

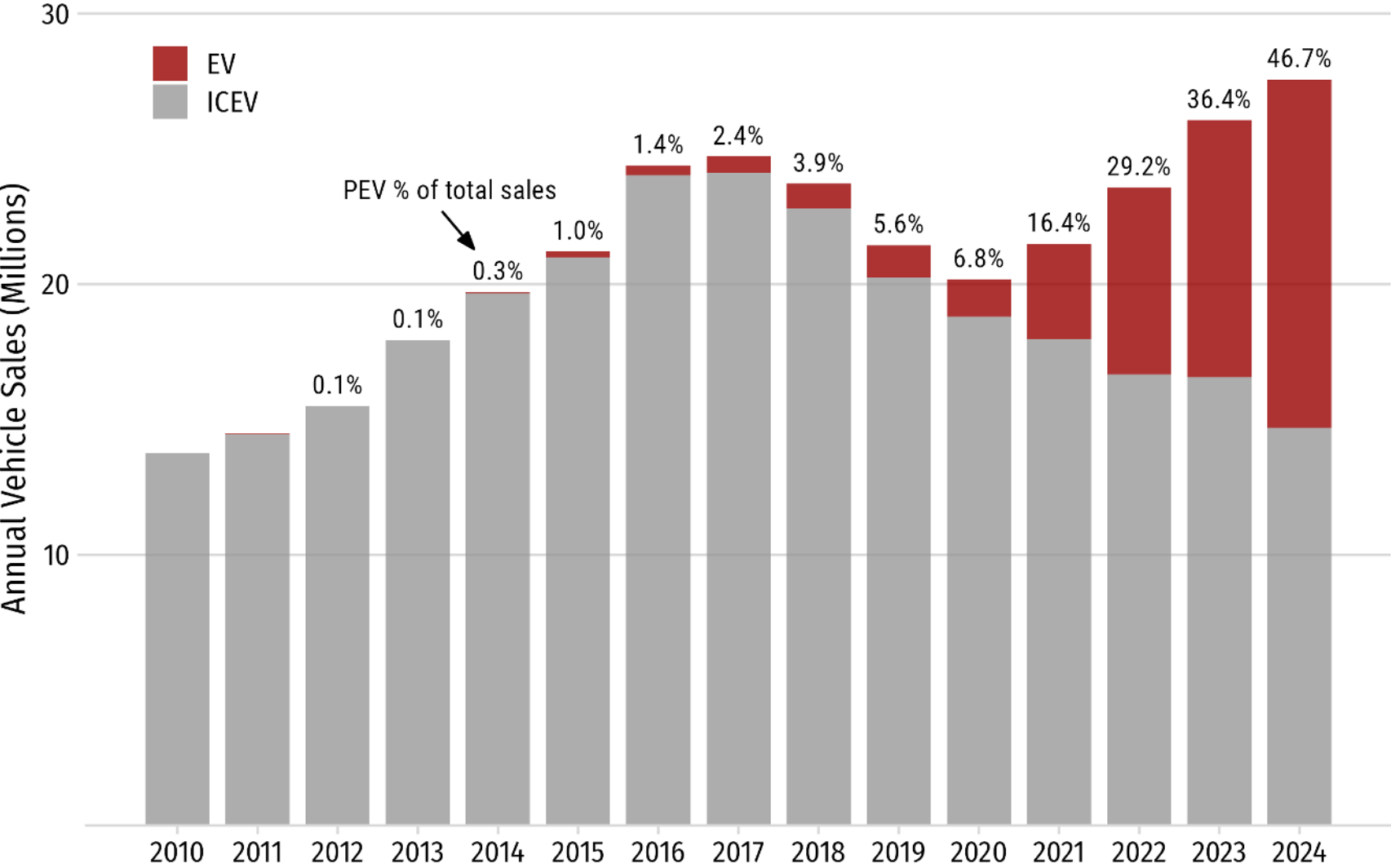
The EV Transition in the U.S. & China

John Paul Helveston, George Washington University

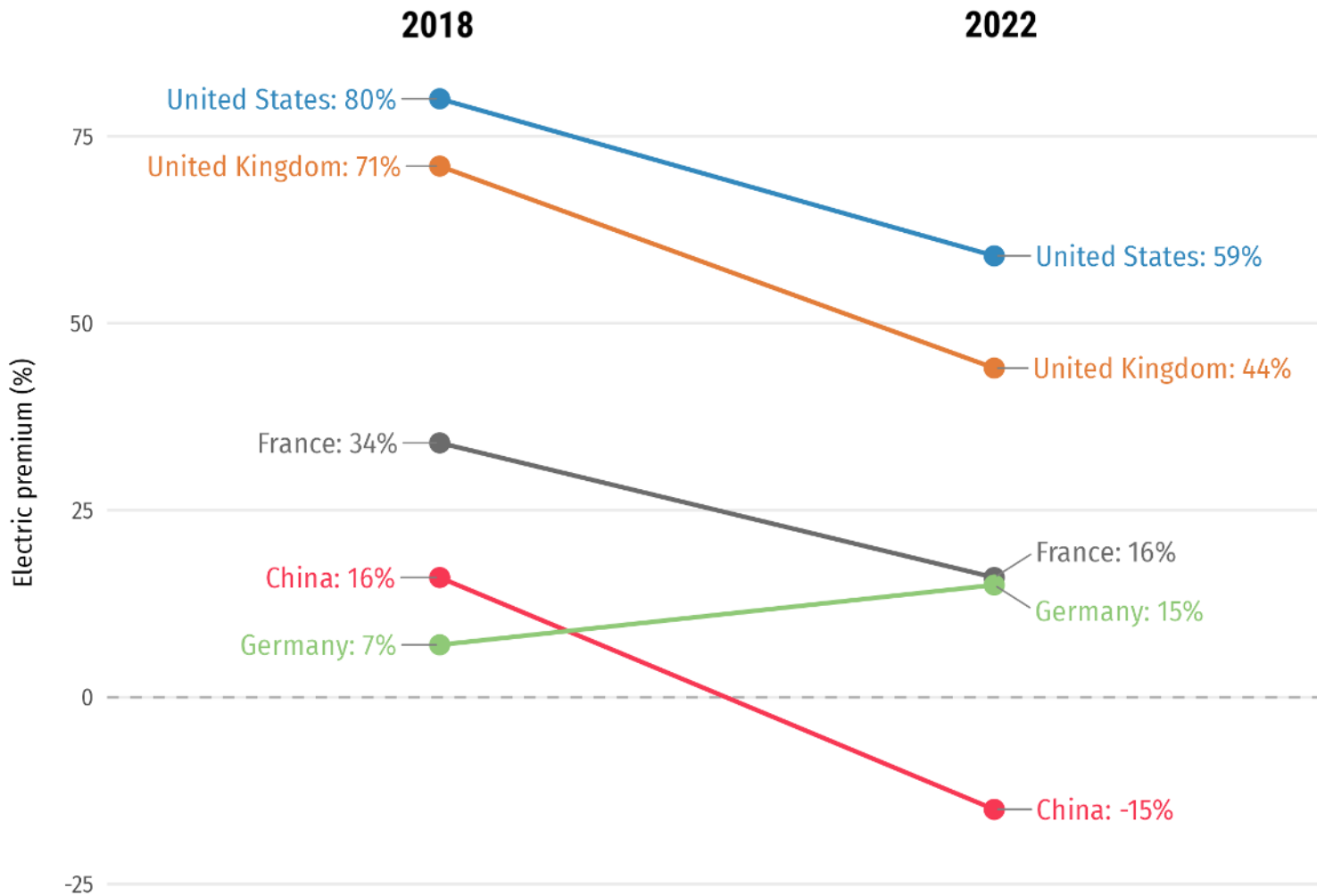
April 23, 2025

In China, PEV sales grow while ICEV sales slow

After peaking in 2017, internal combustion engine vehicle (ICEV) sales have declined for 7 straight years



Data sources: OICA, marklines.com



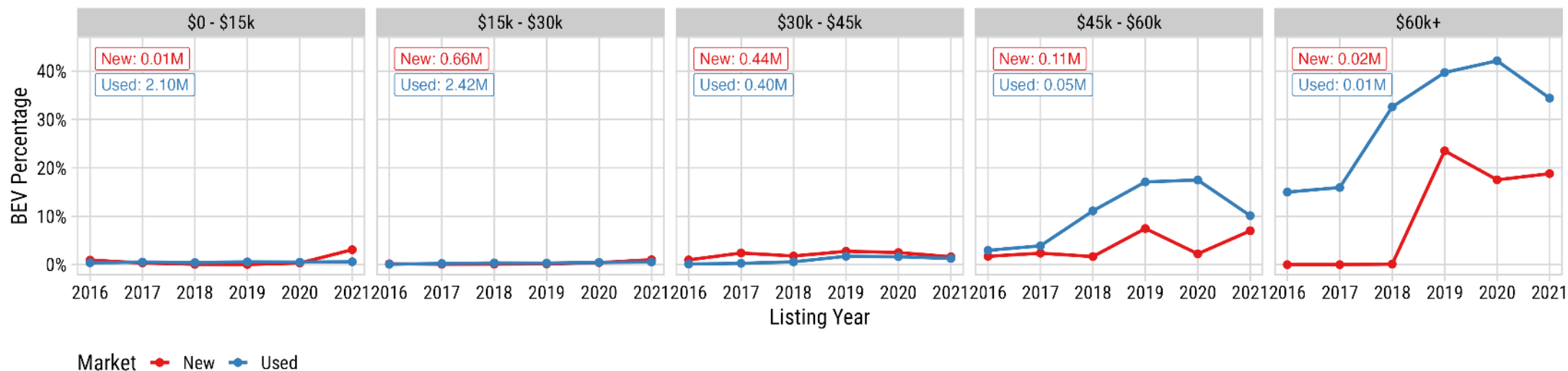
The EV sector has an affordability problem (except in China)

Source: <https://www.iea.org/reports/global-ev-outlook-2024/executive-summary>

There are *very* few affordable BEVs in the US

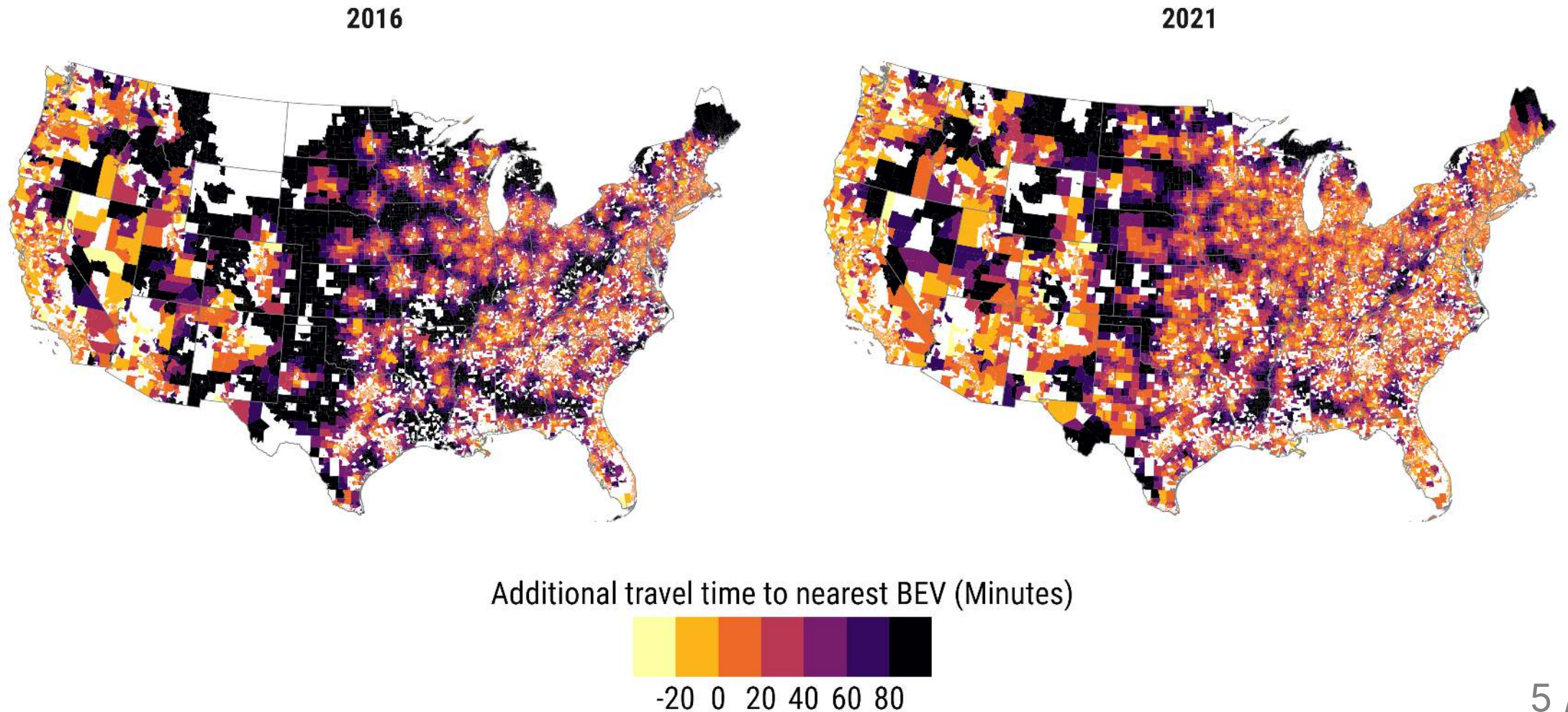
BEV Affordability Gap: BEVs Concentrated in High-Price Segments

In 2021, BEVs comprised just 1.1% of new vehicle listings and 0.6% of used listings under \$45,000



Data pulled from >60k dealerships, 2016 to 2021. Source: marketcheck.com

The US has affordable EV deserts



Things that don't help affordability:

Tariffs (100% tariff on imported Chinese EVs)

Effectively banning the use of Chinese suppliers (inc. raw materials) in US EVs

Opportunities

Chinese FDI into U.S.

Gotion batteries: Multi-billion dollar investments in Illinois and Michigan

Challenge: Uncertainty around Foreign Entities of Concern (FEOC) status

Technology Licensing Agreements





Ford-CATL: Licensing battery technology in a Michigan plant

Challenge: CATL was recently added to DOD's list of “Chinese military companies”

We need to stop viewing EVs as
"environmental" technology
and start viewing as
"essential" technology

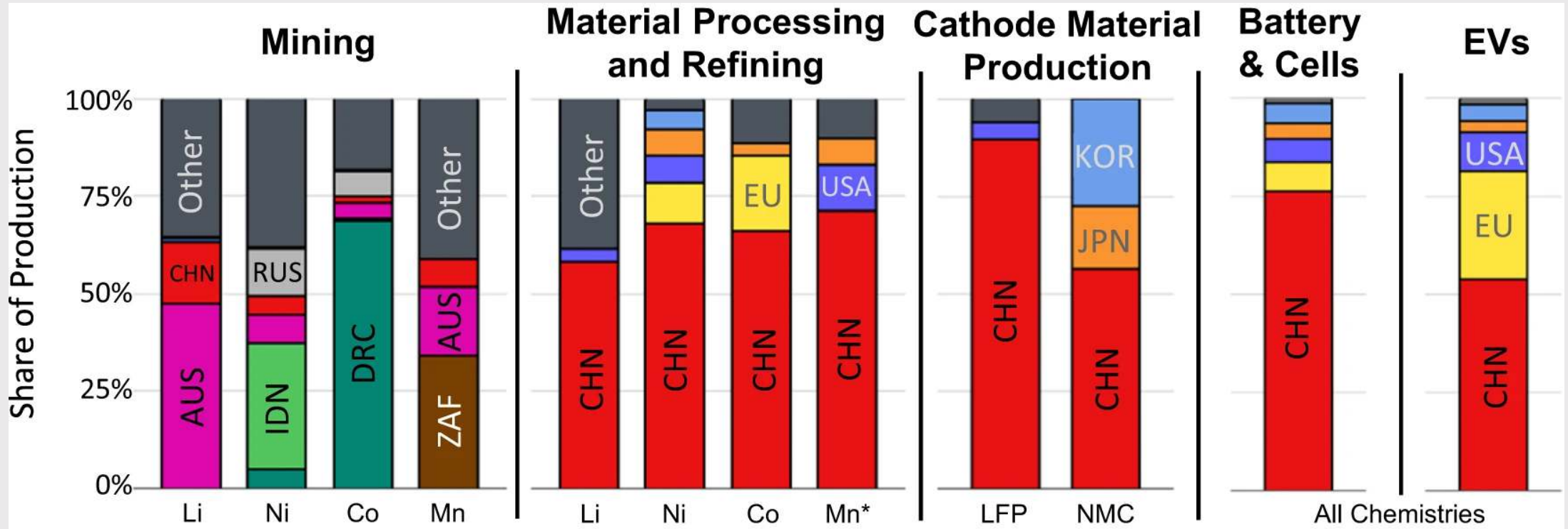
Thanks!

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Extra Slides

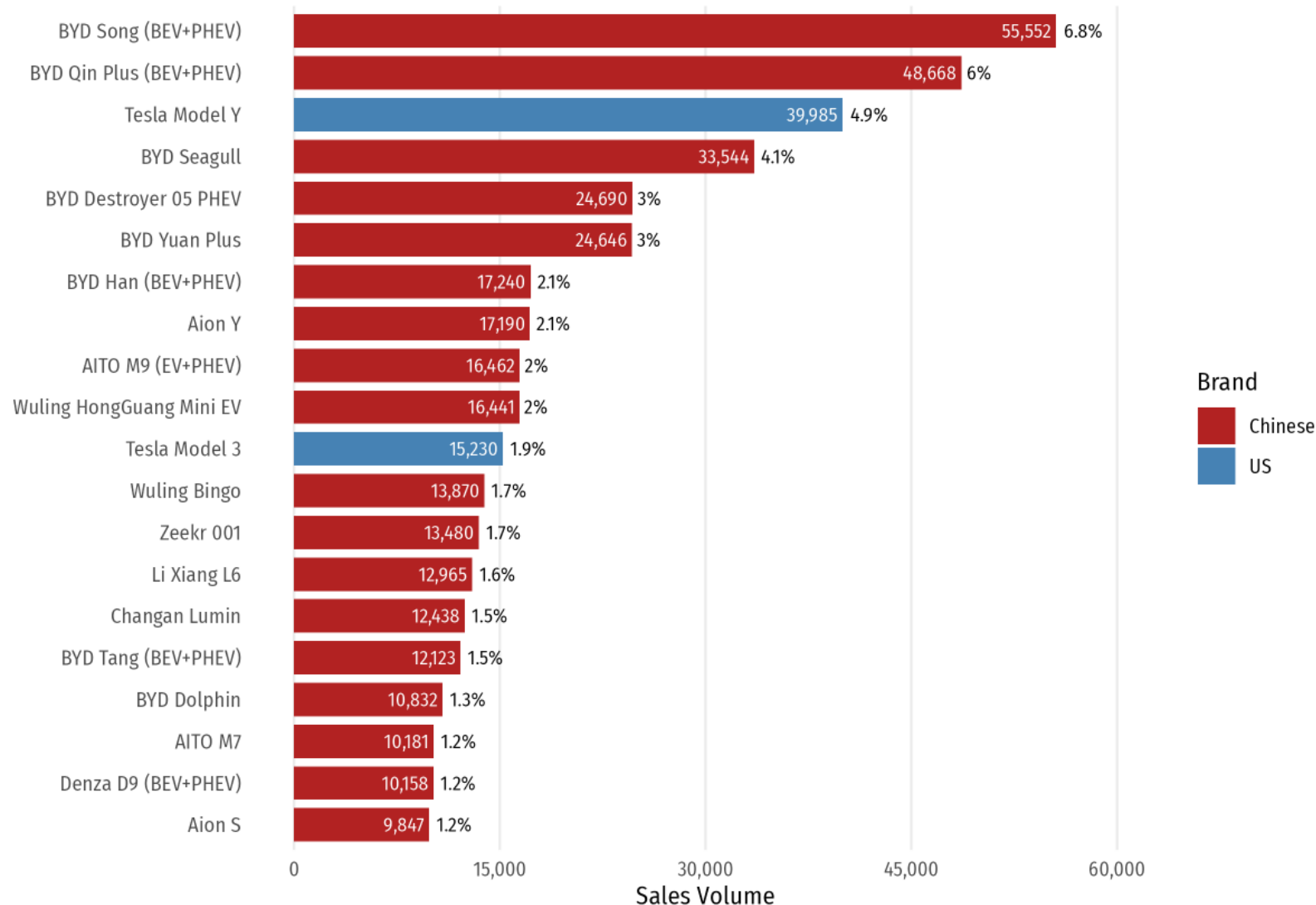
Chinese firms dominate the EV battery *supply chain*



Cheng, Anthony L., et al. "Electric vehicle battery chemistry affects supply chain disruption vulnerabilities." *Nature Communications* 15.1 (2024): 2143.

Top 20 EV Models by Sales (May 2024)

Percentage is total % of all vehicle sales



Chinese firms
dominate
China's EV
market