

International Energy Agency Secure Sustainable Together

Electric mobility

Status, prospects and impacts on fuel economy

Marine Gorner

GFEI training and IEA Energy Efficiency Training Week 10 June 2016

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#EnergyEfficientWorld The Electric Vehicles Initiative

- Multi-government policy forum established in 2009 under CEM
- Knowledge-sharing on policies and programs that support EV deployment
- 16 member countries
- Global EV Outlook 2016, released on 31 May





one million electric cars



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- 550,000 EVs sold in 2015 (+ 70%)
- China became the first EV market in 2015
- 9/10 EVs sold in 8 countries (China, US, Netherlands, Norway, UK, Japan, Germany, France)
- 7 countries >1% market share (Norway, Netherlands, Sweden, Denmark, France, China, UK)





- 1.26 million EVs in circulation by end of 2015
- 59% BEVs
- 4/5 EVs in 5 countries (US, China, Japan, Netherlands, Norway)
- Other modes: 200 M e-2Wheelers, 173 k e-buses (mainly in China)



- The implementation of publicly accessible chargers follows the growth in EV sales
- 13% of chargers are publicly accessible
- 15% of publicly accessible chargers are fast chargers

International Energy Agency Secure Sustainable Together Agence And EV market shares, 2015 www.iea.org



- Various policy mechanisms: CO₂-based rebates, technologybased rebates, feebates, VAT exemptions
- Different BEV and PHEV adoption results
- Norway stands out in terms of incentives and EV adoption



RD&D: battery #EnergyEfficientWorld costs and energy density www.iea.org



- PHEV battery costs:
 - -73% in the past 7 years
 - -58% to go in the next 7 years
- ICE cost parity for 2020-2022?





- At the RD&D stage: make technology feasible and scalable to reduce costs
- Consumer-oriented mechanisms to lower initial cost, guarantee model choice availability and facilitate vehicle use
- Support for the deployment of recharging infrastructure (EVSE)
- Purchase incentives and charging infrastructure deployment are positively correlated with EV uptake, but the early nature of EV adoption makes if difficult to come to conclusions
- Purchase and circulation incentives (e.g. VAT exemption, circulation tax exemption, access to bus lanes) can only be transitional and serve to give an initial impulse to the market:
 - Risk of tax revenue losses (incl. from fuel purchase)
 - Risk of congestion effects and detrimental effects to public transportation
 - Need for periodical revisions

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GFEI targets

 2030: fuel consumption per km of new LDVs 50% better than in 2005

IEA 2DS

- GFEI target needs ICE improvement, hybrids & EVs
- EVs (PHEV and BEVs): sizeable impact after 2020







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Thank you for your attention