

# E-mobility development in Europe

## Lessons from the GIANTS project

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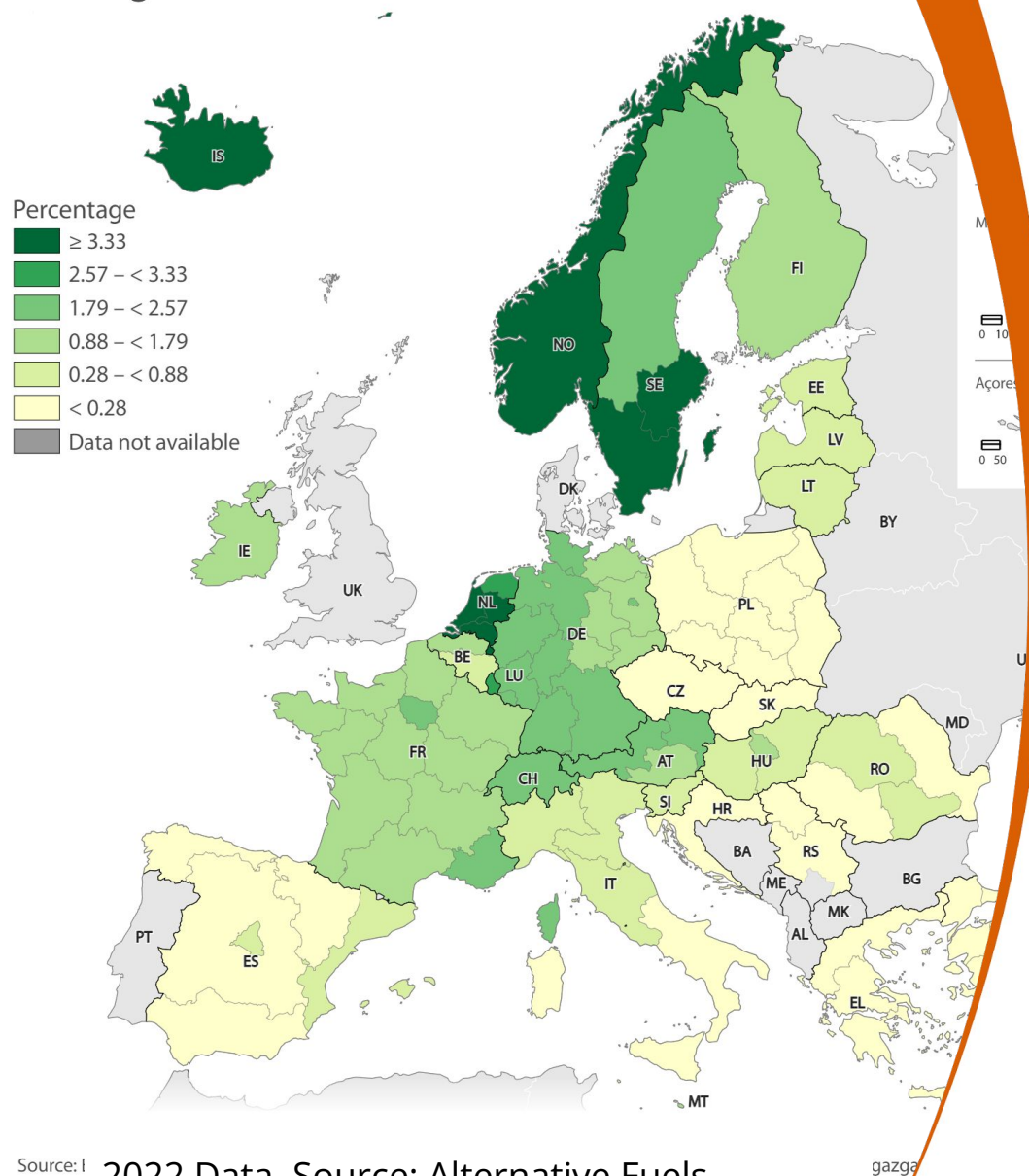
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# Share of electric vehicles by category and NUTS

## Passenger cars



# BEV adaptation state in Europe

## New registrations

- Focus is on passenger cars infrastructure.
- Currently: ca. 20% BEV in new registrations; 2.2% of existing fleets
- Market diffusion differs, from >60% in Denmark to ca. 2% in Poland
- Urban areas show higher electrification rates (lower daily mileage, better charging infrastructure, more company cars)
- Almost 100% in Norway (Non-EU))
- Member states follow different approaches.
  - Eligible vehicle categories
  - Price ceilings
  - Only new cars or also used cars
  - Income-based scaling
  - ...
- Purchase premiums, subsidies, tax waivers.

# E-Mobility in Europe

Phasing out outdated technologies

Innovation stages

Market development

Promoting Innovation

Status compared to established solution

R&D: emerging technologies are developed and tested

Market development: Innovative technologies become competitive

Mainstreaming: Innovative technologies replace old technologies

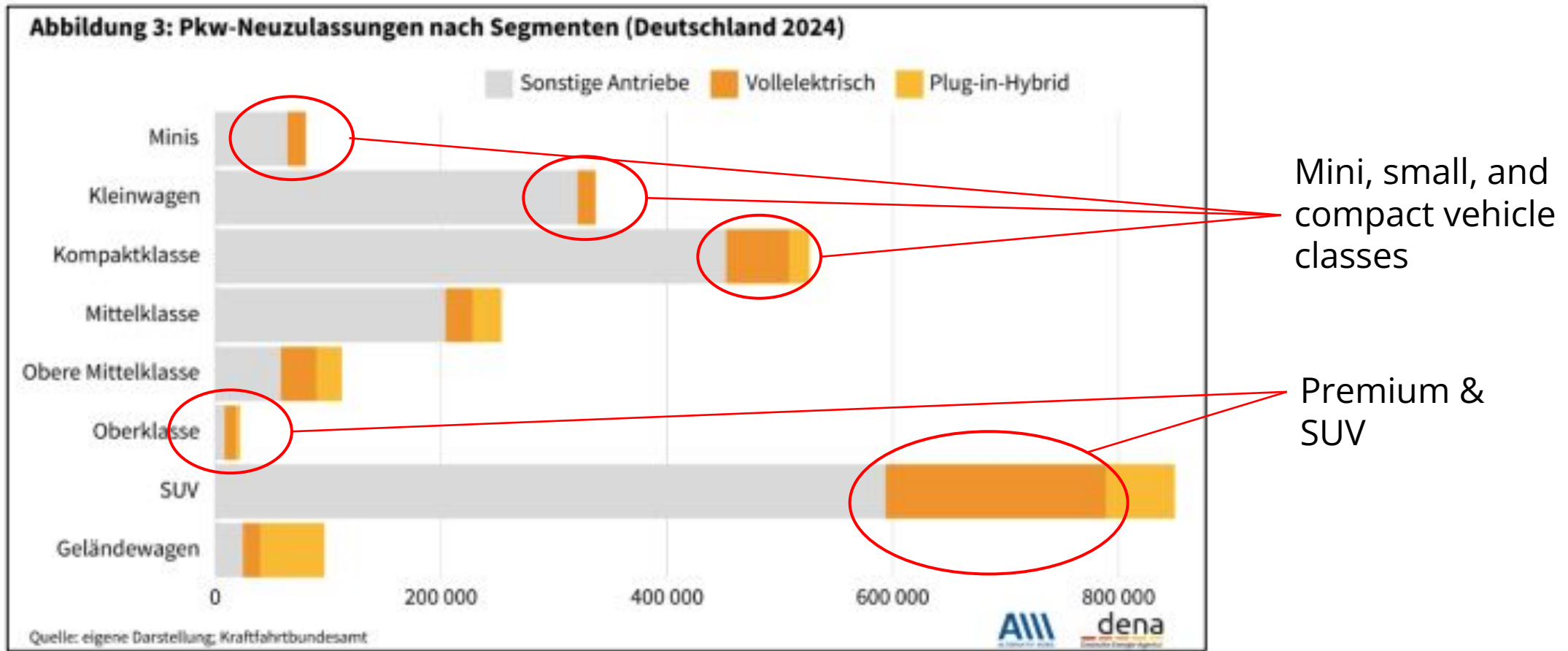
Policy measures to promote innovations

- R&D support
- Demonstration projects
- Facilitating experiments
- Promoting standardisation
- Support programmes for OEMs
- Setting clear regulatory environment

- Strategic public procurement
- Purchase premiums
- Tax benefits for LEVs
- Priority measures for LEVs
- Roll out of infrastructure (incl. grids)

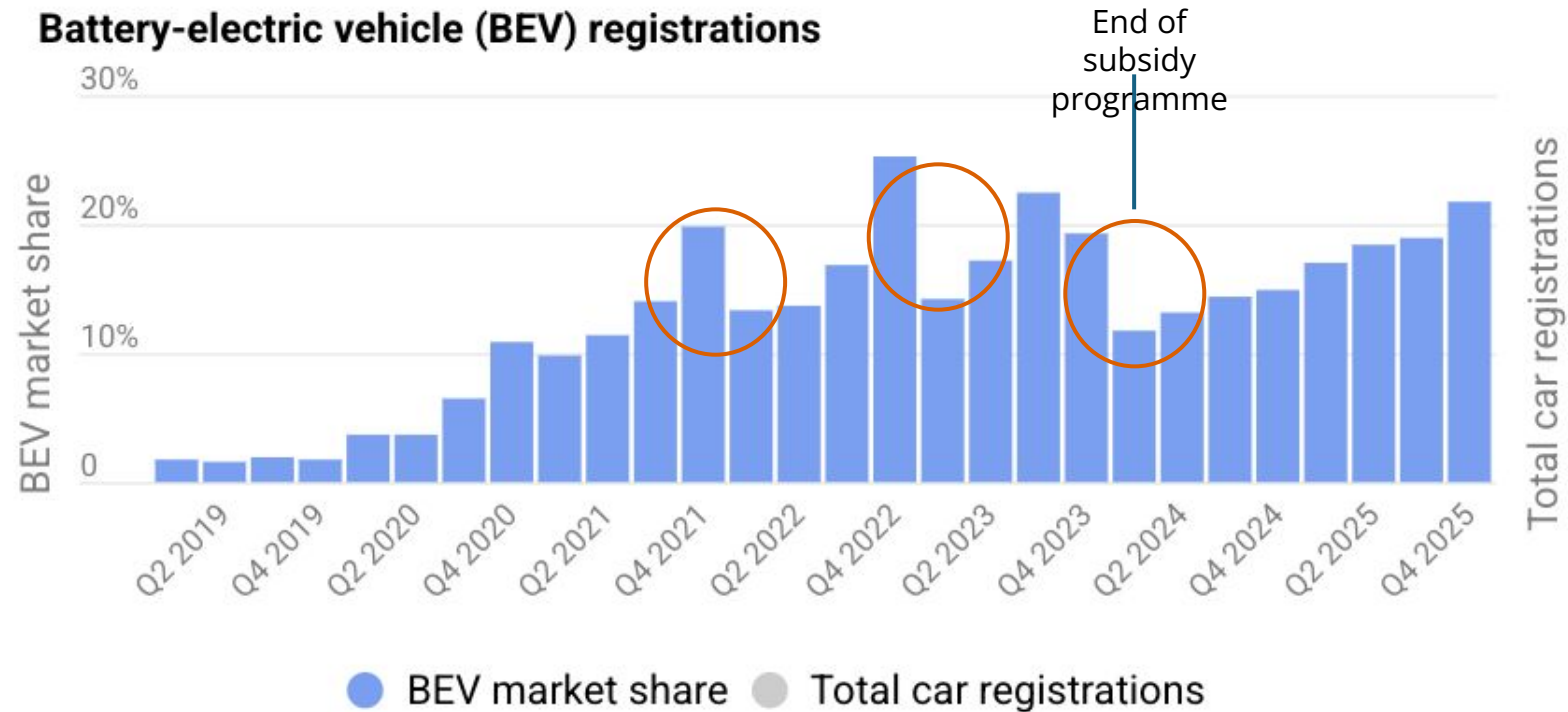
- Zero Emission Zones / Access restrictions
- Ending fossil fuels subsidies
- Increasing taxation for fossil fuels and ICE vehicles
- Sales ban for ICE vehicles (EU: 2035 planned)

# Electrification mostly in premium segment



# Market still dependent on purchase premiums?

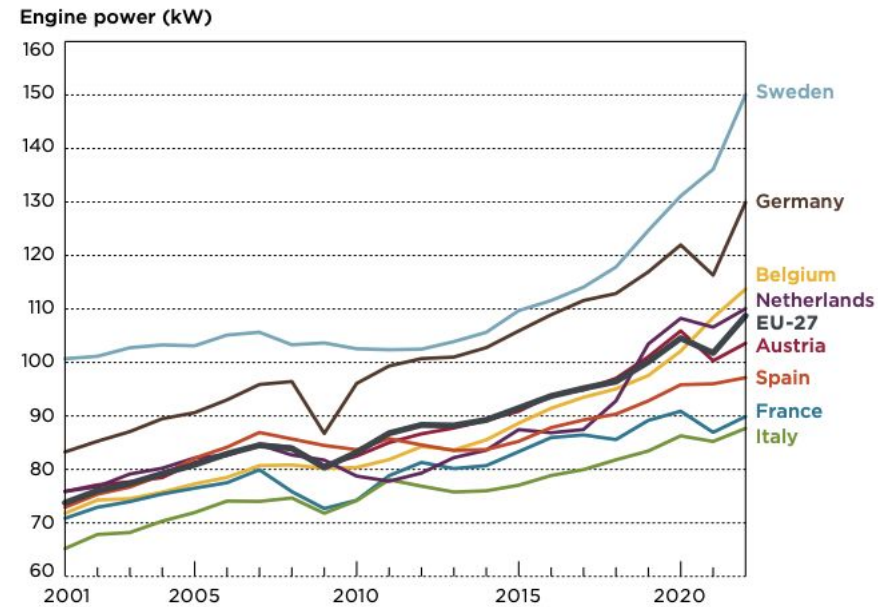
- Market reacts to cuts in subsidies, but bounces back.



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# Missed opportunity?

- Electrifying over-sized and over-powered vehicle concepts?
- Technology Substitution vs. Transforma



**Fig. 4-13**

Passenger cars:  
Engine power  
by country

Source: ICCT EUROPEAN VEHICLE MARKET STATISTICS Pocketbook 2023/24  
[https://theicct.org/wp-content/uploads/2024/01/Pocketbook\\_202324\\_Web.pdf](https://theicct.org/wp-content/uploads/2024/01/Pocketbook_202324_Web.pdf)

# The GIANTS Project approach: Modular, frugal vehicles that fit urban scales



**Gothenburg**  
(2x: goods transport)



**Barcelona**  
(4x: people & goods transport)



**Kisumu**  
(2x people & goods transport)



**Delhi, Pune**  
(5x people & goods transport)



**Manila**  
(1x people & goods transport)

## Global Perspective

- Internationally established vehicle concepts
- Adaptation to European context
- European components

## Clean Vehicles

- Battery Electric Vehicles

## Adapted to different use cases

- Passenger transport
- Last-mile logistics
- Urban and peri-urban



CLEAN MOTION SQUAD

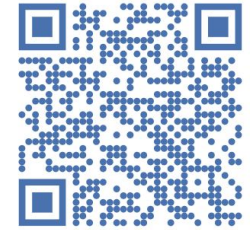
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# Thank you for listening

For questions don't hesitate to contact me!  
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