E-mobility II – Roll-out of charging infrastructure

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EMOBICITY – Report on charging tariffs

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Report on charging tariffs - Contents

- Report review the tariffs methodology in the following selected countries:
  - Croatia
  - Portugal (also the Autonomous Region of Azores)
  - Greece
  - Germany
  - Czech Republic
  - Slovenia
  - Italy
  - Hungary
  - Netherlands
  - Ireland
- Regulatory framework-what costs are recovered via the distribution tariffs and how the tariffs are designed in general.
- E-mobility development model – DSO (Distribution System Operator) role
- Report available at: https://www.interregeurope.eu/fileadmin/user_upload/tx_tevprojects/library/file_1628687446.pdf

Charging tariffs

Electricity network tariffs are designed to cover the cost of:

- **the distribution and transmission electricity systems**
- **high electricity production cost at non-interconnected islands**
- **power supply for vulnerable consumers**
- **payments to Renewable Energy producers**

Specifically regarding e-mobility and charging, tariffs should:

- **be easy to understand and transparent**
- **allow to derive business models**
- **drive EV users to charge during non-peak times**
- **promote the uptake of e-mobility**

Charging tariffs

- **Currently, no dedicated charging tariffs for e-mobility, except for Portugal, Italy, Spain**
- **In most countries, differentiation only on day/night tariffs – cheaper to charge at night**
- **Typical residential tariff structures are not time-varying**

Tariffs should ideally not be based on peak power (e.g. Croatia)

- **Very high cost of EV charging**
- **key barrier for setting up a business model**

Charging tariffs

Italy, incentives:

- **Dedicated energy based tariffs for operators of public charging points**
- **Absence of fixed charges**
- **particularly favorable for new public charging points in areas with scarce penetration of electric vehicles**

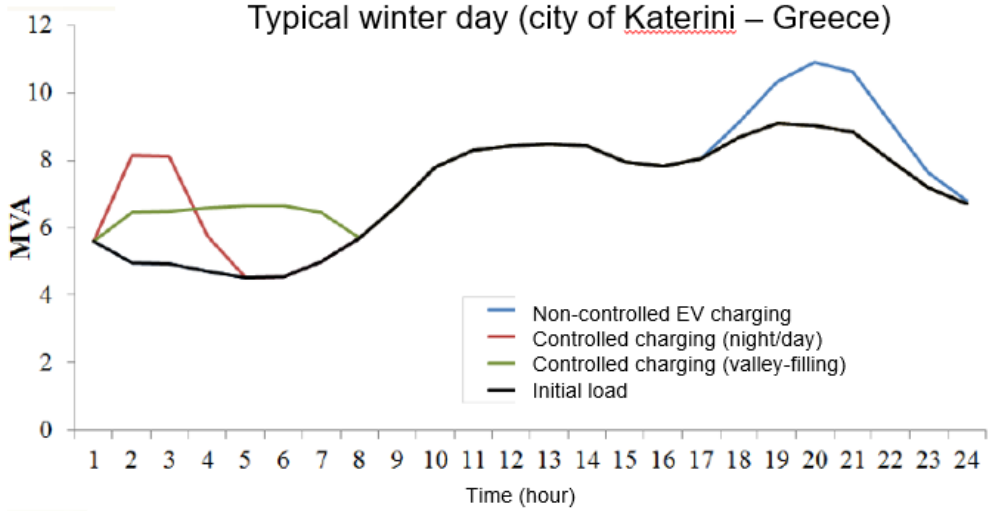
Portugal

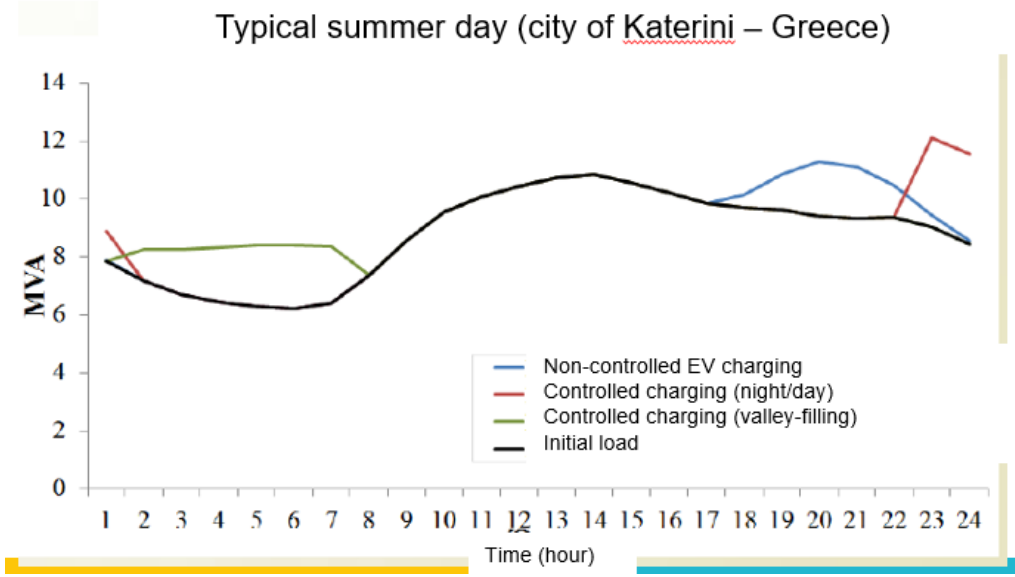
- **Dedicated Electric Mobility Network Management Entity (MOBI.E)**
- **Dedicated / regulated EV charging tariffs**
- **Interoperability: users can access any charging point in the country, regardless of who is the charging point operator, through a single access mean – a card**
- **renewable energy communities can apply for a specific tariff regime for self-consumption**

Charging tariffs

- **Without charging tariffs, EV drivers are likely to charge whenever is <u>easiest</u> for them**
  - Non-controlled EV charging: extra load coincides with peak demand
  - Controlled charging (night/day): sudden system surcharge – high grid stress

We need <u>smart</u> controlled charging (valley filling) for less grid stress





Recommendations

We need:

- **Regulated EV charging tariffs in all countries**
- **Low cost and fare tariffs preferably based on energy consumption**
- **Dynamic/smart tariffs for the most efficient use of the grid**
- **Interoperability – make it easy to charge everywhere**
- **Smart platforms to enable transparency and easy comparison of charging tariffs**
- **Consider establishing a viable business model in sparsely populated areas (e.g. rural areas or small islands)**

While maintaining the safe and efficient network operation!

Thank you!

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