

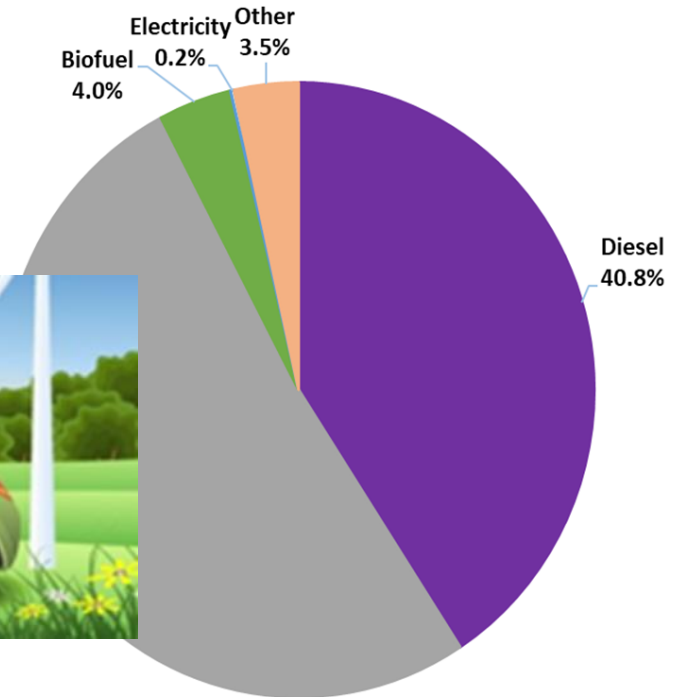
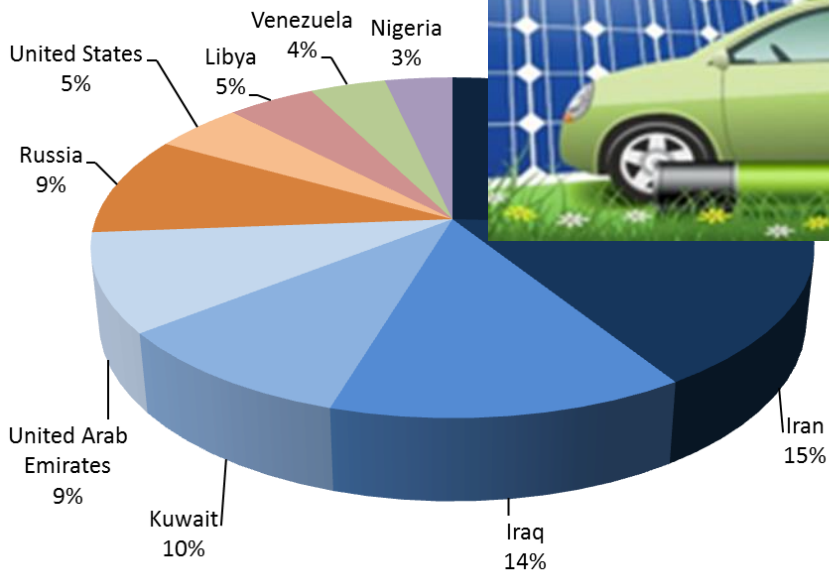
Development of electric passenger cars during the COVID-crisis

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- ✓ Introduction
- ✓ Electric vehicles before COVID-crisis
- ✓ Impact of the COVID-crisis on auto industry and mobility
- ✓ EU policy framework
- ✓ Developments of electric vehicles after crisis
- ✓ Conclusions

- oil products
- least-diversified
- energy import dependency



Global energy consumption in road transport

Countries with largest conventional oil reserves

Paris Declaration on Electro-Mobility and Climate Change & Call to Action:

- more than 100 million EVs
- 400 million two and three-wheelers

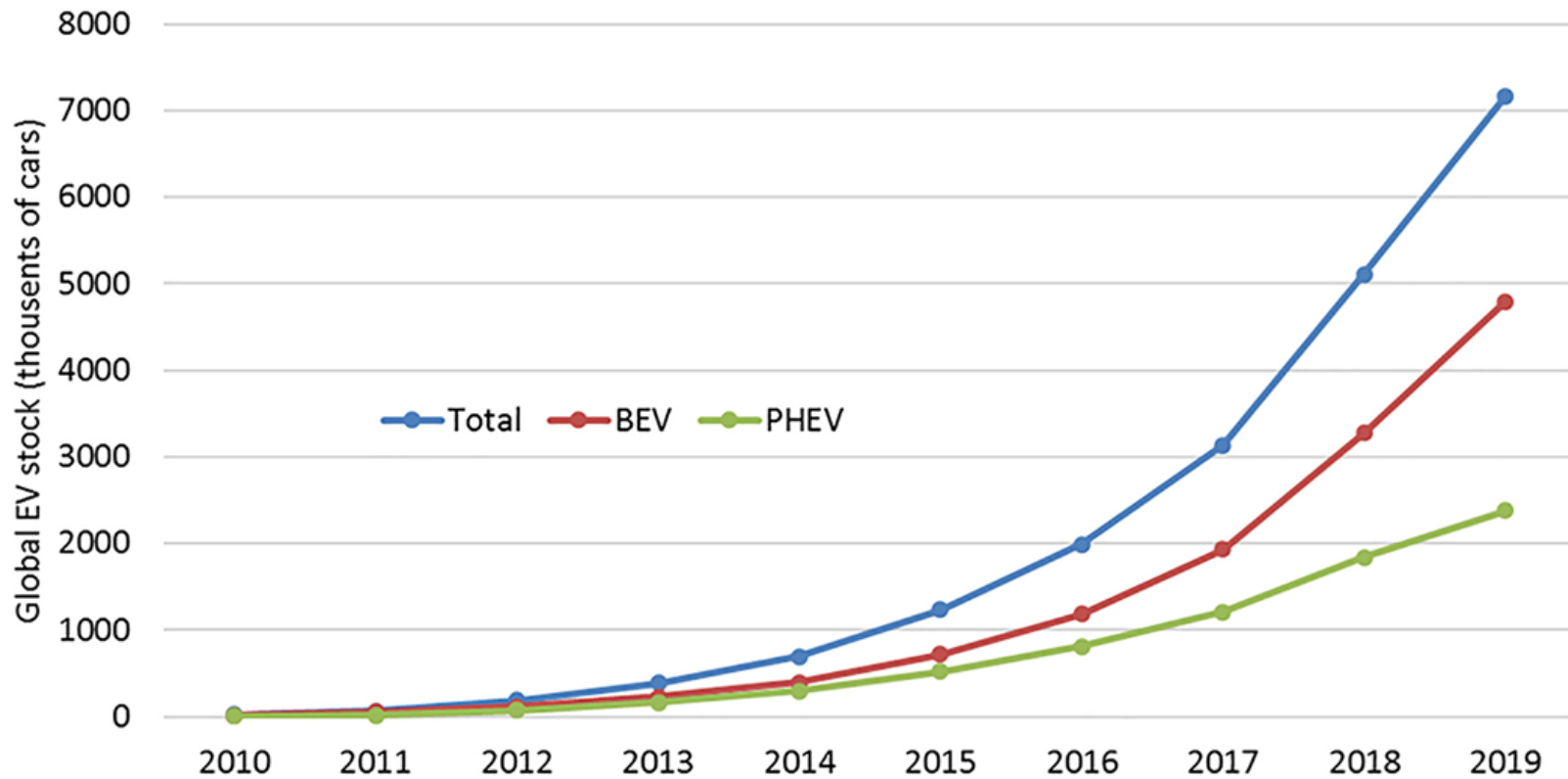
Monetary measures :

- road taxes
- annual circulation tax
- company car tax
- registration tax
- fuel consumption tax
- congestion charges

Non-monetary measures:

- free parking spaces
- possibility for EVs drivers to use bus lanes
- wide availability of charging stations
- permission for EVs to enter city centers and zero emission zones

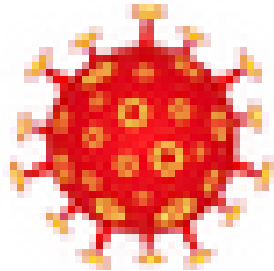
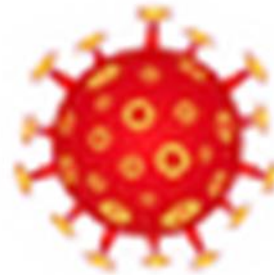
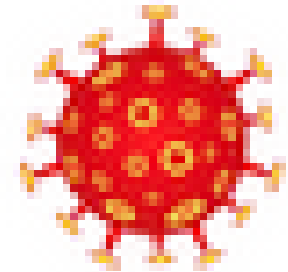
Global electric vehicle stock

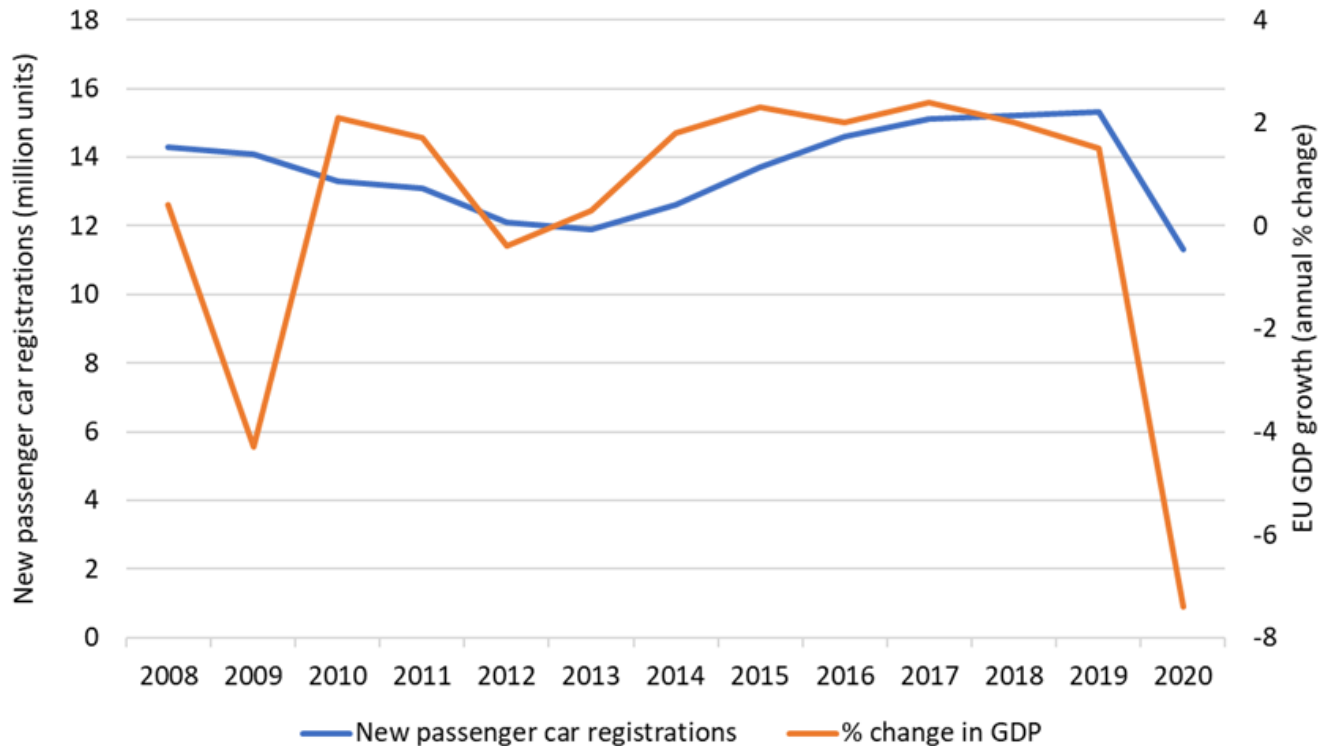


✓ 11 March 2020 – global pandemic

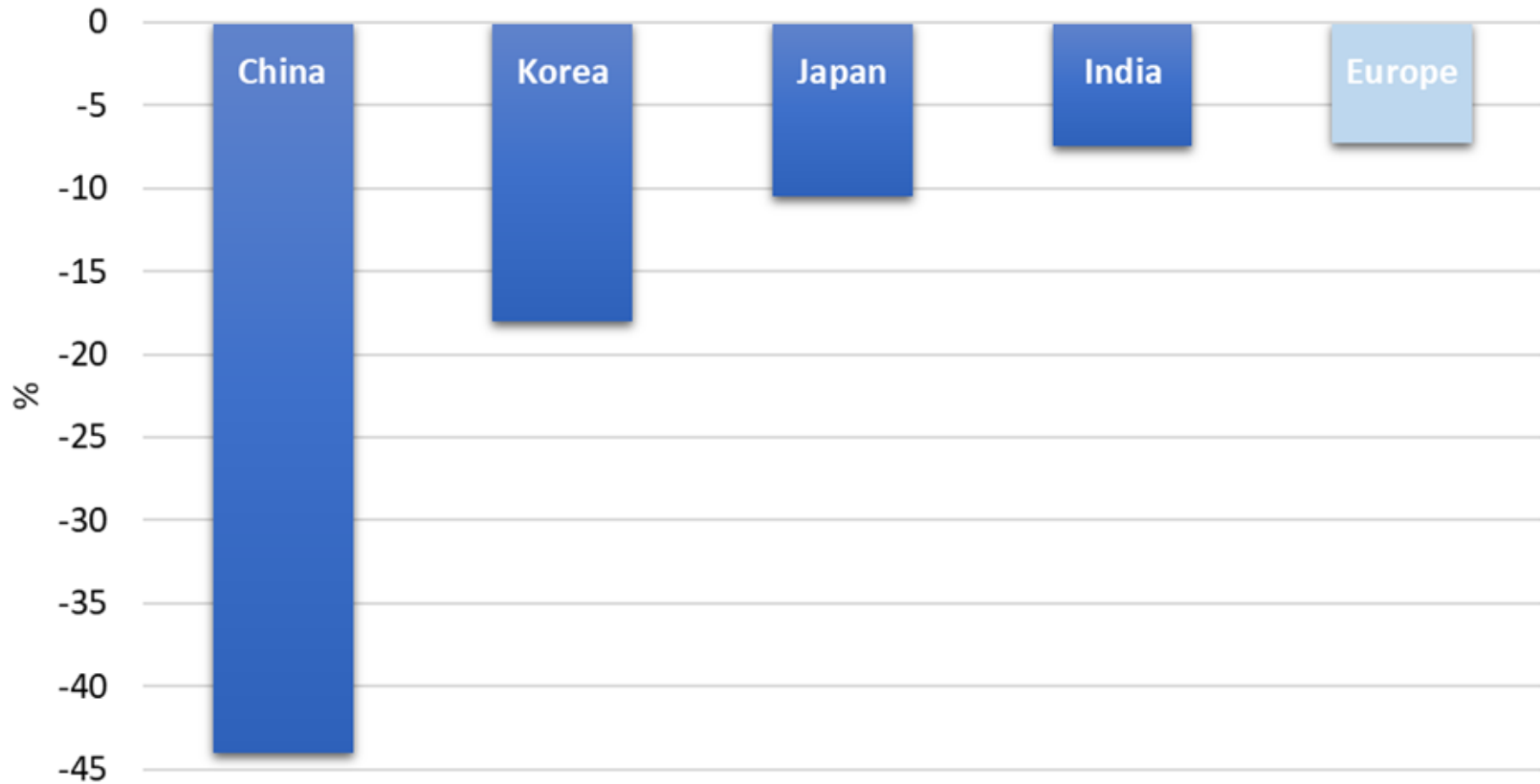
✓ Partial or total
lockdowns

✓ GDP

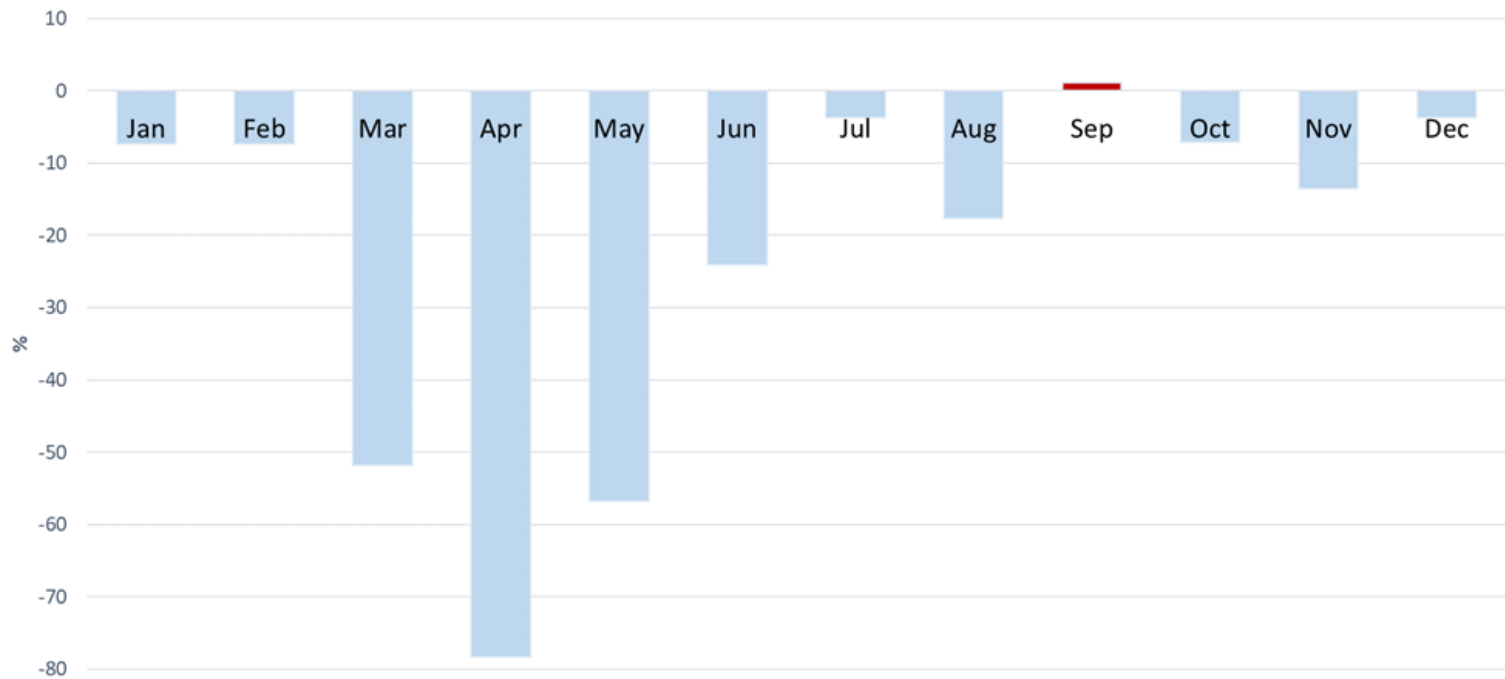




New passenger car registrations vs economic growth in the EU (2008-2020)



Car sale decline in selected countries/regions, January and February 2020



Percentage of European car sale increase/decrease in 2020 in comparison to 2019

- ✓ Oil price drop
- ✓ China: EV sales dropped 54% by the end of January, 90% by the end of February
- ✓ China...leader in battery manufacturing
- ✓ Globalized EV supply chain

EU - the first climate-neutral continent by 2050

European Green Deal

2030 climate & energy framework

40-32-32,5

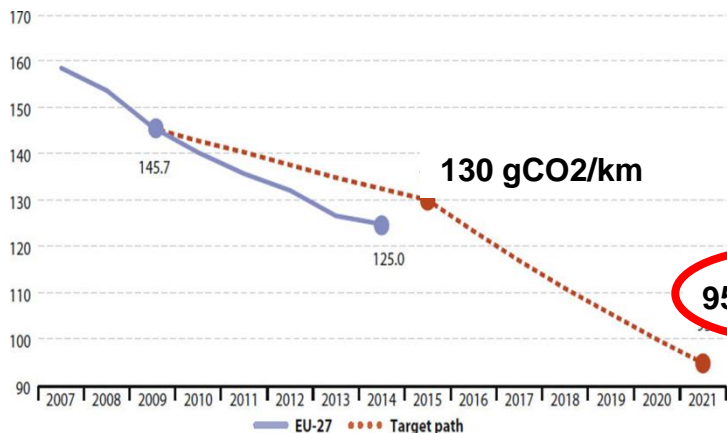
14%

Sustainable and Smart Mobility Strategy

at least 30 million zero-emission cars will be in operation on European roads

nearly all cars, vans, buses as well as new heavy-duty vehicles will be zero-emission.

2009 2010 2015 2020 2025 2030 2050



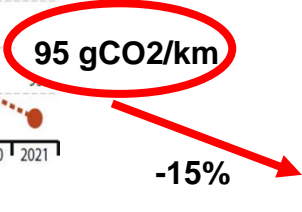
ICE -50% in city

20% GHG (2008)

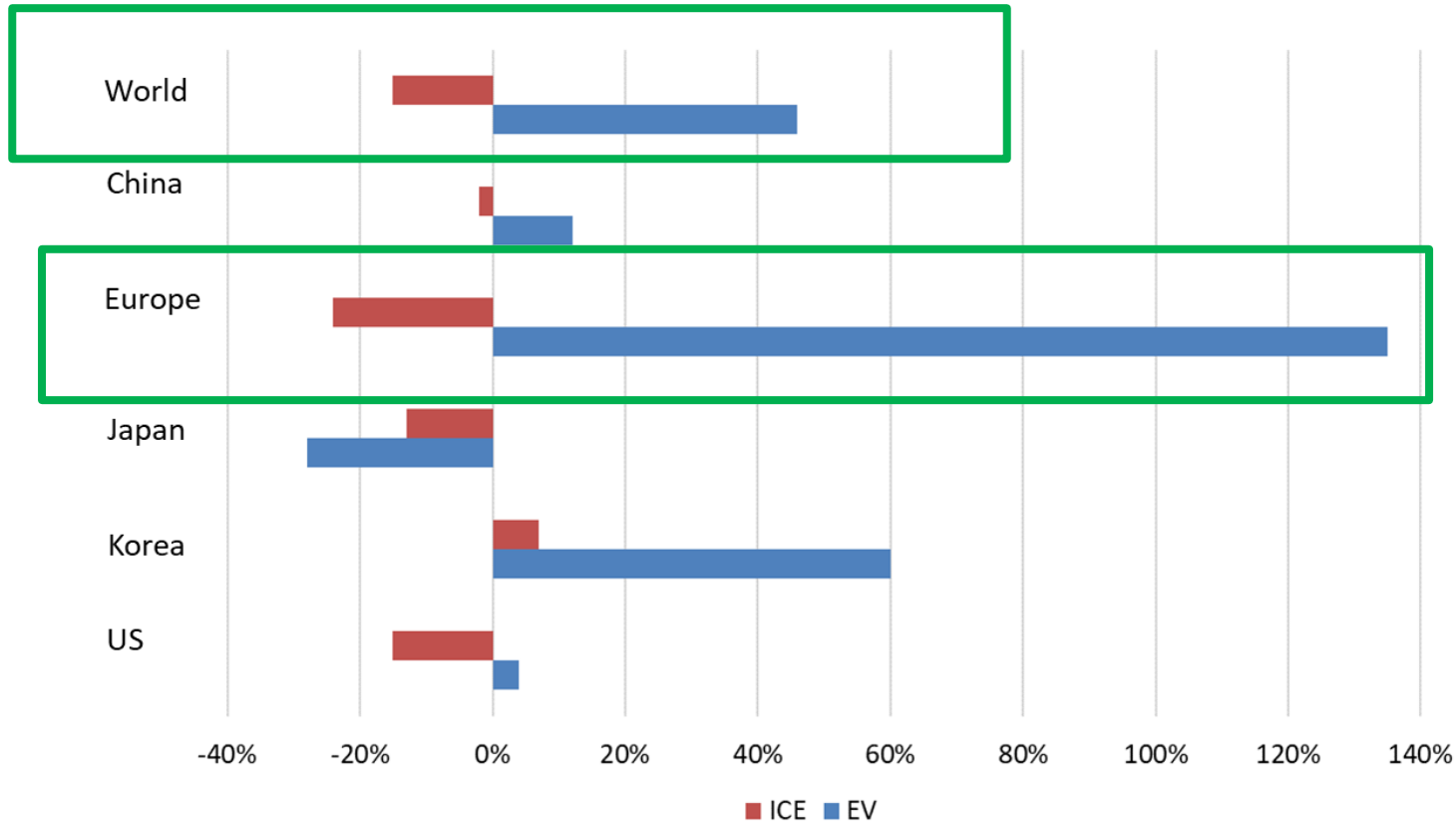
No ICE in city

60% GHG (1990)

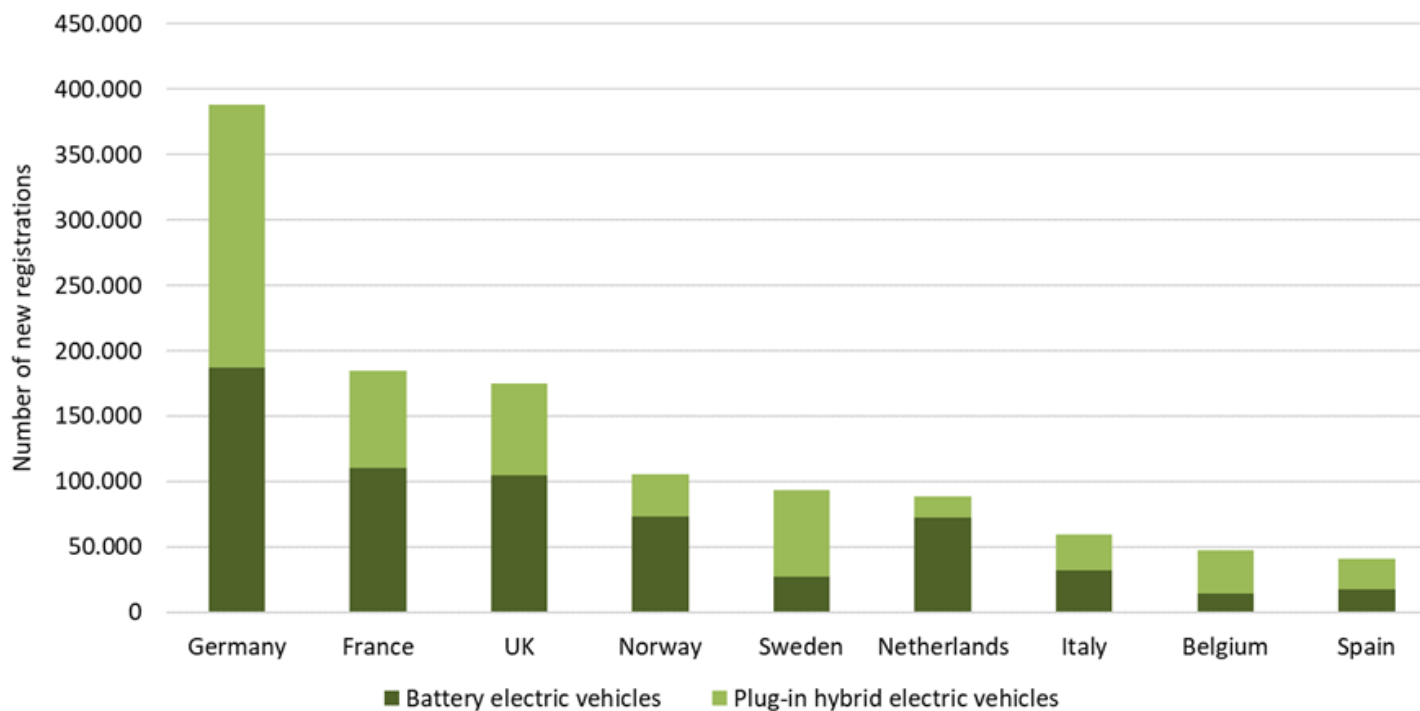
Transport White Paper



Targets and average CO₂ emissions from new passenger cars in EU countries



Increases and decreases in total car- and electric car sales in selected countries/regions in 2020 in relation to 2019

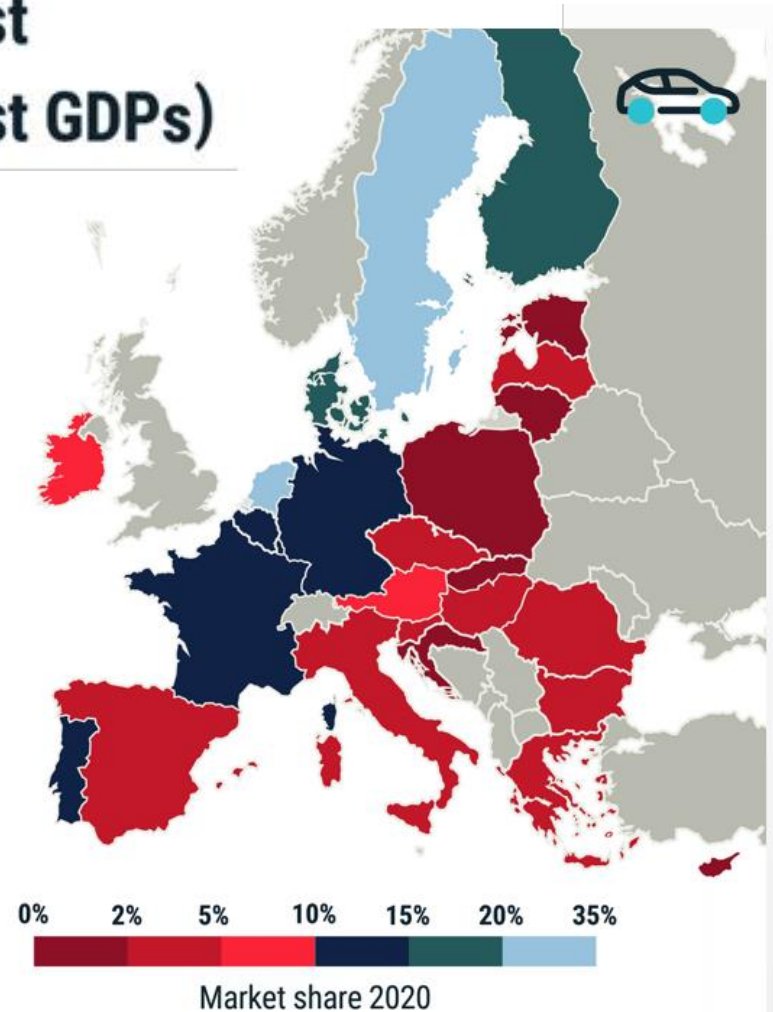


New registrations of electric cars in selected European countries in 2020, by type

73% of all electric cars are sold in just 4 countries (with some of the highest GDPs)

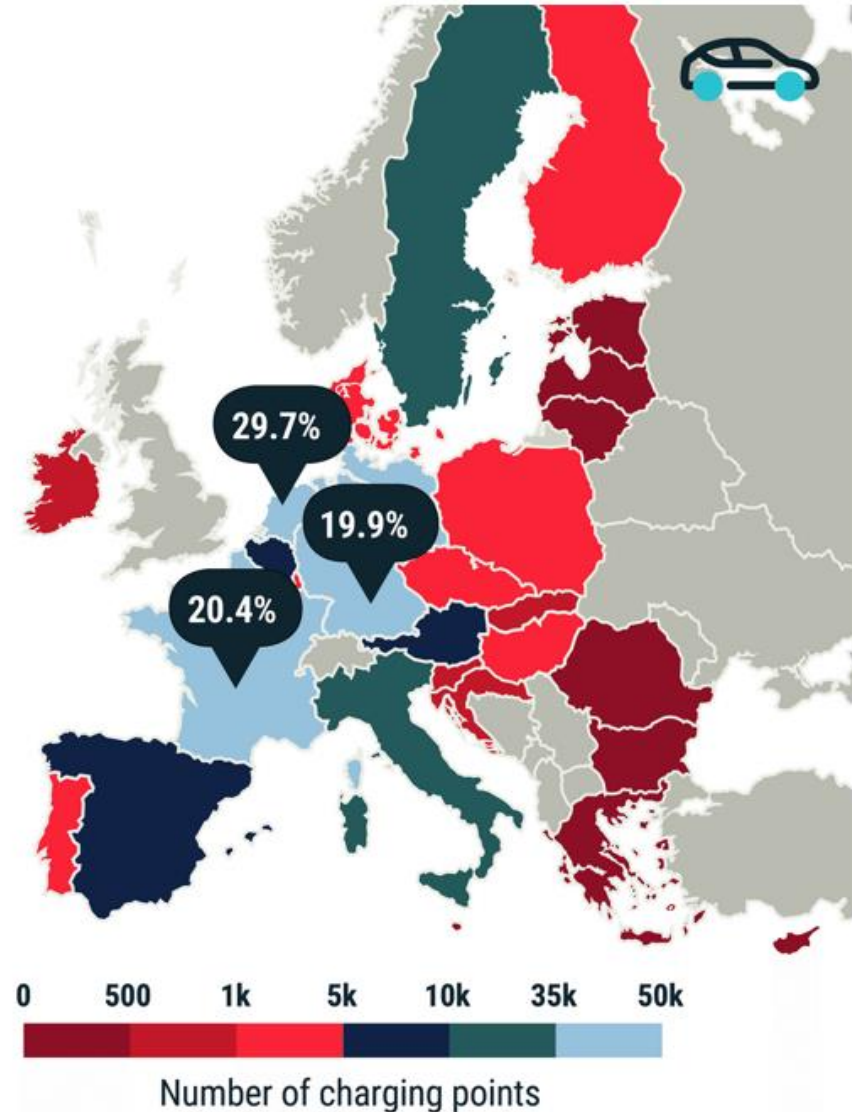
Electric cars **< 3% of total sales**
= average GDP **< €17,000**

Electric cars **> 15% of total sales**
= average GDP **> €46,000**

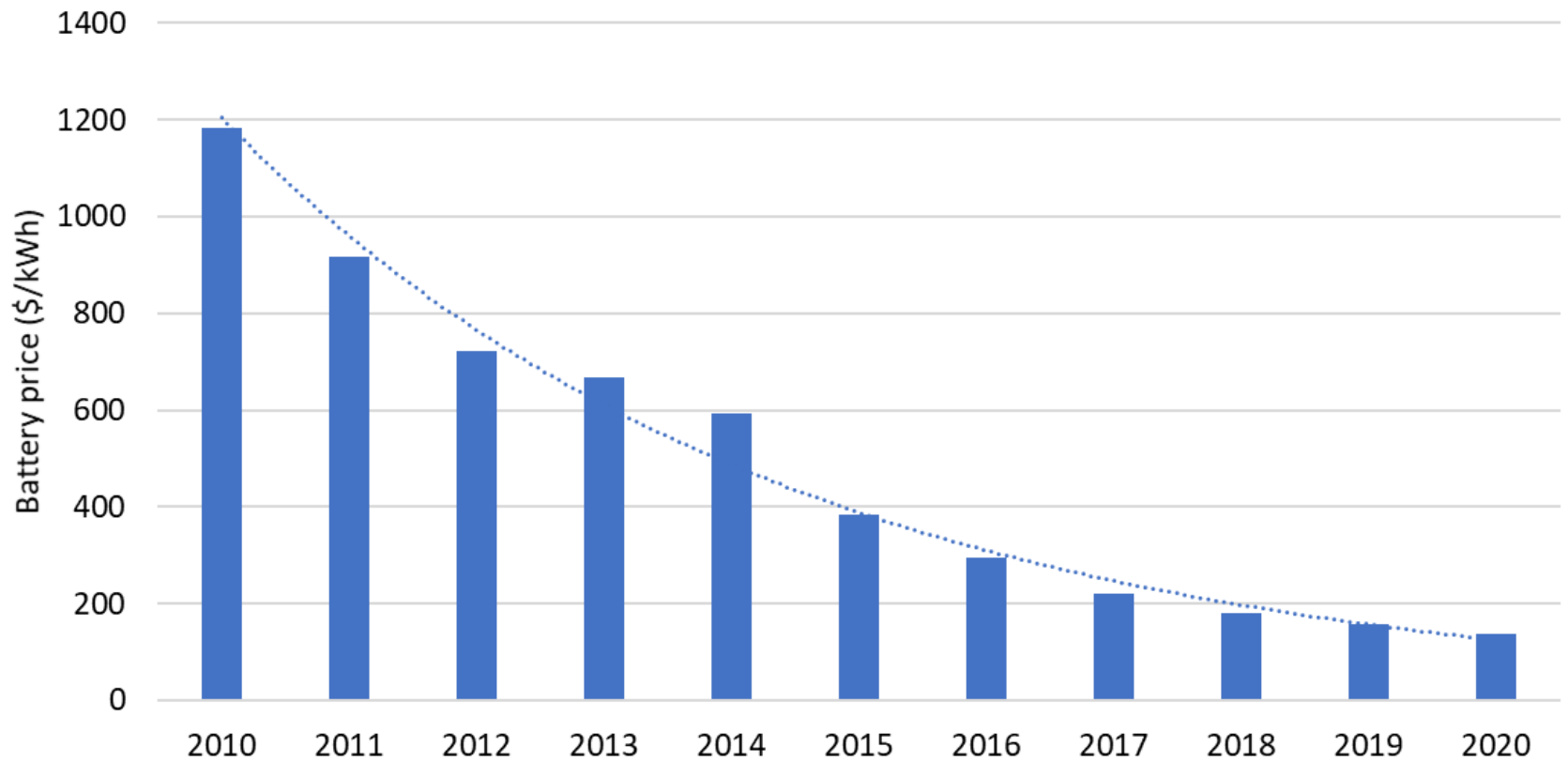


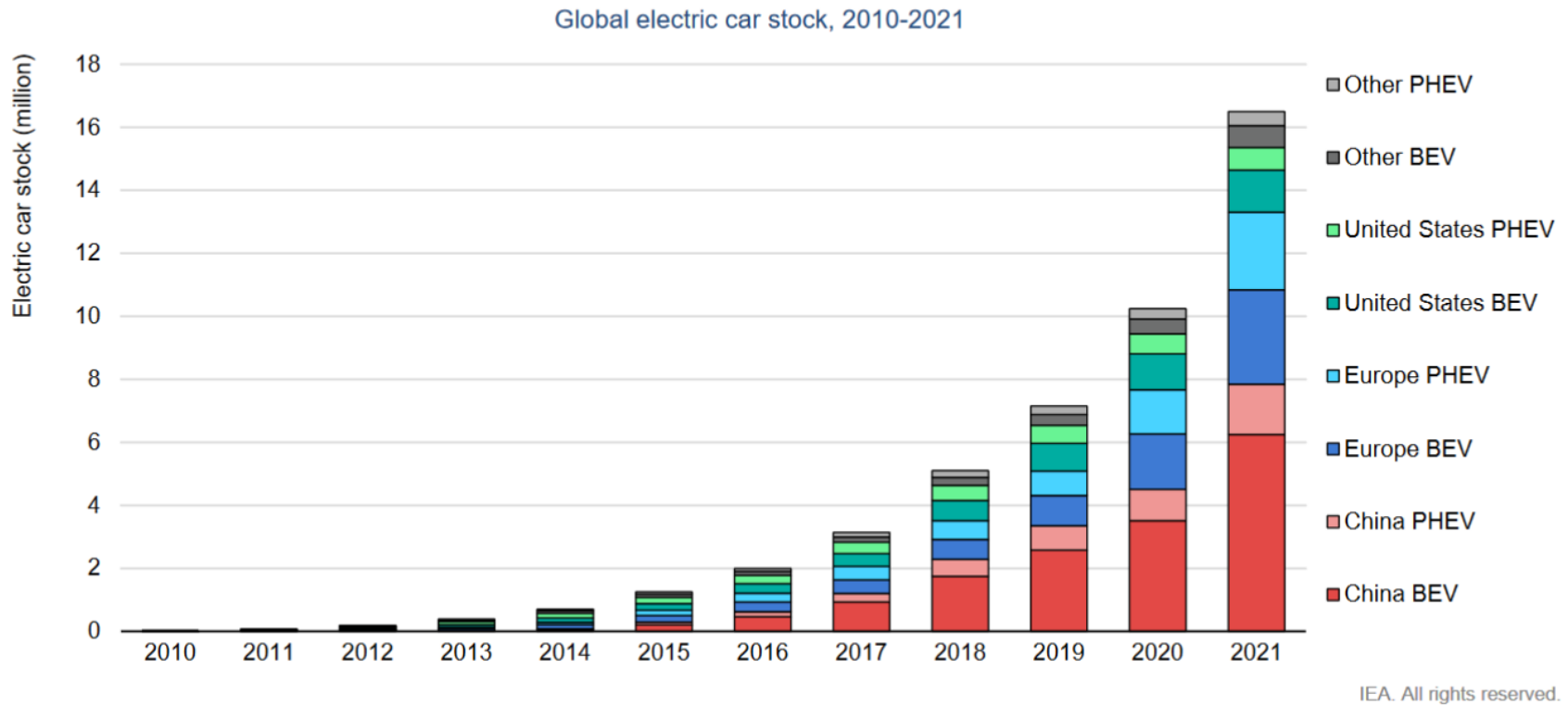
**70% of all charging points:
Located in just 3 EU countries**

29.7% Netherlands **20.4%** France
19.9% Germany



Battery pack prices





Over 16.5 million electric cars were on the road in 2021, a tripling in just three years

- Auto industry...interruptions in the supply chains and production
- EV...generous purchase incentives
- EV and charging infrastructure...concentrated in just few countries with the highest GDP
- Most of the policies implemented will be abolished with the increasing number of EVs...new policy design
- Globalized EV supply chain should be reconsidered

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