Electric Road Systems Conference 2019
May 7–8, 2019, Frankfurt

Scientific Session: Business models / framework conditions, Tue 7th 14:45-16:30

*R&D Projekt AMELIE:*
Financing and Billing ERS
Financing and Billing ERS – AMELIEs Questions

(1) Which kind of conditions exist concerning the financing and billing?
   a) in regard to the regulative framework
   b) in regard to technical solutions

(2) What are the key issues concerning the European interoperability of ERS?
   a) in regard to regulation and strategy
   b) in regard to technical standardisation

(3) What kinds of stakeholders and sectors have to be considered to support ERS in general and to discuss the results of (1) and (2)?
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(1) Which kind of conditions exist concerning the financing and billing?
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Financing and Billing ERS – General Framework

Highway

- ERS as part of the road
- ERS- forwarder as user
- Toll or user charges
  - Tolls: distance travelled and type of vehicle
  - Charges: access for a specific time
  - Road costs
  - External costs (incentive fee)
Financing and Billing ERS – General Framework

Public task (Ger: federal)
- Federal infrastructure in public interest
- Tax state principal (Steuerstaatsprinzip)

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Electricity grid
- ERS as general electricity supply grid?
- Regulating road infrastructure under energy law?
- Ban on privatisation (Ger: Art. 90 GG)
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**General Federal Budget**

**Cost coverage principal & cost-benefit ratio**

**Public Task** ↔ Private Enterprise

**Grid charges**
- ERS-operator
- TSO

**electricity purchase**
- Billing
  - Direct billing?
  - Metering and calibration?
- As part of the road tolls and charges?
  - Legitimate subsidy?
  - Discrimination?

**Electricity grid costs** ↔ **Road costs**

**Financing and Billing ERS – General Framework**
Financing and Billing ERS – General Framework

**Alternative contributions, fees or charges**
- Differentiation from existing types?/ Justification?
- Ban on privatisation?
- Ban on combining tolls and user charges (Art. 7 EC1999/62)

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Financing and Billing ERS – Basic Models

Model I und II
Flatrate or Session Fee for using the ERS without or with mobility provider

Model III
the whole costs as part of toll

Model IV und V
Toll und purchased energy (kWh) in one bill or separated bills
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without or with mobility provider

Model IV und V
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or separated bills

Additional aspects and variations … to be considered
• Extra amount for the covered distance
  • New vehicle category
  • Prepaid solutions
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   a) in regard to regulation and strategy
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b) in regard to technical standardisation:

   • Please visit round table on ERS standardization and regulation
   • Please check Cenelec Activities TC9X – WGs 27 & 30
Financing and Billing ERS – Situation in Europe

(2) What are the key issues concerning the European interoperability of ERS?
   a) in regard to regulation and strategy
   b) in regard to technical standardisation

• Financing and Billing ERS in other European countries?
• Financing and Billing ERS in Italy, France and Sweden?
• Regulation?
• Strategy?
• Stakeholders and Sectors?