



Norsk **elbil**forening

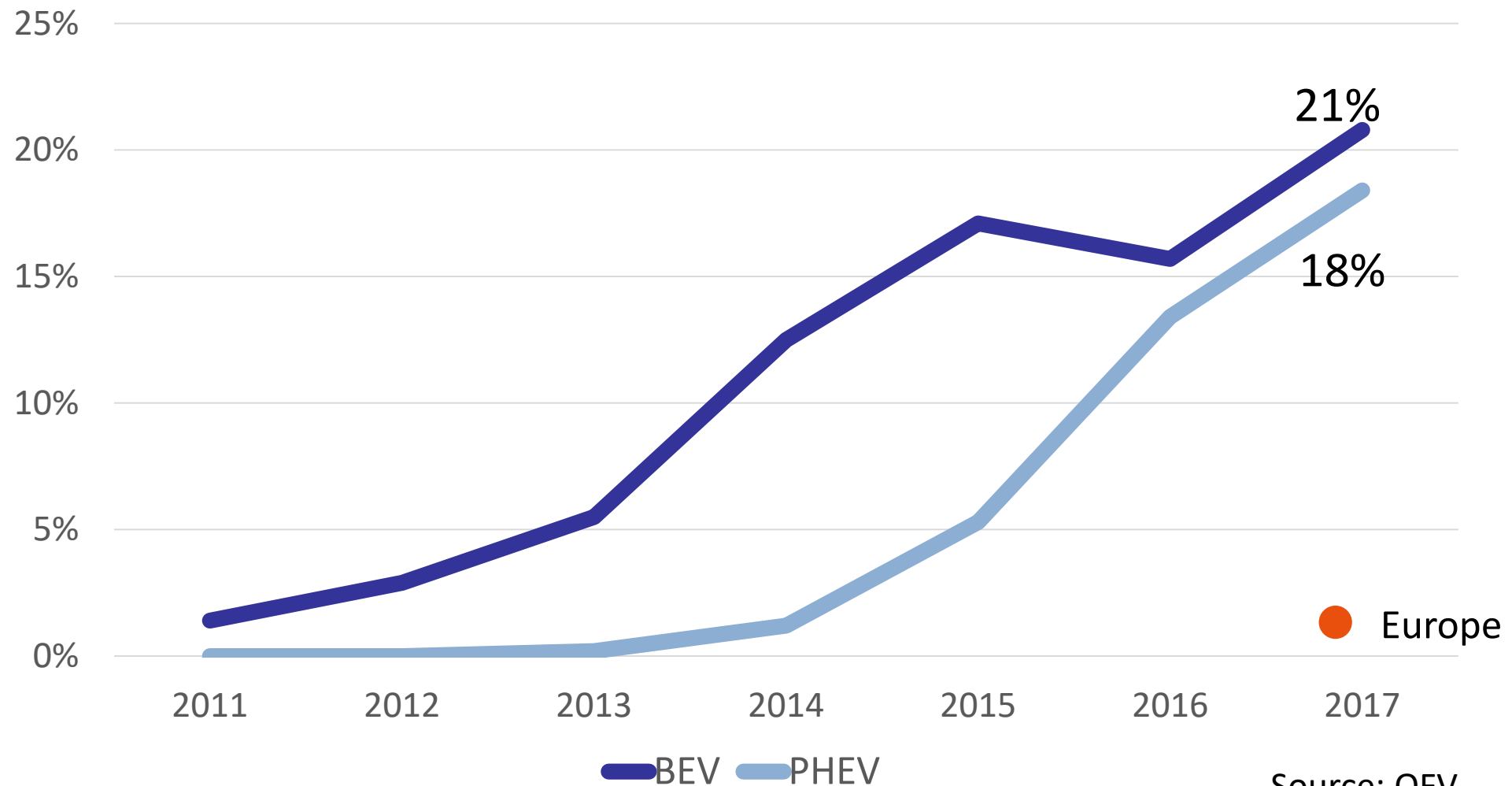
Welcome to Norway the World's EV capital



Program

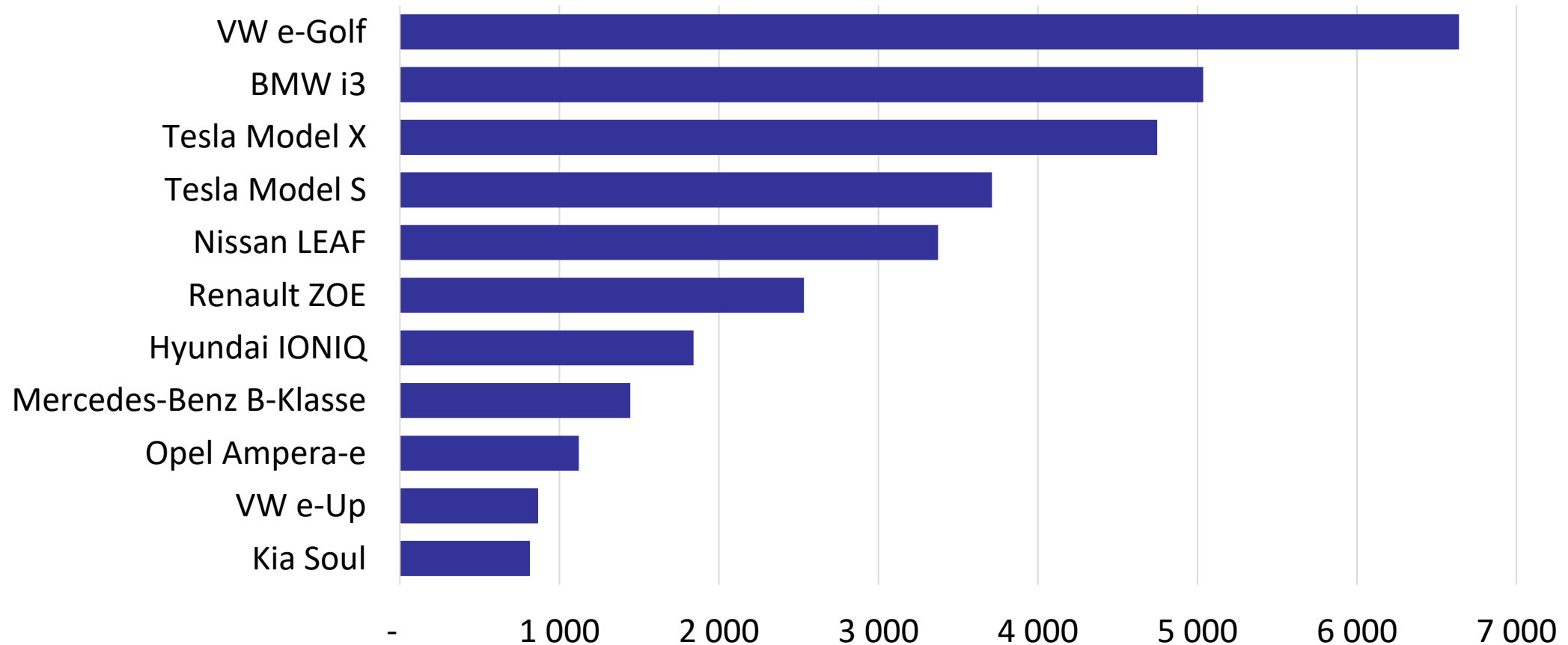
- **Introduction**
Petter Haugneland, Norwegian EV Association
- **Perspectives on Norway's Supercharged Electric Vehicle Policy**
Erik Figenbaum, Institute of transport economics
- **Carrot and whip – How does Norway do it?**
Sveinung Kvalø, Cowi
- **The bumpy road towards better charging infrastructure**
Erik Lorentzen, Norwegian EV Association
- **How did the car dealers cope, and who are the customers?**
Anita Svanes, Volkswagen and Marina Maneas Bakkum, Nissan
- **Electric London Taxis in Oslo?** Phil Henrick, LEVC, formerly known as the London Taxi Company
- **TU TALK; live podcast**
Jan Moberg, CEO, Teknisk Ukeblad Media and Odd Richard Valmot, Journalist, Teknisk Ukeblad Media

Norwegian market shares BEVs and PHEVs

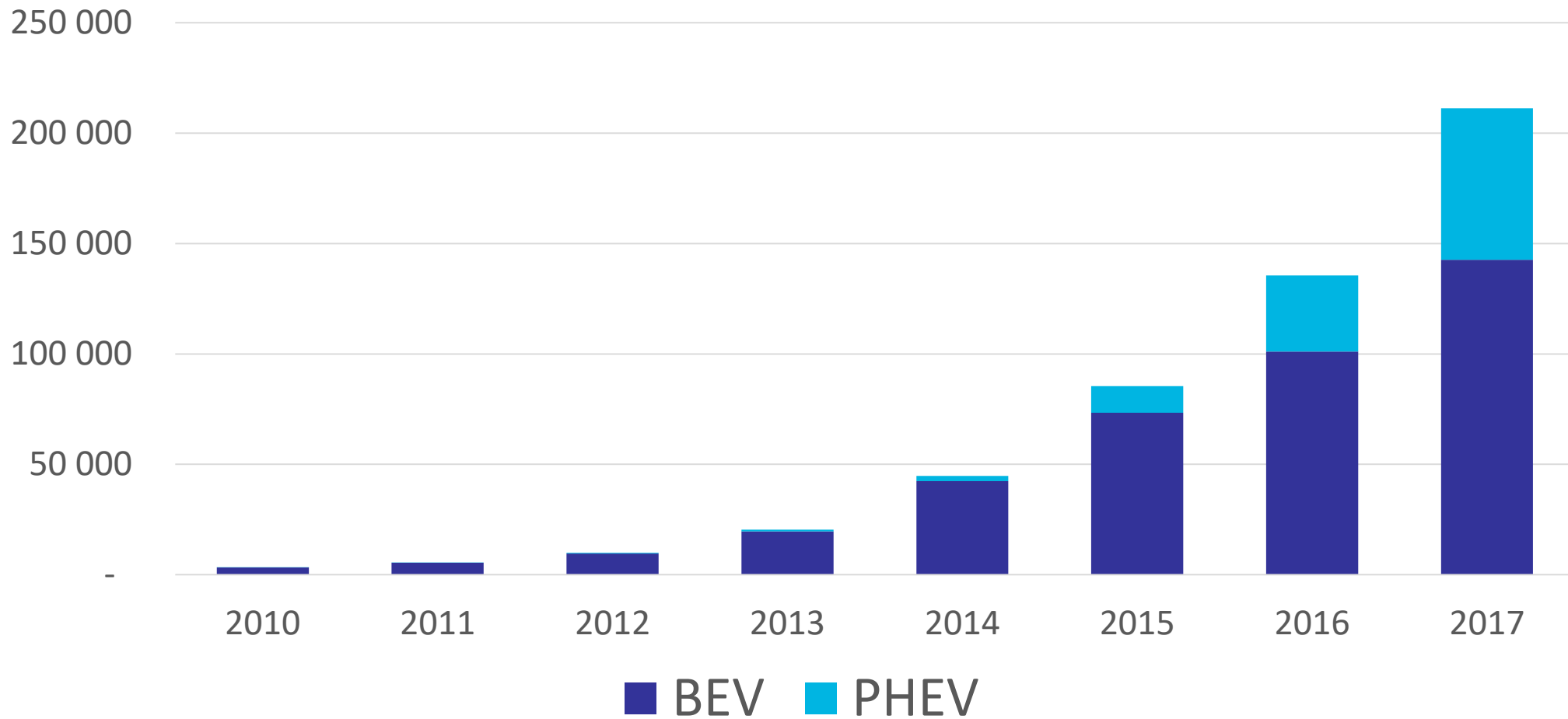


Source: OFV

Top selling BEV models 2017



Over 200,000 EVs in Norway!



Norway's 2025-goal

- National Transport Plan for 2018–2029:

“The Government has established targets for new zero-emission vehicles. All new passenger cars and light vans sold in 2025 shall be zero-emission vehicles. All new urban buses sold in 2025 shall be zero emitters or use biogas”.

Environment › Climate Change

Norway to 'completely ban petrol powered cars by 2025'

'What an amazingly awesome country', Elon Musk tweeted in response to the plan

Jess Staufenberg | Saturday 4 June 2016 | 264 comments



Erik Figenbaum

Institute of transport economics

Perspectives on Norway's Supercharged Electric Vehicle Policy



Perspectives on Norway's supercharged electric vehicle policy

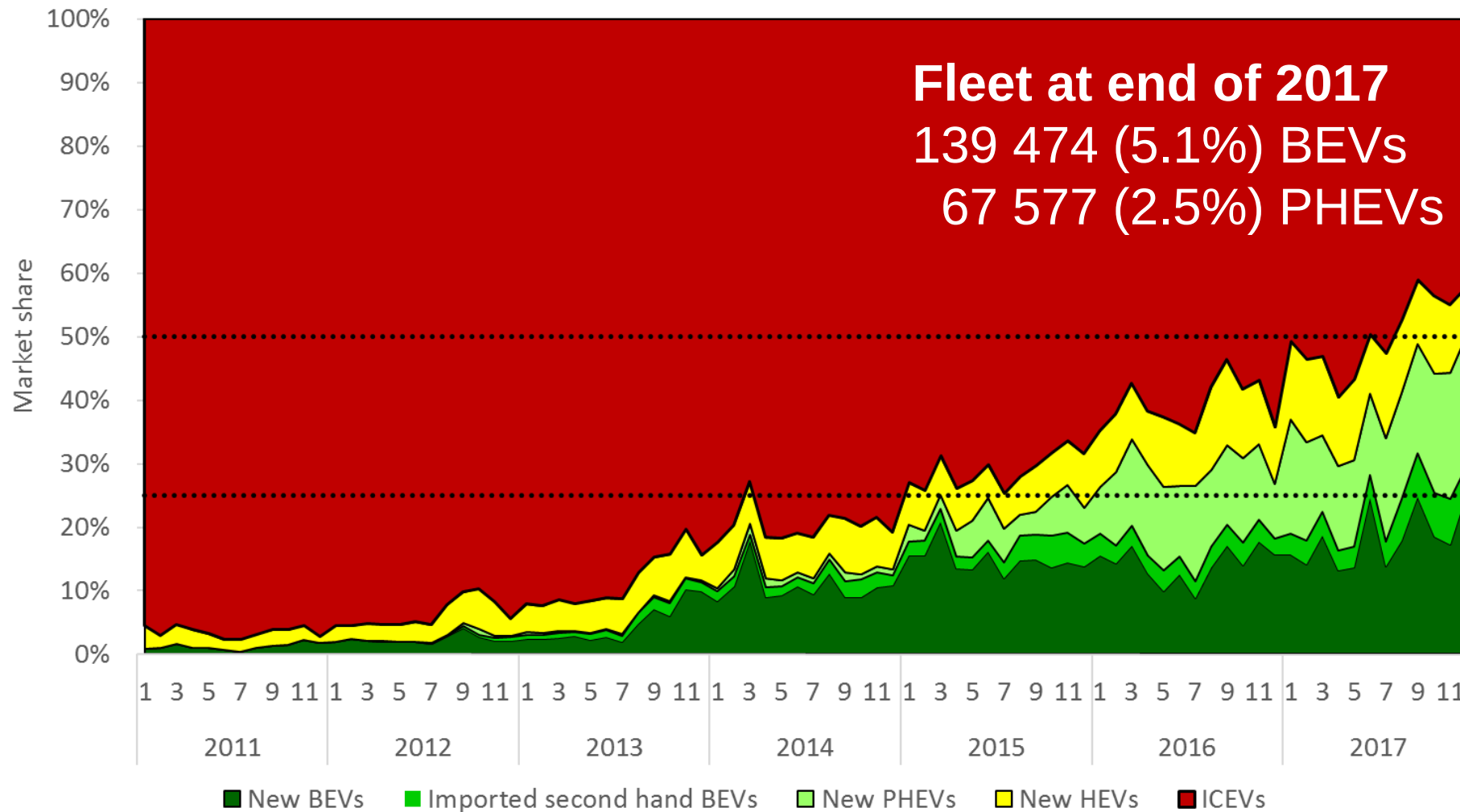
Nordic EV Summit Oslo/Himkok 31.01.2018

Erik Figenbaum, Chief Research Engineer
Institute of Transport Economics, Norway

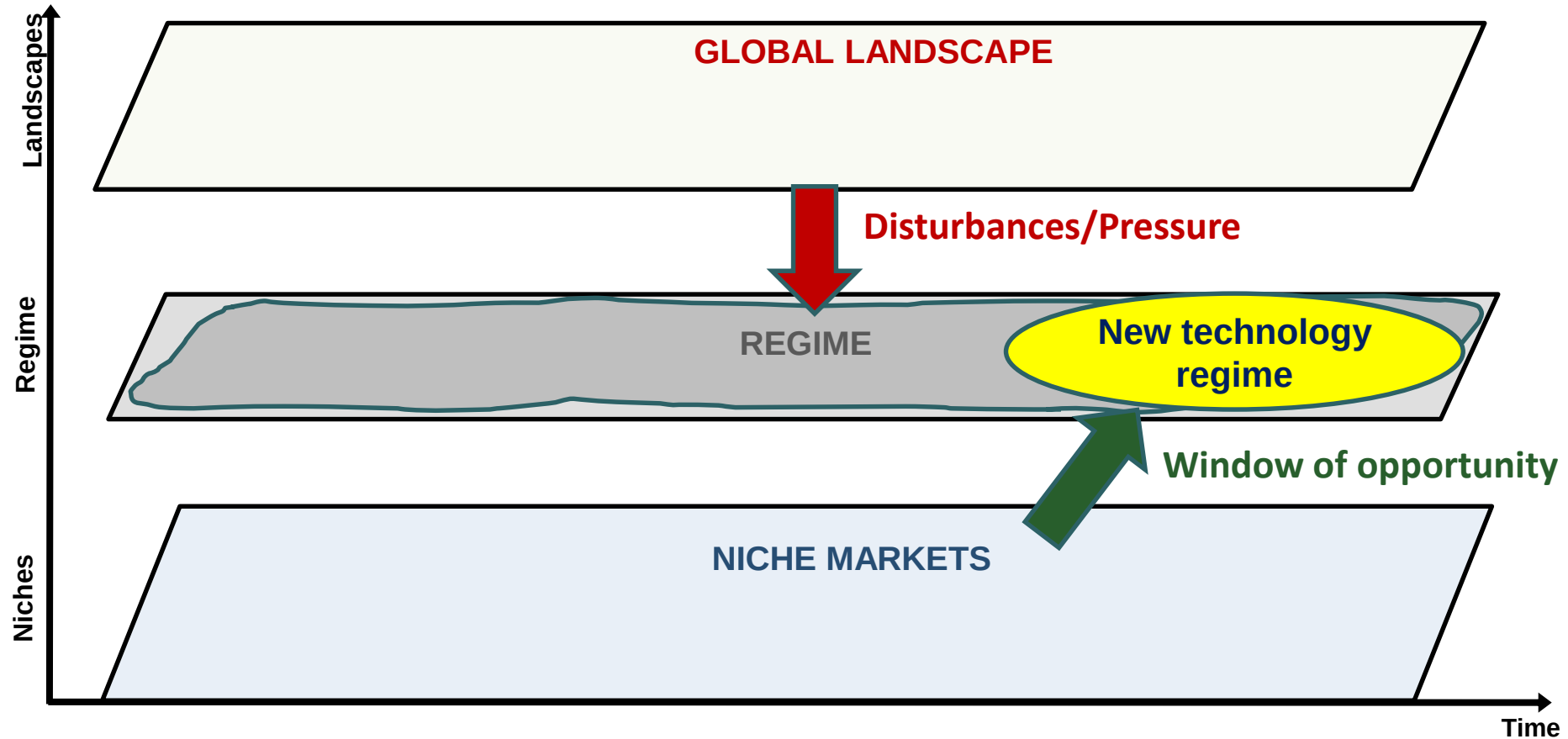


Research in motion

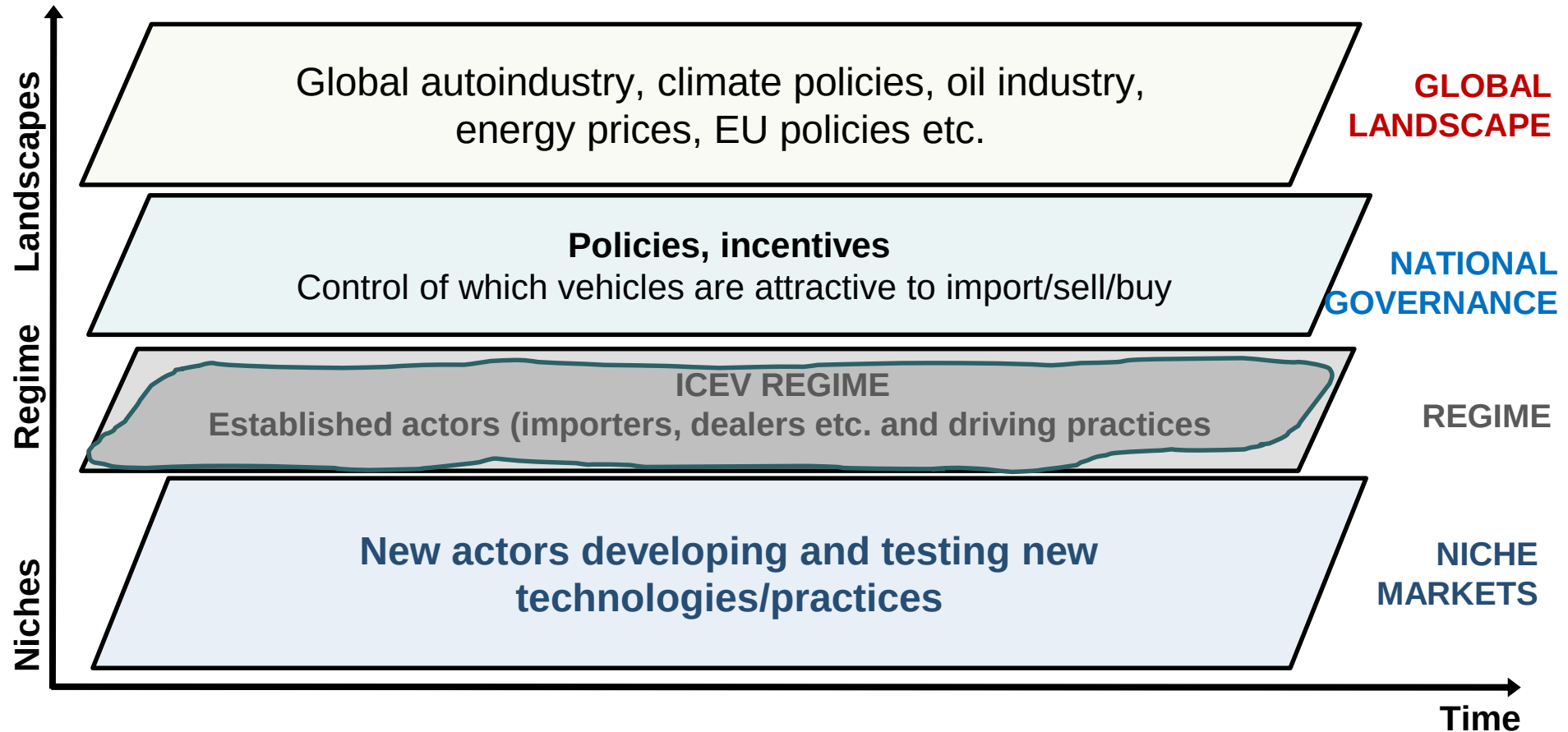
Market shares by technology



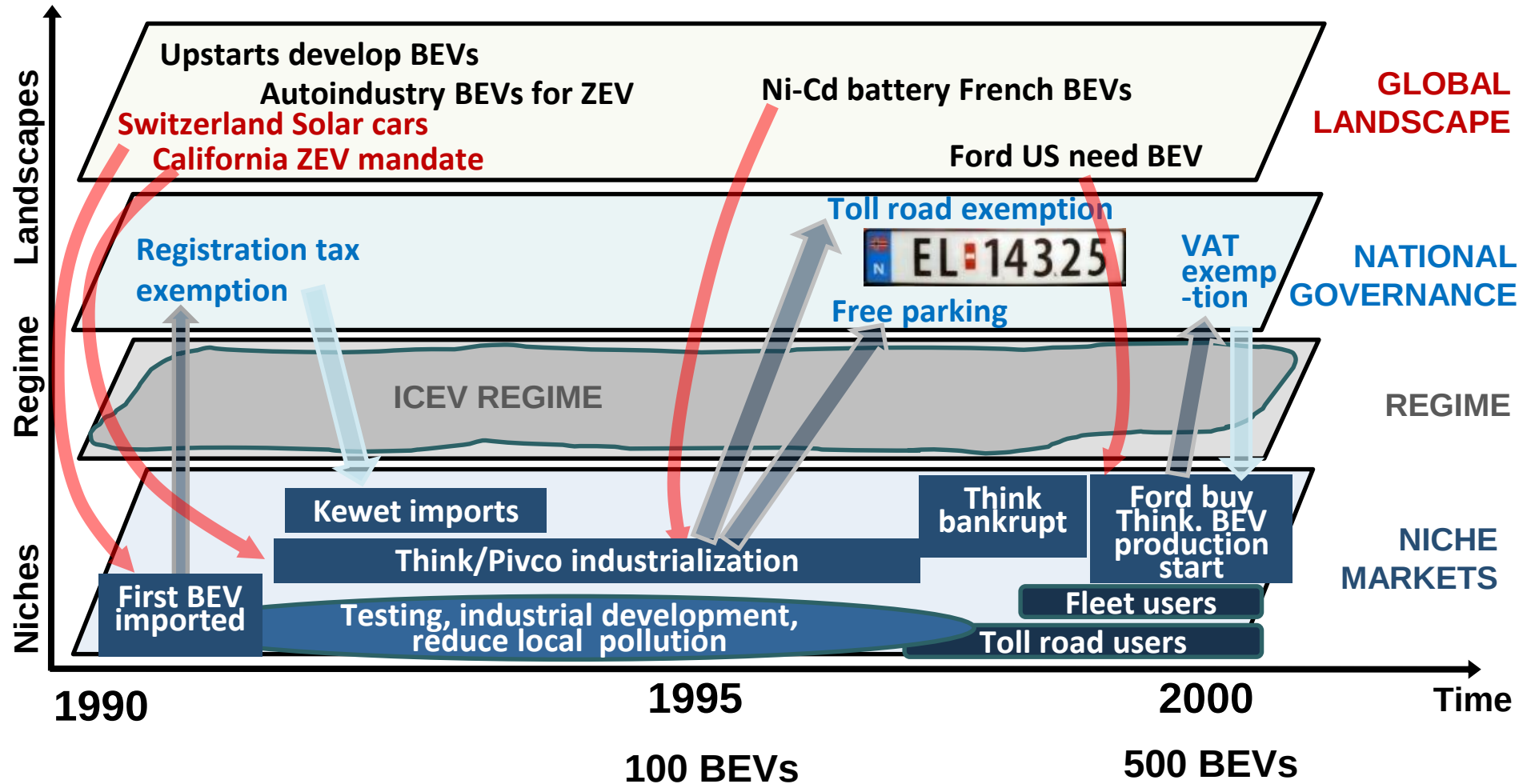
Multi-level perspective (Geels)– Theoretical concept



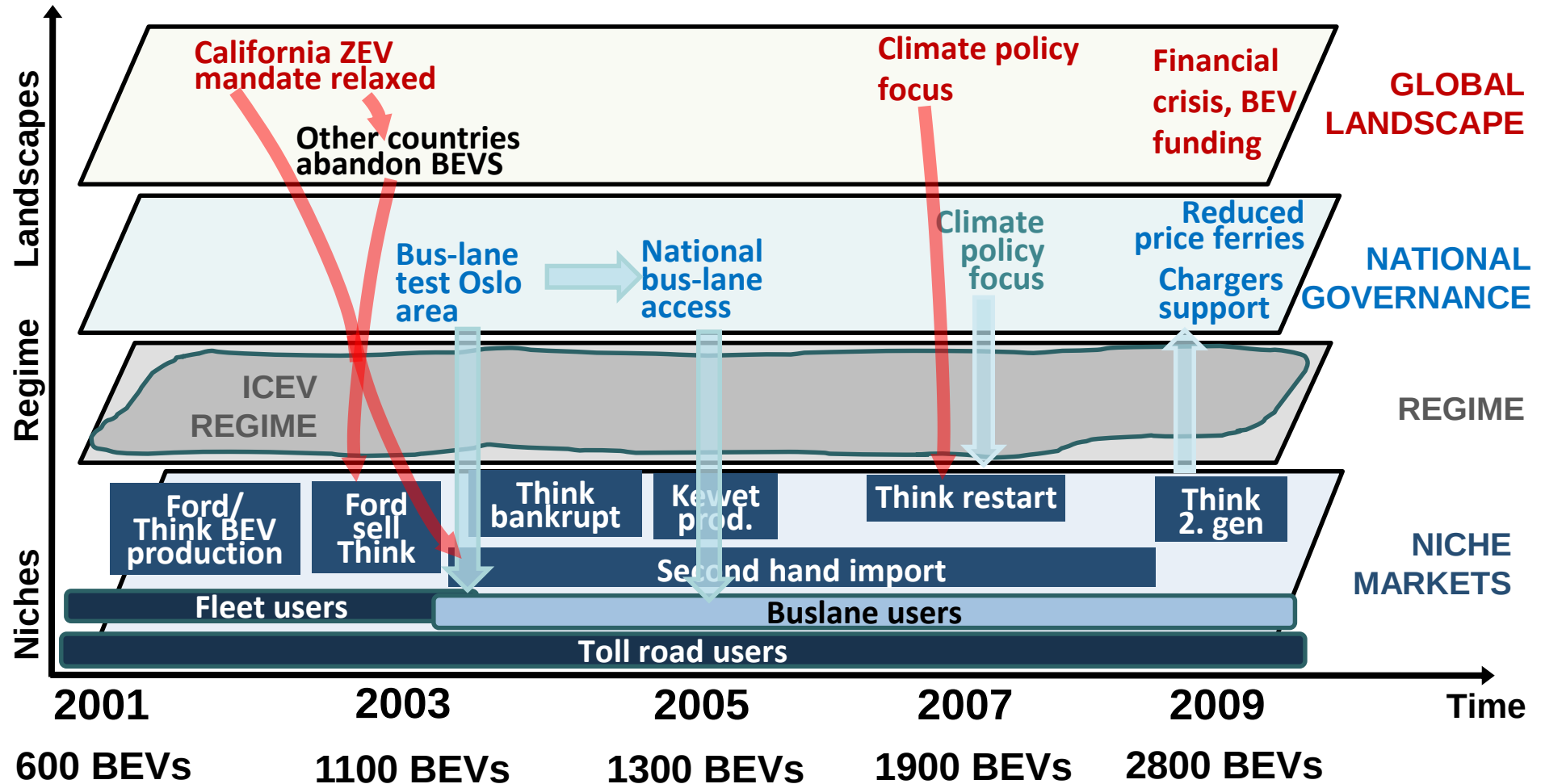
A multi-level perspective on BEVs in Norway



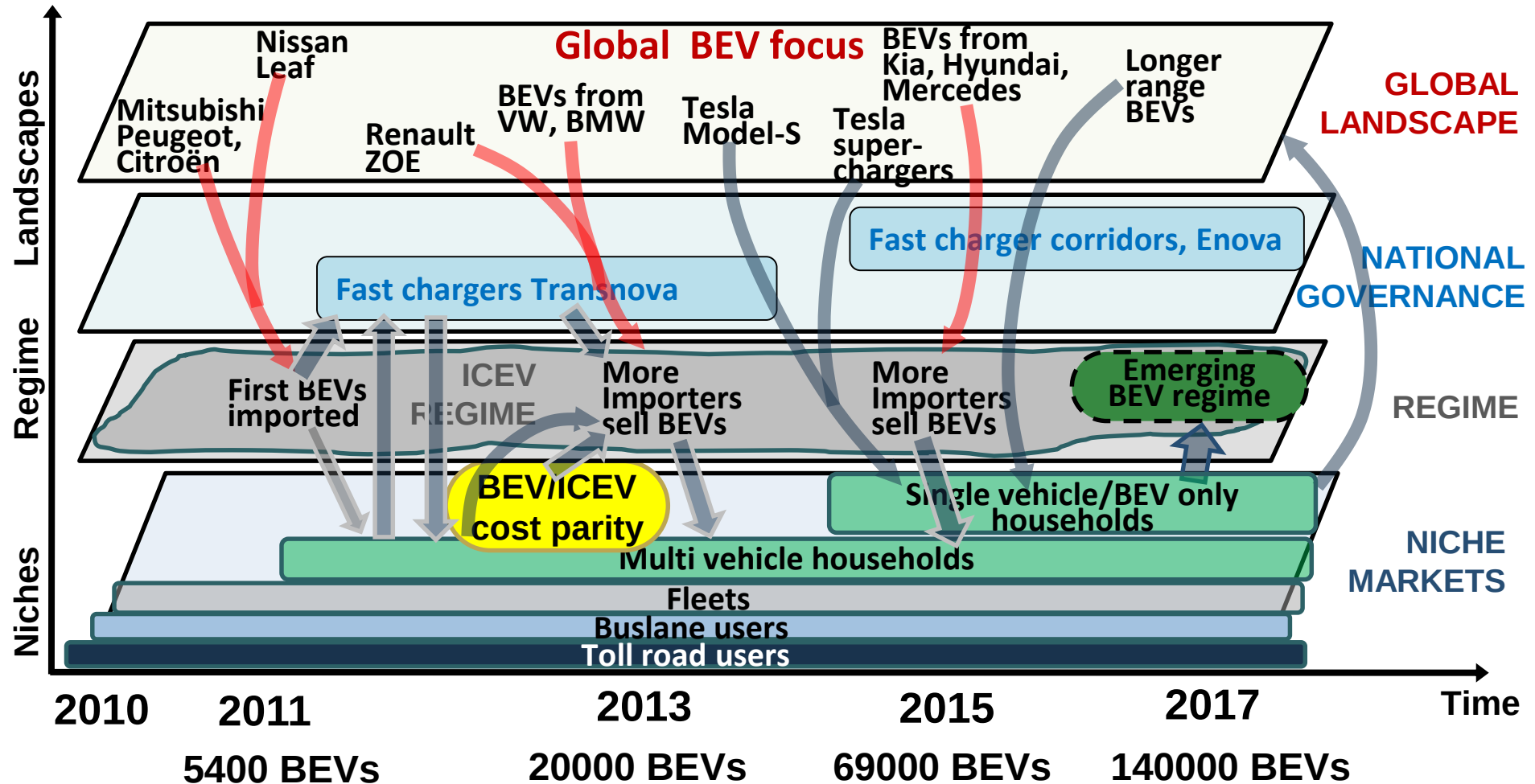
A multi-level perspective on BEVs in Norway



A multi-level perspective on BEVs in Norway

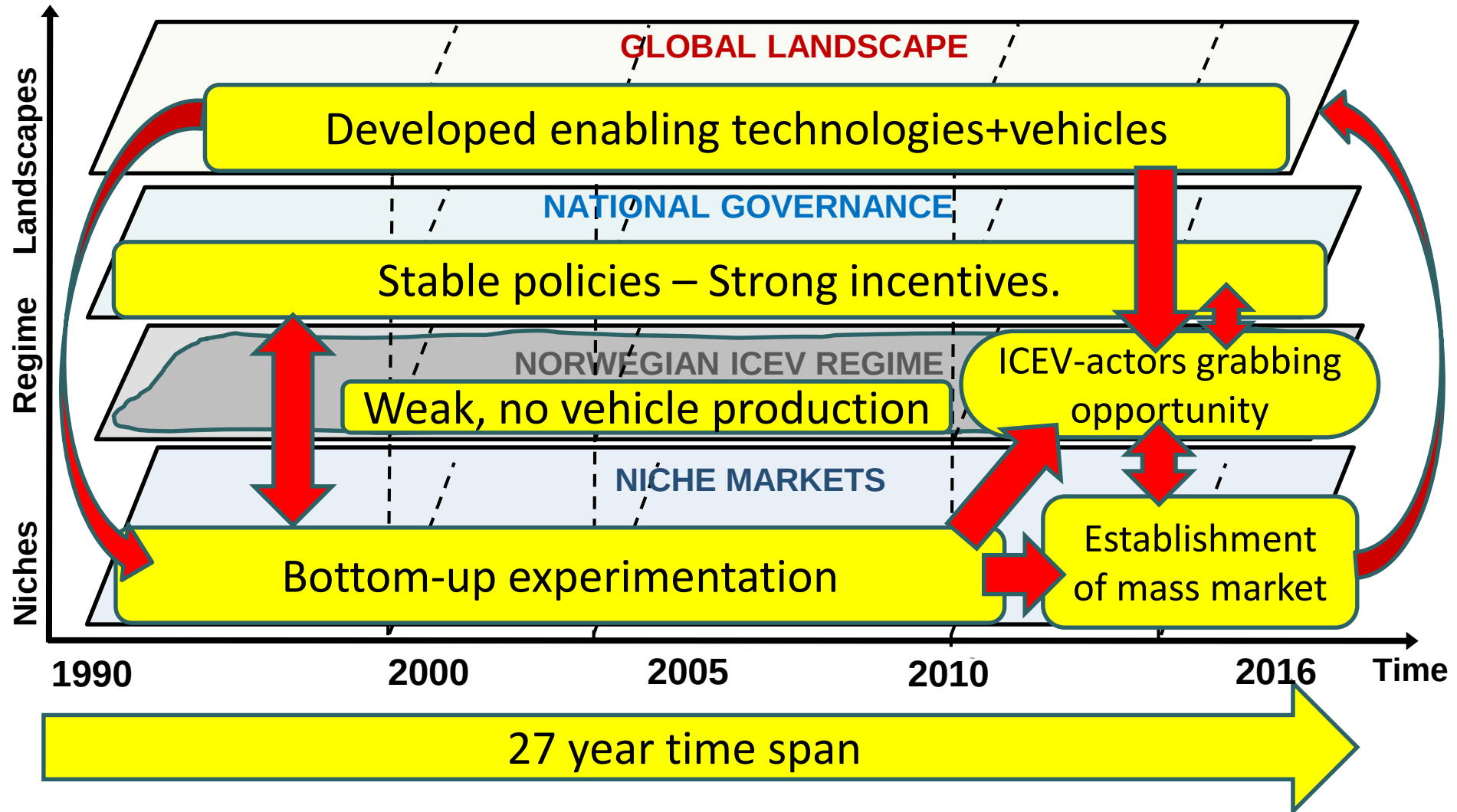


A multi-level perspective on BEVs in Norway

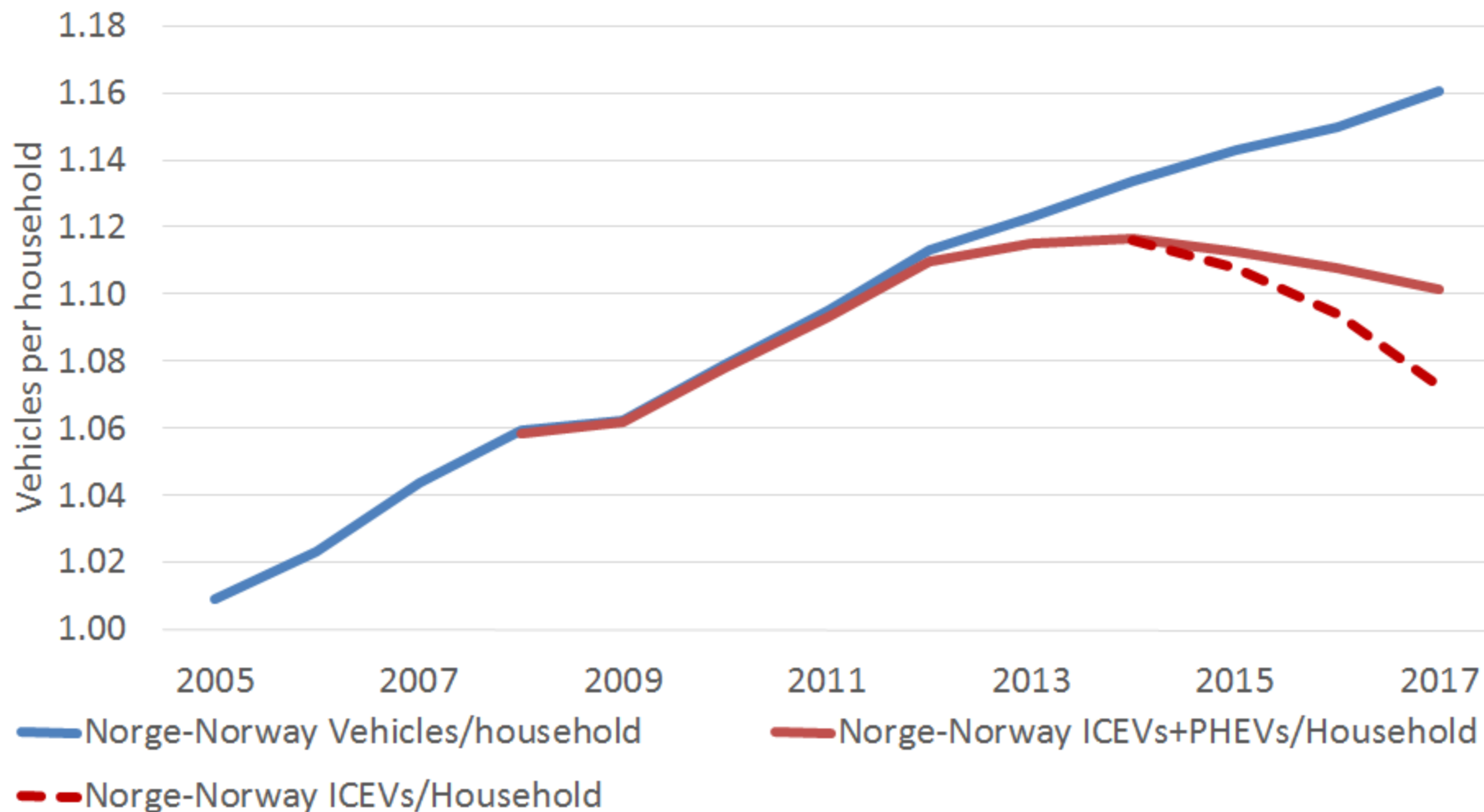


Source: Adapted from: Figenbaum, E. Perspectives on Norway's supercharged electric vehicle policy, Environmental Innovation and Societal Transitions, 17. nov. 2016, <http://dx.doi.org/10.1016/j.eist.2016.11.002>

A multi-level perspective on BEVs in Norway



Household ICEV ownership peaked in 2014





Sveinung Kvalø

Cowi

**Carrot and whip – How does
Norway do it?**

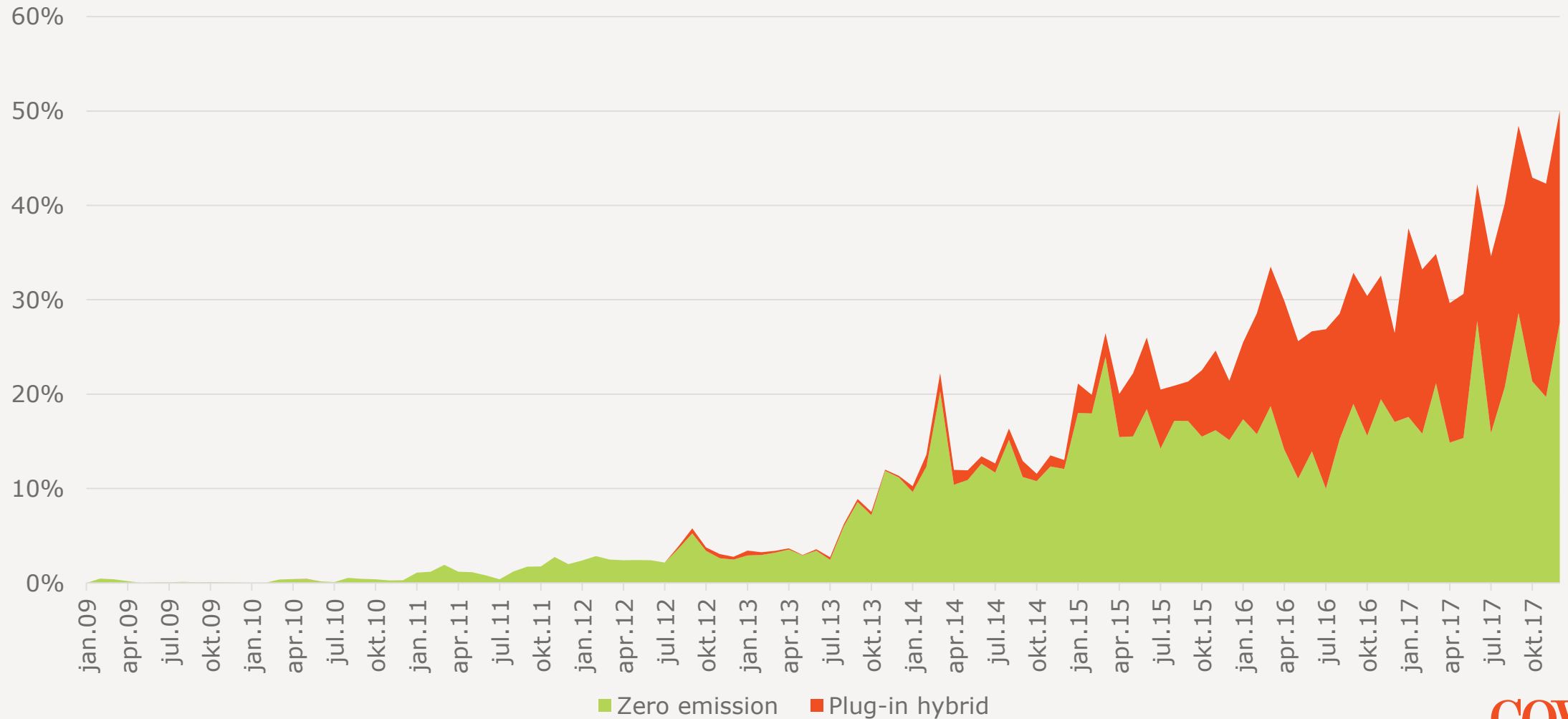


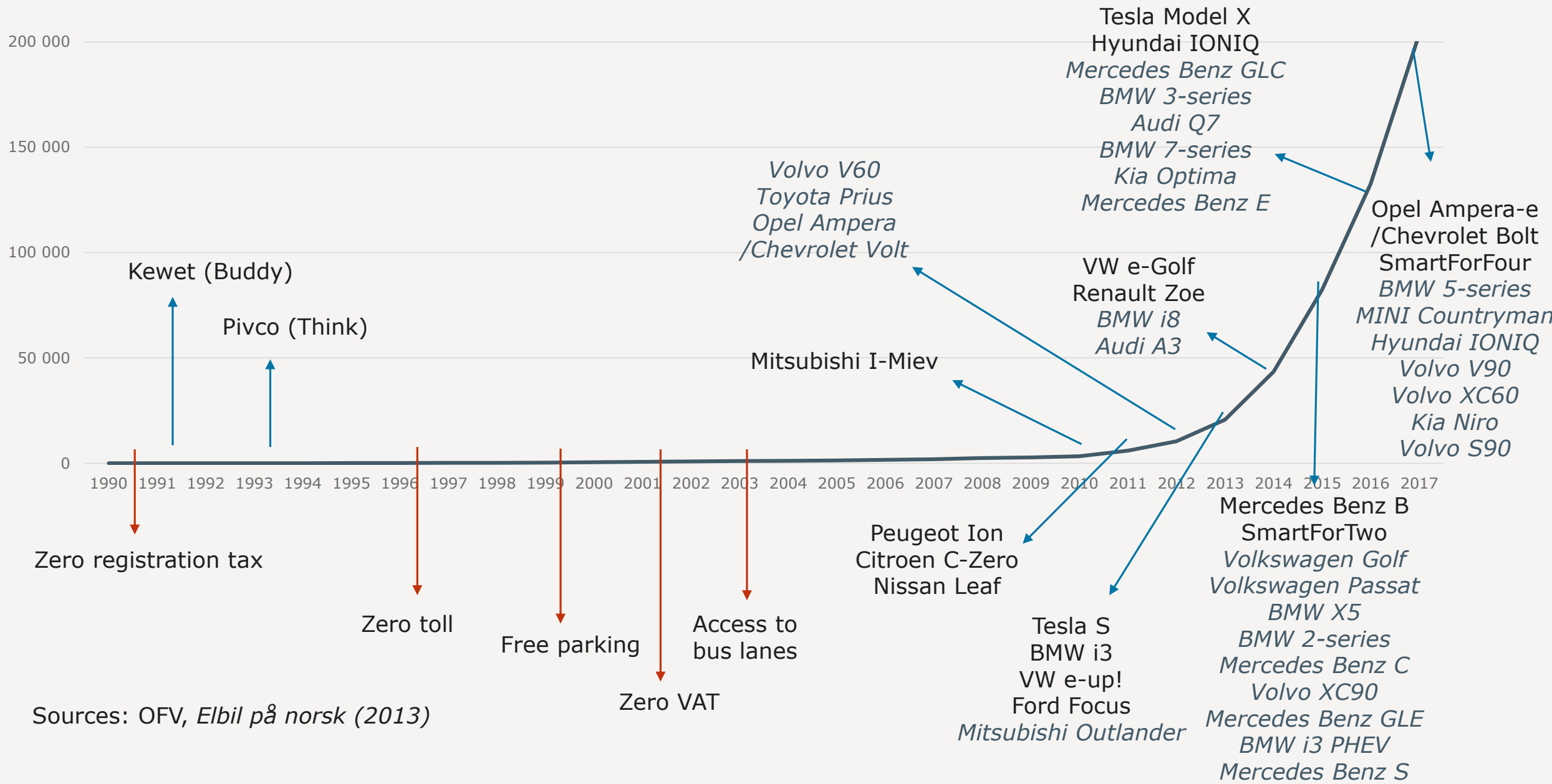
Norwegian EV policies



Sveinung André Kvalø
Senior adviser e-mobility, COWI

World leading market share for EVs





POLICY DEVELOPMENT

CARS FOR SALE

The Registration Tax (or The Think Twice Tax)

Examples:

Volkswagen
e-Golf 115hp



Volkswagen Golf 1,2 TSI
110hp Comfortline



Volvo XC60 T6 Momentum R-
design aut (3000 ccm, gasoline)



Price before taxes: 33 200 USD

Registration tax: 0 USD

Value added tax: 0 USD

Price including taxes: 33 200 USD

24 000 USD

7 600 USD

6 000 USD

37 600 USD

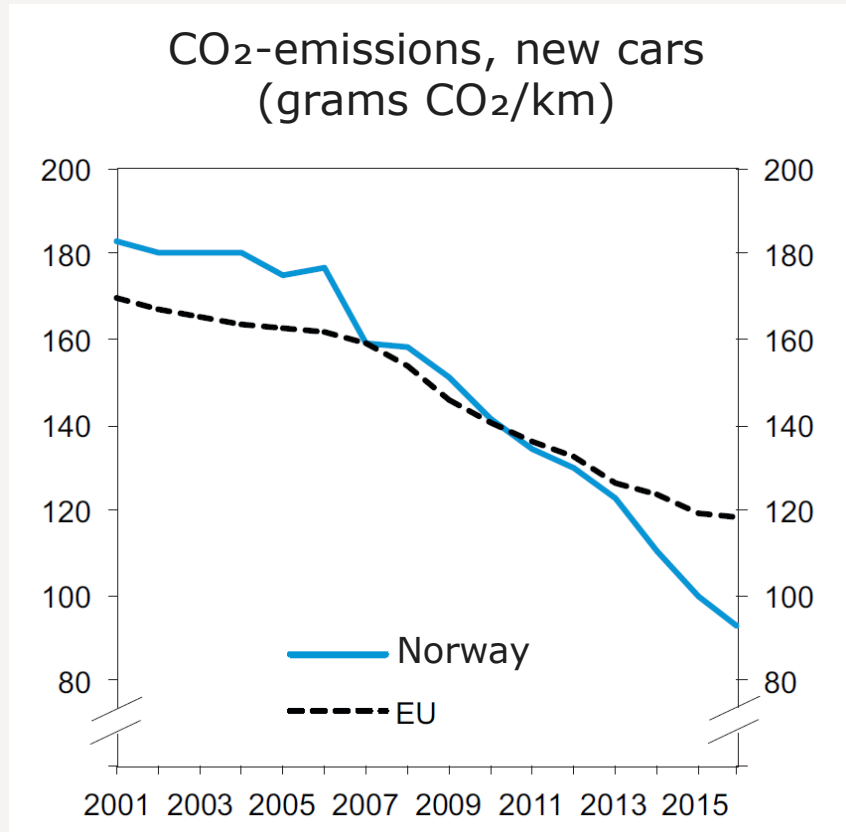
43 600 USD

73 800 USD

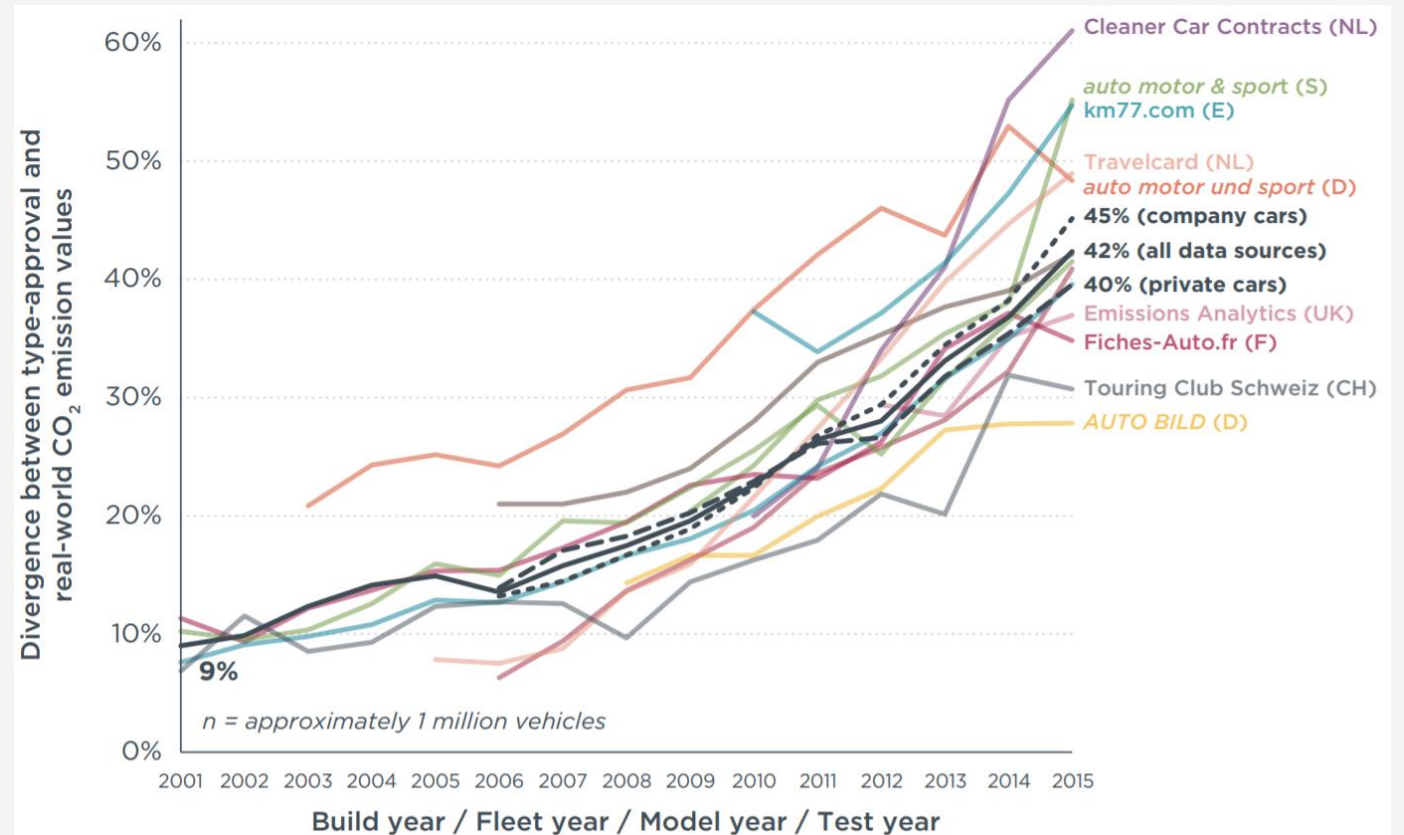
10 900 USD

128 300 USD

Type approval vs. actual emissions

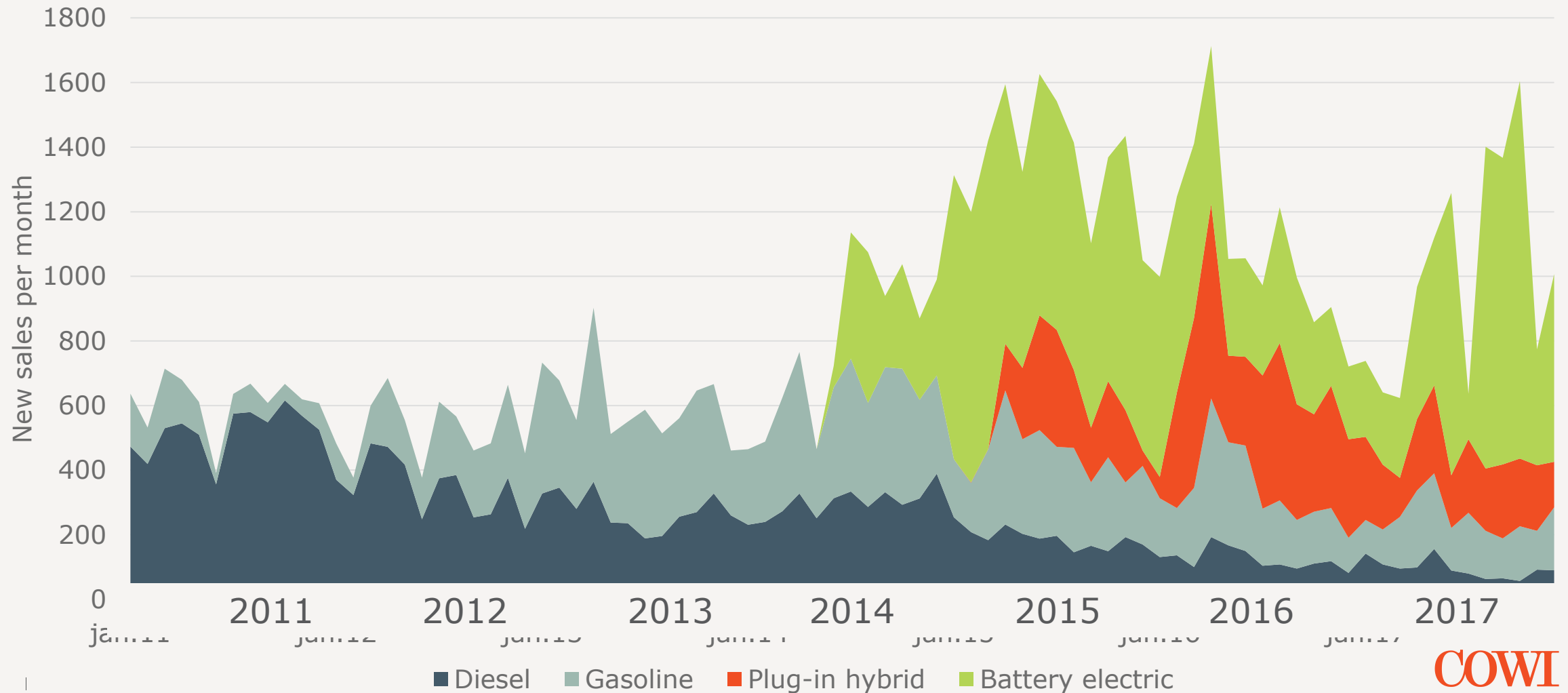


Source: Norwegian state budget 2018



Source: International Council on Clean Transportation

A closer look at Volkswagen Golf's sales in Norway



Thank you!

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Erik Lorentzen

Norwegian EV Association

**The bumpy road towards better
charging infrastructure**



A photograph of a snowy street in a city, likely Oslo, Norway. Several cars are parked along the street, completely covered in a thick layer of snow. In the foreground, a car is plugged into a public electric vehicle charging station. The station is a grey, vertical unit with a blue charging cable. The car's license plate is visible and reads 'EK 594'. To the left of the charging station, there is a blue parking sign with a white 'P' and text in Norwegian: 'Ladbar motorvogn' and 'Maks 1 time'. The street is lined with multi-story buildings, some with lit windows, suggesting it is evening or dusk. The overall scene depicts a winter environment where EV infrastructure is being used despite harsh weather conditions.

The bumpy road towards better charging infrastructure

Erik Lorentzen, Head of Analysis and Consultancy
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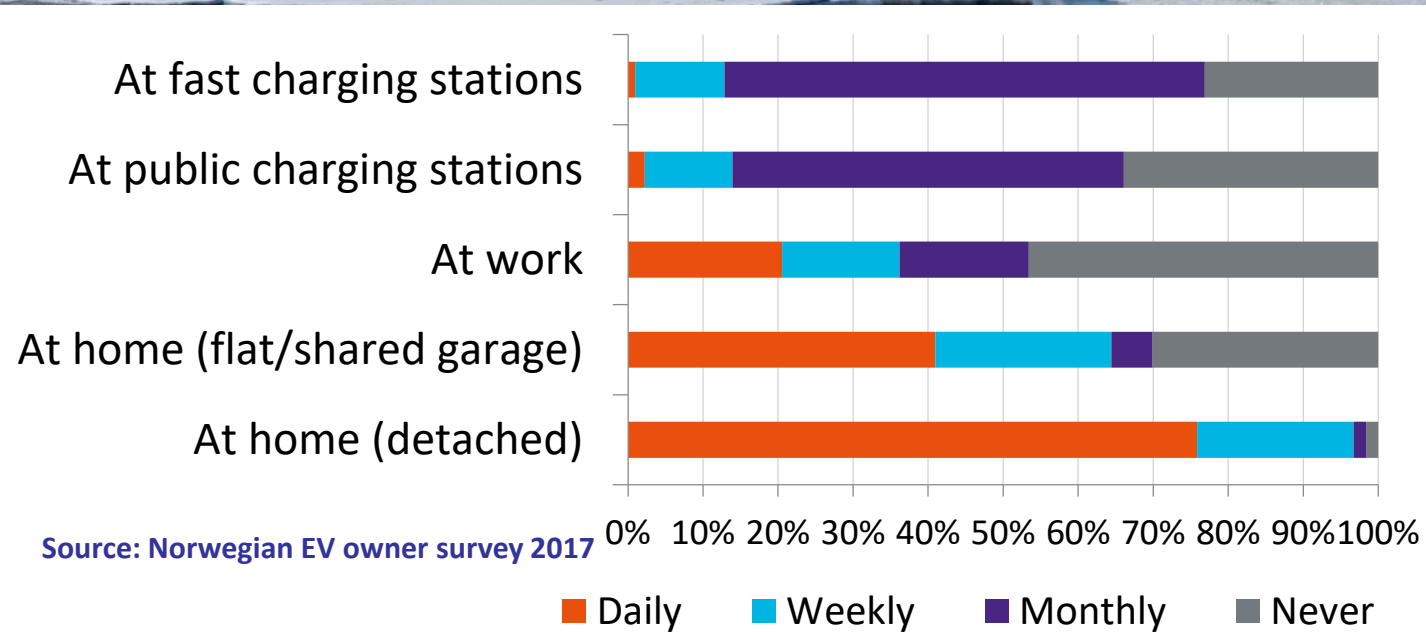
Normal



Fast



How often do you charge...



2015: A national plan

- Public tenders for national fast charging network
- Every 50 km on main roads
- Finished by end of 2017



Challenges

- Access to charging at home
- Reliable equipment
- And...





Next step: Larger and faster



Pricing and payment systems

- Handfull operators with different payment systems
- Payment by RFID tags, SMS, mobile phone apps
- EV Association distributes universal RFID tag to members
- Pay per the minute



Charging – to sum it up

- Home charging is the backbone
- Initial support crucial
- Volume means business
- Large scale next







Nordic EV Summit in Oslo

- 1. – 2. February 2018: www.nordicevs.no
 - Will the grid collapse?
 - Large scale fast charging
 - Smart charging systems in large charging networks



Anita Svanes

Møller/Volkswagen



Marina Maneas Bakkum

Nissan



Phil Henrick

LEVC, formerly known as the
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Electric London Taxis in Oslo?



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