ELECTRIC MOBILITY IN THE ENERGY TRANSITION CONTEXT

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VEDECOM AT THE CENTRE OF 3 MAJOR SOCIETAL CHALLENGES

- Vehicle electrification
- Driving delegation and connectivity
- Shared mobility and energy
Challenge: climate change and energy transition

Objective: decarbonise transport as well as power sector
SOLUTION: ELECTRIC MOBILITY
ELECTRIC MOBILITY: BUMPS IN THE ROAD?

Obstacles: price, limited autonomy and lack of charging infrastructure

Solution: well-developed EV charging infrastructure
SYNERGIES WITH RENEWABLES

- EVs need to be powered by clean electricity
- Renewables: need to store surplus to avoid curtailment
- “Batteries on Wheels”: services to the power system
SHARED ENERGY TEAM
RESEARCH TOPICS

- Sizing and location of EV charging infrastructure while taking into account mobility needs as well as economic and operational constraints
- Costs and socio-economic assessment of charging infrastructure
- Potential for V2G/H/B while considering the objectives of different actors, grid constraints and mobility needs
- Optimal coupling of EV fleets, buildings with PVs and stationary storage
- Tariff design to encourage synergies between EVs and renewable energy sources
ELECTRIC ROAD SYSTEMS
PLANNING OF EV CHARGING INFRASTRUCTURE IN A TERRITORY
COUPLING OF RENEWABLES, BATTERIES AND EVS
VALUE OF V2G/H/B SERVICES
VEHICLE-TO-VEHICLE (V2V) SERVICES
CONCLUSION

- EVs a sustainable mobility solution if powered by clean electricity
- Synergies between EVs and renewables: provision of flexibility and storage
- Charging infrastructure adapted to needs crucial for large-scale deployment
- Optimisation of the use of EV batteries for energy services
- Many challenges remain for the deployment of V2G/H/B
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THANK YOU!

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