Effectiveness of incentive policies
EU examples

Driving future mobility

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EV Roadmap
20/06/2017
FIER - New mobility business development

We believe in moving from:
- Conventional to smart
- Combustion to electric
- Ownership to mobility as a service

Smart e-mobility & logistics
- International business development
- Support industry, retail/distribution & public authorities
- (EU-) project & consortia development (PPP)

Themes:

EU Project examples:
Aim
• Support the uptake of plug-in vehicles across Europe
• Reduce CO2 & other hazardous emissions in urban environments
• Increasing the number of electric vehicles in fleets

Specific objectives
• 1000 EVs
• Business cases for fleets
• Regional authority support
• Decision making tool
What did we realise (examples)

City policy
- Dortmund
- Amsterdam
- Oslo
- Vienna
- Stuttgart
- London
- Barcelona

National / EU policy
- Formule E-team NL
- Netherlands ↔
- Norway parliament
- NPE Germany
- GEAR 2030 EU
- BEUC EU

Workshops / presentations for
- (EU) e-mobility events like AVERE, EEVC, EVS, Polis
- EU parliament (Brussels)
- Fleet-management events

Co-funded by the Intelligent Energy Europe Programme of the European Union.
Co-funded by the Intelligent Energy Europe Programme of the European Union.
**Success of (B)EV uptake – Germany**

**Ambitions:**
- 2020: 1.000.000 EV’s
- 2020: 34.000.000 ton CO2 reduction
- 2030: cut greenhouse gas emissions by 40%, compared to 1990 levels

### Purchase and TCO Comparison 2014

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<th>Purchase (net)</th>
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### Sales 2014:
- BEV: 0.29%
- PHEV: 0.14%

### Sales 2016:
- BEV: 0.34%
- PHEV: 0.40%

Ceteris Paribus
Only effect of incentive
Success of (B)EV uptake – Germany

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Effect of €4,000 subsidy

Negative purchase price difference p/b €17,209/ €20,479
Negative TCO difference p/b €9,119/€12,214

Ceteris Paribus
Only effect of incentive
Price elasticity

- BEV vs. Gasoline Vehicle Purchase Surcharge
  - Equation: $y = 0.0299e^{0.0002x}$
  - $R^2 = 0.7111$
  - Cities: Oslo ’17, Bergen ’16, DU ’16, IS ’17, DK ’15

- BEV vs. Gasoline Vehicle TCO Surcharge
  - Equation: $y = 0.0092e^{0.0002x}$
  - $R^2 = 0.7382$
  - Cities: Oslo ’17, Bergen ’16, DU ’16, IS ’17, DK ’15

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Local measures can have dramatic (and unforeseen) impact:

2 winter 2017 days **diesel ban** in Oslo (air quality) contributed to increase in PHEV+BEV share to >45% (up > 10%)
Impact of policy measures at local level

INDICATIVE SCENARIO’S
Main conclusions

- Incentives are effective when:
  - Price competitive and TCO advantage
  - Above threshold (progressive effects)
  - Consistent & long term stable (buyers, retail and manufacturers can plan ahead)
Achievable in countries with high CO2-purchase tax ➔ The polluter pay principle!

- Pre-announced incentive is reduction effective: But follow portfolio, range and price developments (not too early)

- PHEV’s incentives expand market potential and segments, but cannibalizes BEV. Same for “low” emission vehicles.

- Tax complexity ➔ incentives not reaching (relevant) market segments ➔ unexpected side effects:
  Private vs company cars; taxi’s, rentals, lcv’s; BEV vs PHEV’s

- Strong and broad national ambitions often not followed-up by effective policy ➔ As alternative set realistic targets and choose target segments (e.g. public fleet, taxi etc)

- Large impact of daily advantages: road/parking priorities, recurring toll-cost. Cities drive the change