

# Green eMobility – A Silver Bullet ?

**8th Conference on Applied Infrastructure Research**

The Future of Electromobility: Nexus between  
Sustainable Mobility and Integration of Renewables

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## Introduction

### Statements

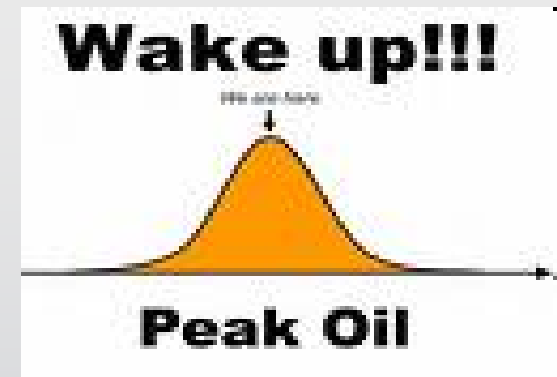
1. eMobility will survive the actual Hype and will become a serious Alternative
2. eMobility has the Potential of a Silver Bullet. Not only it can overcome traditional conflicts between Automobility and Emissions. Even Complementarities are possible
3. However, as a Precondition, several open Questions need to be answered in a „green“ Fashion.



## Statement 1

### **eMobility will survive the actual Hype and will become a serious Alternative**

- ▶ It is widely accepted that Oil Substitutes are inevitable. But this will take Time.
- ▶ Until 2020, the Oil Price will range from 150–200 USD/B
- ▶ The Importance of CO<sub>2</sub>-Avoidance and the Promotion of Renewable Energies will sustain.
- ▶ CO<sub>2</sub>-Regulations in the US / EU will require Actions
- ▶ Metropolitan Admins take Actions in Favor of ZEM
- ▶ Battery Technology has made Progress [Drivers: Laptops, Cell Phone] and the Trend continues.
- ▶ Mobility Attitudes and User Requirements will change in Favor of Electric Mobility.



## Statement 2

**eMobility has the Potential of a Silver Bullet. Not only it can overcome traditional conflicts between Automobility and Emissions. Even Complementarities are possible.**

- ▶ With Battery Electric Vehicles Propulsion-related Zero Emission Mobility is possible: [CO<sub>2</sub>, NO<sub>x</sub>]
- ▶ With Renewables CO<sub>2</sub> Emissions go down to 5g/km
- ▶ In Germany, until 2020, Renewables will count for at least 30% of the Energy Mix – the share is even to increase
- ▶ Wind Energy will take the biggest Share. However, its Potential can only be exploited with Buffers
- ▶ Vehicle Batteries are an interesting Option, if Charging can be shifted in „Green Slots“ [Wind to Vehicle Application]
- ▶ The Vision: With Vehicle to Grid Applications, Wind Energy can be used to cover Peak Demand
- ▶ Win-Win-Situations for Municipalities are possible



## Statement 3

**However, as a Precondition, several open Questions need to be answered in a „green“ Fashion**

- ▶ User Acceptance and Willingness to Pay for Electric Mobility [Vehicles, Mobility Concepts]
- ▶ Improved Battery Technology: Costs, Range, Life Cycle
- ▶ Costs of Charging Spots need to go down drastically in order to ensure a sufficient Endowment
- ▶ Challenges of Controlled Charging [W2G, V2G] need to be resolved: Transaction Costs vs. Financial Benefit, Risk Allocation, Conflicts of Interests between OEM and Energy Providers
- ▶ Transport Policy must support: Legal Framework & Regulations, Promotion Programme
- ▶ H<sub>2</sub>/Fuel Cell Vehicles are „friendly Substitutes: medium and long Distances, Buffer for Wind Energy



Thank you very much for your Attantion !



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