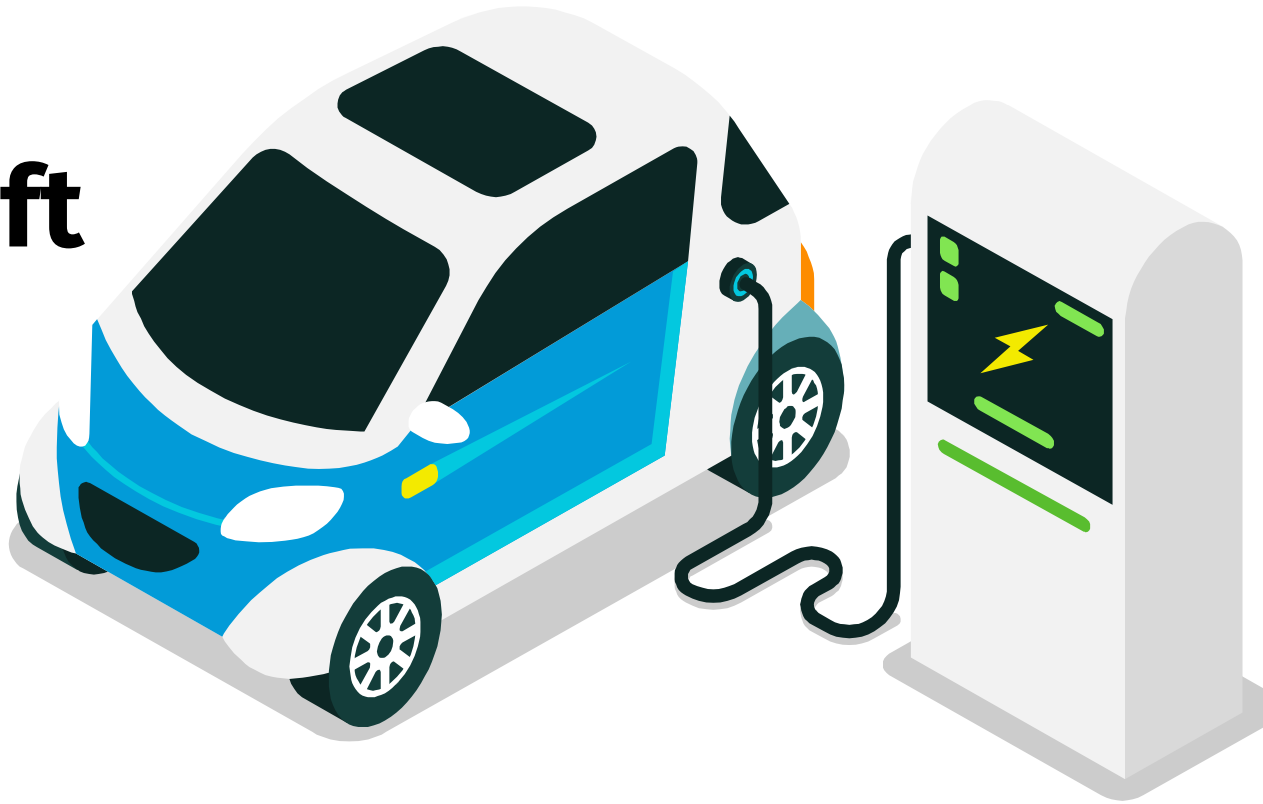


Plugged In or Left Behind?

An analysis of Germany's infrastructure readiness for the transition to electric vehicles

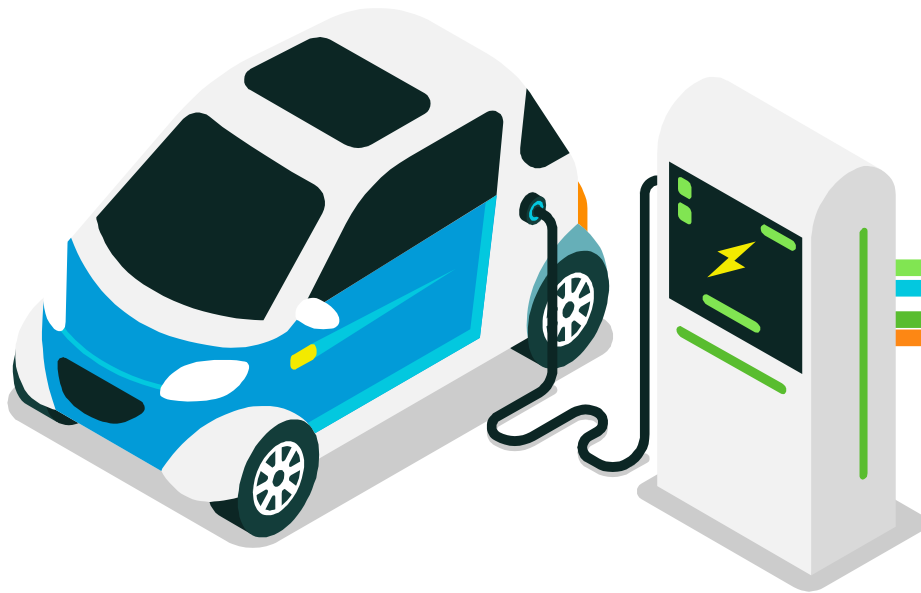
Adeline Silva Schäfer, April 2025



Research question: **Is Germany prepared for the shift towards electric vehicles?**



Datasets



Germany's vehicle fleet, from the Federal Ministry for Digital and Transport (2018-2025)



Charging stations, from Bundesnetzagentur, the primary regulatory body for infrastructure in Germany. (2018-2025)

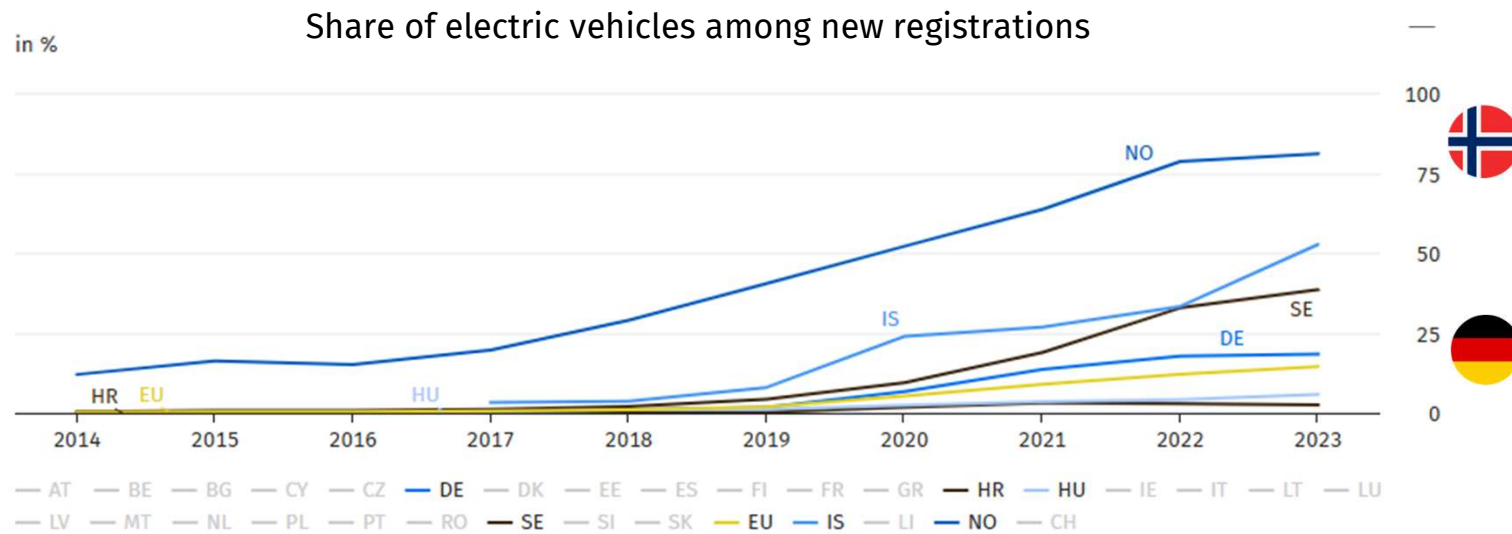


Germany's population, from Federal and State Statistical Offices (2022)



Gas stations, from: Federal Association of Independent Petrol Stations (2018-2024)

Electric vehicles adoption in Europe

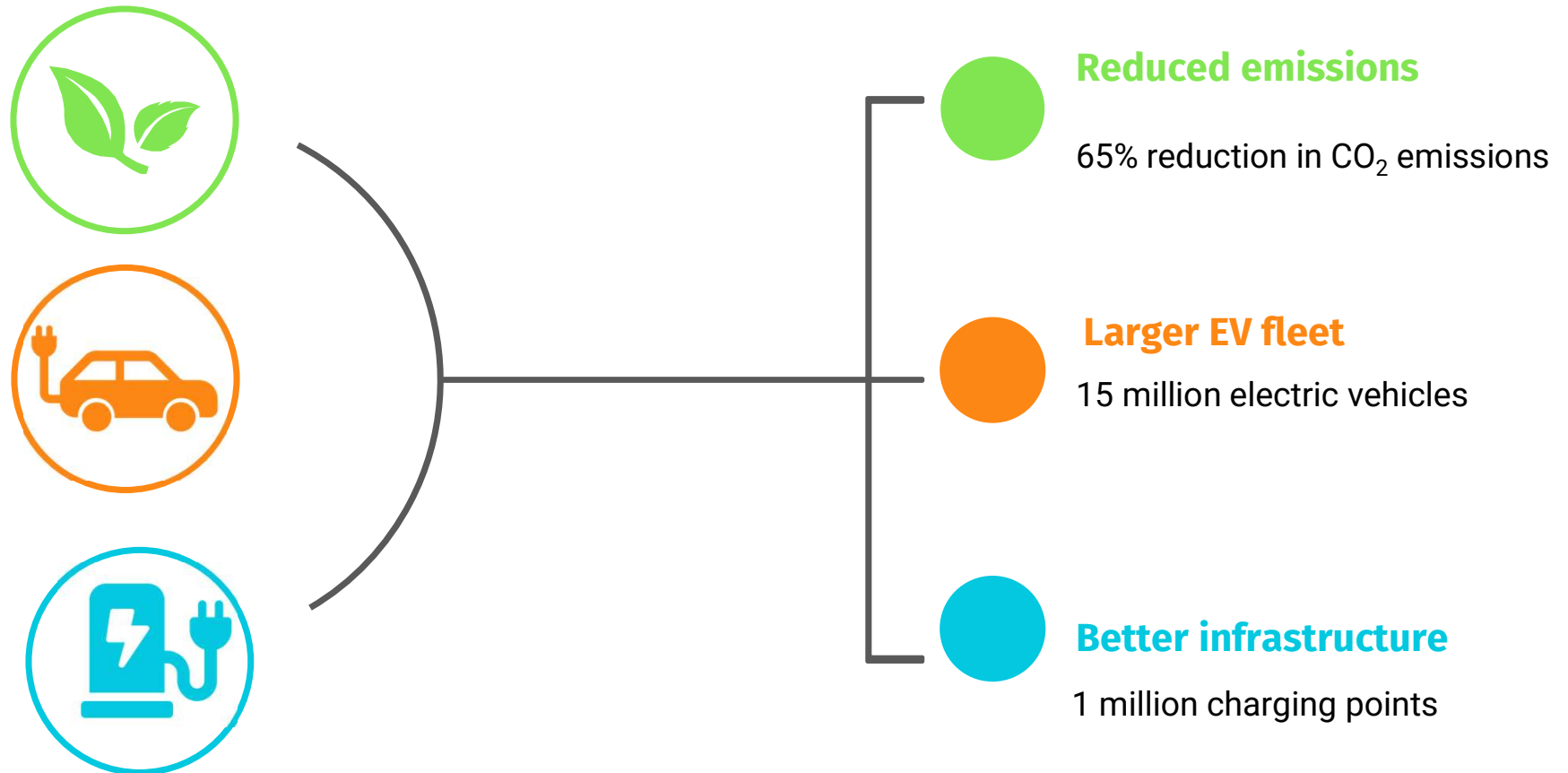


Ländercodes, Quelle: Eurostat

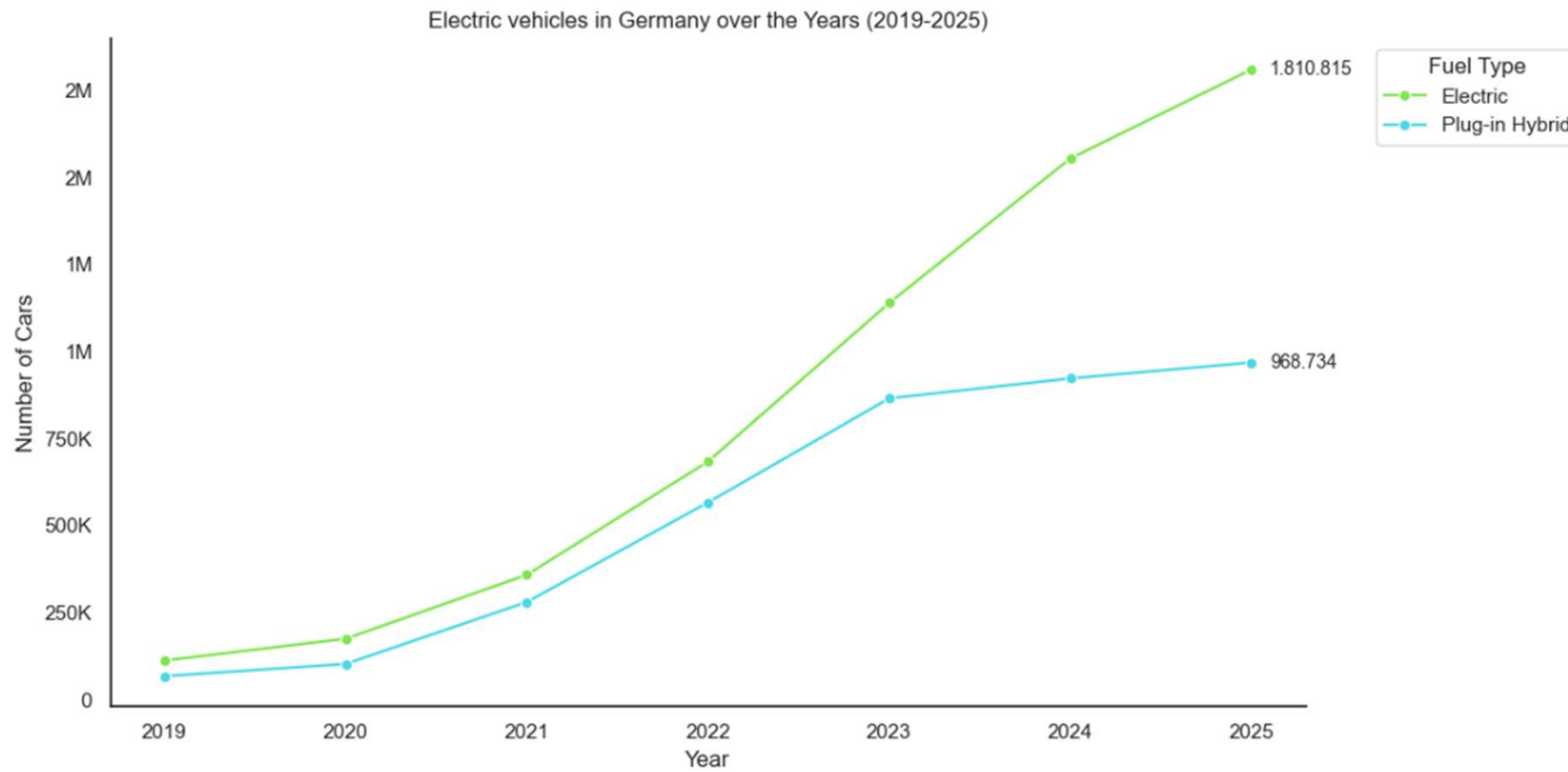
© Statistisches Bundesamt (Destatis), 2025



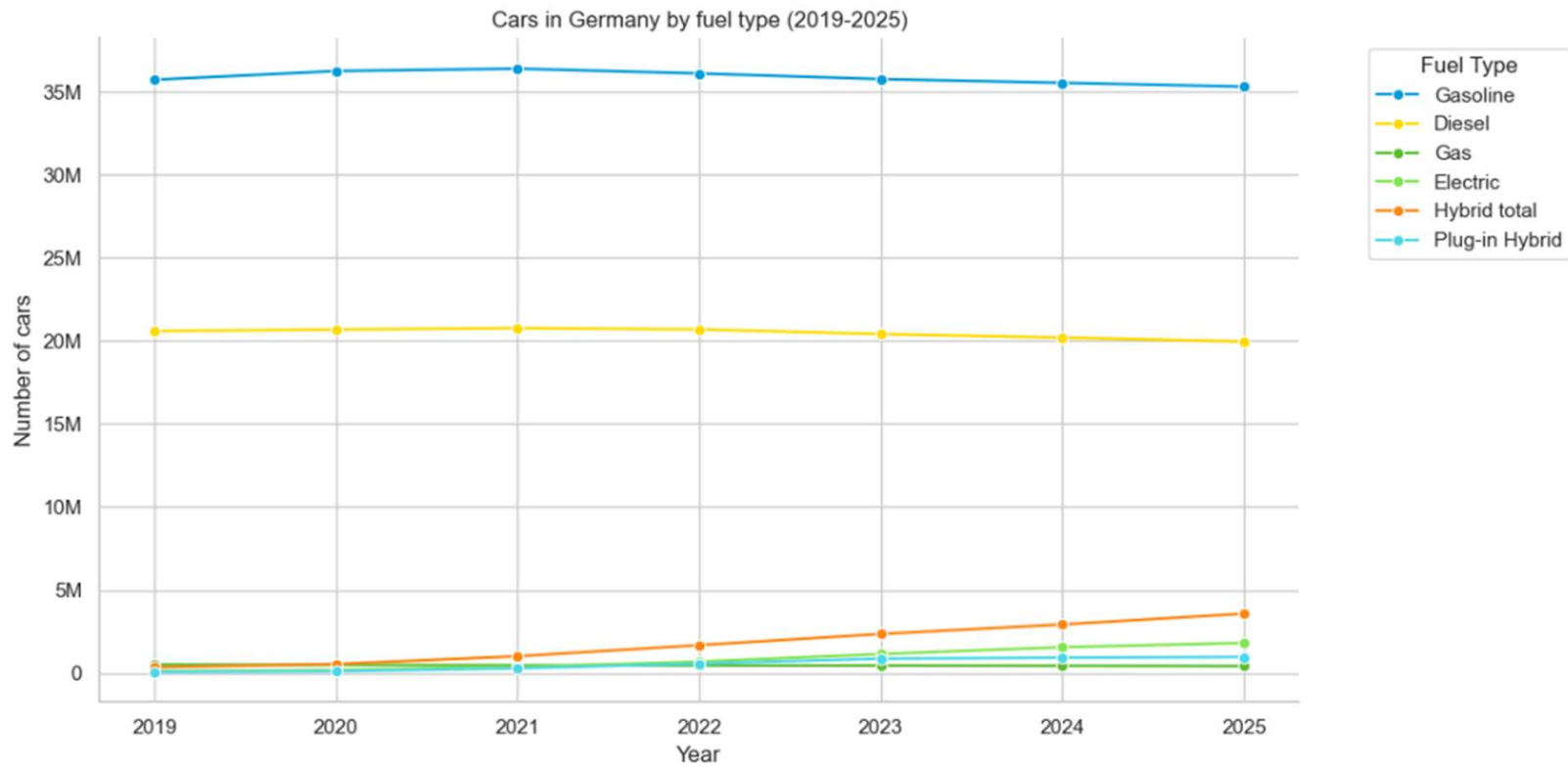
Climate Protection Act (2019) – Goals until 2030



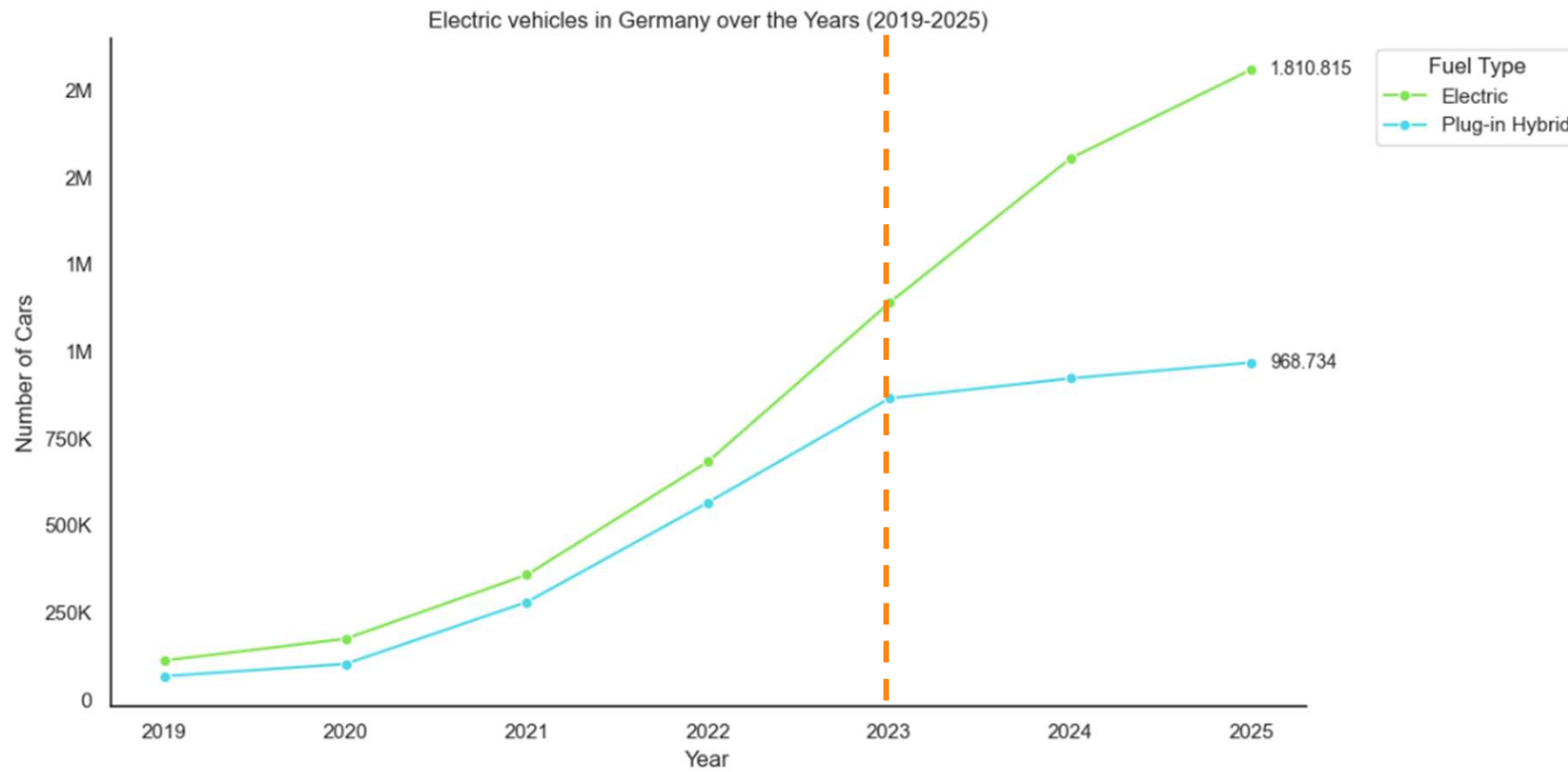
Growth of Germany's EV Landscape



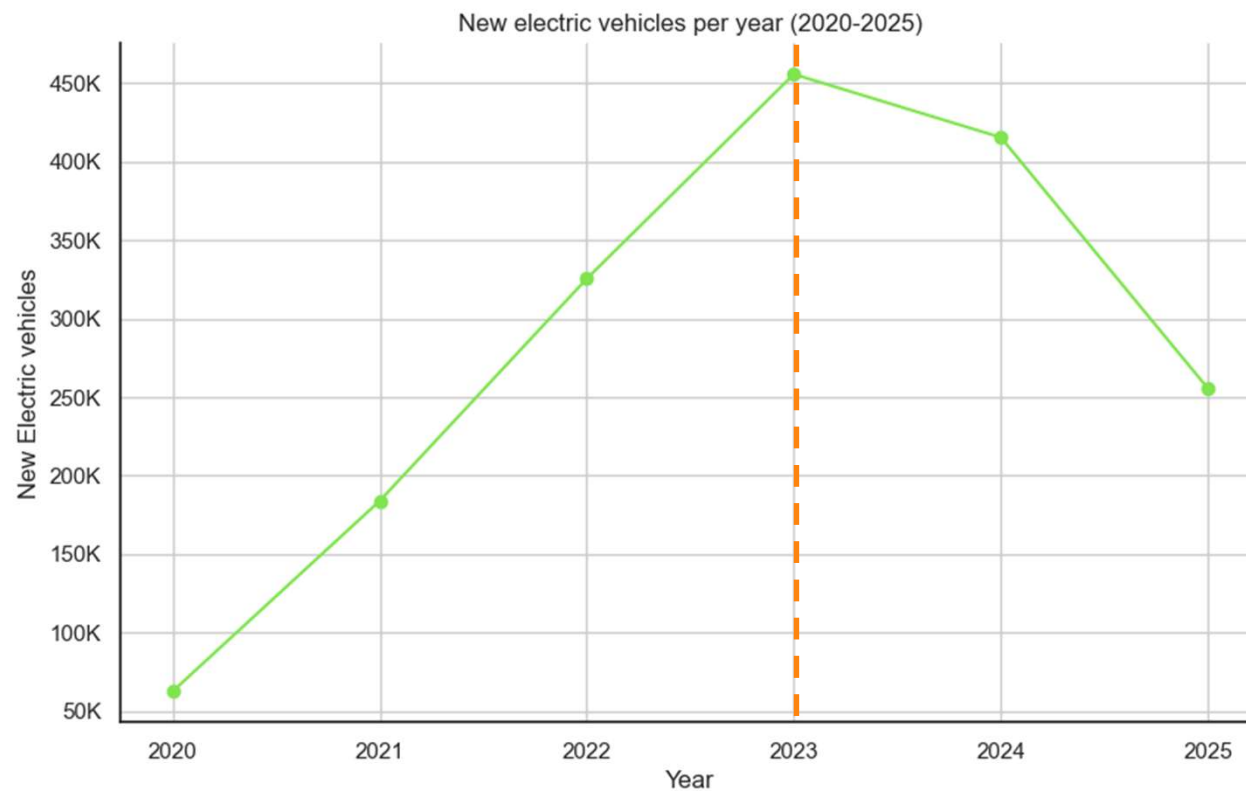
What about the other types of cars?



Growth of Germany's EV Landscape



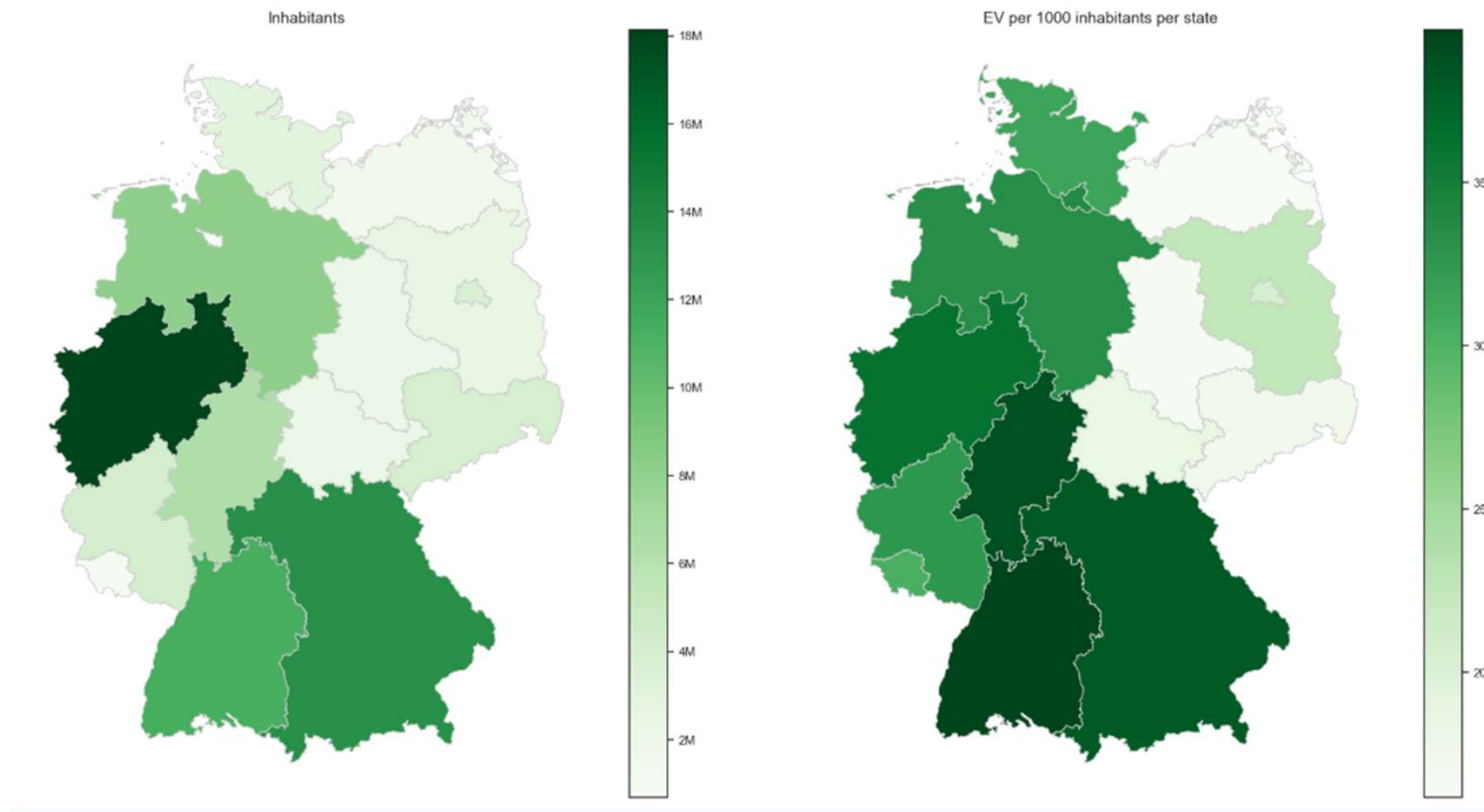
Why is the number of new electric vehicles going down?



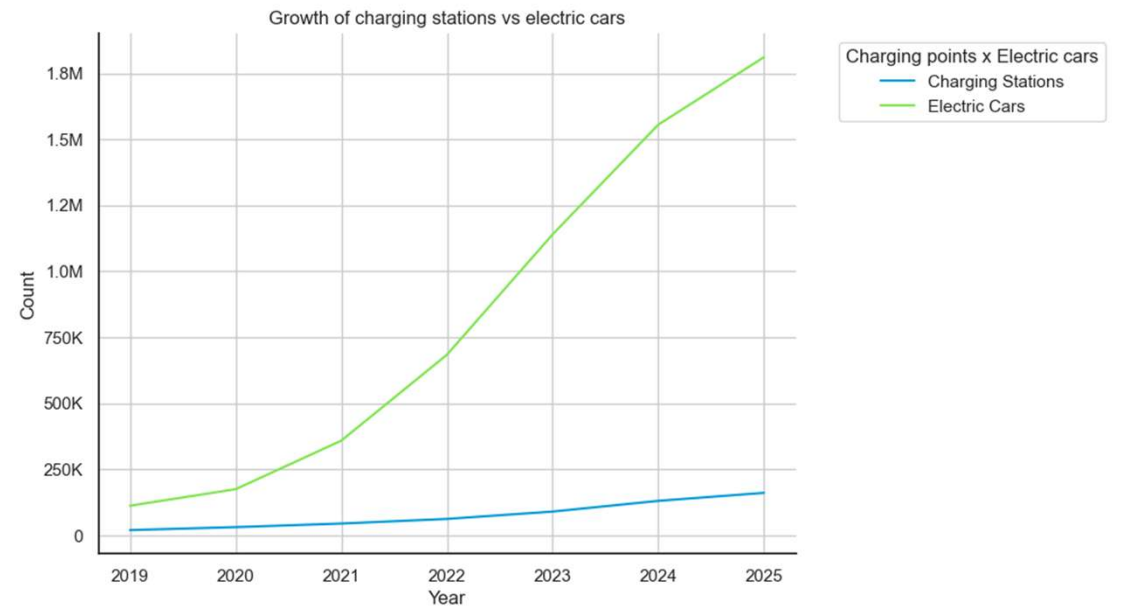
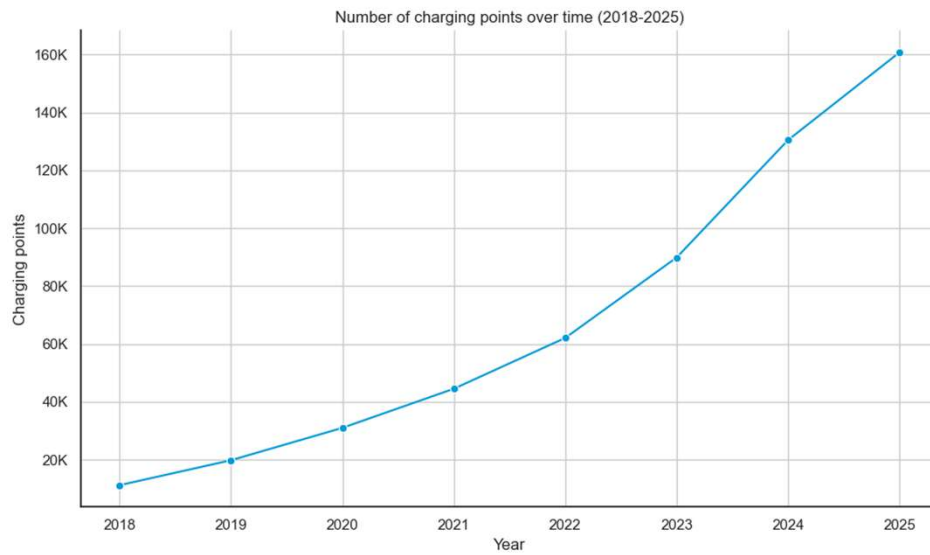
End of incentives
for electric vehicles



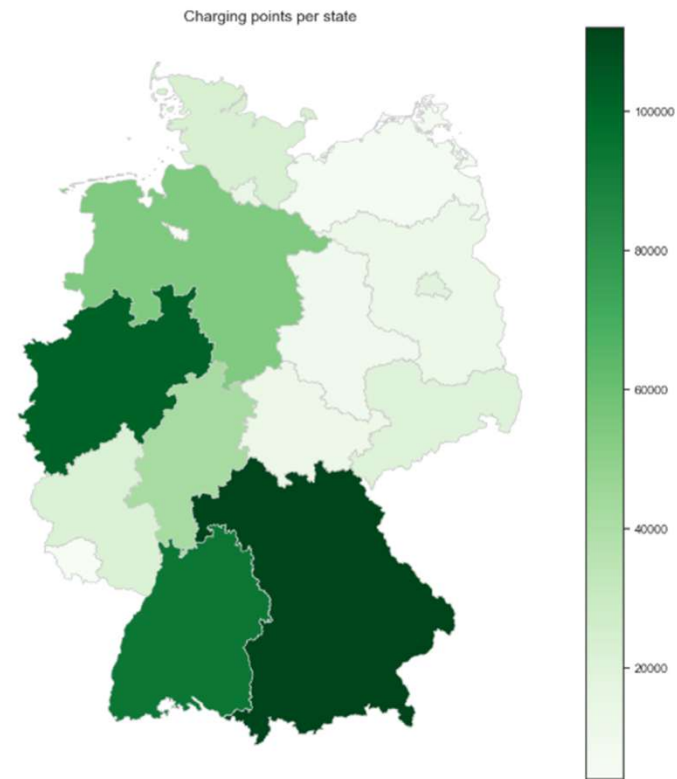
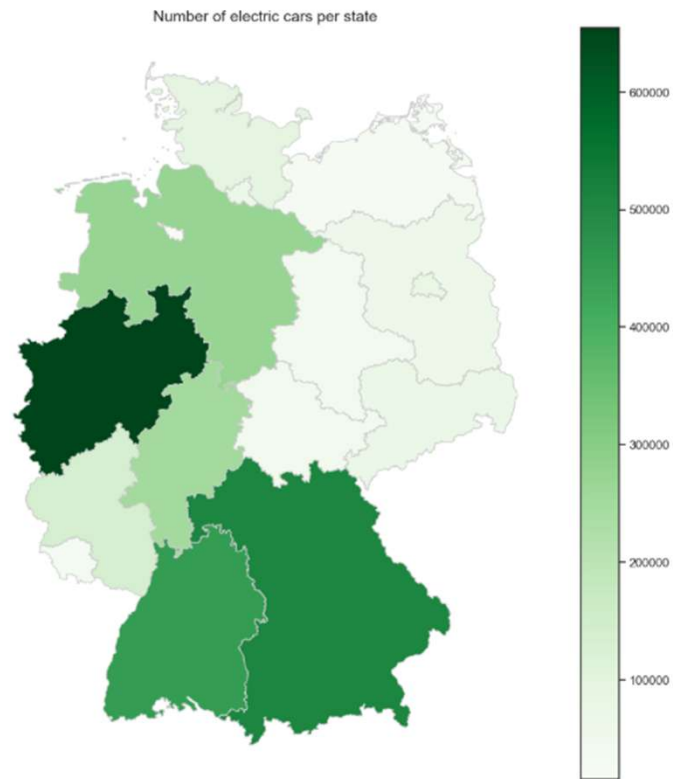
How are the EVs distributed in Germany



What about the charging infrastructure?



Electric vehicles and charging points



Is it enough?



11

Electric vehicles per
charging point

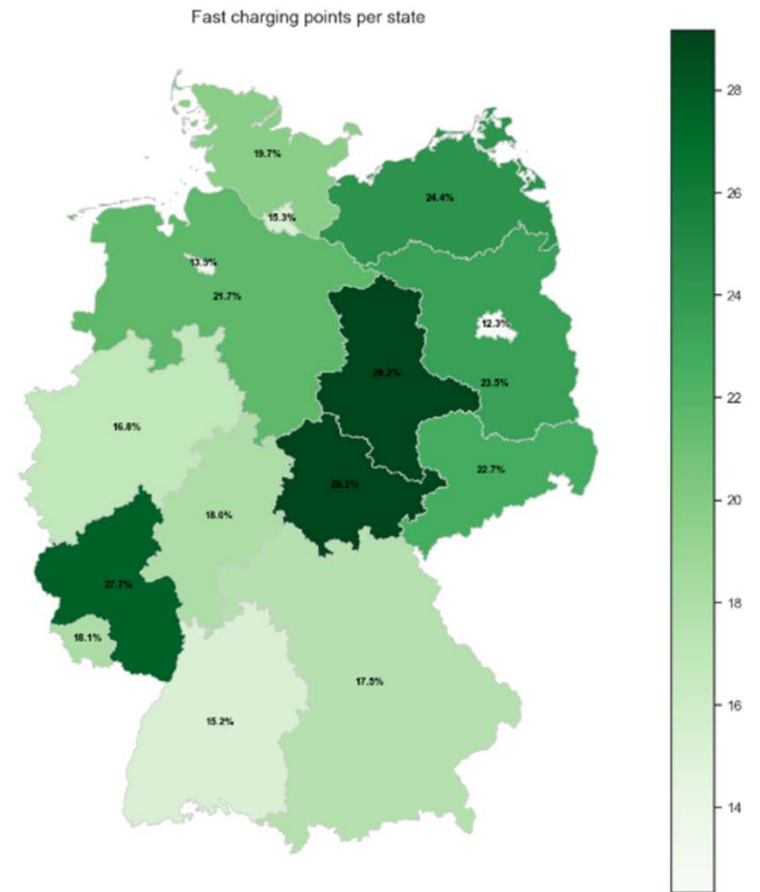
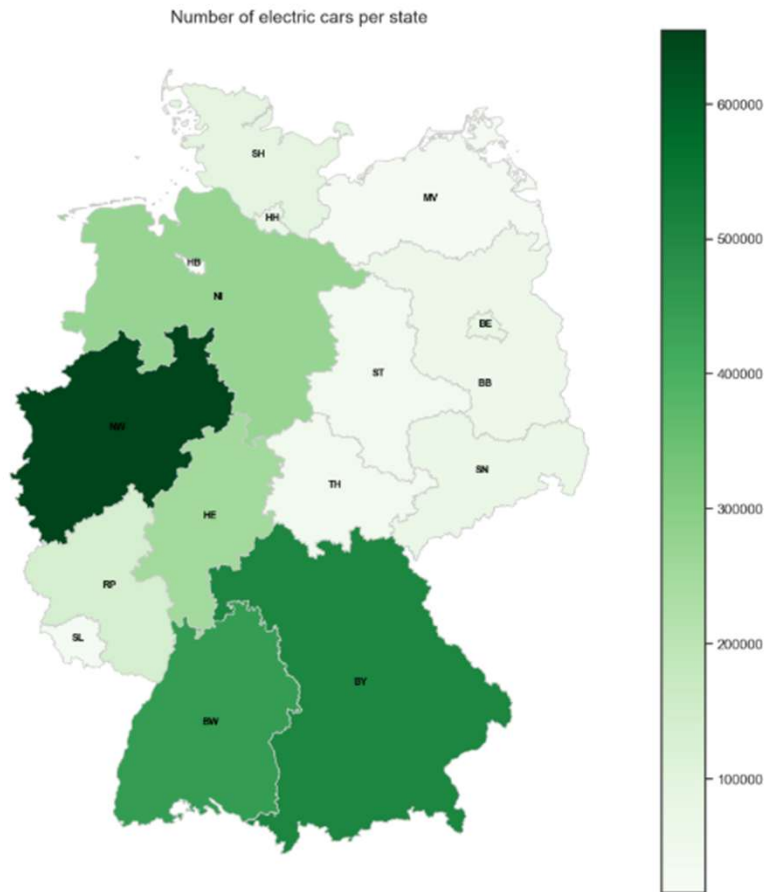


636

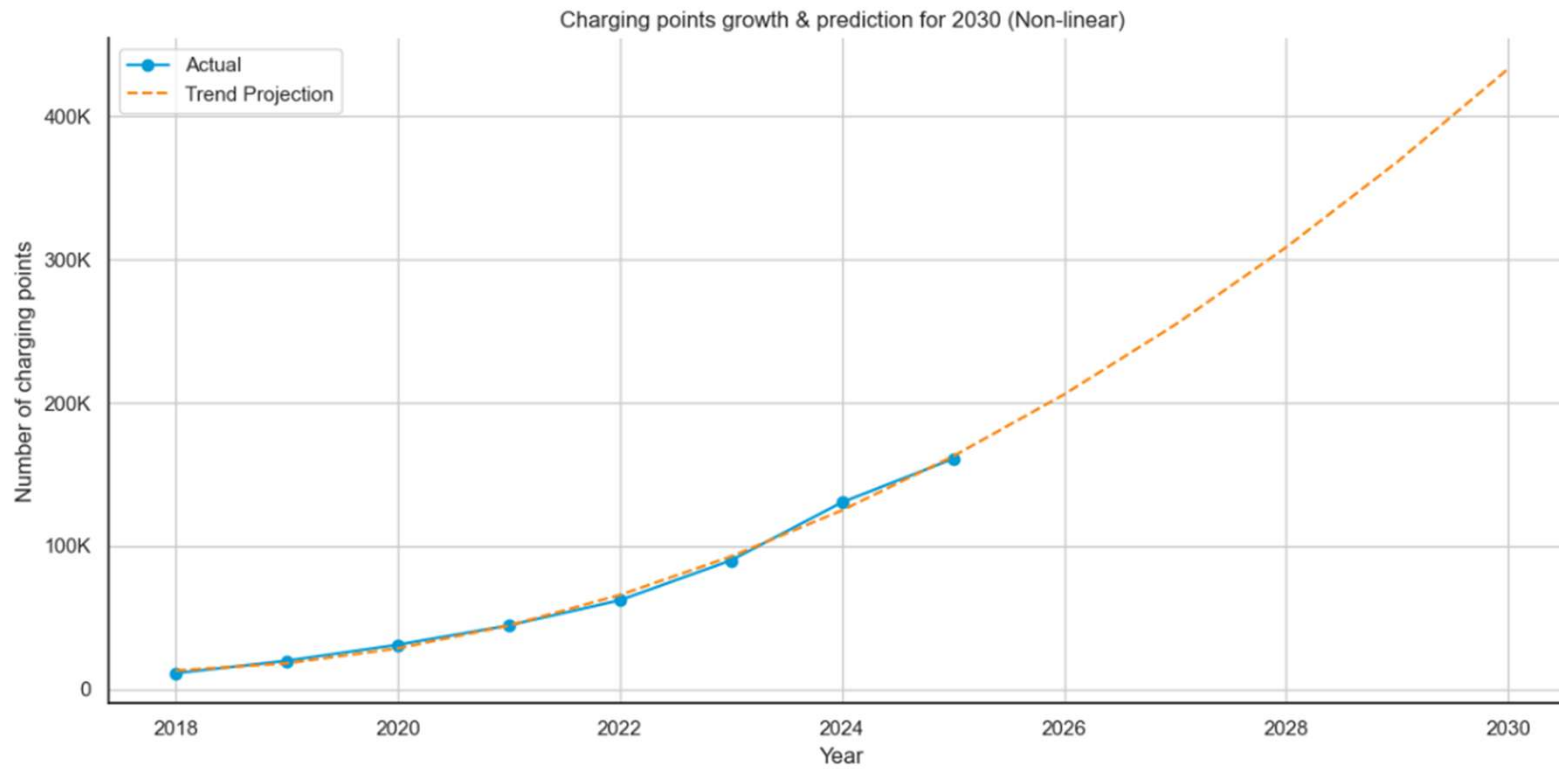
ICE vehicles per
fuel pump

 = 1.000.000

Fast charging points



1 million charging points by 2030?



Is it so bad?

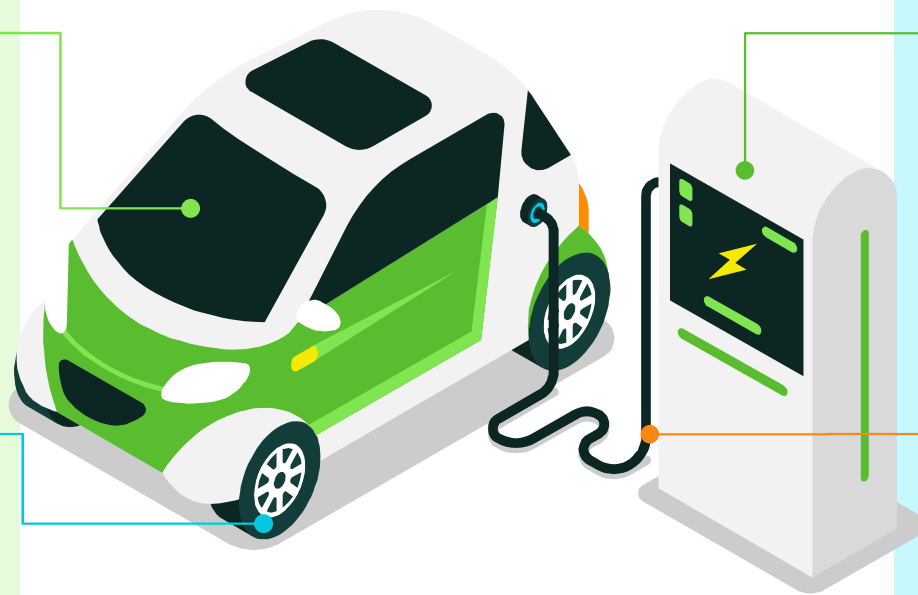
EV Owners

42%

of electric vehicle owners have a solar power system.

25%

of electric vehicle owners plan to make a purchase within the next 3 years.



Potential EV-Buyers

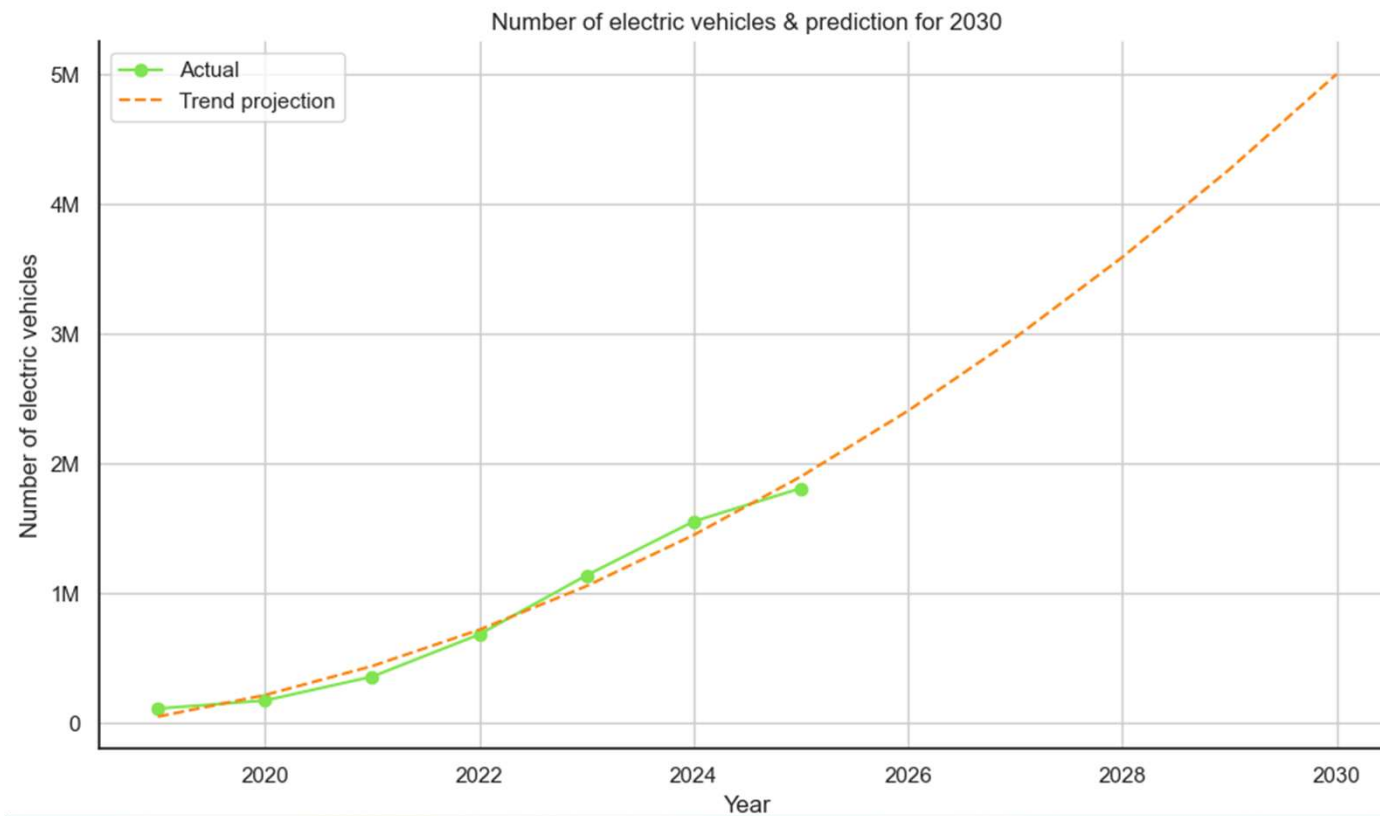
24%

Currently own a solar power system

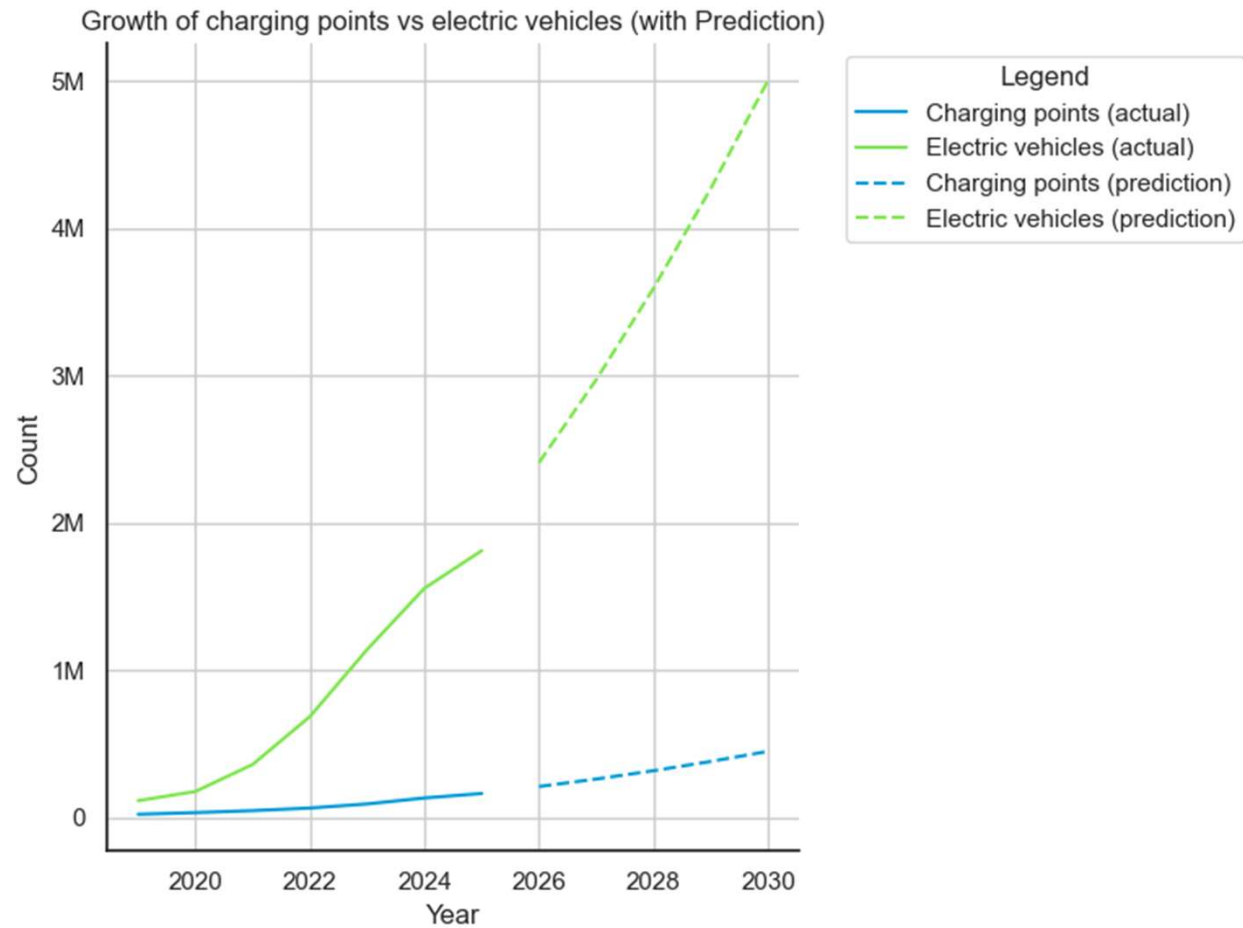
36%

Intend to invest in solar power systems

What about the electric vehicles?



Is it getting better or worse?



Conclusions



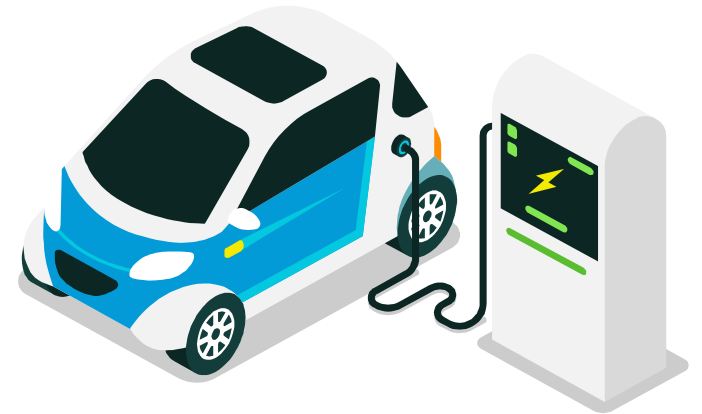
The infrastructure must accelerate its development, as it is progressing at a much slower rate than the increase in vehicles



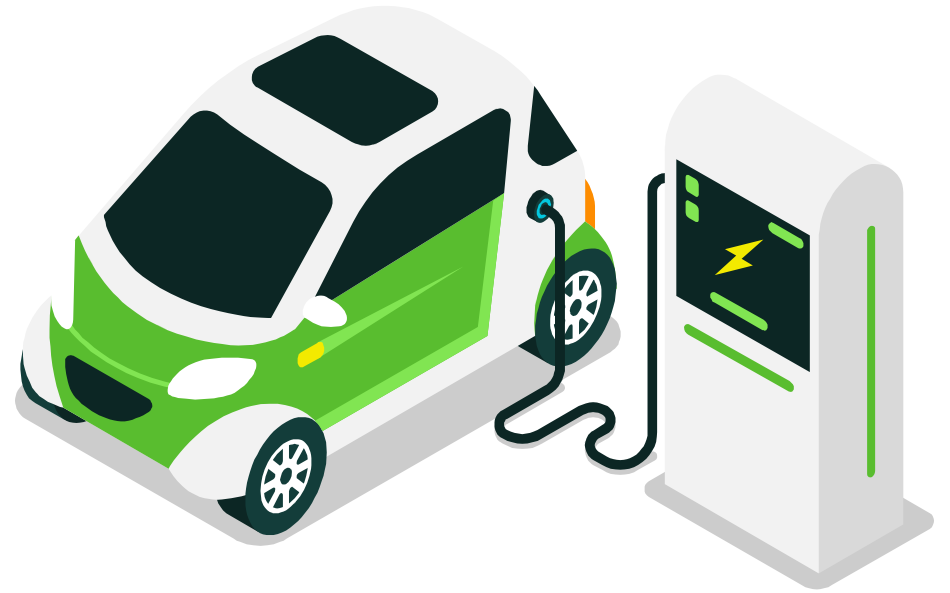
Germany is quite unlikely to achieve its targets for 2030



Providing incentives for electric vehicles could potentially enhance the current situation



Thank you



Adeline Silva Schäfer, April 2025

Data Sources

Car registrations in Germany:

https://www.kba.de/DE/Statistik/Produktkatalog/produkte/Fahrzeuge/fz27_b_uebersicht.html?nn=4543062

Charging stations in Germany:

<https://www.bundesnetzagentur.de/DE/Fachthemen/ElektrizitaetundGas/E-Mobilitaet/Ladesaeulenkarte/start.html>

Gas Stations:

<https://www.bft.de/daten-und-fakten/entwicklung-tankstellenanzahl>

Population:

<https://www.statistikportal.de/de/bevoelkerung/flaeche-und-bevoelkerung>



References

Climate Protection Act

https://www.gesetze-im-internet.de/englisch_ksg/index.html

ADAC Study (in German):

<https://www.adac.de/fahrzeugwelt/magazin/e-mobilitaet/elektroauto-studie/>

