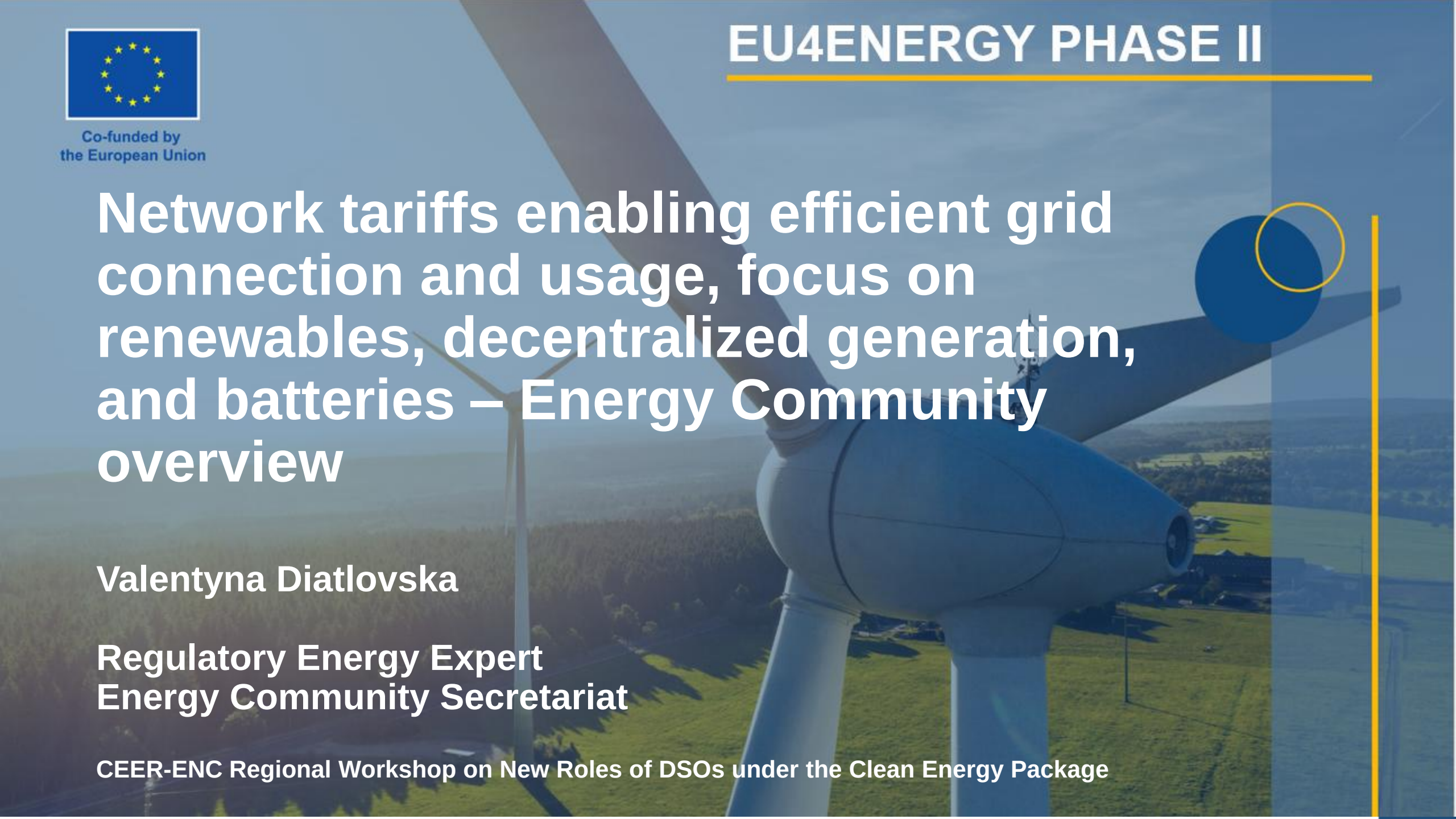

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EU4ENERGY PHASE II

Network tariffs enabling efficient grid connection and usage, focus on renewables, decentralized generation, and batteries – Energy Community overview

Valentyna Diatlovska

Regulatory Energy Expert
Energy Community Secretariat

CEER-ENC Regional Workshop on New Roles of DSOs under the Clean Energy Package

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Content

- Energy Community acquis
- Objectives and network tariffs
- Distribution Tariffs in Energy Community
  - regulatory framework
  - injection/Withdrawal
  - connection charges
  - time-of-use
  - addressing the Energy Community acquis and energy transition
- Conditions for new tariff design
- NRA’s plans for further development
- Conclusions and way forward
- ECRB recommendations
- How DSOs can support NRAs

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Energy Community acquis related to network tariffs (1)

- Adapted for ENC and adopted by the Ministerial Council Decisions:
  - Directive 2019/944
  - Regulation 2019/943
  - Directive 2012/27/EC on energy efficiency, as amended by Directive (EU) 2018/2002, inc. Annexes XI and XII
  - Regulation 2022/869 (new TEN-E Regulation)

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Energy Community acquis related to network tariffs (2)

- Sets objectives for the development of electricity markets open for all types of users and technologies
- In focus are RES and new emerging users, like storages (e.g. batteries), active customers, distributed generation, electric vehicle charging infrastructure
- Supports the principles with relevant tools, including new approaches for DSOs operation and regulation

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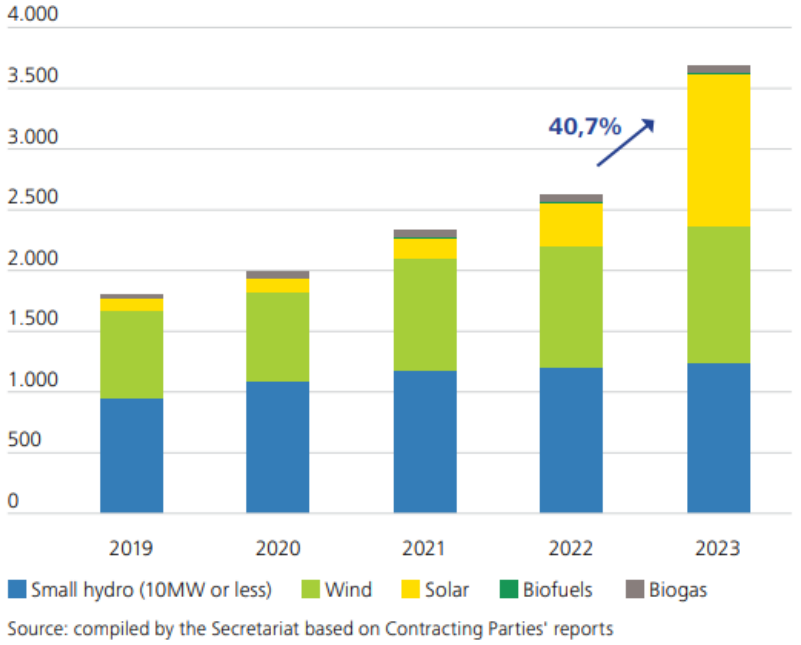
Energy Community on its way to set objectives (1)

2030 renewable target of in draft NECPs of CPs

Overall target	
Albania	54.40%
Bosnia and Herzegovina	43.60%
Georgia	27.40%
Kosovo*	32.00%
Moldova	31.40%
Montenegro	Not available[20]
North Macedonia	38.00%
Serbia	33.60%
Ukraine	27.00%

Installed electricity generation capacities from RES (excl. large hydro) [MW]



Source: compiled by the Secretariat based on Contracting Parties' reports

Source: 2024 ENC CBAM-Readiness Tracker

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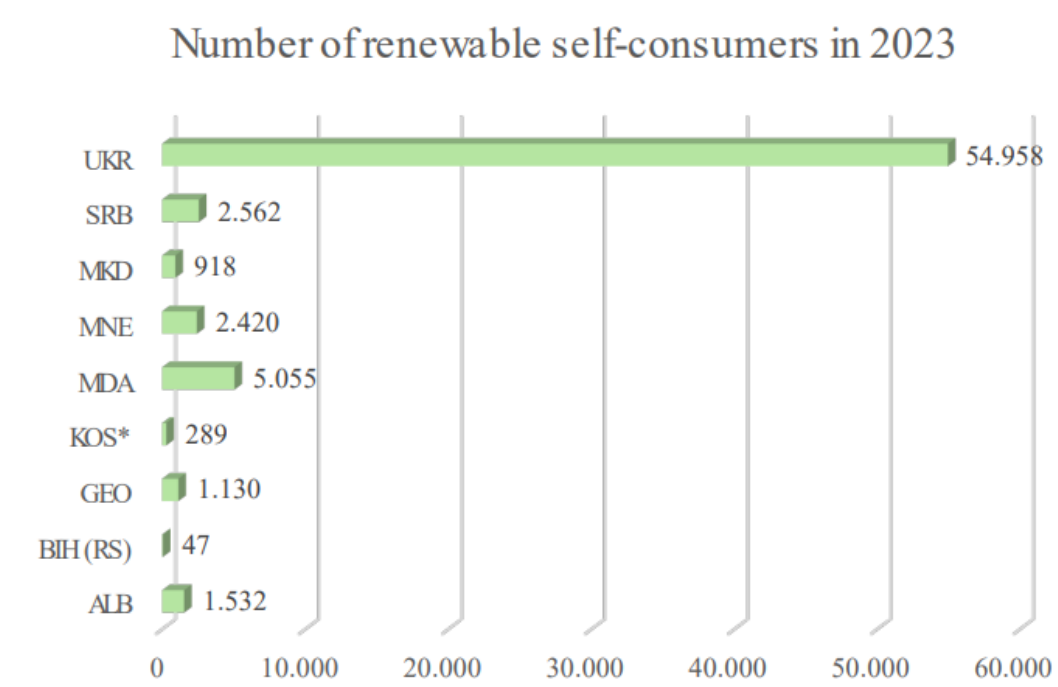
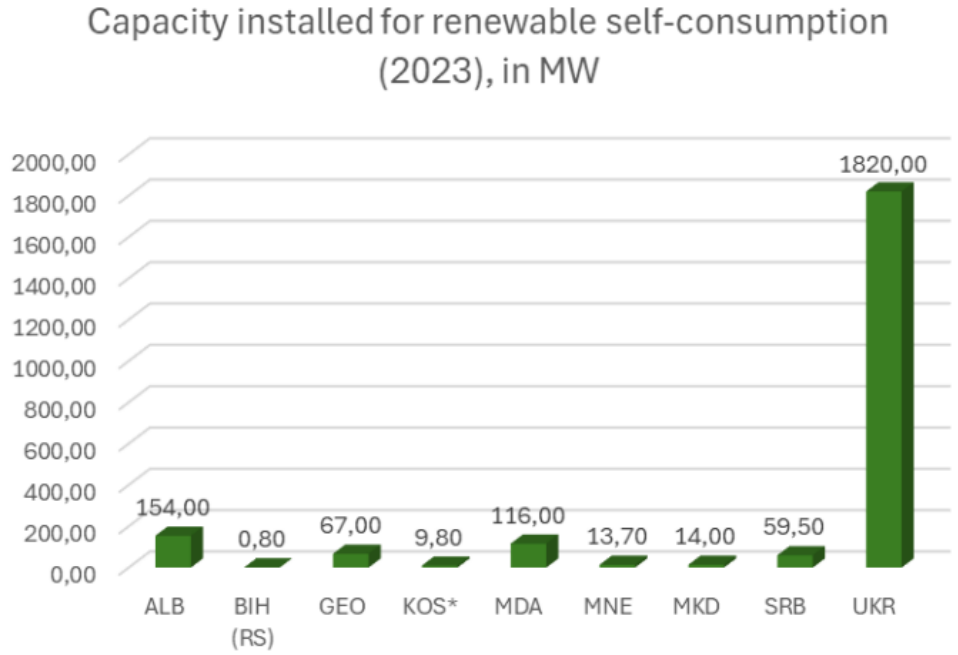
Energy Community on its way to set objectives (2)



Source: NRAs



Source: NRAs

*Source: Regulatory framework for active customers in the Energy Community Contracting Parties [published in February 2025]**

**https://www.energy-community.org/dam/jcr:6991cc4f-2f2f-4397-aacc-dc6540298b13/ECRB%20Regulatory%20framework%20for%20active%20consumers_approved%20by%20ECRB.pdf*

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Objectives and network tariffs…

- New policies:

✓Change the structure of the network

✓Change consumption-generation patterns and volumes

✓Change the roles of operators

- Network tariffs:

✓Tools for operators to recover costs

✓Tools for end-users to manage consumption and costs of bill

Networks shall be more flexible to react on changing patterns and ensure adequacy and security of supply

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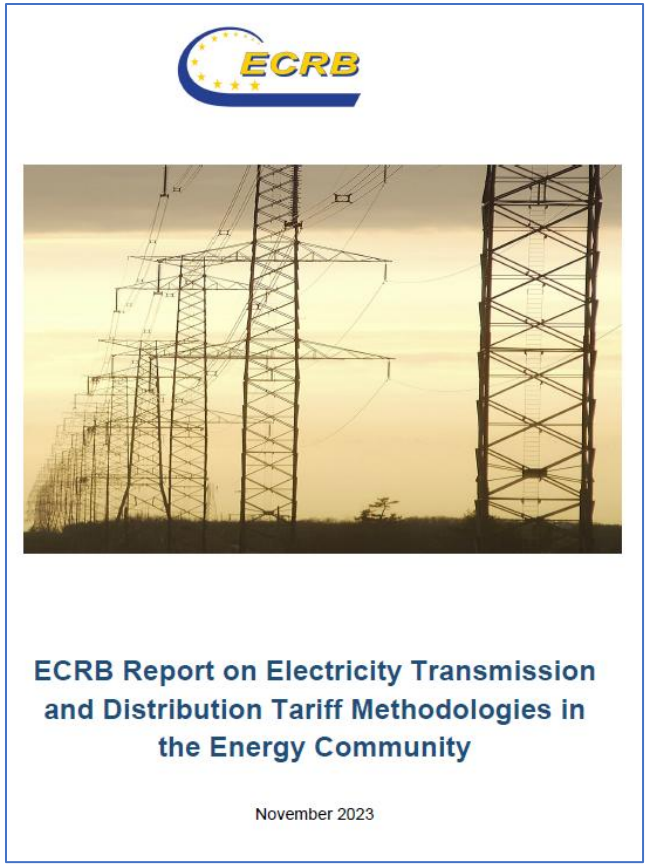
Distribution Tariffs in Energy Community

- No harmonised methodology for distribution tariffs, but harmonised principles to be met
- ECRB is tasked to monitor the national practices and biannually provide a best practice report on transmission and distribution tariff methodologies
- The first ECRB Report on transmission and distribution tariff methodologies in Energy Community Contracting Parties published in 2023



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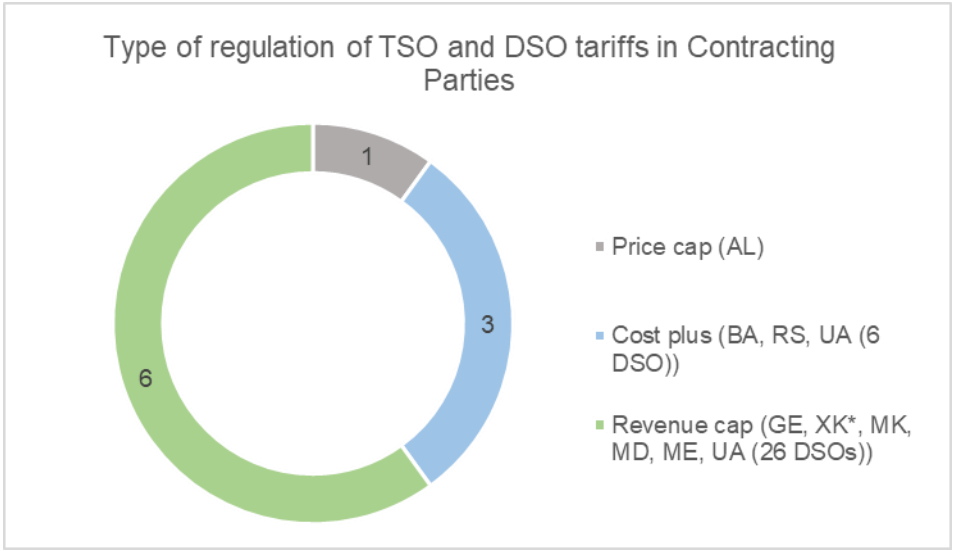
Distribution Tariffs in Energy Community – regulatory framework

- All CPs has distribution tariff methodology approved by the NRA
- The regulatory method is mostly based on revenue cap approach. Some CPs still apply cost based regulation.
- Cost categories are recovered by D-tariffs in all Contracting Parties: CAPEX, OPEX and cost of distribution losses
- NRAs also include performance-based indicators (e.g. performance indicators such as efficiency factor, loss reduction target and quality factor.



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Injection/Withdrawal D-charge in CPs (1)

All CPs apply distribution network tariffs to withdrawal

Injection charge is present in 4 CPs at transmission and in 1 CP at distribution level:

- Non-application of injection charge reasoned by legal constraints, by the risk of competition disadvantages for the national producers or by the security of supply issues
- Application of injection charge is needed to ensure fair contribution of all generation facilities to revenue recovery

	Transmission		*Distribution*	
	Injection	***Withdrawal***	***Injection***	***Withdrawal***
AL	-	✓	-	✓
BA	✓	✓	-	✓
GE	-	✓	-	✓
*XK**	✓	✓	-	✓
MD	-	✓	-	✓
ME	✓	✓	✓	✓
MK	-	✓	-	✓
RS	-	✓	-	✓
UA	✓	✓	-	✓

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Injection/Withdrawal D-charge in CPs (2)

	AL	BA	GE	XK*	MD	ME	MK	RS	UA
D-connected RES producers	-	-	-	-	-	I	-	-	-
D-connected non-RES producers	-	-	-	-	-	I	-	-	-
D-connected producers: Auxiliary services of generators[1]	-	W	W	n/a	W	W	W	-	W
D-connected consumers	W	W	W	W	W	W	W	W	W
CDSOs whose systems are connected to the distribution system	W	n/a	n/a	n/a	W	W	n/a	W	W
D-connected non-storage network users that both inject into and withdraw from the grid (e.g., prosumers)	W	W	W	W	-	W	W	W	W
D-connected storage network users that both inject into and withdraw from the grid (e.g. PHES, battery storage, etc.)	-	n/a	n/a	-	n/a	n/a	n/a	-	W

Legend:

- I — Subject to injection charge
- W — Subject to withdrawal charge
- - — Not subject to any network charge
- n/a — Not applicable

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Injection/Withdrawal D-charge in CPs (3)

- D-tariff basis
  - In Montenegro D-tariff for MV and LV (with metered power) has two components: power-based and energy-based; LV without metered power – energy based and lump sum
  - In North Macedonia and Serbia, some categories of consumers pay only energy-based charge, while others pay both power-based and energy-based charges

	AL	BA	GE	XK*	MD	ME	MK	RS	UA
Energy-based	✓	✓	✓	✓	✓	✓	✓	✓	✓
Power-based	-	✓	-	-	-	✓	✓	✓	-
Lump sum	-	✓	-	-	-	✓	-	-	-

Most of CPs apply solely volumetric D-charge

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Injection/Withdrawal D-charge for prosumers and other technologies

- Prosumers:
  - In Bosnia and Herzegovina, Kosovo*, North Macedonia and Serbia, the withdrawal charge is applied to the total withdrawn energy
  - Moldova, Montenegro and Georgia apply withdrawal charge to net withdrawn energy
  - Albania the net billing principle applies
  - Ukraine - withdrawal charge to net withdrawn energy and net billing
- EV chargers:
  - No specific charge, the same withdrawal charge as for other users is applied
- Storages:
  - In Bosnia and Herzegovina, pump-storage hydro plant pays only the injection charge.
  - In Ukraine, battery storages are subject to withdrawal D-tariff and dispatch tariff on monthly netted withdrawn/injected energy

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D-Connection charges in Contracting Parties (1)

- Albania applies different connection and distance unit tariffs for producers
- In North Macedonia, in contrast to consumers, producers are not charged with costs for providing technical conditions for connection.
- In Serbia producers do not pay a unit charge per capacity
- In Ukraine small power plants pay either shallowish or deep connection charge

	AL	BA	GE[62]	XK*	MD	ME	MK	RS	UA[63]
Shallow	✓	-	✓	-	✓	-	✓	✓	✓
Deep	-	✓	✓	✓	-	-	✓	-	✓
Shallowish	-	-	✓	-	-	✓	-	-	-

None of the CPs introduced a different approach for RES producers compared to other producers.

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D-Connection charges in Contracting Parties (2)

- Georgia:
  - connection of EV charging stations apply is done as of other consumers, however EV charging station pays 50% of the connection fee applied for the connection of the final consumers
- Ukraine:
  - EV charging station and battery storage does not pay a capacity component for non-standard connection, just a charge for the construction of the linear part of the connection – temporary by January 1st, 2025.

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Time-of-use T and D-tariffs in CPs (1)

- Bosnia and Herzegovina (seasonal time signals, day/night and weekends tariffs)
- Montenegro (day/night, weekend)
- Serbia (day/night with three different areas)

In Montenegro day/night T-tariff applied. In line with the Transmission tariff methodology, the periods during which day and night tariffs apply are:

- *day tariff (high tariff) applies from 7 a.m. to 11 p.m. (or from 8 a.m. to 12 p.m. DST);*
- *night tariff (low tariff) applies from 11 p.m. till 7 a.m. (or from 12 p.m. to 8 a.m. DST).*

A low tariff (night tariff) applies also on Sunday (namely, from 11 p.m. (or 12 p.m. DST) on Saturday till 7 a.m. (or 8 a.m. DST) on Monday.

The tariff methodology defines that ratio between day/night tariff cannot be higher than 3:1. Currently applied ratio (in 2023) is 2:1.

All network users connected to the transmission system do have smart meters capable of recording time-of-use with 15 minutes interval.

Time-of-use tariffs are mandatory for all transmission connected consumers; but not available for producers connected to the transmission system.

As day/night tariffs are introduced a long time ago, their impact on the consumption pattern can be hardily assessed. However, currently, around 35% of annual consumption is consumed during periods of low tariff application.

Montenegro: Day/night applied to T and D tariffs

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Time-of-use T and D-tariffs in CPs (2)

- Day/night applied to T and D tariff;
- there are three areas defined (in geographical scope) in which the "start-time" of the period of the off-peak tariff (night tariff) is different in order to "shift" start of "lower tariff":
  - In the first area, the period is from 22:00 to 6:00,
  - in the second from 23:00 to 7:00;
  - in the third from 24:00 to 08:00.

In Serbia, day/night T-tariff is applied during the following periods:

- *day tariff – from 7 a.m. to 23 p.m.;*
- *night tariff – from 23 p.m. to 07 a.m.*

The value of the day T-tariff is twice higher than the value of the night one. Time-of-use network tariffs are available and mandatory for all transmission connected users.

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Addressing the Energy Community acquis and energy transition

- TEN-E Regulation - tariff methodologies envisaged the rules for anticipatory investment for PECI only in Montenegro
- All Contracting Parties do not have and mostly do not plan any activities to support/incentivise innovation. The definition of “innovation” is missing.
- Research and Development activities of TSOs/DSOs are not supported by any targeted incentivizing component in tariff methodologies in all analysed countries.

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Conditions for new tariff design

- Different level of penetration of time-of-use meters on distribution level:
  - Albania – 8%, Georgia – below 10%;
  - 75% (Serbia) to 100% (Bosnia and Herzegovina, North Macedonia, Montenegro) of D-connected users
- Granularity of the distribution costs:
  - most of CPs has cost allocation by voltage level, CAPEX/OPEX
  - only 1 CP has Generation-Load split
  - 1 CP has no cost granularity (total DSO costs)
- New types of users (like storages or EV chargers) are not widely presented yet*

*2022

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NRAs' plans for further development

- Introduction of injection charges is under consideration in Georgia and Kosovo*
- Albanian NRA is planning to add in the D-tariff methodology a special methodology element to support/incentivise innovation
- Ukraine is under discussion of the introduction of the capacity element to D-tariff

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Conclusions and way forward

- The D-tariff methodologies in most of CPs currently do not target new DSOs tasks but rather those traditional one
- The distribution networks in all CPs need substantial rehabilitation. This implies the CAPEX-based element as mostly incentivized.
- The Transposition of the Clean Energy Package is still pending, BUT:
  - Despite this, new types of users are gradually emerging, especially the small-scaled RES, including on the customer side.
  - Some CPs announced the clear strategies as to develop decentralized networks and introduced temporary exemptions in network tariff application to support specific technologies (e.g., storages, and EV chargers).
  - Some CPs already have progressive distribution tariffs design in terms of structure, time-of-use, injection/withdrawal, while other – need sufficient reconsideration of current practices.
- The relevant developments will be assessed in the next ECRB Tariff report in 2025.

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ECRB recommendations (1)

- Introduce incentive-based regulation in all CPs as it is more flexible for incorporating the new performance indicators (e.g., quality, energy efficiency, innovation, etc.).
- To revise the network tariff methodologies in order to accommodate new developments in network operation, introduce incentives (for both network operators and users) in areas where performance improvements are evidently required, to reflect market developments, including new types of users and specifics of their operation
- NRAs are invited to consider other cost models (forward looking or incremental) in terms of better cost reflectivity (by cost driver).
- Cost drivers in each category shall be reviewed regularly to take into account new developments (e.g. flexibility costs for DSOs)
- It is recommended that NRAs apply cost cascading among the network voltage levels to collect information on costs by each voltage level, to proper monitor and propose revisions of cascade levels where reasonable.
- NRAs are invited to consider assessing the impact of network users that inject electricity into the grid on the costs of TSO and DSO

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ECRB recommendations (2)

- To evaluate the advantages and disadvantages of applying time-of-use network tariffs.
- The lack of smart metering should not be an obstacle for introducing regulatory framework for time of use tariffs (as an option for customers) and may serve as a driver for consumers to opt for the smart meter.
- The ECRB recommends to the NRAs to provide the regulatory framework for PECI (including risk specific incentives, if any)
- NRAs to pay due attention to energy efficiency through the development of network tariffs and regulations.

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ECRB recommendations (3)

- The NRAs are recommended to assess the introduction of incentives for innovation and R&D for network operators that may contribute to energy efficiency and network flexibility, including integration of newly emerging system users.
- This requires also setting clear criteria for projects (investments) falling under the term “innovation”.

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How DSOs can support NRAs

- “feel” the grid
- present the system needs to NRA
- narrow the gap related to information asymmetry
- match the costs with their drivers
- to surf through the technology market, coordinate and propose proper technologies benefiting both customers and operator’s operation
- to signal where improvements are needed

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THANK YOU
FOR YOUR ATTENTION

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