

ADB Transport Forum

The future of transport: when
technology meets policy



Electric mobility

Status, success stories and prospects

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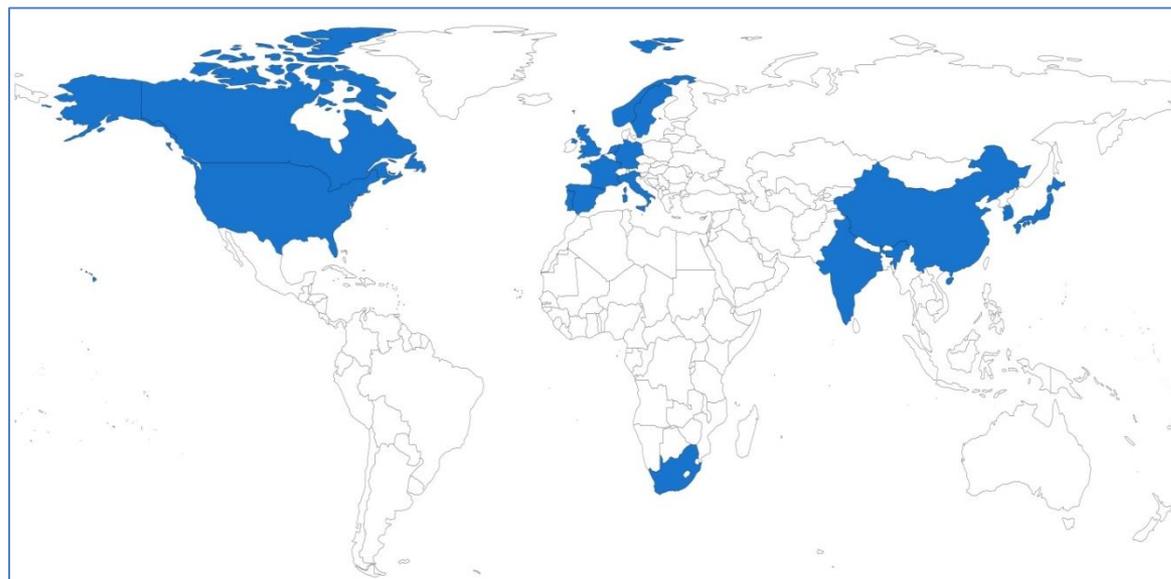
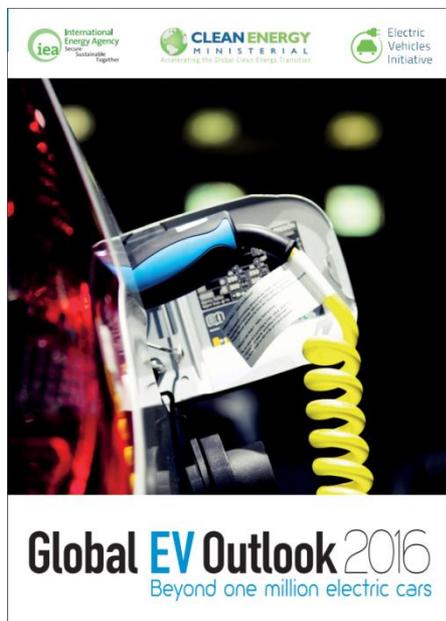
Pierpaolo Cazzola

Manila, 14 September 2016

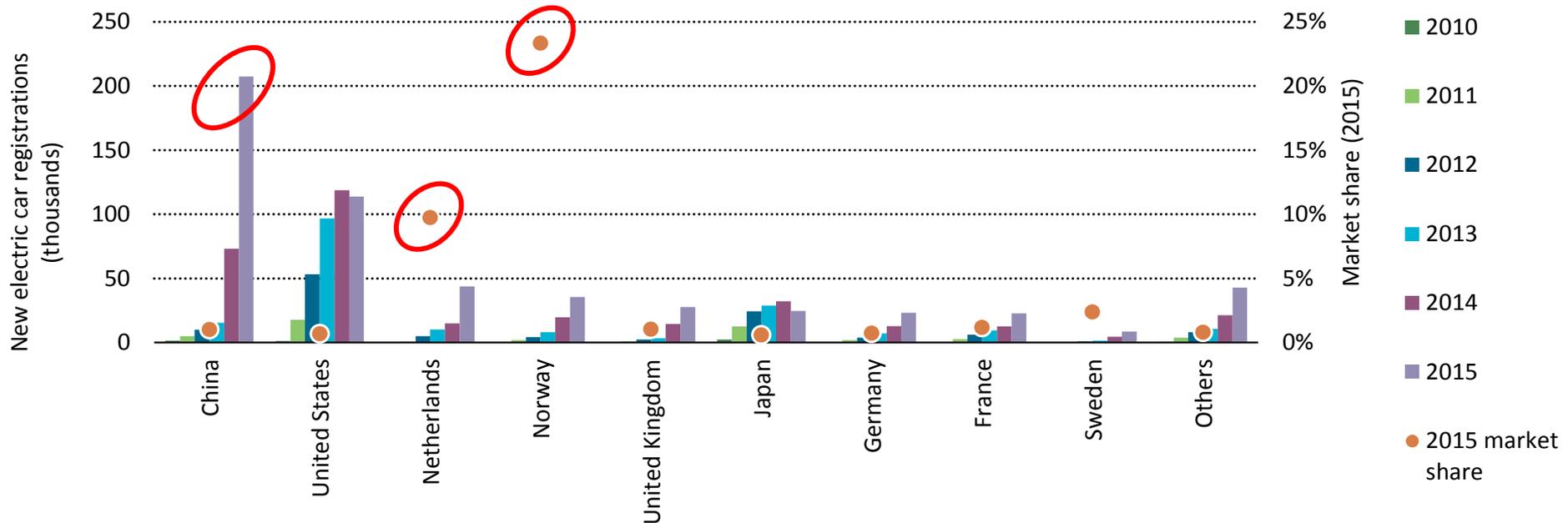


The Electric Vehicles Initiative

- 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

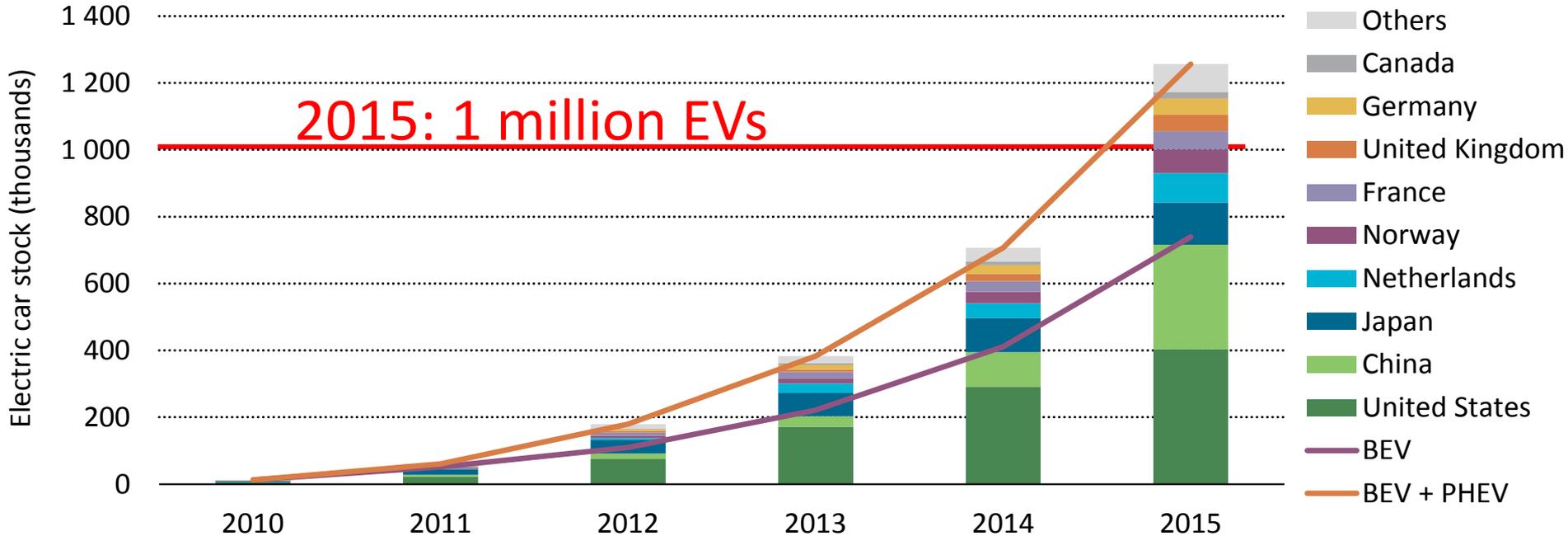


The electric car market in 2015



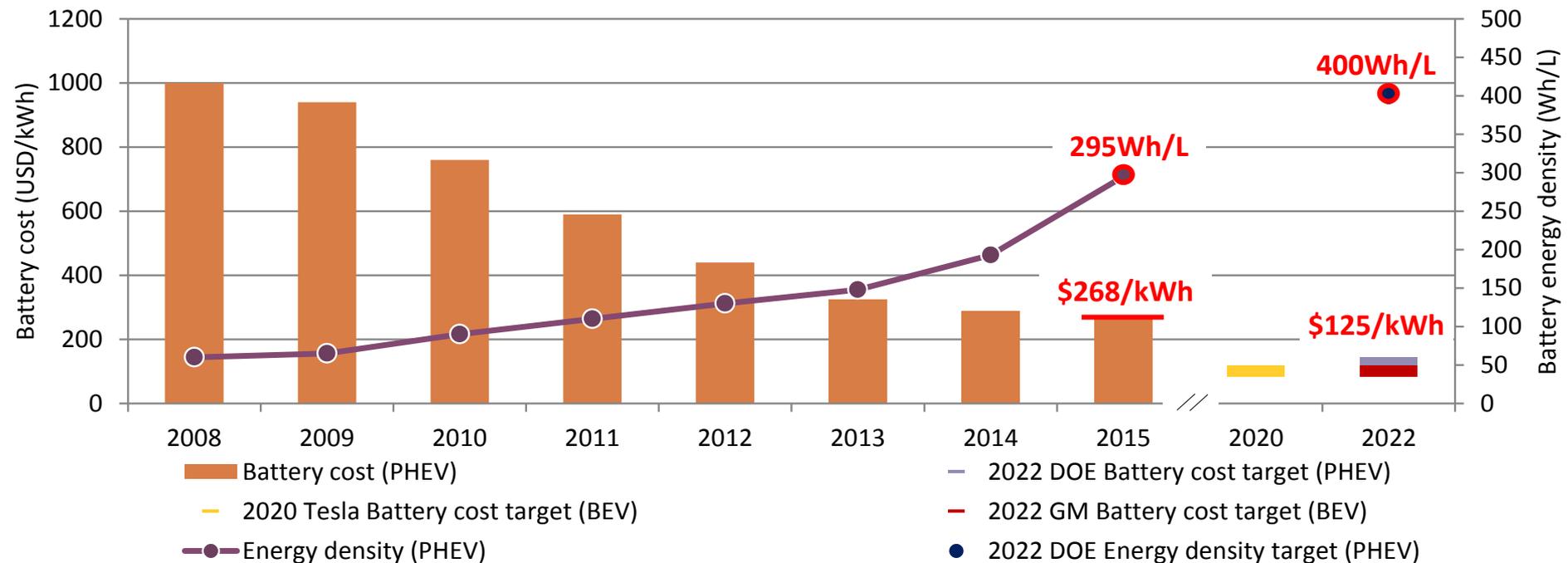
- 550,000 EVs sold in 2015 (+ 70%)
- China became the first EV market in 2015
- 9/10 EVs sold in 8 countries (China, US, Netherlands, Norway, UK, Japan, Germany, France)
- 7 countries >1% market share (Norway, Netherlands, Sweden, Denmark, France, China, UK)

EV stock evolution, 2010-2015

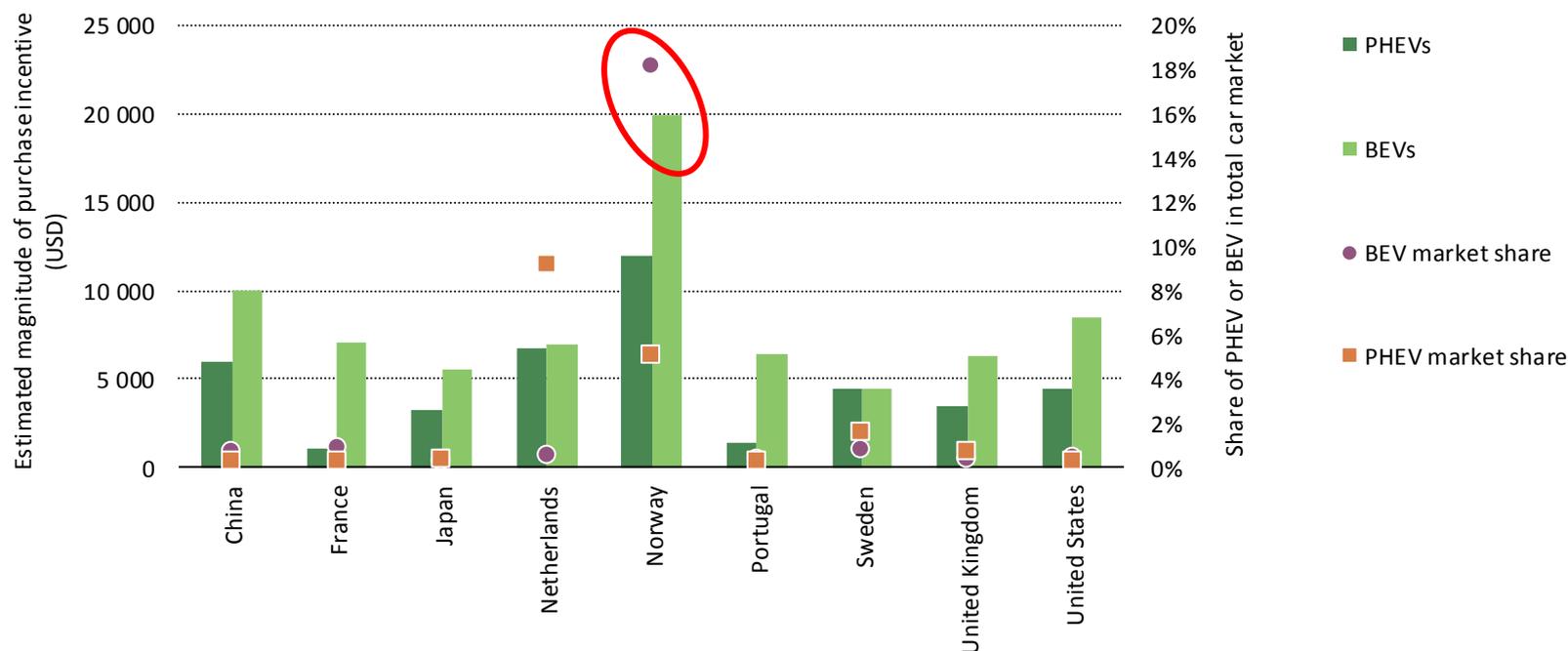


- 1.26 million EVs in circulation by end of 2015
- 59% BEVs
- 4/5 EVs in 5 countries (US, China, Japan, Netherlands, Norway)
- Other modes: 200 M e-2Wheelers, 173 k e-buses (mainly in China)

Technology push



- “Technology push” well represented by
 - Lower battery costs and improved energy density
 - ◆ PHEV battery costs -73% in the past 7 years
 - ◆ Ambitious announcements for the near future, -58% to go in the next 7 years
 - Wider model availability and improved value proposition for customers
 - ◆ OEMs (e.g. Renault-Nissan, BMW, GM, Tesla) did not offer the same variety of EVs 5 years ago...



- Various policy mechanisms behind the “market pull”
 - Differentiated taxation: CO₂-based rebates, technology-based rebates, feebates, VAT exemptions
 - Waivers on charges, exemptions from restrictions, preferential treatment if number plate restrictions are in place
- Norway stands out in terms of incentives and EV adoption
- Difficult to come to conclusions for other markets (very early phase)
 - China and the Netherlands showed impressive changes in 2015

We are not (yet?) there

Need for policy support

- A policy framework with high taxes on conventional fuels and stringent fuel economy standards is favorable for EVs
- Purchase and circulation incentives and the availability of charging infrastructure are positively correlated with EV uptake
 - Need for fiscal measures (e.g. differentiated taxation, feebates) to kick start the market uptake
 - Need for mechanisms supporting the deployment of recharging infrastructure
- Additional measures, increasing value proposition, likely to strengthen the main policies
- Incentives can only be transitional
 - Risk of tax revenue losses (incl. from fuel purchase)
 - Risk of congestion effects and detrimental effects to public transportation
 - Need for frequent monitoring and periodical revisions