

Electromobility in Amsterdam and Europe

Workshop: *Electromobility for Latin America*
November 25th, 2020

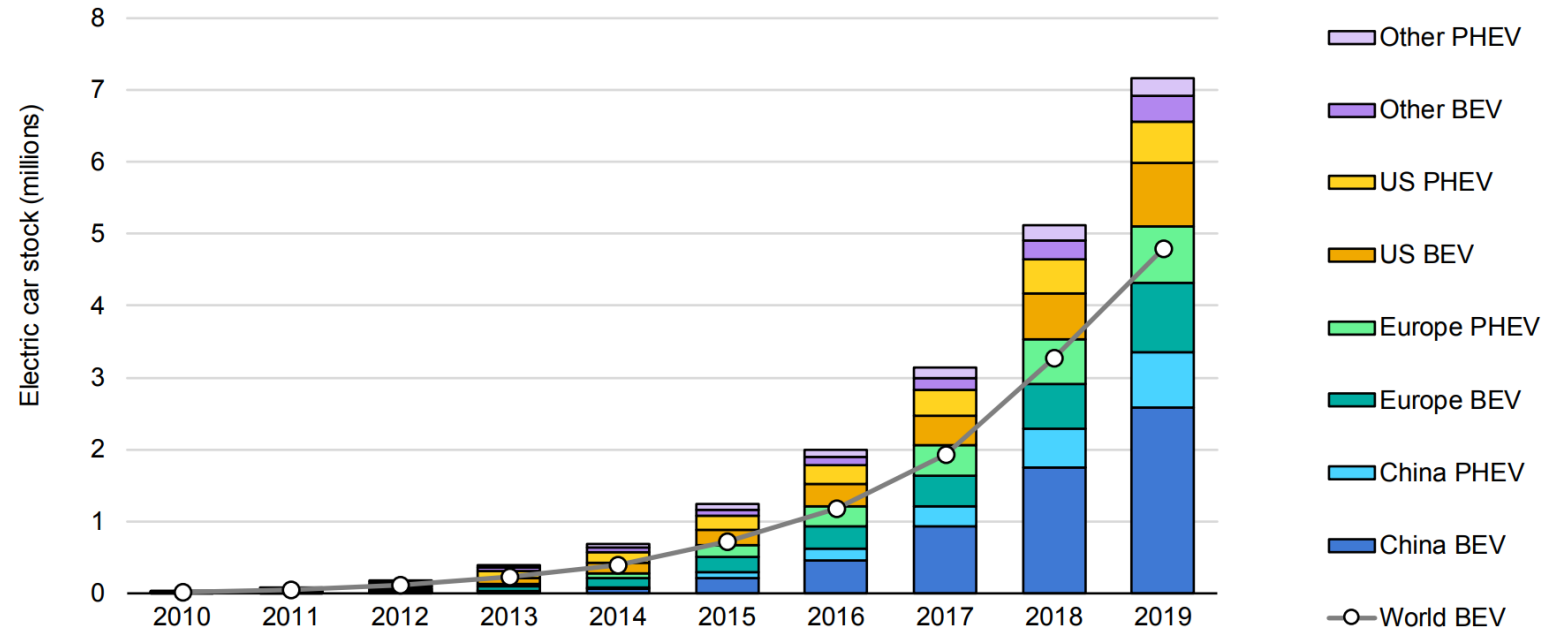
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1. Growth of EV market worldwide: 60% annual growth (2013-2019)

Global electric car stock, 2010-19

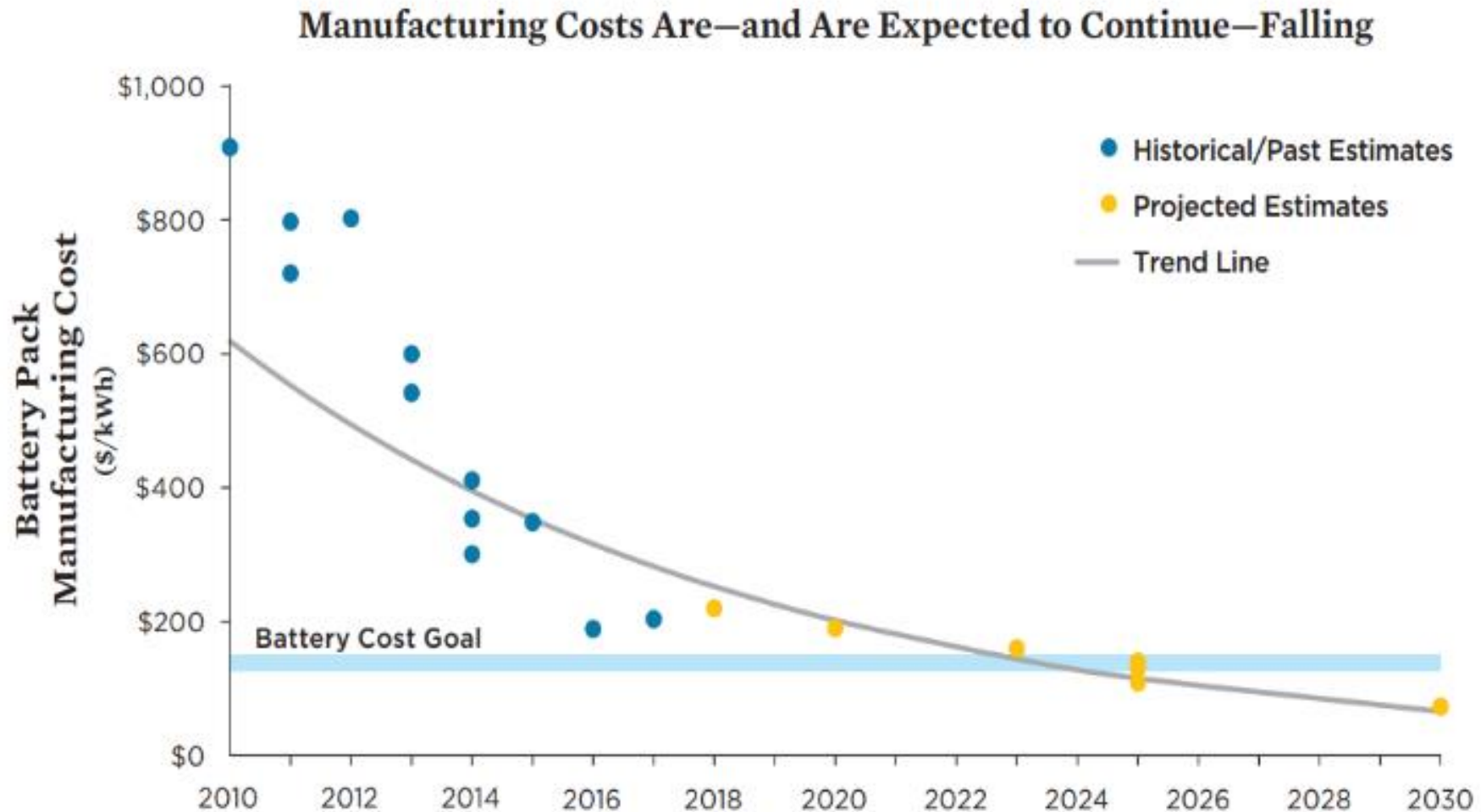


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Sources: IEA analysis based on country submissions, complemented by other sources. For more details, see figure 1.1 in the main report.

Electric cars, which expanded by an annual average of 60% in the 2014-19 period, totalled 7.2 million in 2019.

1. Drivers for EV: battery prices



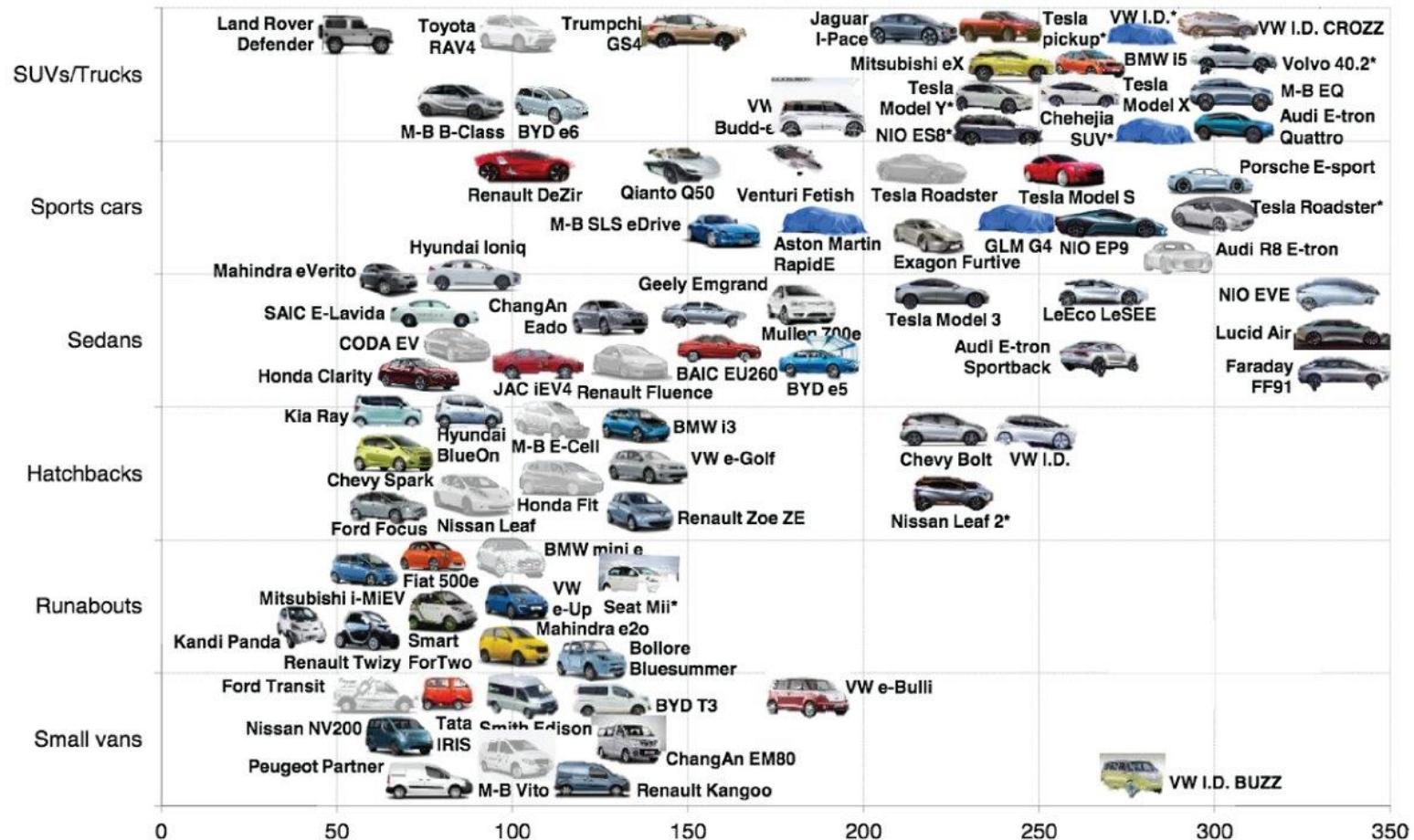
1. Drivers for EV: low maintenance (“iPad on wheels”)



1. Drivers for EV: Availability of EV models

Electric Boom

Models by style and range available through 2020



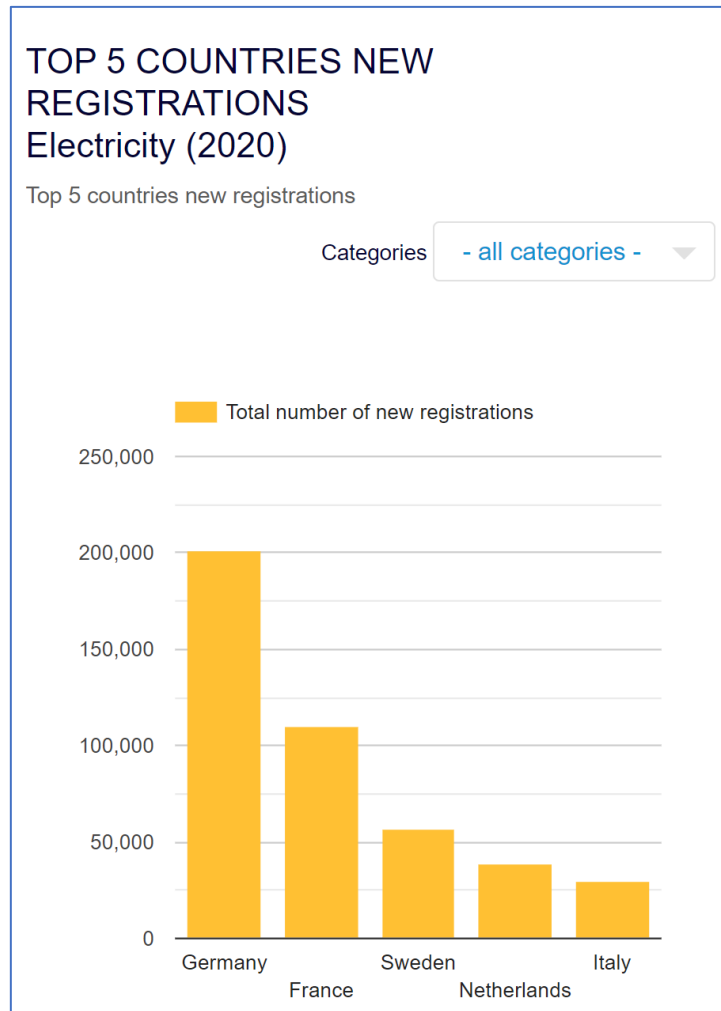
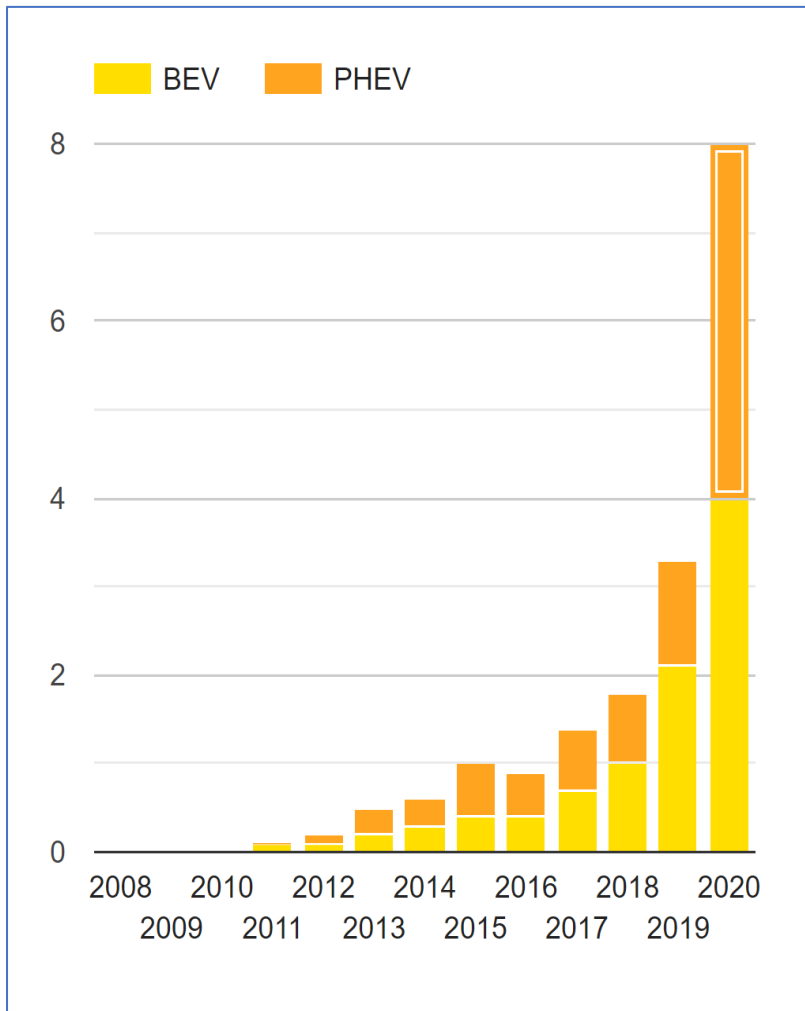
1. Drivers for EV: Charging solutions



1. Electric vehicles are moving to the tipping point

- Lower battery prices EVs → lower premium costs of
- Lower maintenance (&energy) costs → lower total costs of ownership
- Availability of models → consumer choices
- Charging opportunities highway → at home, at work, at

2. EU: market share of EVs is 8%



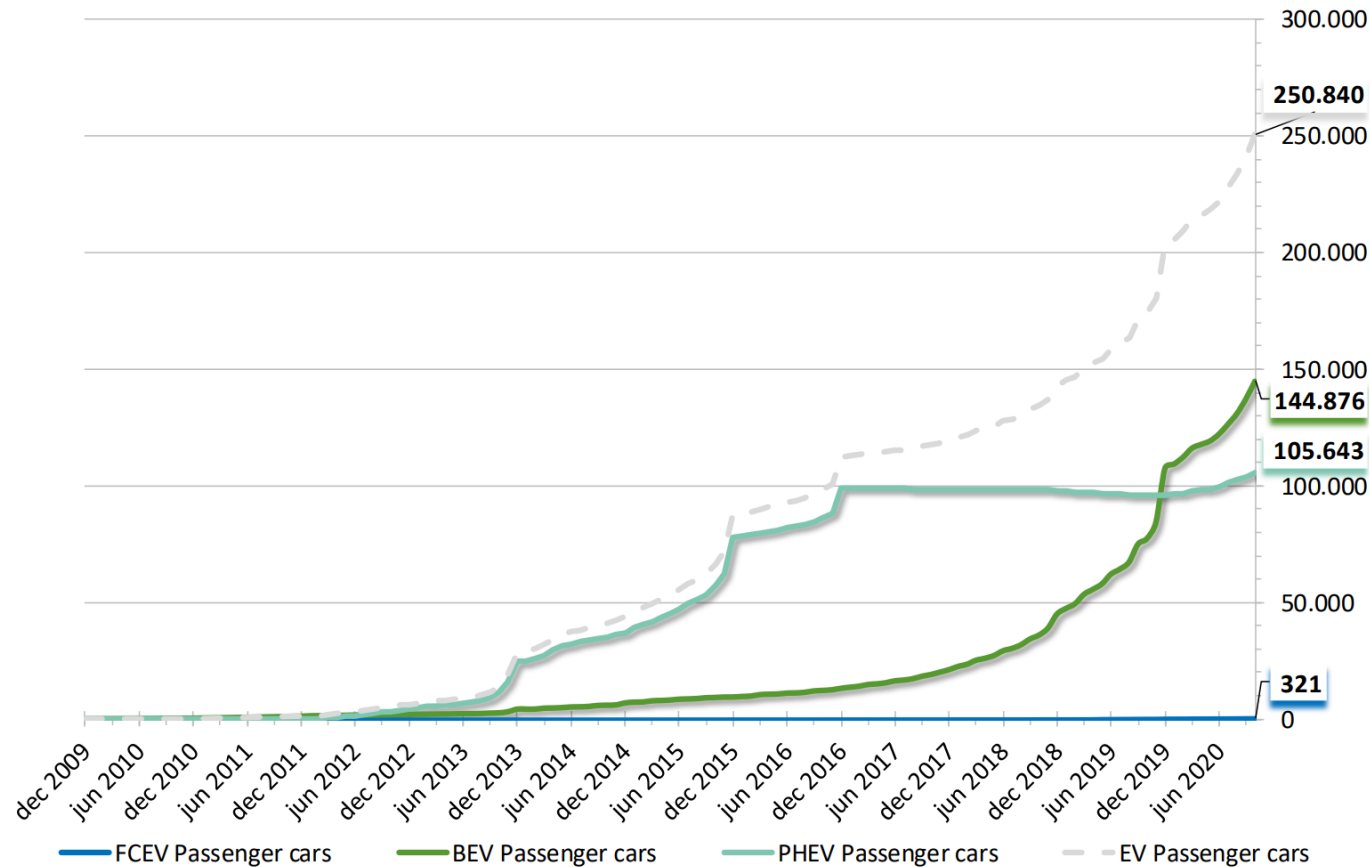
This includes BEV and PHEV: both around 4% market share.

Trend:

- PHEVs fastly growing
- Germany leading (absolute numbers), followed by:
 - France
 - Italy
 - Sweden
 - Netherlands
 - Italy

3. Netherlands: Development of EV Sales in Dutch fleet

Development in the number of electric vehicles registered in The Netherlands (fleet)²



By October 2020:

- 144k battery electric vehicles (BEVs)
- 105k PlugIn EVs
- 250k EVs combined (3% of total)

Trends:

- 2011-2016: PlugIn sales (favorable subsidies)
- 2016-2020: focus on BEVs

Main incentive?

- Company car subsidy programs (Lease)
- Charging infrastructure programs

3. Netherlands: Best sold vehicle was electric

Automotive News Europe*

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October 02, 2019 05:48 AM

Tesla Model 3 passes VW Polo as No. 1 seller in Dutch market

Elisabeth Behrmann and Wout Vergauwen

Bloomberg



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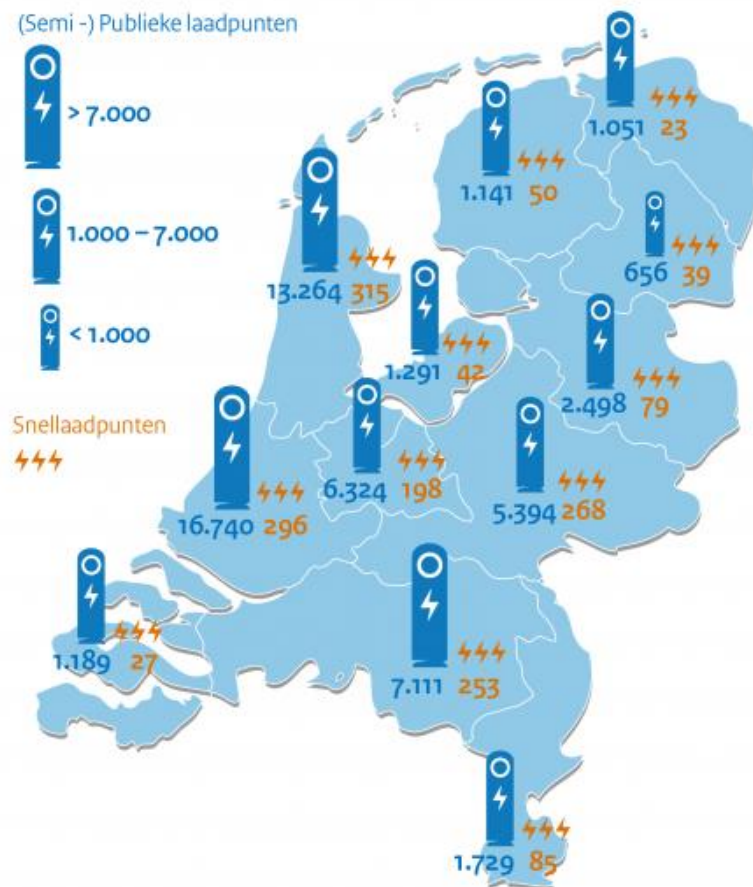
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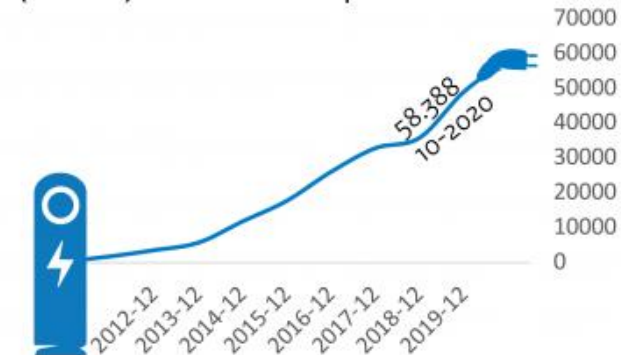
3. Netherlands: Charging infrastructure

Aantallen laadpunten

(Semi-) Publieke laadpunten



(Semi-) Publieke laadpunten



Snellaadpunten

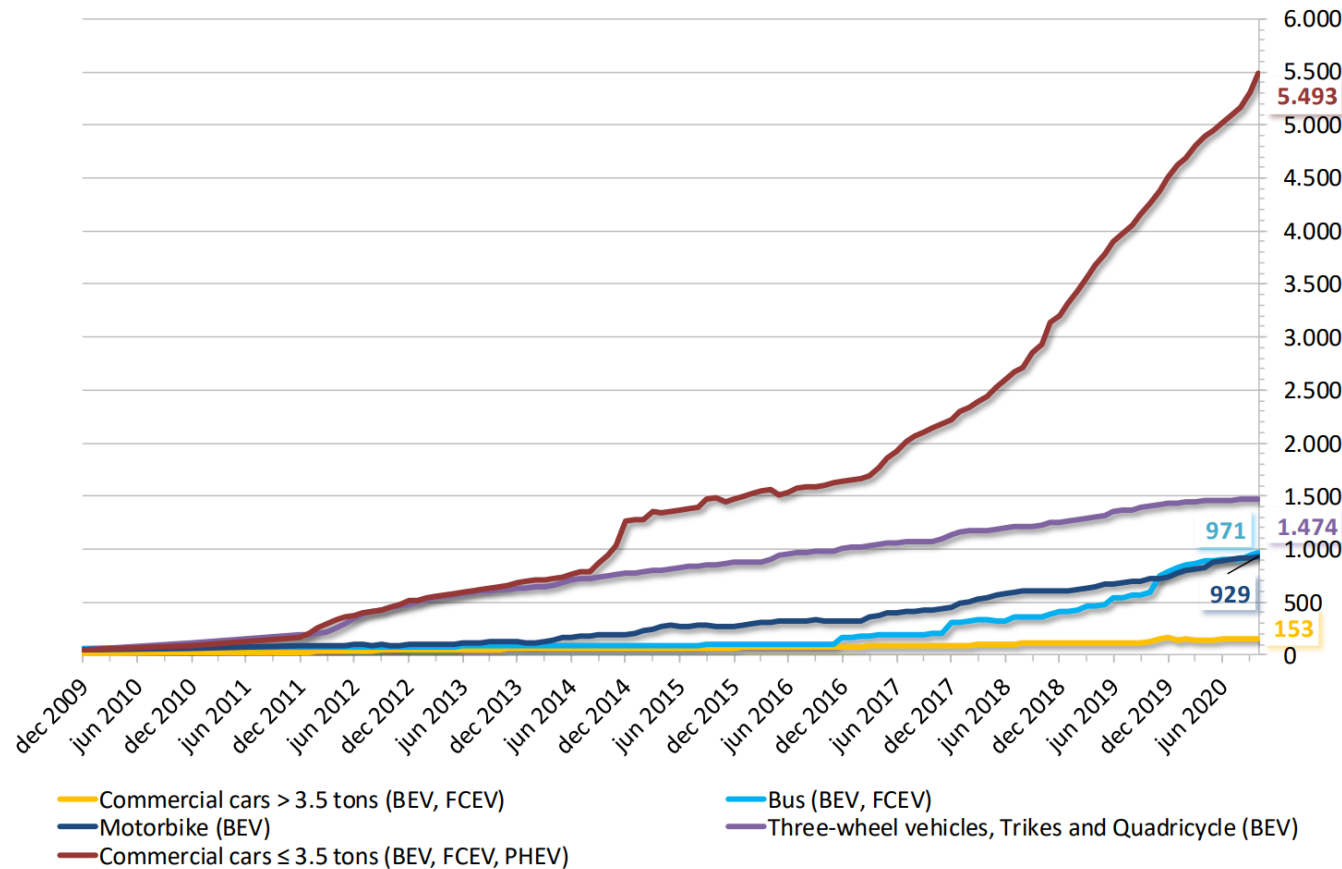


Where do they charge?

- At home: ~150k private charging points
 - 30% have own driveway (and private charger)
- Public/ on the street: ~60k public charging points
 - 70% of households are dependent on public chargers
- Close to 1:1 (charger/EV)
- At fast chargers – 1600 = national coverage.

Main drivers: Grid operators and municipalities invested in public chargers

3. Netherlands: Commercial vehicles slowly picking up



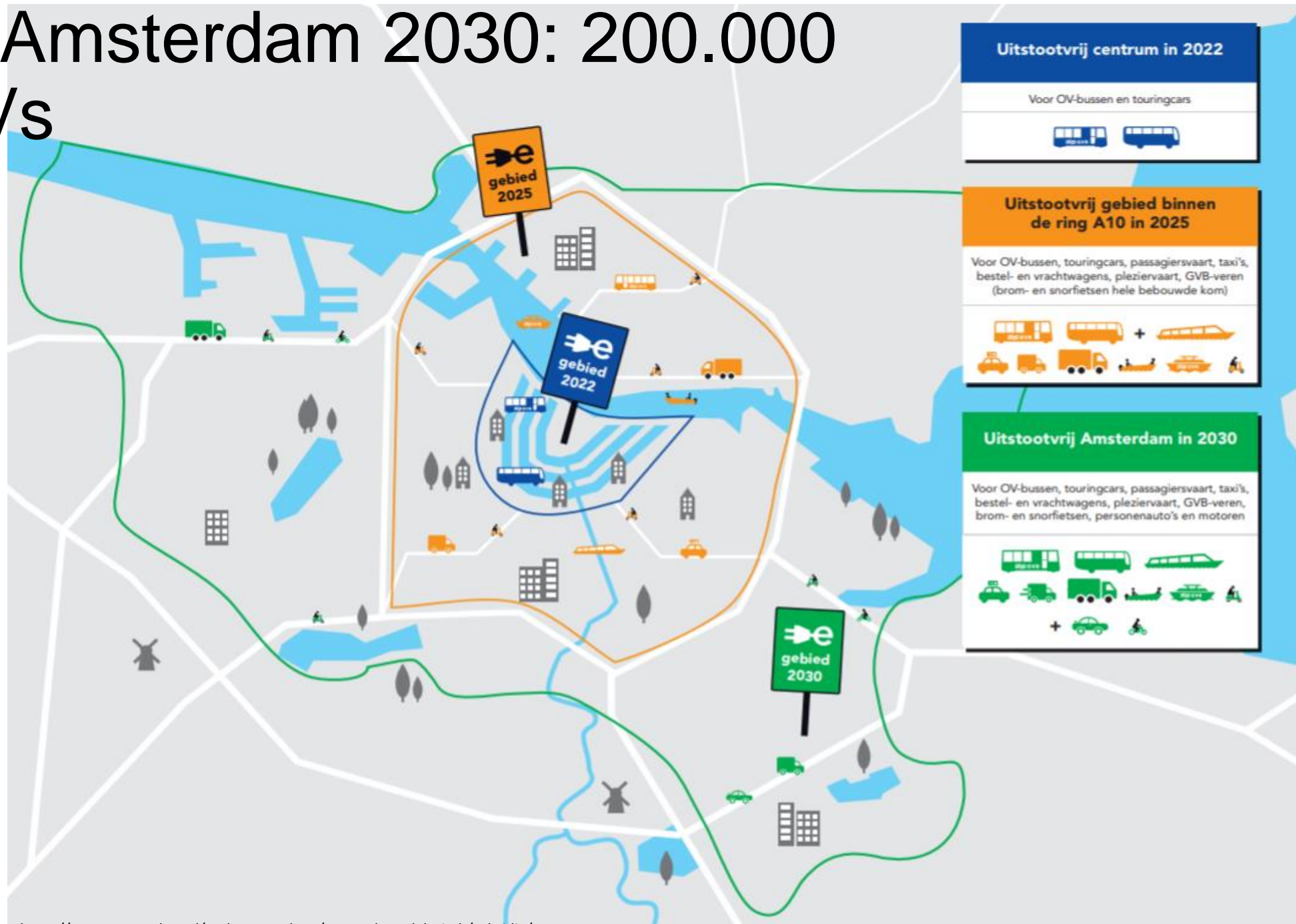
By October 2020:

- 5400 Commercial vans <3,5tons

Trends:

- By 2025 there will be 30-40 Zero Emission zones.
- Commercial vans with emissions not allowed.
- In total more than 800.000 commercial vans in the NL
- About 50% are affected to switch to electric by 20205.

4. Amsterdam 2030: 200.000 EVs



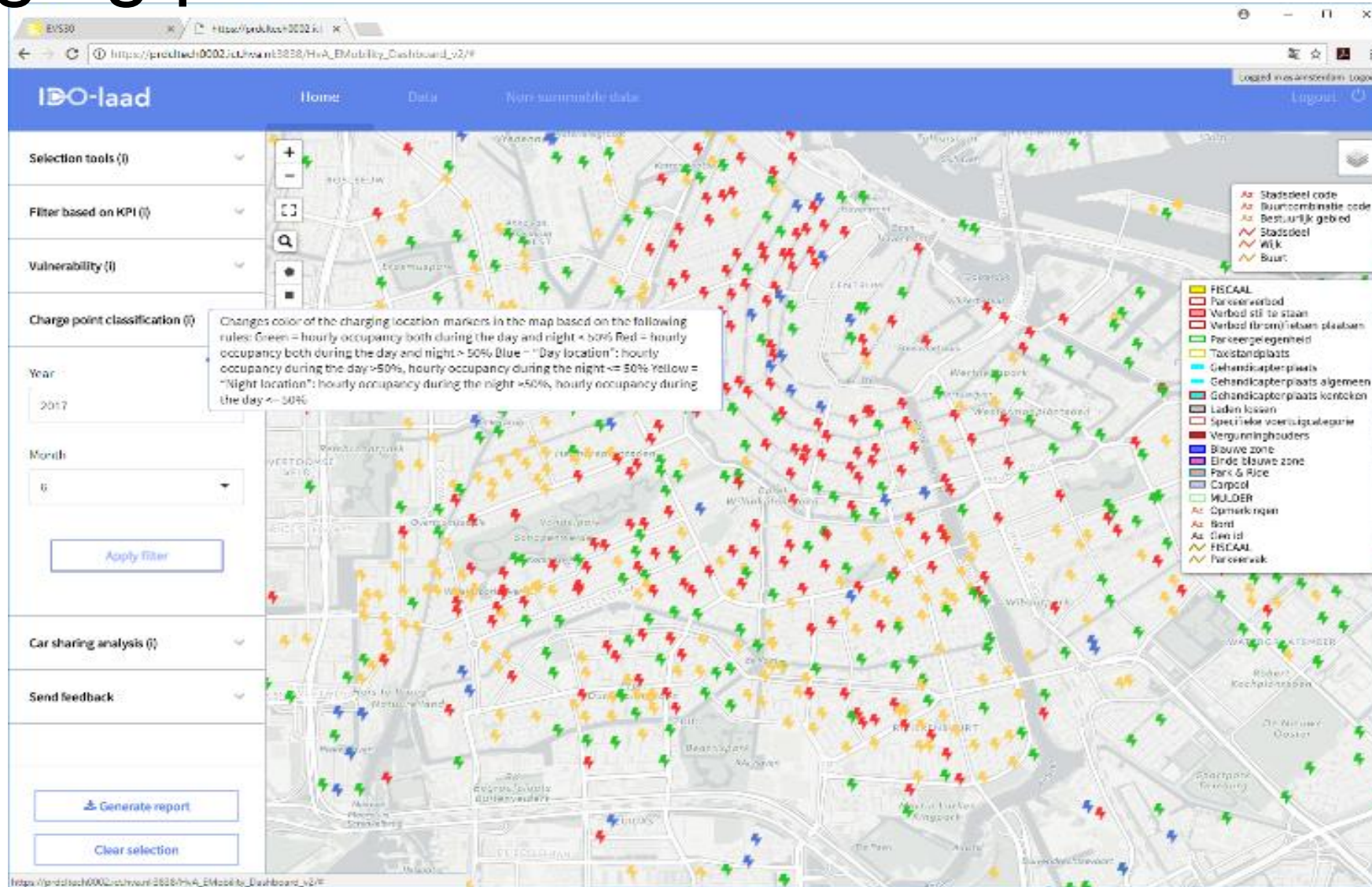
4 Amsterdam Taxi sector - Voluntary agreement: 3000-4000 electric taxis in 2025



Measures by the local government:

- Subsidy scheme for cars
- Placing Fast chargers
- Making taxi stands zero-emission

4. Amsterdam: monitoring the utilization of charging points



5. Concluding

1. Conditions for large growth of EVs in the Netherlands:
 - Subsidy schemes for lease cars
 - Charging infrastructure development (public)
 - Interoperable charging (with charging card/RFID)
2. Tipping point for electric driving is coming closer
 - EV as best sold cars
 - Subsidy schemes until 2025 in place
 - EV model options provides choices
3. Major hurdles/challenges for EV
 - Materials (lithium, cobalt)
 - Sourcing of EVs
 - Upscaling: so that charging infrastructure is not the bottleneck.

Questions?

