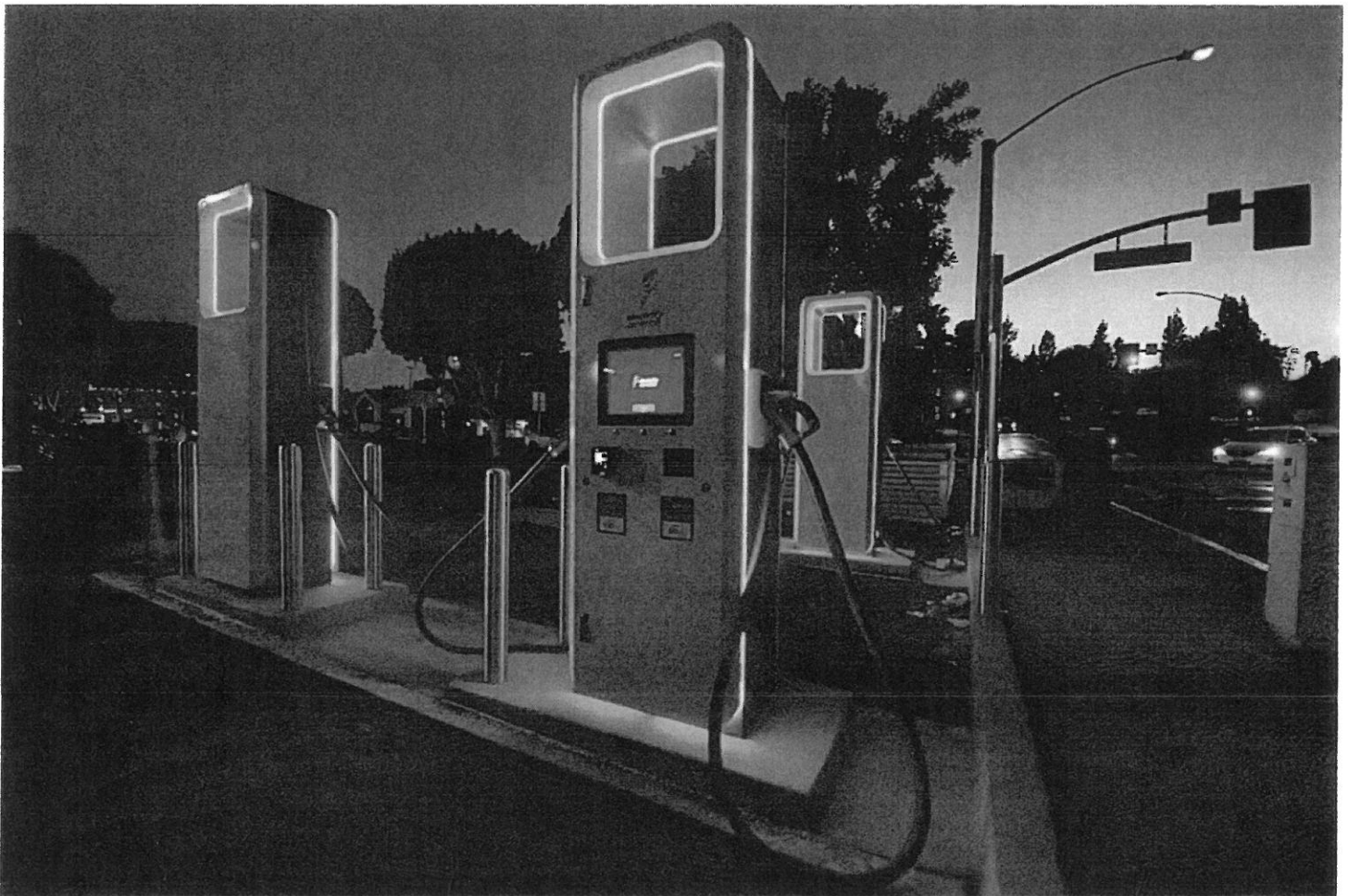


CHRIS STOKEL-WALKER BUSINESS JAN 21, 2022 7:00 AM

The US Refuses to Fall in Love With Electric Cars

As China and Europe lead the race to make electric vehicles mainstream, America lags behind. This is a problem.



PHOTOGRAPH: FREDERIC J. BROWN/GETTY IMAGES

IN DECEMBER 2021, sales of electric vehicles overtook sales of diesel cars for the first time in Europe, as 176,000 EVs rolled out of car dealerships across the continent. At the same time in China, the country's automotive industry announced that EV sales for the year had ballooned by 158 percent compared with 2020, as more than 3.5 million vehicles took to the roads.

These sales figures were not a blip. In Europe, EVs made up an estimated 14 percent of all new vehicles sold in 2021, according to the banking and financial services company ING. In China, it was 9 percent.

In the United States? Not so much. EVs made up just 4 percent of vehicles sale last year. While the world falls in love with electric cars, the US is holding out. If it's not careful, the knock-on impact on the rest of the world could be huge. Transportation is the biggest single contributor to greenhouse gas emissions in the US, and the country in turn is the second-largest contributor to global carbon emissions.

"Since EVs use emerging battery technologies, they face several significant technical, economic, and social barriers to adoption, limiting EV penetration in the US," says Pradeep K. Chintagunta, professor of marketing at the Chicago Booth School of Business, who with colleagues researched ways to incentivize EV adoption. Those barriers include resistance from consumers who are used to the ability to quickly fill up with gas and go, a lack of awareness of the strengths of EVs, and price problems: An electric Ford Focus costs nearly twice the amount of a gas-guzzling one.

"There's one major protagonist who has influenced that: Donald J Trump," says independent EV analyst Matthias Schmidt. Trump's administration paused the adoption of EVs for four years, setting back the development in a country that was already lagging behind. Now President Joe Biden, who said in August 2021 he wanted EVs to make up half of all sales by the end of the decade, is building on the work done by the ZEV Alliance, a lobby group of 10 US states, and several countries to promote zero-emission vehicles.

But the EV industry in the US has had to start from scratch, and Bank of America forecasts that EVs will make up just 20 percent of the car market by 2030, rather than 50 percent. A large number of these vehicles are expected to be "compliance cars"—vehicles built by manufacturers solely as a box-ticking exercise to meet the strictest emission standards in the country, in California.

"There are several major policies that drive electrification," says Zifei Yang of the International Council on Clean Transportation, a US nonprofit organization. Strengthening fuel efficiency or CO₂ emission standards are easy ways to promote EVs—and are notably two areas that the Trump administration was lax in enforcing, she says. The Biden White House is trying to catch up for lost time by proposing a raft of new rules aimed at supercharging the EV rollout.

The Environmental Protection Agency's revised greenhouse gas emission rules for passenger vehicles, finalized in December 2021, simply returned the standards to what they were under the Obama administration in the mid-2010s. This contrasts sharply with China and Europe, which have aggressively pursued carbon-reduction policies that incentivize the production of EVs.

Besides the politics, there's a simpler reason that US adoption has stalled while EVs in other countries have taken off. "Historically, there simply haven't been enough charge points," says Alyssa Altman, head of transportation and mobility at the Cambridge, Massachusetts, consulting company Publicis Sapient. "Potential EV customers are concerned with keeping their vehicle juiced up for long trips, and for some journeys in the US, the lack of charging stations makes this impossible." Publicis Sapient figures indicate that remains an issue, with the distribution of the US' 113,600 charging stations unevenly concentrated in areas where uptake of EVs is already comparatively high, like California. "To me, the main bottleneck is infrastructure," says Coco Zhang, an environmental, social, and governance analyst at ING. "Consumer perception changes slowly due to the current lack of EV infrastructure."

It's not that American consumers don't want to use EVs. When VW opened up preorders for its ID.4 EV in September 2020, the demand from customers made the website crash. It's that they're worried about getting stranded in their expensive electric cars. "While the figures look bleak at the moment, there is progress, and more imaginative solutions are emerging in the US that will work for the American lifestyle, such as providing charging stations at fast food outlets and grocery stores," says Altman. The ability to grab a Taco Bell while charging your car may be a lure for many Americans. Affordability is also a major issue, says Chintagunta, whose research finds that EV sales go up significantly if adopting

them becomes less expensive.

China faces some of the same geographical issues that the US does, including range anxiety, but it has successfully adopted EVs through what Ferdinand Dudenhöffer, director of the Center for Automotive Research in Duisburg, Germany, calls a “leapfrogging effect”: Its automotive industry didn’t have much experience in building combustion engines, therefore it could easily drop them when an alternative came round. That puts Chinese manufacturers in an oddly enviable position. Because it is not shackled by a century of business experience to a soon-to-be outmoded model of powering a vehicle, the market can adapt more quickly.

The gulf in approaches to EVs can be seen through a single company that operates in both the US and China: General Motors. Through a joint venture with SAIC Motor Corporation and [Guangxi Automobile Group](#), two Chinese state-owned companies, GM produces the Hongguang Mini, an ugly entry-level EV that Chinese citizens compare to a breadbox on wheels, which retails at around \$4,500.


Sales of that single model in China reached 138,790 in the last three months of 2021. The total number of EV models sold by GM in the United States in the same time period was 26. (GM declined to comment for this story.)

But it’s not just China: For years the European Union has pursued a low-carbon, green agenda—which dovetails well with the rise of EVs. More than 2.3 million EVs were sold in Europe in 2021, according to estimates by research firm BloombergNEF. That’s one EV for every 325 people on the continent. The reason is centralized directives from the European Union to move to a low-carbon economy and seek out alternative, less polluting forms of transport. When a supranational political organization sets a target of zero greenhouse gas (GHG) emissions by 2050, and a legal requirement to reduce GHG levels by 55 percent compared to 1990 volumes by the same time, the adoption of EVs becomes a useful and necessary tool in the arsenal.

Yet one US company is defying the broader trend—and could help to turn the tide of EVs in the US. EV manufacturer Tesla shipped nearly a million cars in 2021, but only a third of them were estimated to have been sold in the US, despite the fact that the company has its manufacturing base in Fremont, California—ironically, on the site of GM’s old headquarters between 1962 and 1982—and other locations in the US. It has a “gigafactory” in Shanghai, China, and is poised to open one in Berlin, Germany, the latter of which the company’s CEO, Elon Musk, will visit in mid-February. “Tesla could lead the trend for EVs,” says Zhang. “Now Tesla has struck a deal with car rental companies to rent out some of their fleet, it could give customers an opportunity to try them out without purchasing them.”

But at present, the future of EVs in the country appears to be dependent largely on one company. Tesla accounts for the lion’s share of EV sales in the US, whereas elsewhere competition is more diverse, even if Musk’s company still holds the top spot. And while one company dominates, the uptake of EVs is likely to be slow, fears Chintagunta. “Considering that it has been more than 10 years since the first mass-produced EV, and the ‘green’ vehicle market share is still around 5 percent, it may not be very quick.”

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