



When Balance is Achieved



E-MOBILITY: STATUS UPDATE, PLANS AND RELATED REGULATORY ISSUES

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GNERC



ERRA Energy Transition Committee
February 5, 2025 | Virtual meeting

Background & Objectives

Background:

- ERRA conducted a 2022 survey on e-mobility among its member organizations, updating a 2020 survey.
- The previous survey was led by the ERRA Licensing/Competition Committee, while the 2022 survey was conducted by the ERRA Renewables Committee.
- 17 countries participated in the 2022 survey.

Background & Objectives

Survey Objectives:

- Assess EV market development.
- Evaluate charging station expansion.
- Compare market-based vs. regulated approaches.
- Define the role of regulators and DSOs.
- Analyze EV adoption and charging infrastructure.
- Review subsidies and regulations in member countries.

Key Findings & Future Outlook

Key Findings:

- Significant progress in legal frameworks.
- EV and plug-in hybrid EV (PHEV) numbers have surged.
- Regulatory frameworks and market demand are driving charging station expansion.
- Vehicle-to-grid (V2G) technology is growing but underdeveloped.
- Regulators (NRAs) still play a limited role, facing administrative barriers.
- EV-specific tariffs remain stagnant.

Key Findings & Future Outlook

Future Outlook:

- Continued EV growth expected through 2025 and 2030.
- Need for proactive regulatory engagement and policy reforms.
- Enhanced knowledge sharing among ERRA member countries can foster further e-mobility transformation.

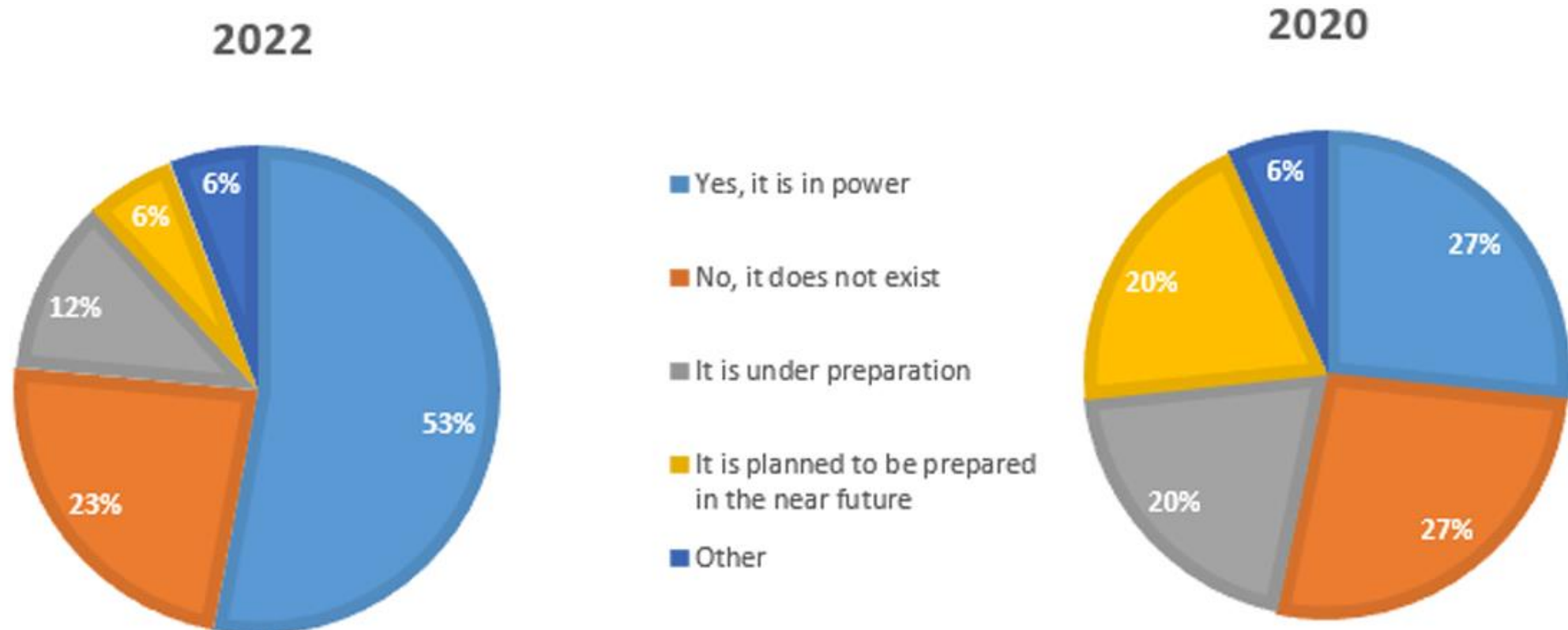
LEGAL/ REGULATORY FRAMEWORK OF E-MOBILITY

Questions:

- Is there any legal framework regulating the e-mobility related issues in power in your country?
- Does the market model (set by the legal/regulatory framework) allow or disallow utility (DSO) ownership of charging stations/infrastructure?

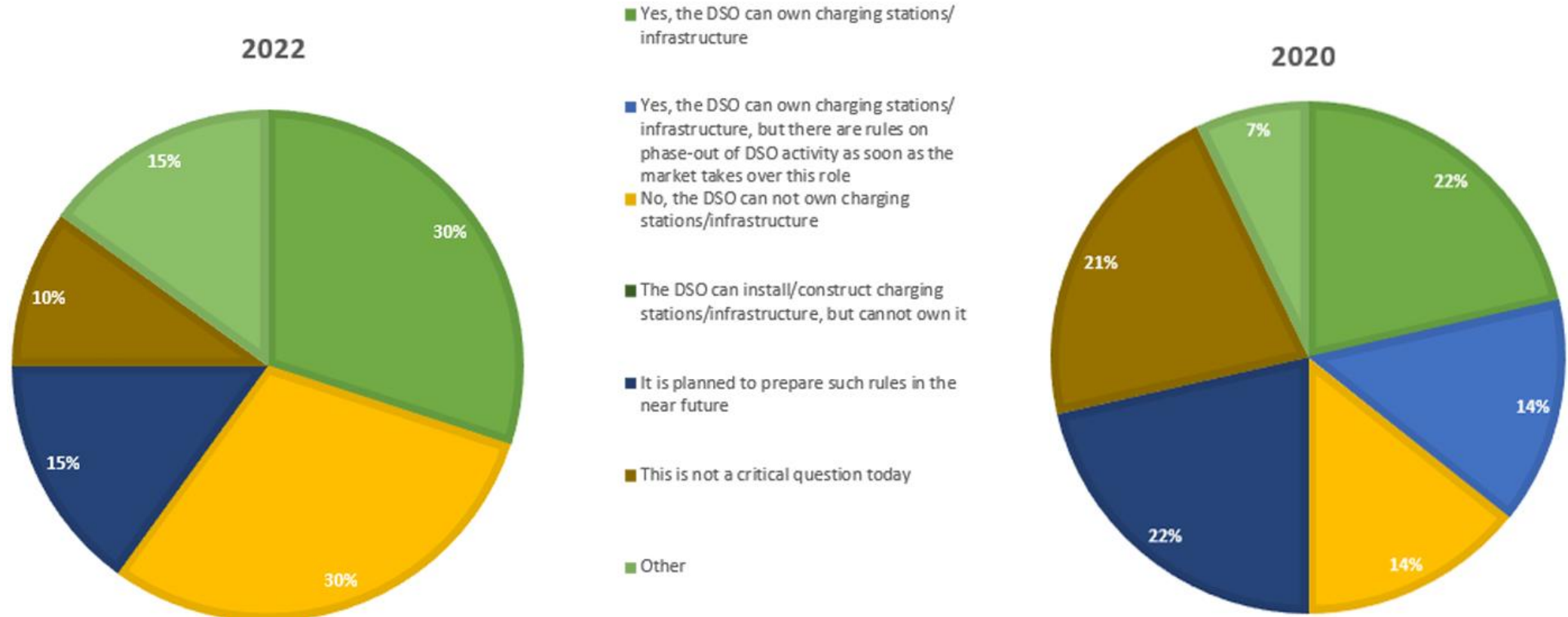
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CURRENT AND PLANNED FUTURE ROLL-OUT OF EV CHARGING INFRASTRUCTURE



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Questions:

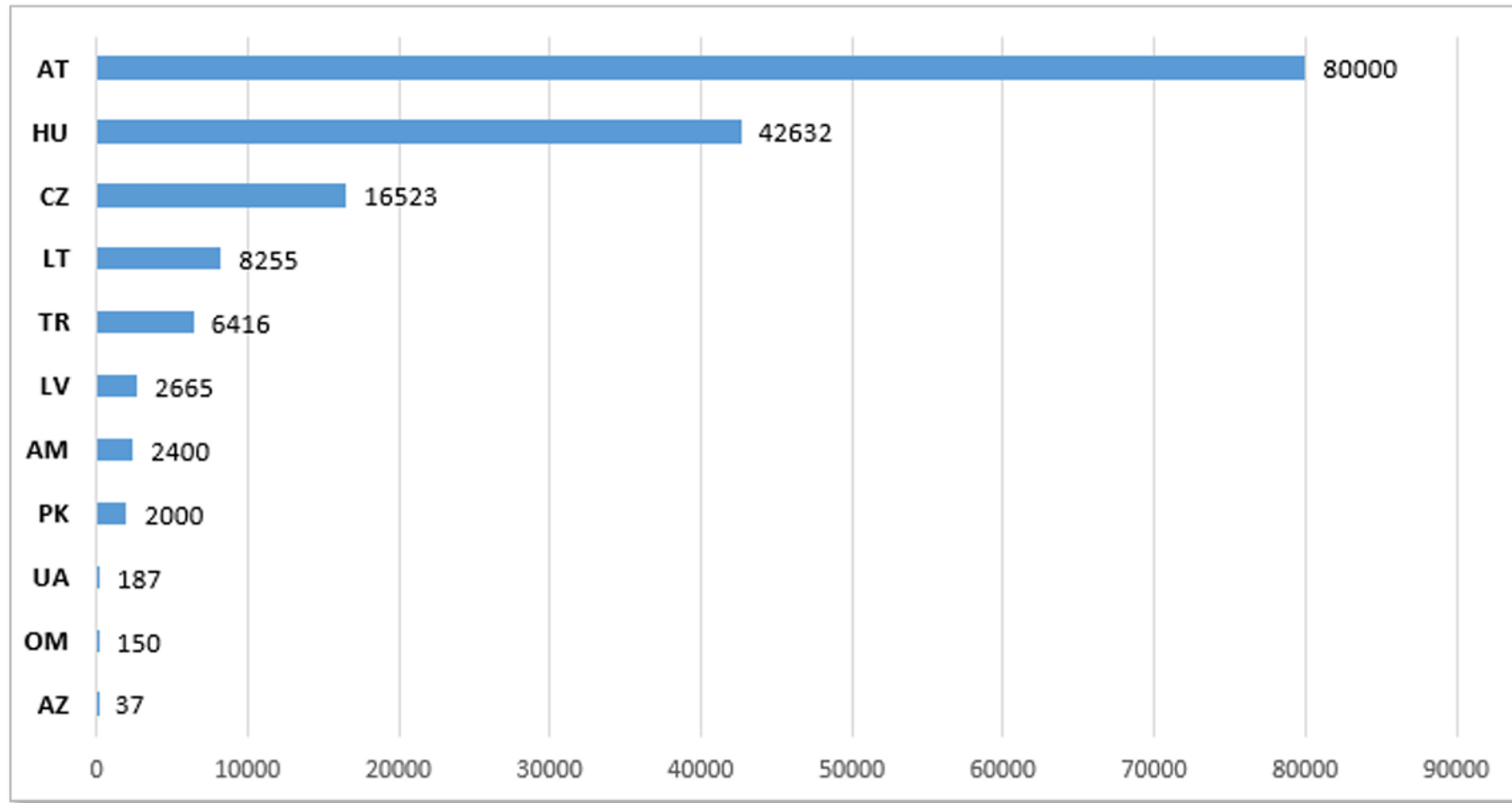
- Number of EVs (BEV + PHEV) at the end of 2021 or last available year (please indicate the year if not 2021)?
- Number of electric charging points at the end of 2021 or last available year?
- What is the role of the DSO?
- What is the role of the energy supplier?
- Who is responsible for the roll-out of charging stations?
- Projected number of EVs (cars, busses, lorries) in 2025 and 2030
- Is there any national action plan on the roll-out of charging infrastructure?
- Is there any support (purchase subsidy, tax advantage, free parking, etc.) for EVs and charging infrastructure?

CURRENT AND PLANNED FUTURE ROLL-OUT OF EV CHARGING INFRASTRUCTURE



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Number of EVs (BEV + PHEV) at the end of 2021 or last available year?



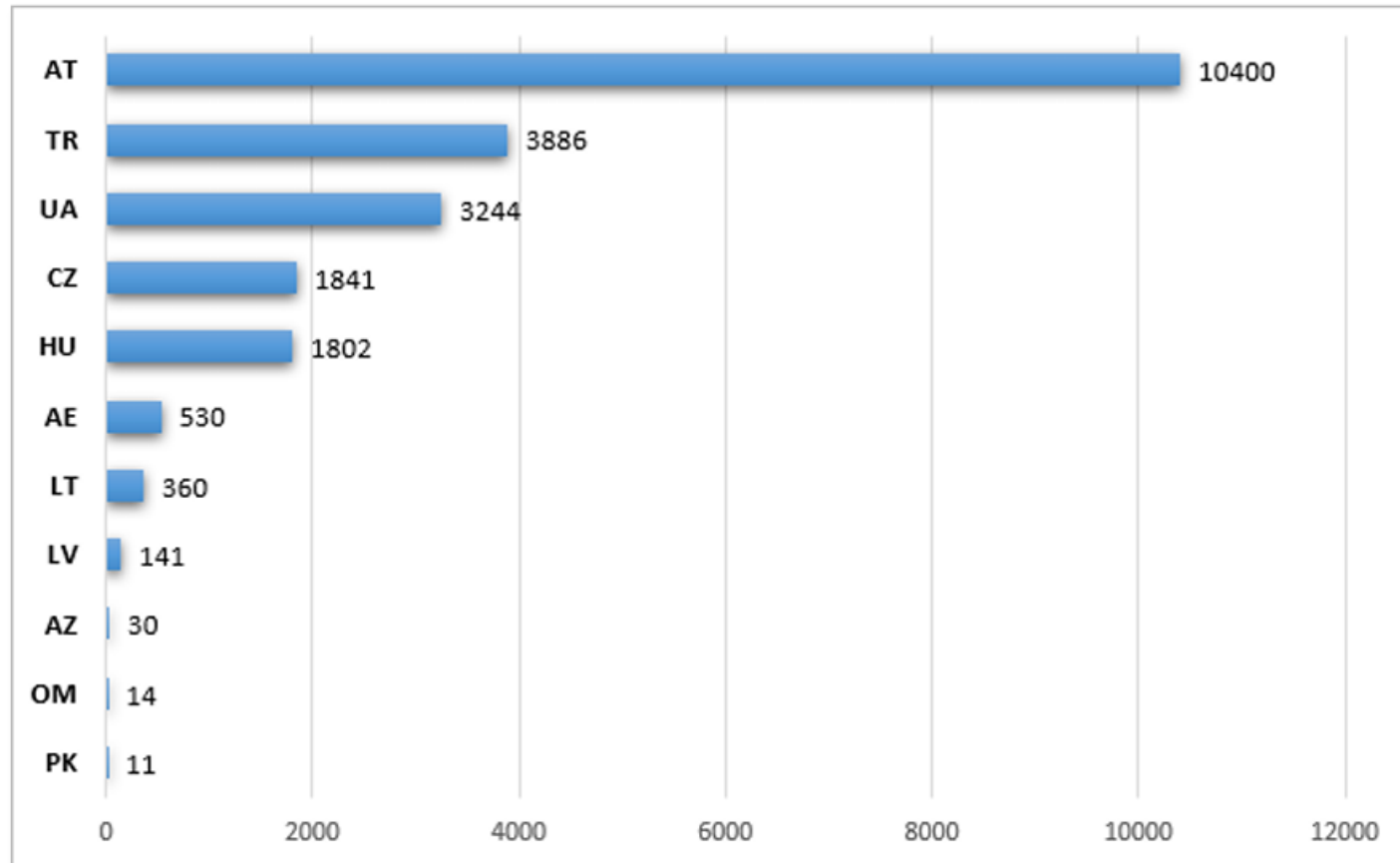
Note: AE, GE, MD, PE, RO, SA do not provide any data

CURRENT AND PLANNED FUTURE ROLL-OUT OF EV CHARGING INFRASTRUCTURE



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Number of electric charging points at the end of 2021 or last available year



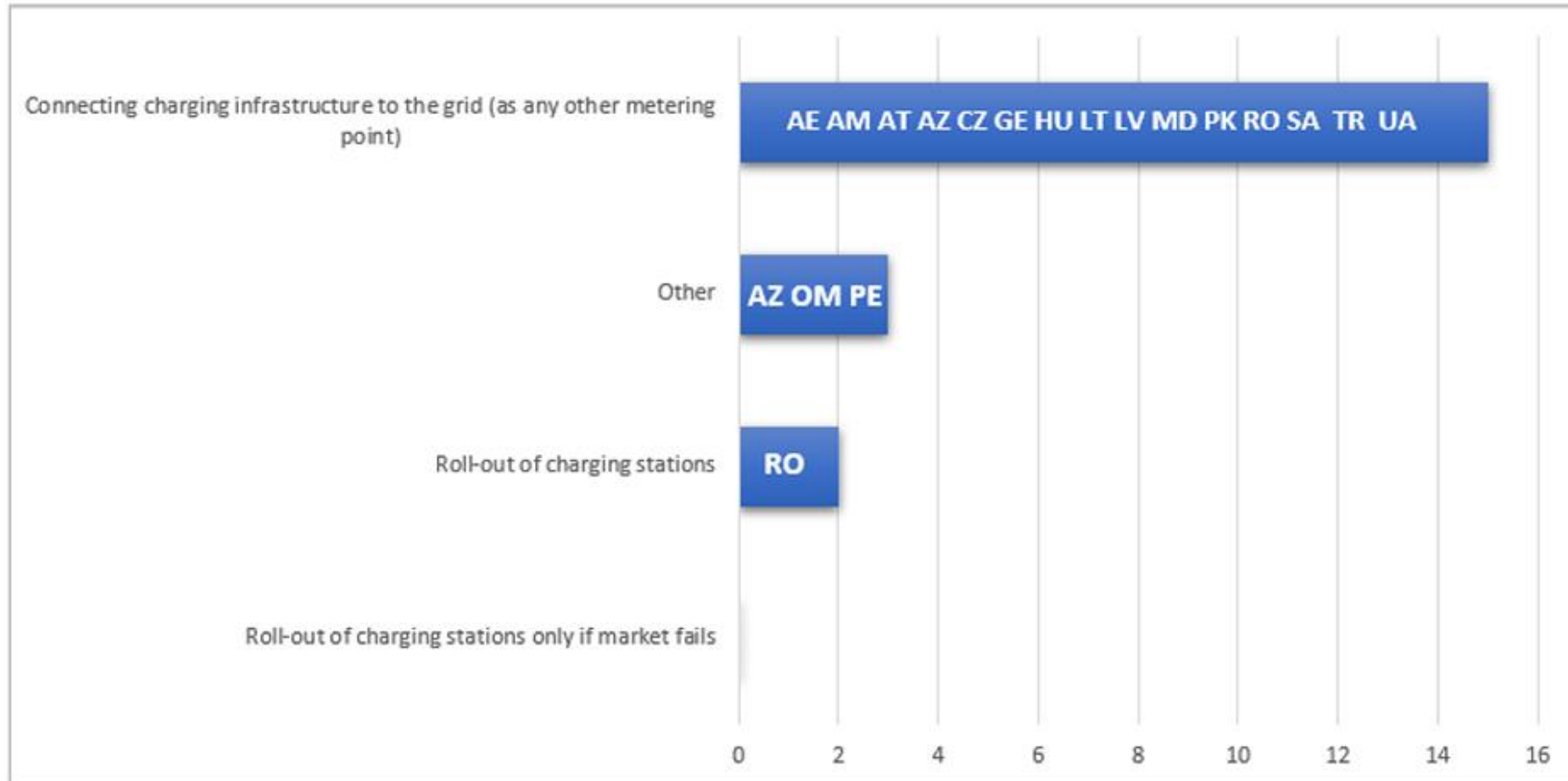
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CURRENT AND PLANNED FUTURE ROLL-OUT OF EV CHARGING INFRASTRUCTURE



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What is the role of the DSO?

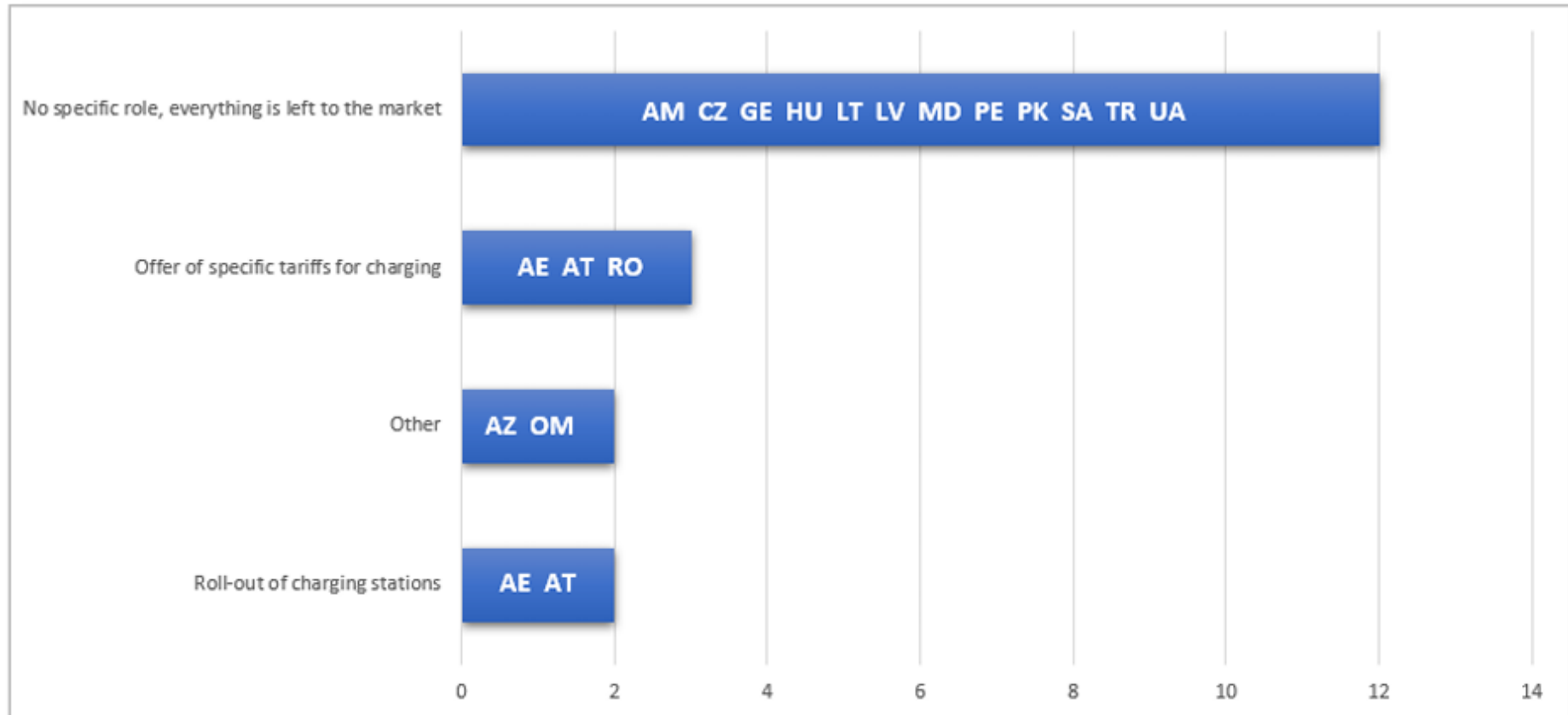


CURRENT AND PLANNED FUTURE ROLL-OUT OF EV CHARGING INFRASTRUCTURE



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What is the role of the energy supplier?

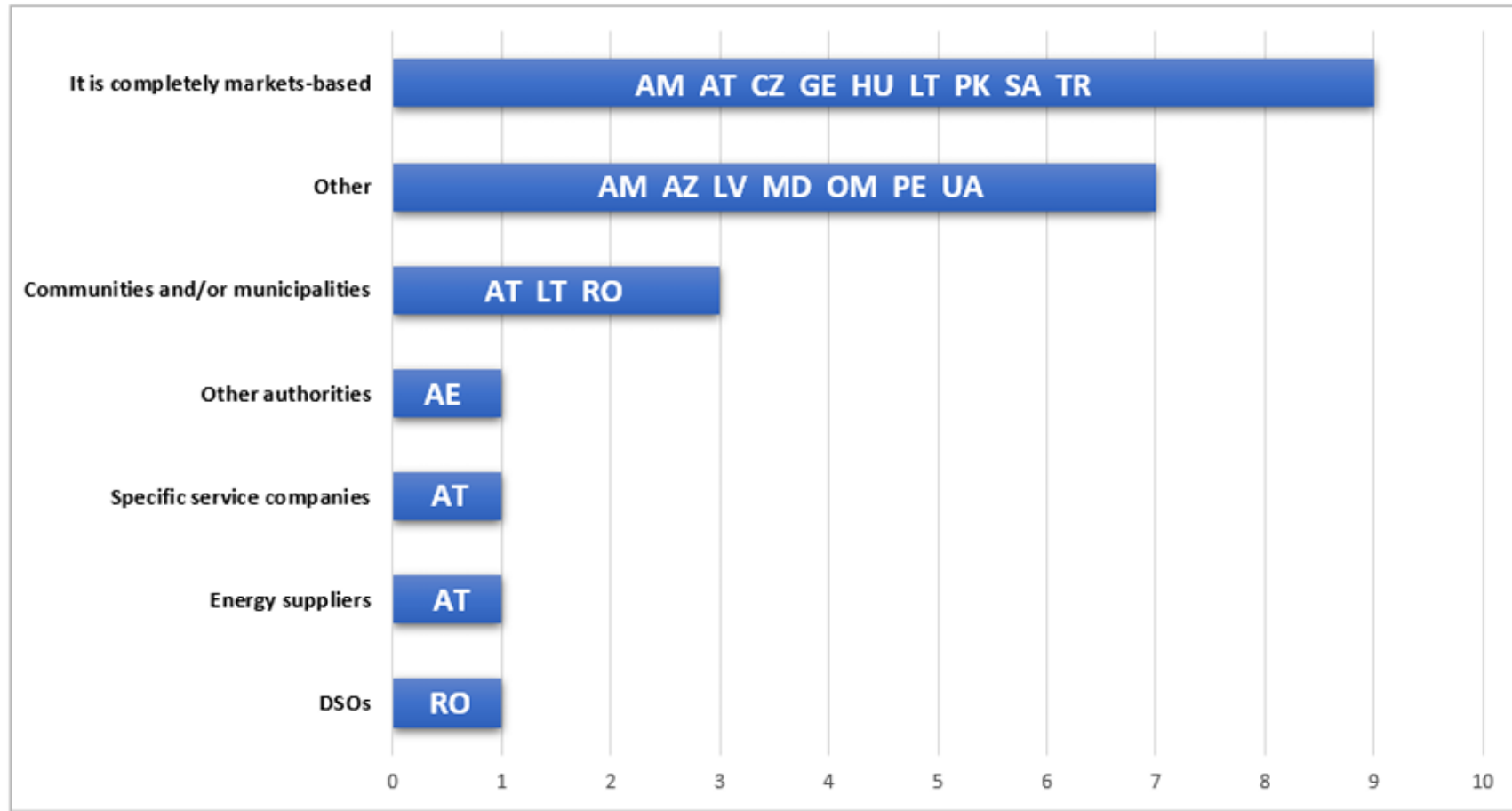


CURRENT AND PLANNED FUTURE ROLL-OUT OF EV CHARGING INFRASTRUCTURE



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Who is responsible for the roll-out of charging stations?

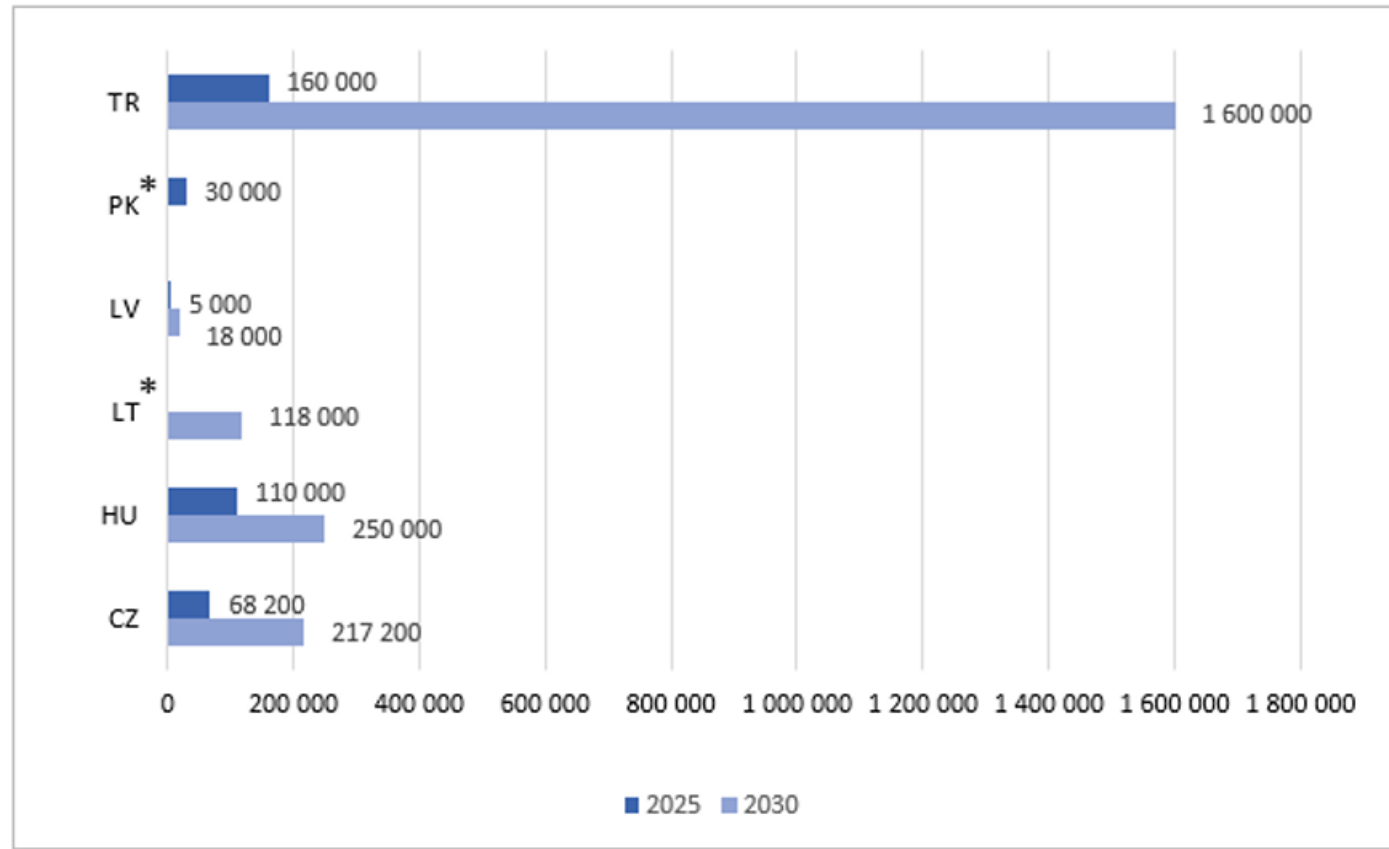


CURRENT AND PLANNED FUTURE ROLL-OUT OF EV CHARGING INFRASTRUCTURE



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Projected number of EVs (cars, busses, lorries) in 2025 and 2030



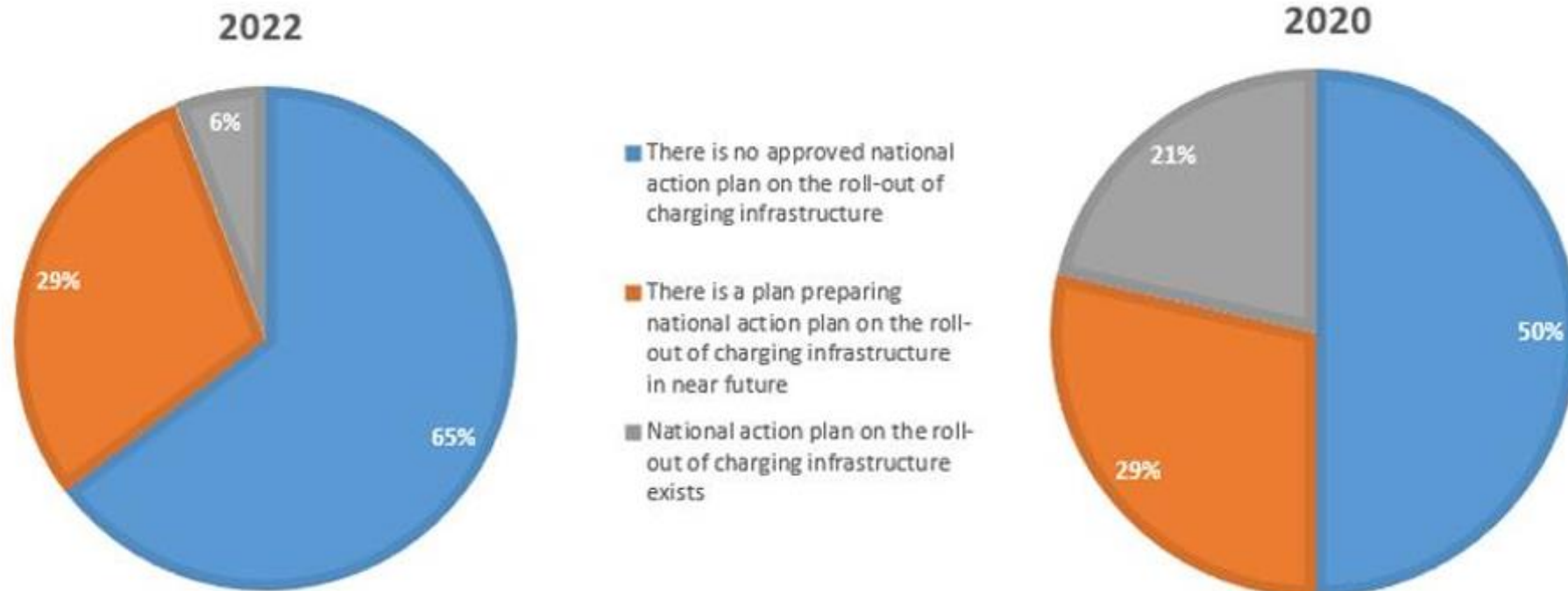
Note: PK states that for 2030 the number of EVs will be equal to 30% of total sales, LT Do not provide the data for 2025

CURRENT AND PLANNED FUTURE ROLL-OUT OF EV CHARGING INFRASTRUCTURE



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Is there any national action plan on the roll-out of charging infrastructure?

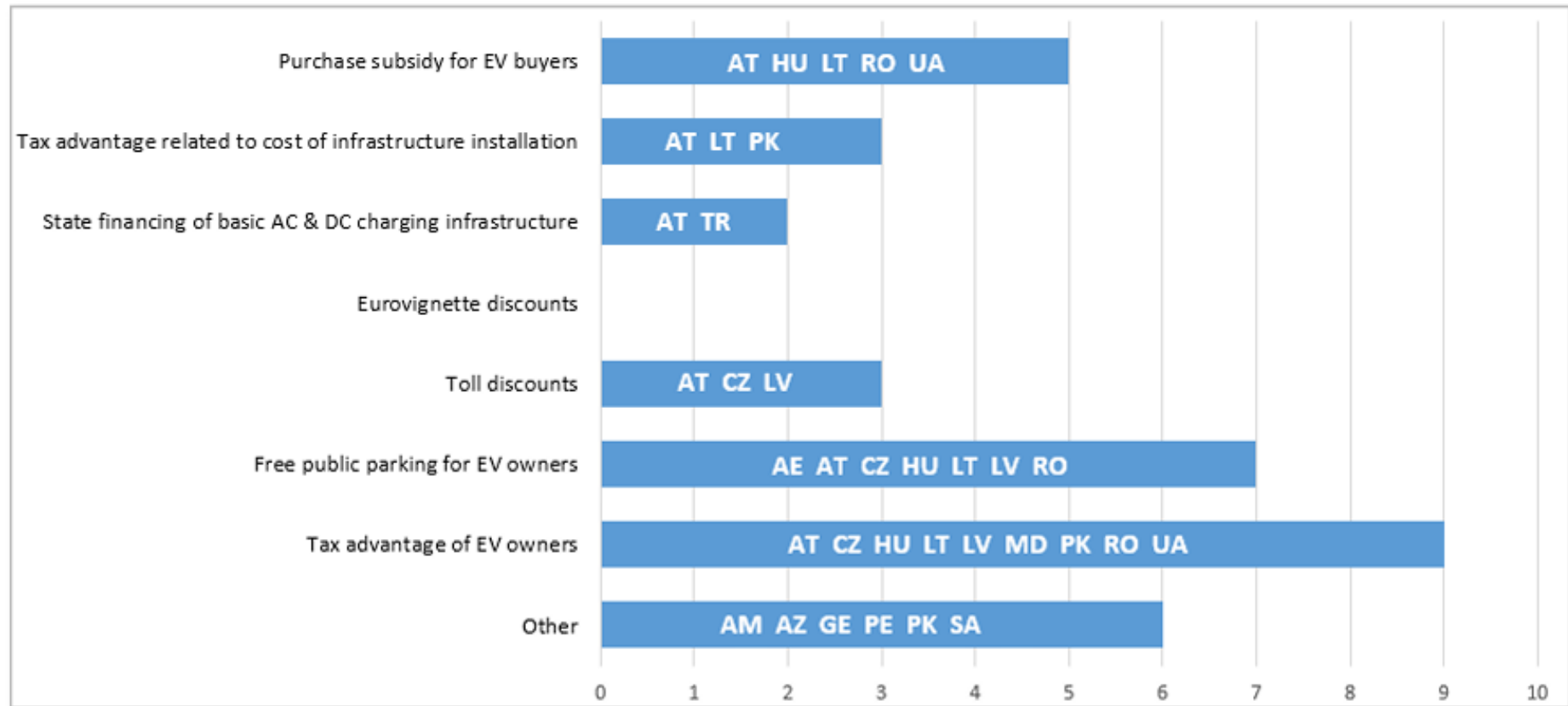


CURRENT AND PLANNED FUTURE ROLL-OUT OF EV CHARGING INFRASTRUCTURE



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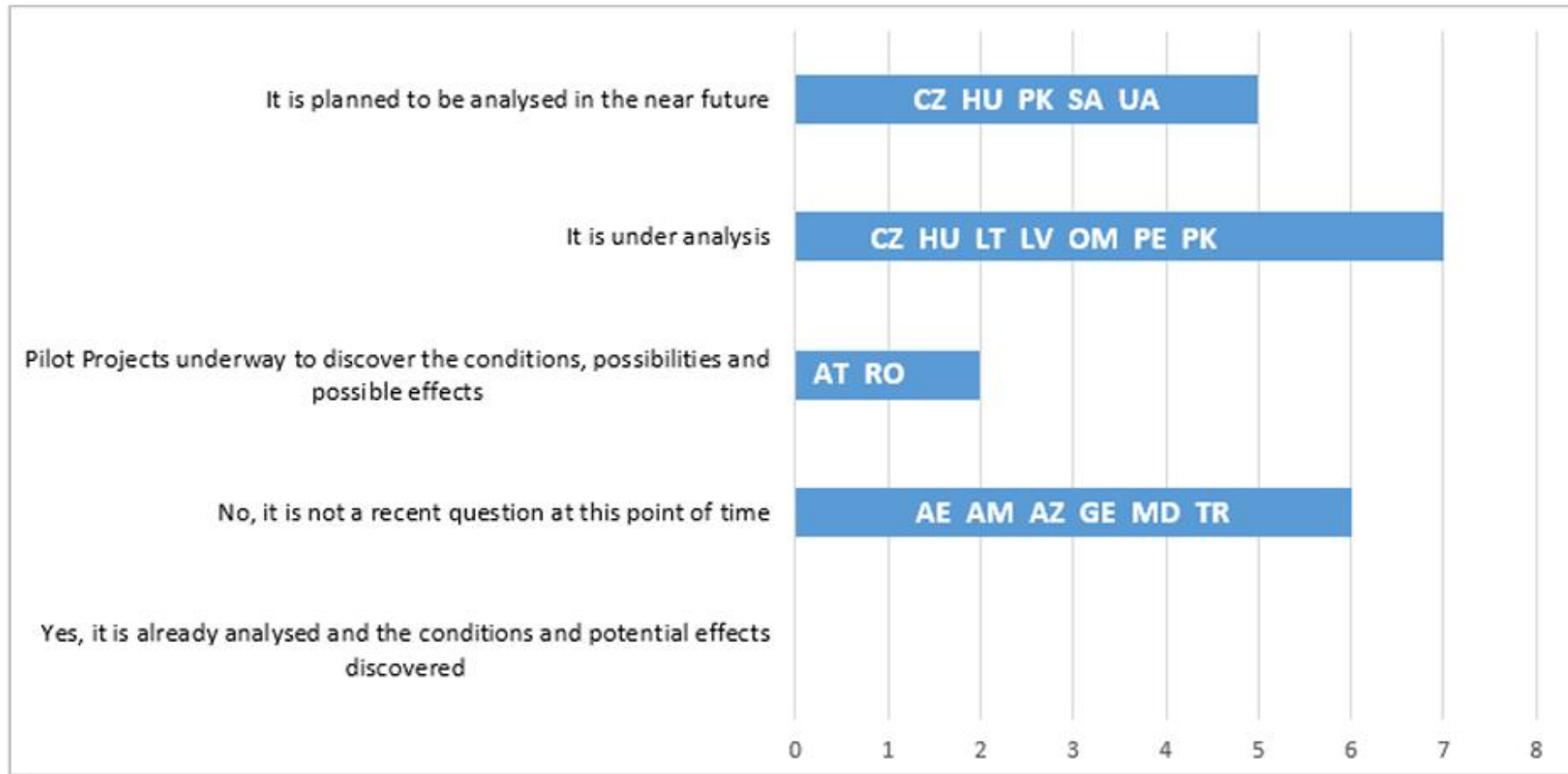
ELECTRICITY SYSTEM EFFECTS OF E-MOBILITY

Questions:

- Are the V2G possibilities and the conditions of these additional grid services analyzed and discovered in your national electricity system?
- Are there any elements of the V2G possibilities in operation?
- Are there separate meters for the EV home charging?

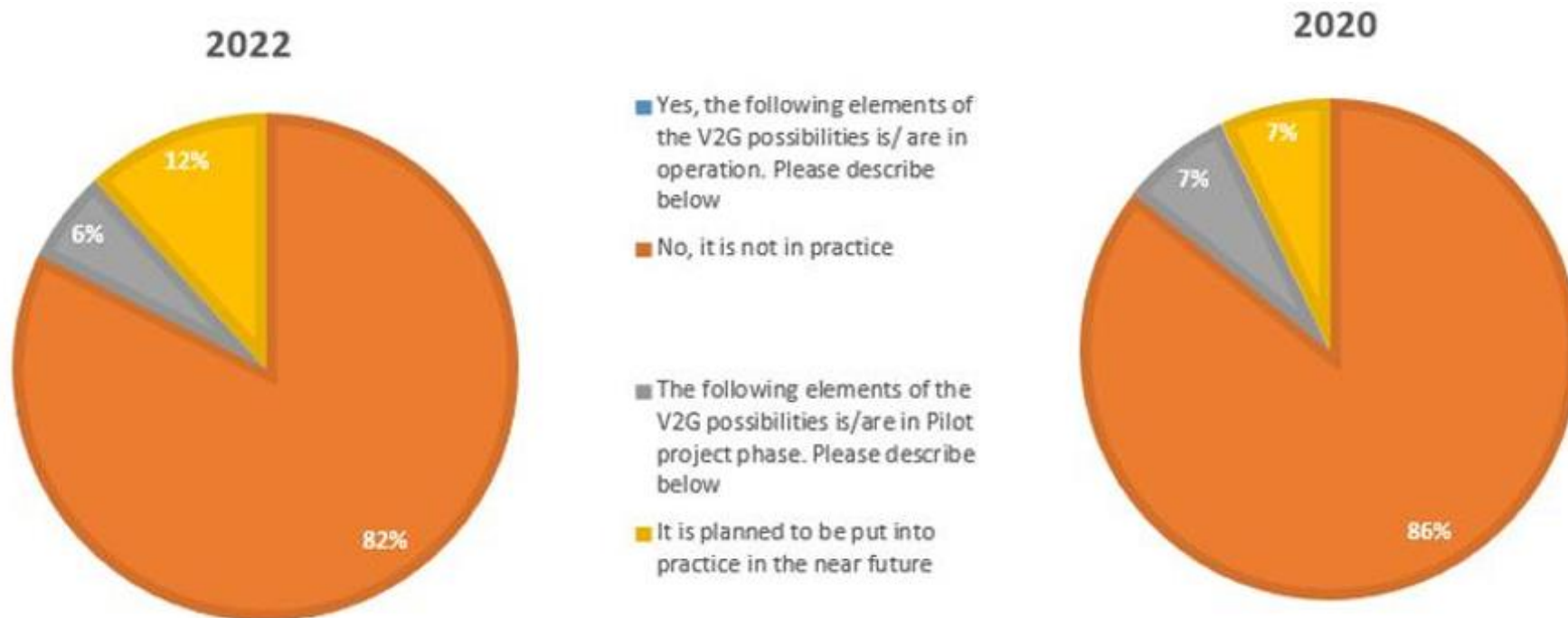
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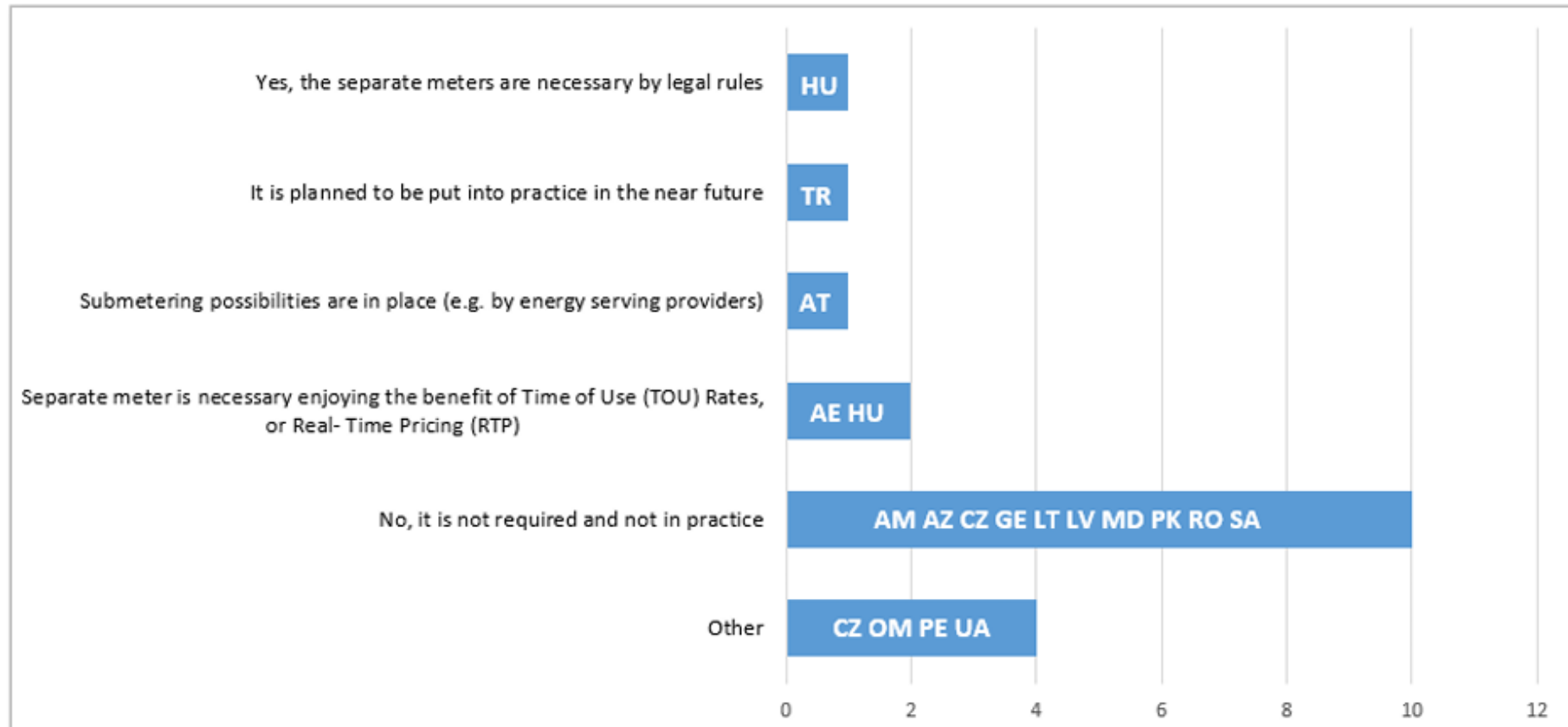
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ELECTRICITY SYSTEM EFFECTS OF E-MOBILITY

Are there separate meters for the EV home charging?



ROLE OF THE NATIONAL REGULATORY AUTHORITY REGARDING E MOBILITY



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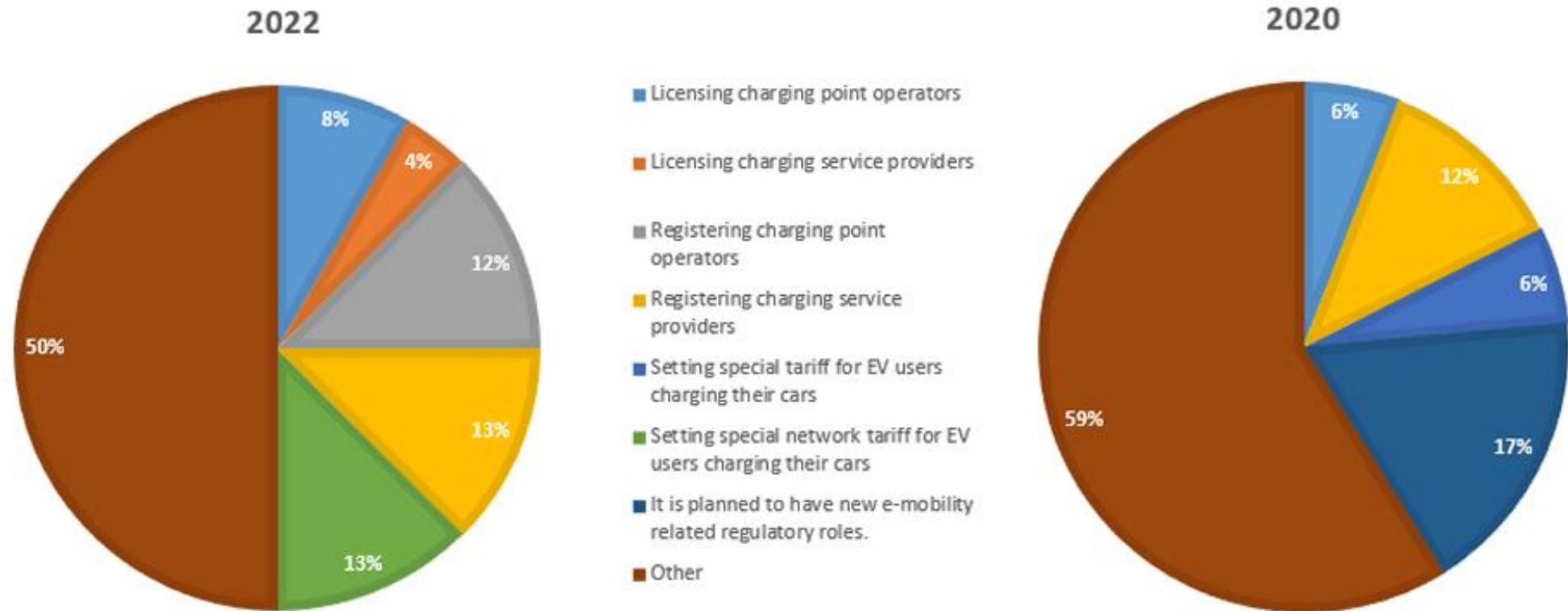
- What are the present regulatory roles regarding e-mobility?
- Which EV-specific rate/tariff design elements and/or smart charging are under consideration (or implementation) in your country?
- Does your regulatory authority co-operate with other sectoral regulatory authorities with regard to e-mobility?

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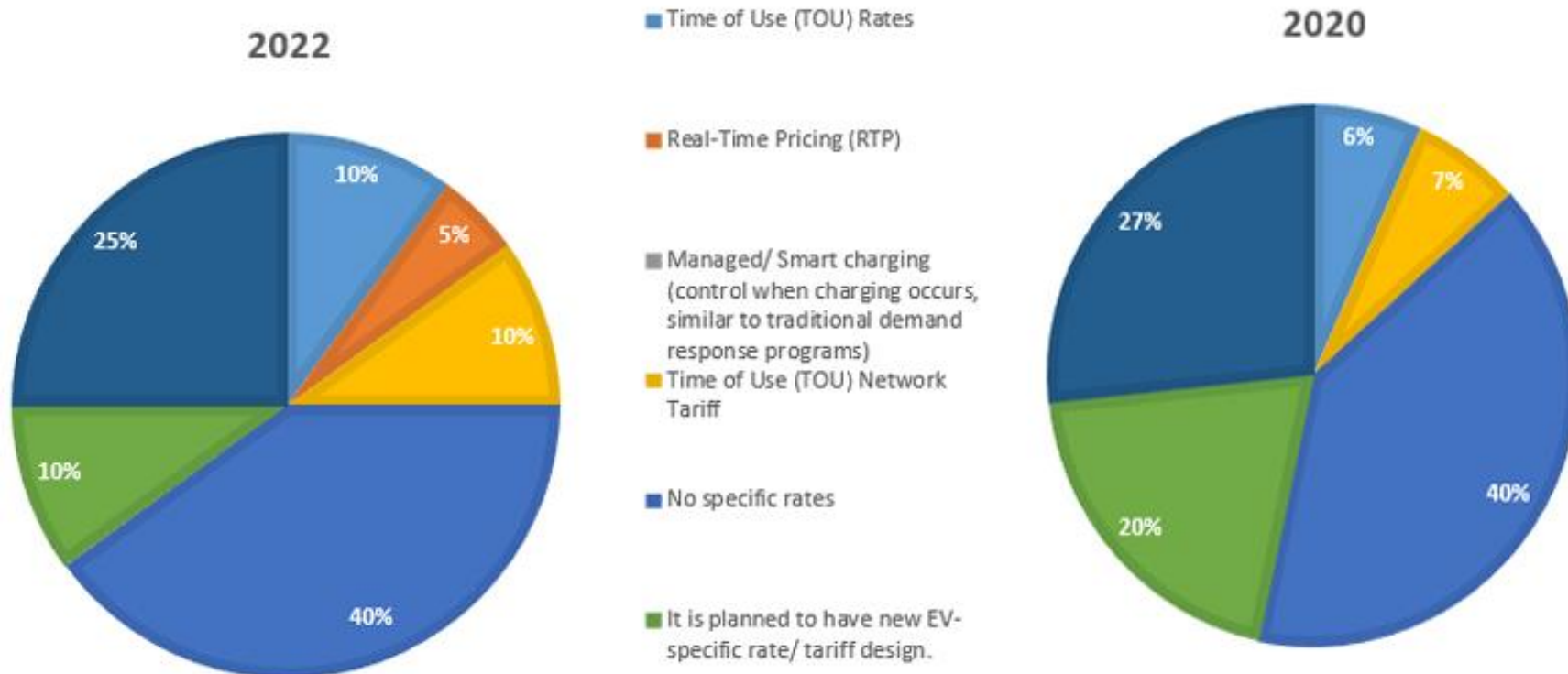


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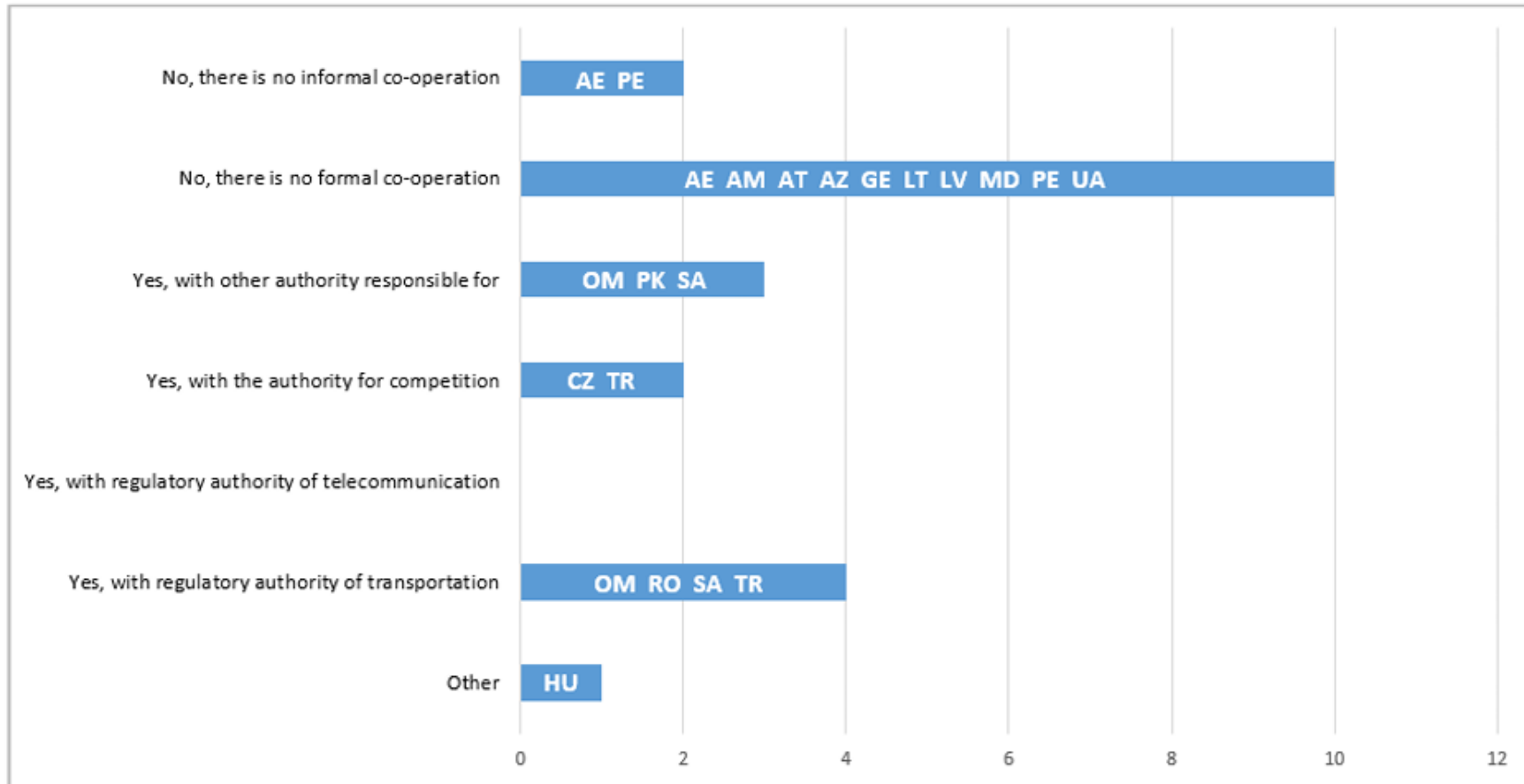


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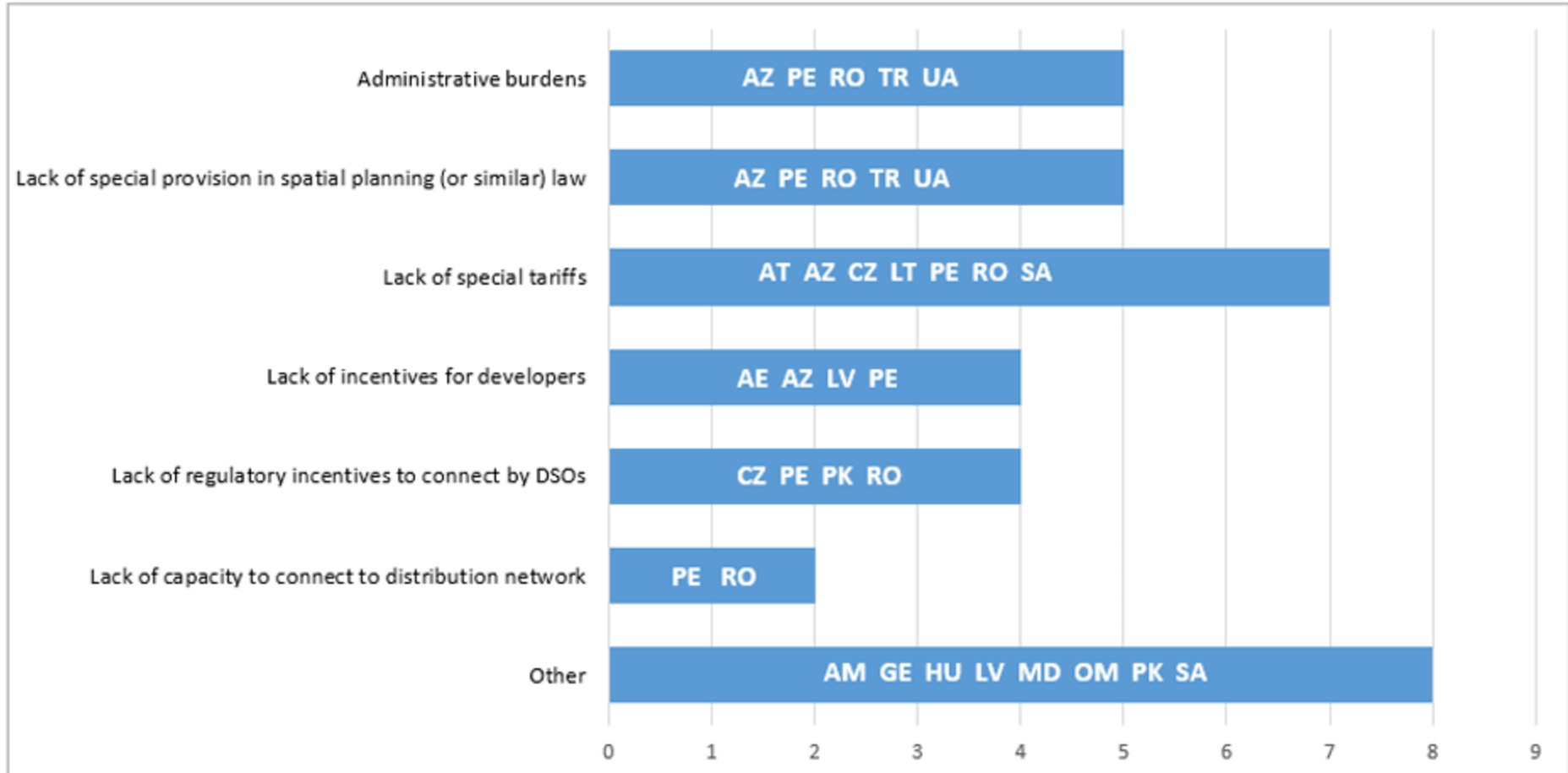


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Does your regulatory authority co-operate with other sectoral regulatory authorities with regard to e-mobility?



BARRIERS TO THE DEVELOPMENT OF EV INFRASTRUCTURE



IS THERE ANY SPECIAL SUB-TOPIC WITHIN E-MOBILITY THAT WOULD BE OF INTEREST TO YOU?



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Supplement to the answers:

MEKH, Hungary	Presentation of the roaming services business model conditions. Flexibility potential and adaptability.
NERC, Lithuania	The application of different tariffs as an incentive for the development of electric vehicle charging stations. Also, other incentives.
Osinerghmin, Peru	How are charging spots work? Is there a new agent considered such a retailer?
NEPRA, Pakistan	<ol style="list-style-type: none">1. Users' behavior management for the adoption of e-mobility2. Preparedness required by the electricity distribution companies for supporting e-mobility adoption3. Financial and fiscal incentives for promoting e-mobility business in the country4. What regulatory and infrastructure augmentation is required for V2G communication5. How the communication happens when the grid requires support from the EVs for stability
WERA, Saudi Arabia	V2G: What is the current and future landscape of V2G? What would be the role of the V2G in future energy system?



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THANK YOU FOR YOUR ATTENTION!

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