

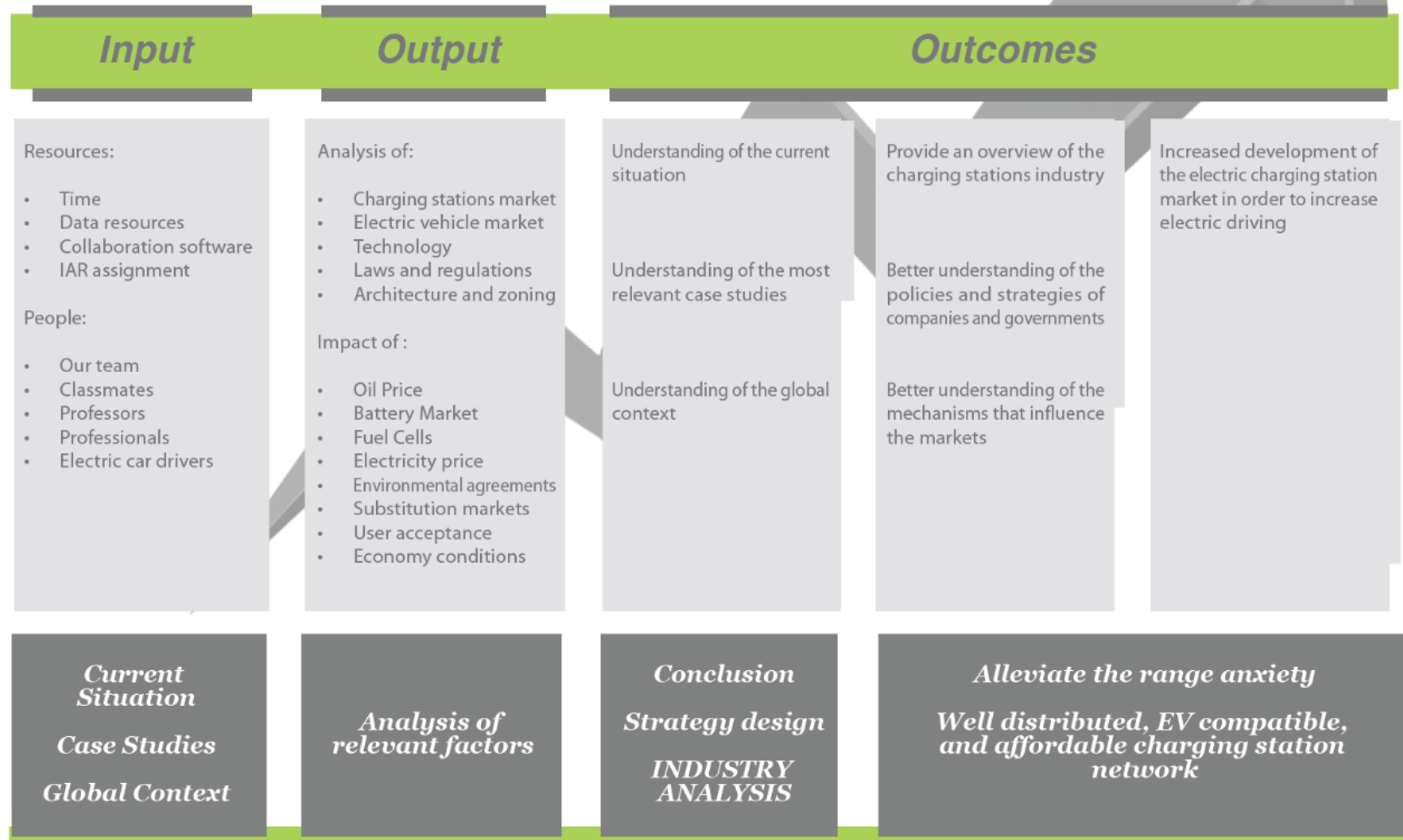
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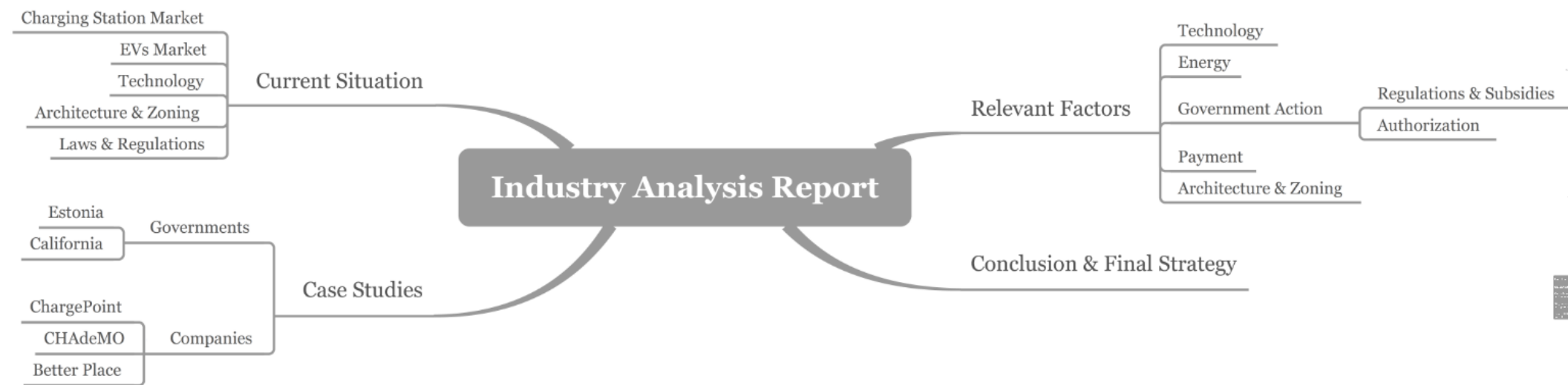
LEADER IN ENVIRONMENT ANALYSIS AND DEFINITION OF STRATEGY

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Logic Model





Charging Station Market

EVs Market

Technology

Architecture & Zoning

Laws & Regulations

Current Situation

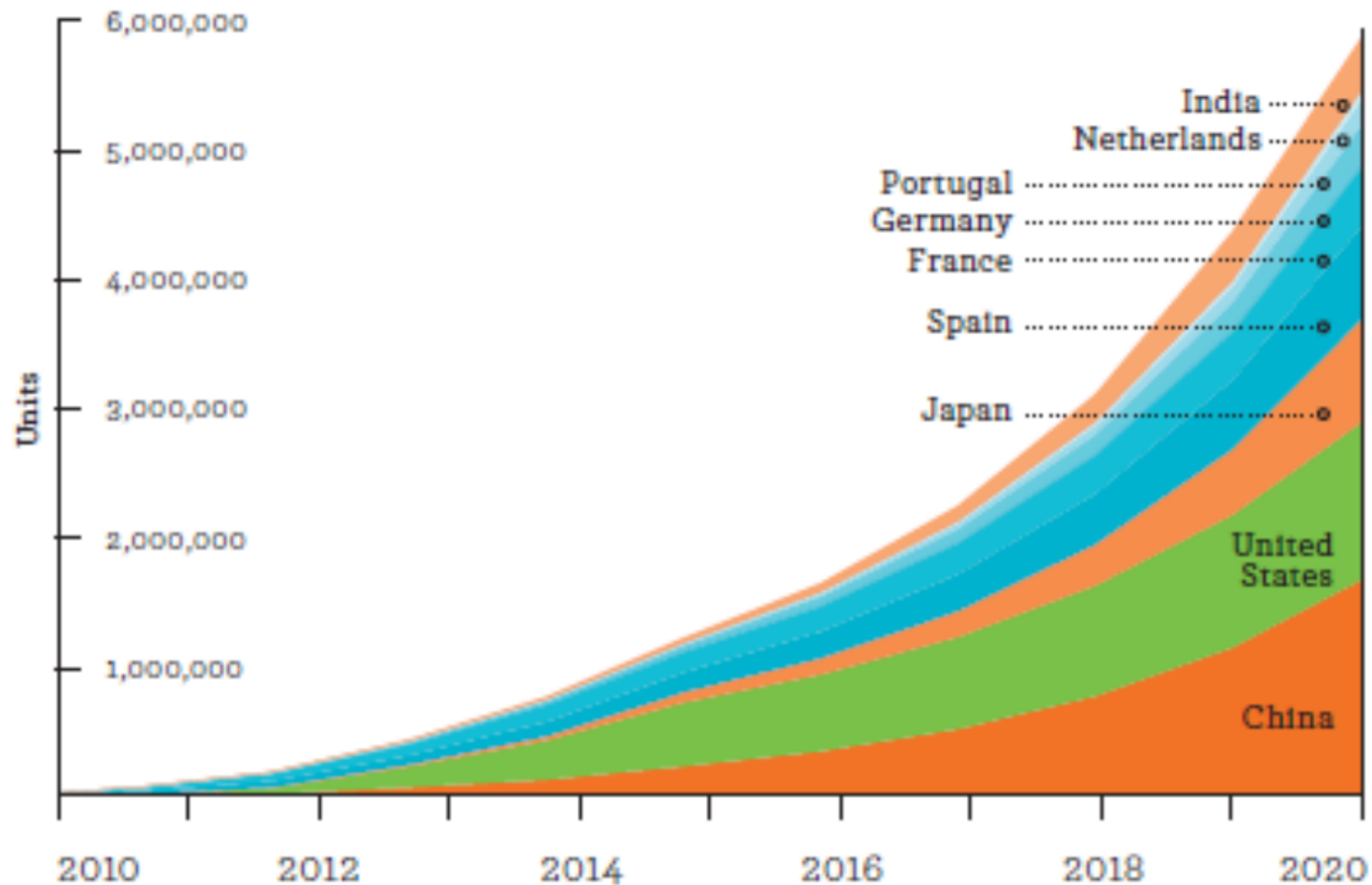
Estonia

Governments

California

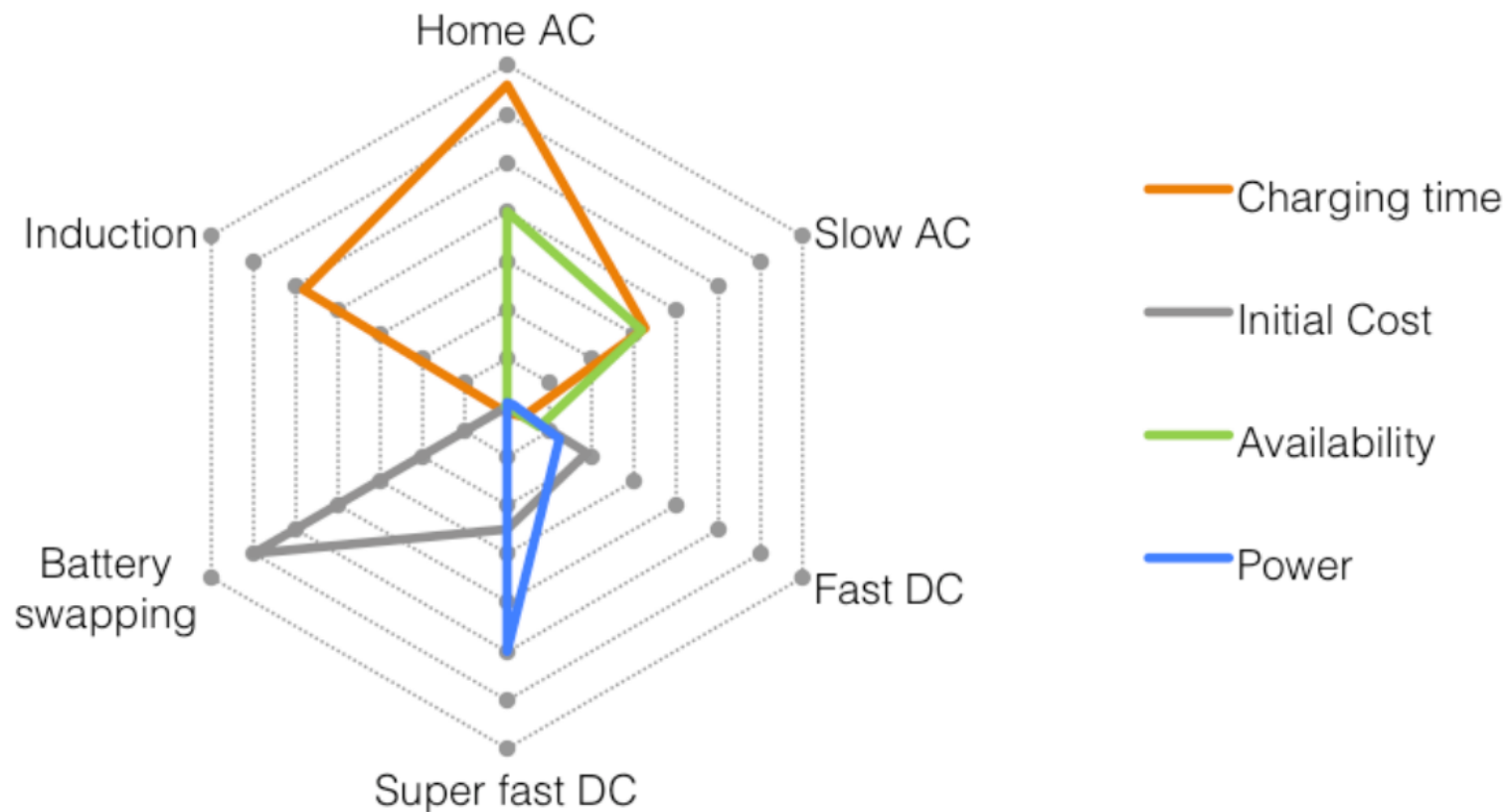


EV Market: EV Sales Targets



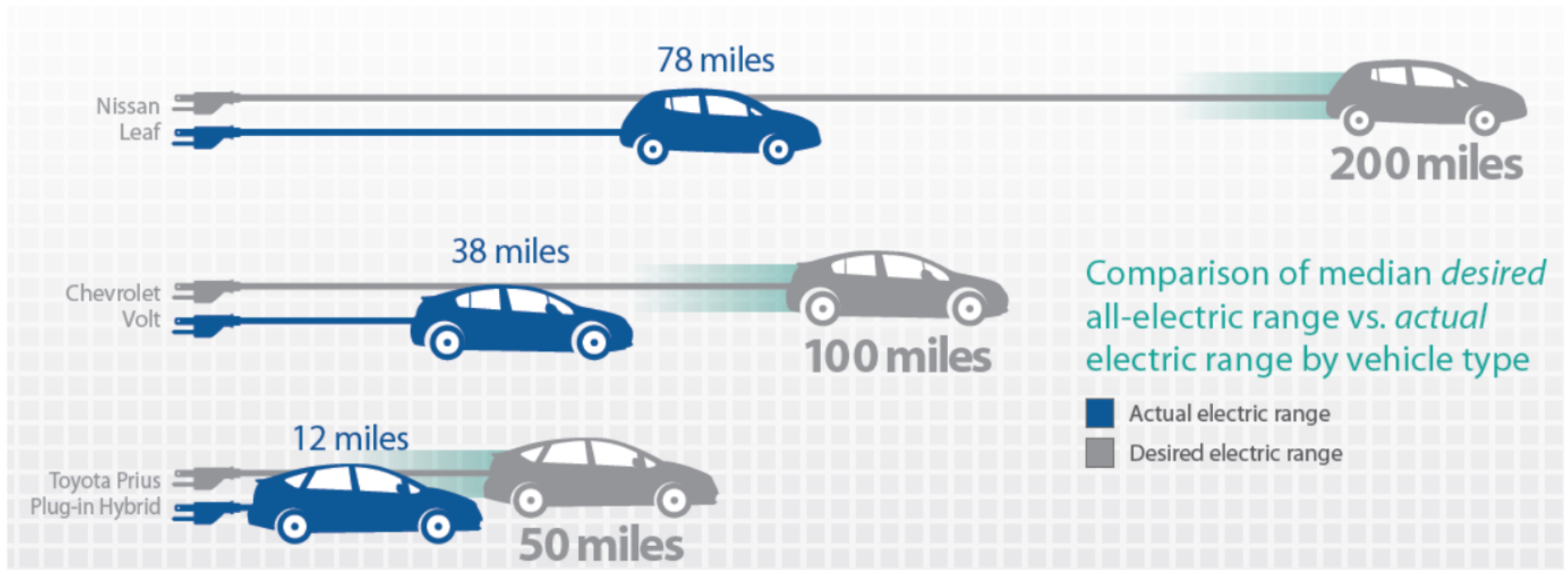
EVs sales have been growing for the past 5 years, and the market is predicted to continue its exponential growth

Technology: Attributes of different charging methods



Charging Methods are many, and each present very different characteristics. Super Fast DC is one of the best technology existing.

Architecture & Zoning: Comparison of Median desired EV range vs. actual range



Range Anxiety is one of the main factor slowing the growth of the EV Market

Architecture & Zoning

Laws & Regulations

Indu

Estonia

Governments

California

Case Studies

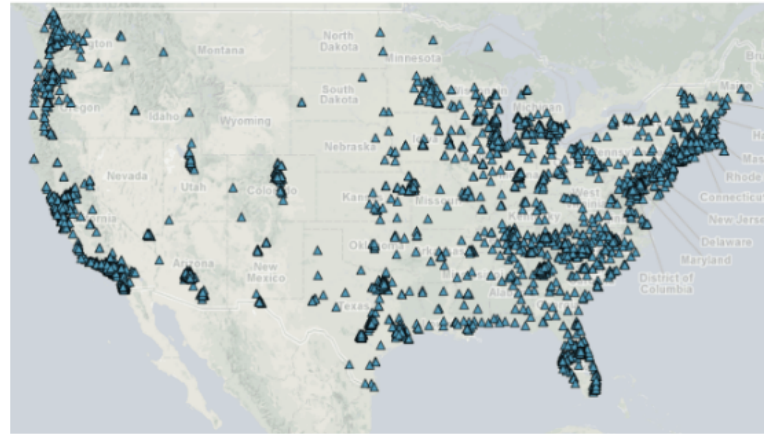
ChargePoint

CHAdEMO

Companies

Better Place

Case Study 1: California



Map of Charging Stations location in the US

Case Study 2: Estonia



Map of Charging Stations location in Estonia

Case Study 3: Successful Company



Case Study 4: Successful Association



CHAdemo

Case Study 5: Unsuccessful Company



Relevant Factors

Technology

Energy

Government Action

Payment

Architecture & Zoning

Regulations & Subsidies
Authorization

Conclusion & Final Strategy

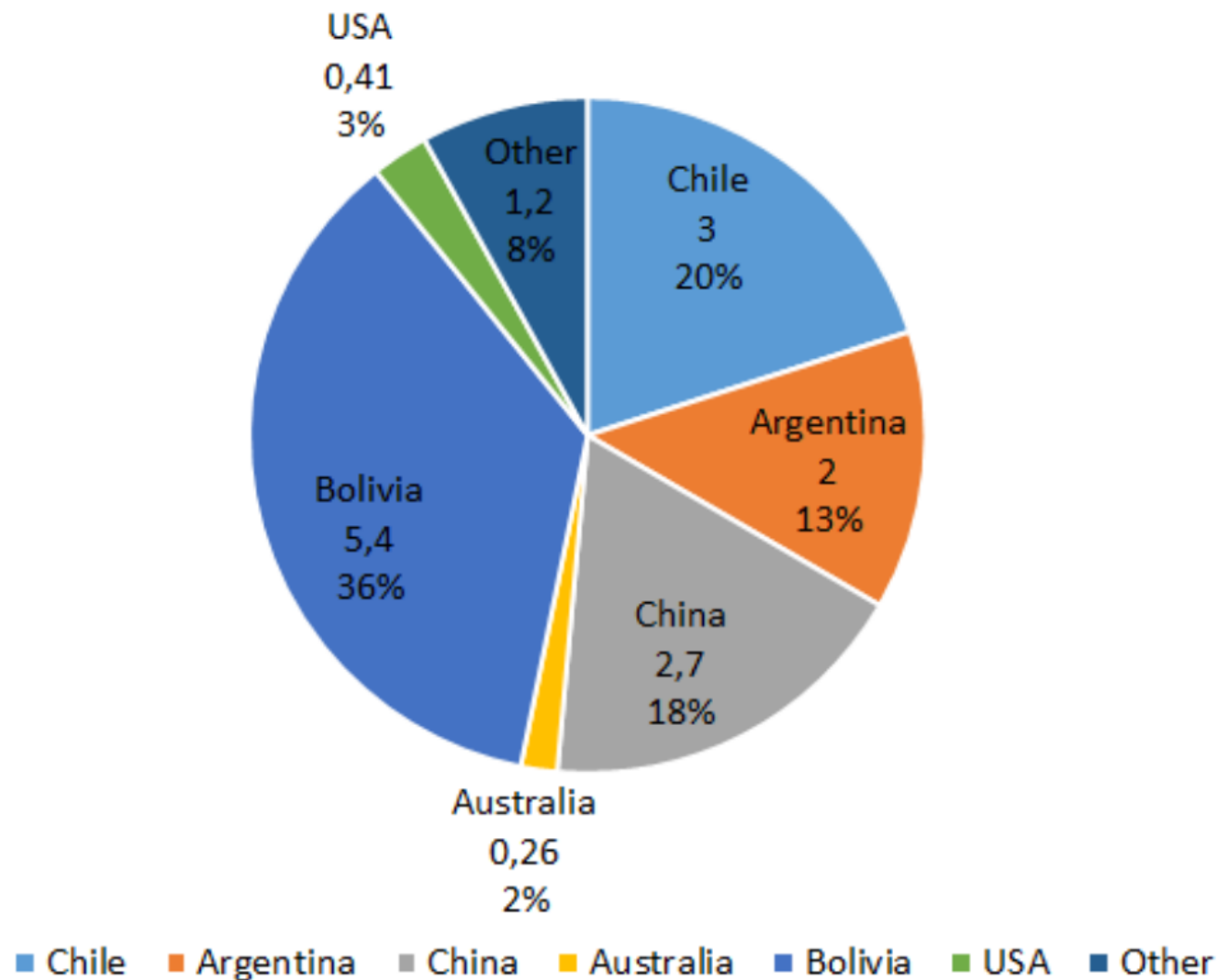


Conclusion

The development of the global vehicle fleet is a long-term process. The technological and industrialization pace is fast, making it difficult to predict. The global vehicle fleet is still in the early stages of development, with significant market potential and technological changes. Close collaboration between government and companies is needed.

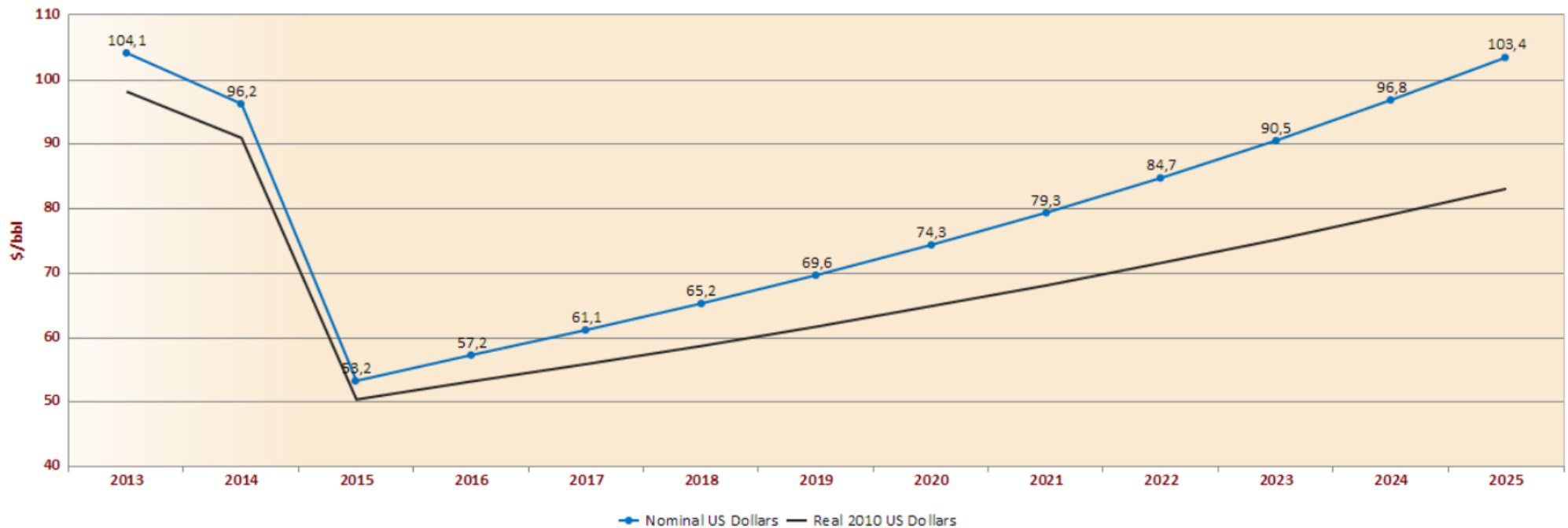


Technology: Lithium Reserve Base (in MM tons)



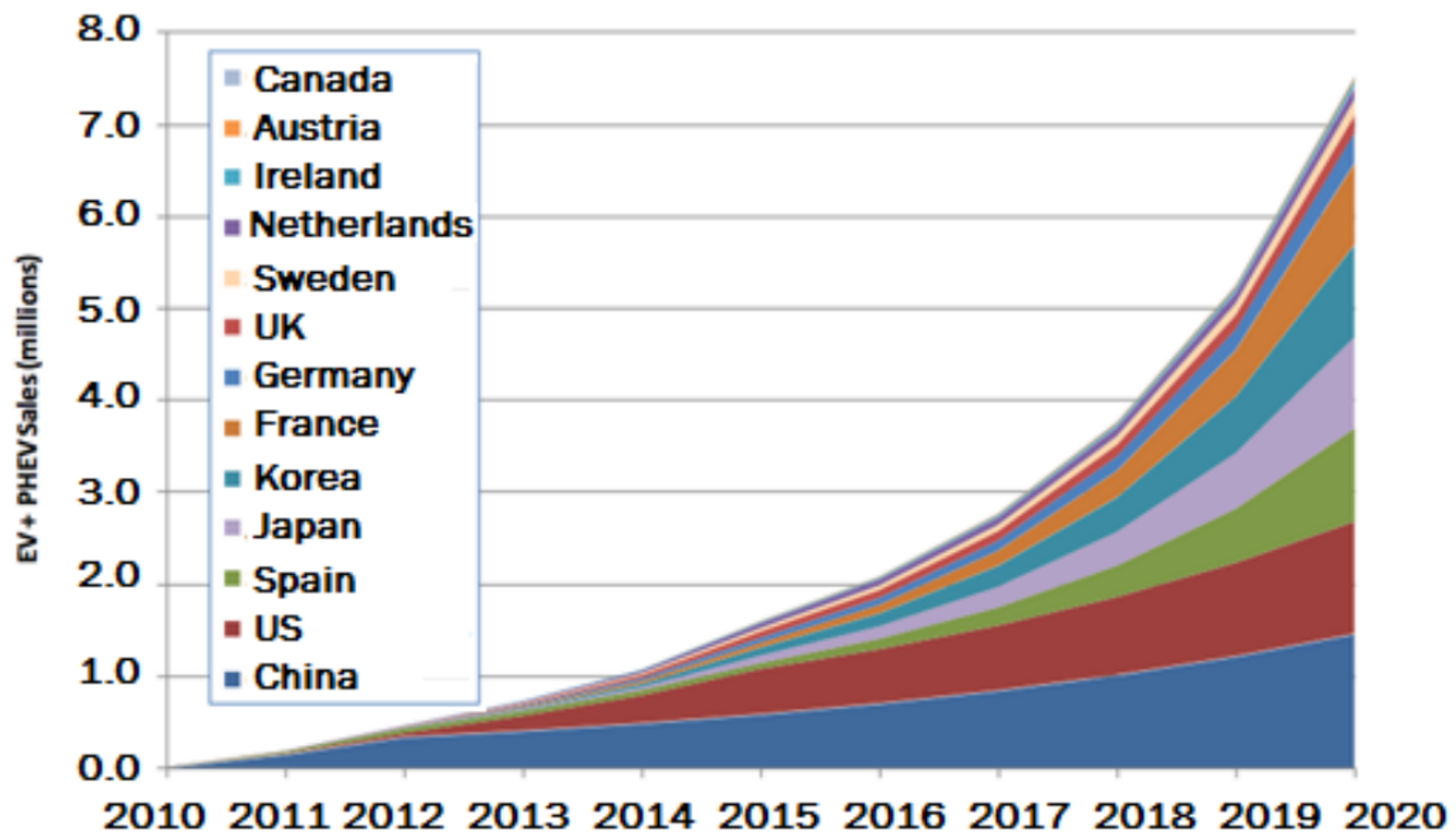
A major risk in the new battery technology is the possibility of limits in Lithium resources

Energy: Crude oil, \$/barrel (World Bank)



The expected rise in crude oil prices in the 10 years to come is very likely to favorize the EV Market

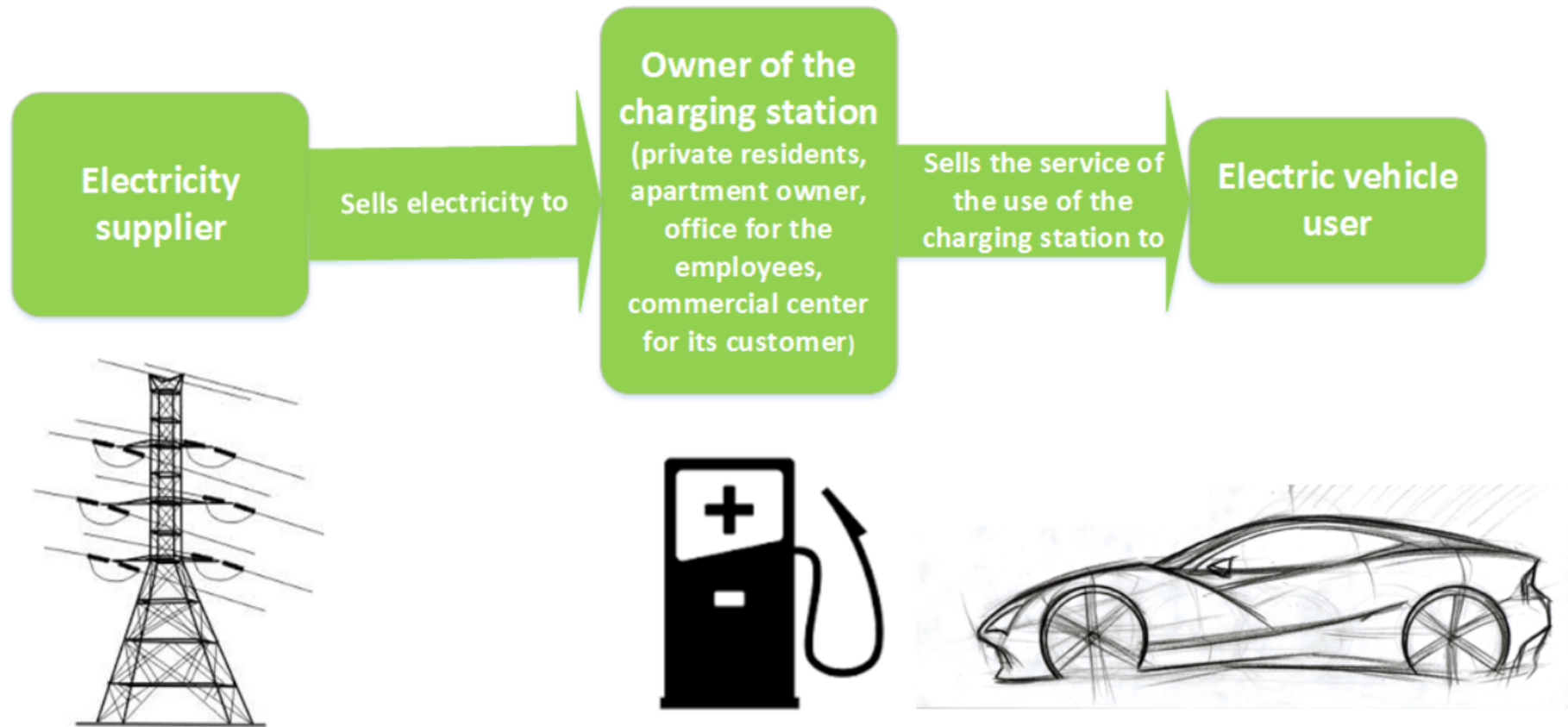
Government Action: Projected EV and PHEV sales through 2020, based on announced national targets



National and International Environmental Goals are one of the most efficient incentive for governmental action

Authorization:

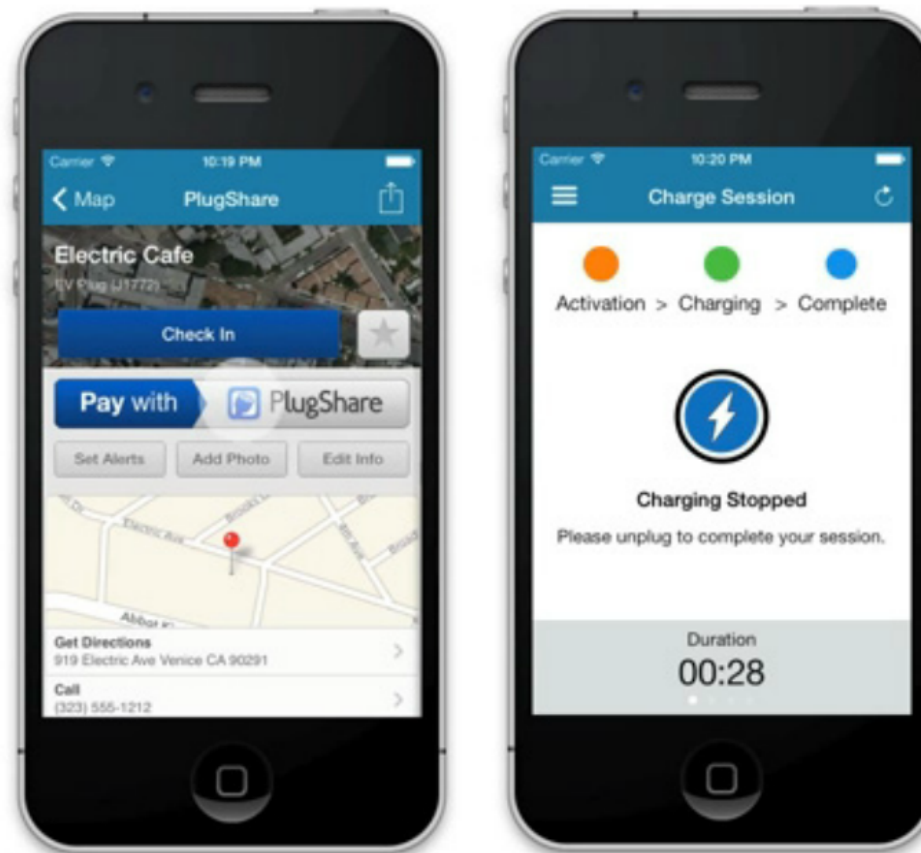
Stakeholder authorization process



Many actors are involved in the process of installing and selling the service of charging stations. Complications can occur in high density cities (problem of apartment owners)

Payment:

The use of smartphone is one aspect of the use of new technologies in the EV Market



The payment system is actually not standardized between the different actors. The use of online payment system is important to be visible and attract customers.

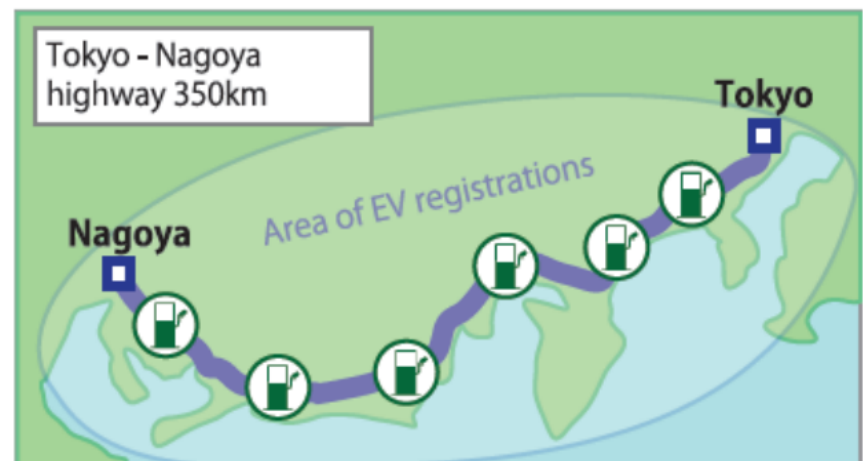
Architecture & Zoning: Impact of implementation of Charging Stations on the Tokyo-Nagoya Highway

Fast charger : **2** units



19% of EV drivers
used the highway

Fast charger : **7** units



46% of EV drivers
used the highway

This example shows the importance of a supporting Charging Station Infrastructure in the use of EVs and roads.

Conclusion & Final Strategy

Conclusion

The electrification of the global vehicle fleet is a long-term ambition.

The technological and industrialization pace is fast, unlikely to slow down the market expansion.

Still, uncertainties and risks remain, for example: market competition, consumer perception and technology choices

Close collaboration between government and companies is key to success in the market.

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