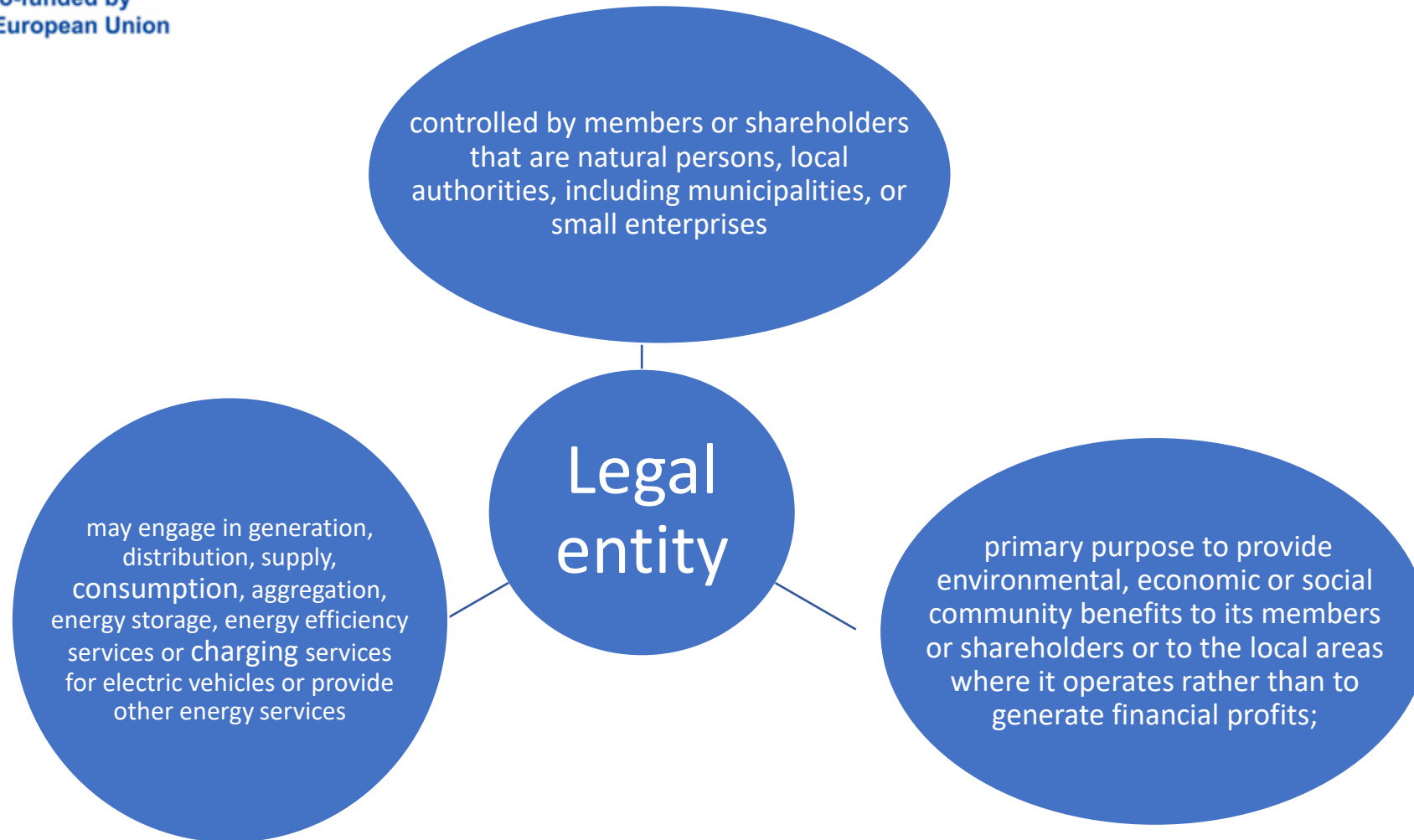
are not subject to disproportionate licensing requirements or fees

are allowed to provide several services simultaneously, if technically feasible.



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Citizen energy communities



In 2024, there were no citizen energy communities established in the Contracting Parties.

Legal preconditions still to be developed



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Demand response through aggregation

- demand response means the change of electricity load by final customers from their normal or current consumption patterns in response to market signals, including in response to **time-variable electricity prices** or incentive payments, or in response to the acceptance of the final customer's bid to sell demand reduction or increase at a price in an organised market whether alone or through aggregation;
- TSOs and DSOs, when procuring ancillary services, shall treat market participants engaged in the aggregation of demand response in a non-discriminatory manner alongside producers on the basis of their technical capabilities.
- Possible financial compensation to other market participants if they are affected by the demand response activity of other market participant, however without imposing barriers to market entries or flexibility

Implementation in the EnC Contracting Parties:

- Only Ukraine had two active aggregators in 2024.



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Dynamic price contract

Legal requirements:

- Must be offered by suppliers with more than 200,000 customers
- Smart meter is a precondition for customers
- Customers must be informed about the opportunities, costs and risks
- CPs or NRAs to monitor the impact on bills

Implementation in EnC Contracting Parties:

- *Dynamic price contract were not offered in 2024, only fixed price contracts- market-based or regulated*



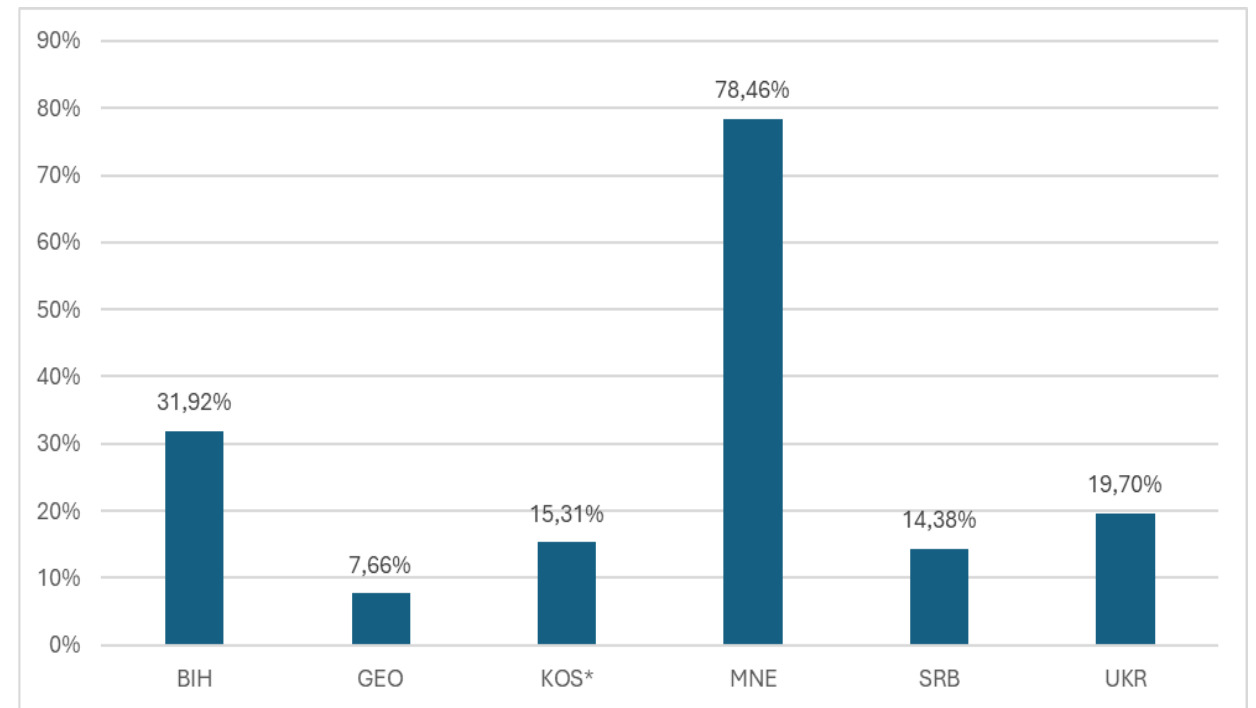
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Smart meters

- Must fulfill defined technical and functional requirements
- “Old” smart meters may be in use until 5th July 2031, however their usage delays finalization of regulatory framework for active customers and flexibility

In 6 Contracting Parties the smart meters can account for the energy generated by household prosumers.

Share of households with smart meters in total number of households (in %) (status 31.12.2024.)





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Market based supply prices

Default rule: public interventions in price setting not allowed

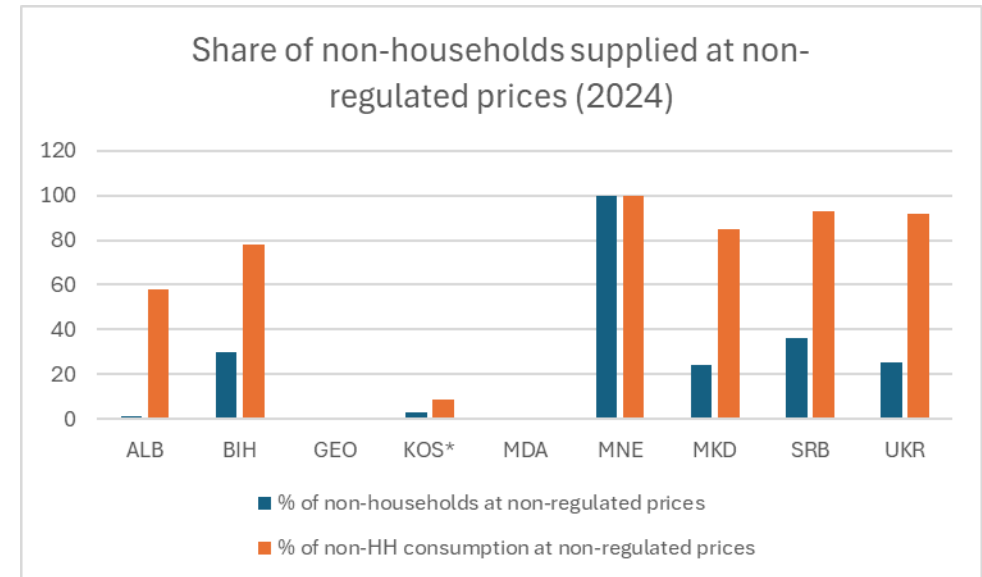


Derogations (under predefined conditions:

- Vulnerable and energy poor
- All households and microenterprises

Existing remuneration schemes designed for renewable self-consumers, rather than active customers: regulated or market(?) prices, FIT and FIP

Households in CPs have choice, but great majority still supplied at regulated prices





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Conclusions

With the advancement of the energy sector decarbonization, consumers' role is increasing. For the benefit of all energy market stakeholders, the relevant legal and regulatory framework should be set and implemented. To reap the benefits of active customers participation in the market, in particular the following actions should be taken:

- ❖ Introduce the new concepts and roles, such as active customers, energy communities, aggregation and demand response in the legislative framework, and assign them the necessary tools to perform
- ❖ Remove the public interventions in supply prices, allow dynamic price contracts, redesign network tariffs to allow for time-of-use tariffs
- ❖ Introduce smart metering system and other enabling technology

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