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## US-China EV Comparison: 2030 Demand Impact Higher in the US Due to Higher Average Driving Miles

Stratas Advisors

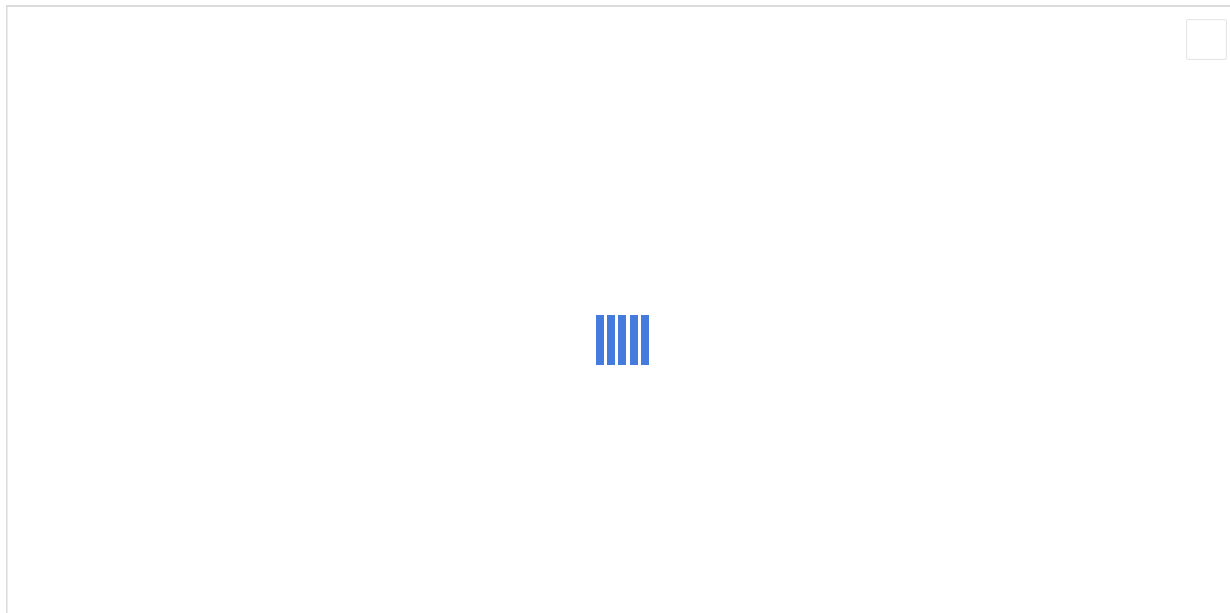
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Historically, displacement of conventional gasoline and diesel demand by EVs (including both full-electric vehicles and plug-in hybrid electrics) has been a mere blip on the radar compared to much more impactful (and universal) gains in fuel economies. Signs are appearing however, that EV market shares could see significant growth in a post-COVID era. Generous purchase subsidies, accelerating investment in charging infrastructure, tightening emission regulations, economies of scale and changes in consumer attitudes will all contribute to accelerated road sector electrification in the 2020s. While fuel economies are expected to remain the most influential factor for fuel displacement, EVs are just beginning to make their presence felt. In this analysis, we compare the impact of increased EV uptake and fuel efficiency gains on transport fuel demand in the US and China.

The US and China currently share very similar light duty vehicle (LDV) fleet sizes, though they have taken different paths to arrive at these levels and will diverge again in the near future as China continues its dramatic fleet growth into the long term. In terms of the trajectories of the two countries' respective EV fleets, China boasts not only a larger current fleet but also higher future growth both in terms of absolute numbers of EVs as well as share of fleet attained. By 2030, China is expected to add well over 25 million EVs, compared with an increase of somewhat over 10 million in the US.

Despite the more rapid EV fleet increase and resulting displacement of conventional gasoline vehicles in China, the two countries have comparable volumes of gasoline demand displaced by these vehicles--and in fact projected US gasoline volumes "lost" exceed those of China through the forecast period.



Part of the reason for this outcome is the difference in fuel economy of conventional vehicles in the US versus China, with US vehicles generally being less fuel efficient than their Chinese counterparts. However, the biggest reason for the relatively high US fuel displacement is related to the miles driven by typical conventional vehicles, with average US gasoline light duty vehicles driving more than twice as many miles every year as gasoline light duty vehicles in China.

Combined with the much larger effects of ordinary fuel economy gains in conventional gasoline vehicles, the anticipated expansion in electric vehicle adoption points to a notable decline in opportunities for refiners, especially in the 2030s and beyond, given that the EV-related effects are expected to continue to escalate over the long run in these two critical liquid fuels markets.

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