



The Case for a Post-COVID-19 Electric Vehicle Charging Station Boom

by Christopher Cavaiola

The coronavirus pandemic may be the impetus the electric vehicle (EV) sector needs for charging stations to finally take off. BloombergNEF's *Long-Term Electric Vehicle Outlook* (<https://about.bnef.com/electric-vehicle-outlook/>) predicts that EV manufacturers (e.g., Tesla) will experience a smaller dip in overall car sales, as compared to traditional autos, due to the impacts of a shrinking economy in response to the global coronavirus pandemic. EV infrastructure is similarly set to take off given the need for a robust charging network for these new electric vehicles hitting the road.

European and Asian governments included EV infrastructure investment into COVID-19-related stimulus packages. While the U.S. Congress did not go as far in its recovery package, the United States could still see a significant benefit from this increased stimulus globally if new EV charging technologies and lessons learned can translate to the U.S. EV market. In Germany's €2.5 billion stimulus package, for example, money was explicitly allocated for EV infrastructure, including EV charging stations. In recent weeks, the

European Union has also announced that it plans to have one million public chargers by 2025, up from just shy of 200,000 today.

EV industry advocates are calling for vehicle charging infrastructure to be part of a global recovery, and this idea has even been floated for the next round of stimulus here in the United States. Government investment in EV infrastructure could help companies clear high costs of entry into this

space, create jobs, and boost the economics of the EV sector as a whole.

The fear of running out of battery life, or the anxiety range, is still a major impediment to the EV sector, and without significant investment in this area, EV sales will lag because of this fear, real or perceived. According to the BloombergNEF report, the cost of EV batteries has declined 43% since 2016, making EVs much more affordable, even as subsidies for EVs expired here in the United States. Stricter emissions standards in Europe and China has also helped spur institutional investment in EV infrastructure.

Oil suppliers and utilities are in a great position to take advantage of this growing need in the EV sector. Major oil companies like BP and Shell have already made strategic acquisitions of charging networks in Europe and the United States and are poised to use existing, strategically located service stations as charging sites for expanding their EV charging networks. Utilities will also seek to take advantage of a growing network of EVs as consumer and commercial consumption of electricity is expected to slow due to energy efficiency measures in households and various industries. Utility companies are in a great position to boost residential demand for electricity by entering the home EV charging market.

Guaranteeing that the power you charge your car with is 100% renewable is another ongoing hurdle facing the EV infrastructure industry. Shell and Tesla are currently developing fast-charging stations that generate 100% of their energy from solar using the latest storage technology. There is no certainty if and when this technology will become commercially available. EV charging infrastructure that is fully green is even more crucial since the renewed focus on the environmental justice movement in the last month as a necessary tool to better protect low-income communities from the harmful impacts of burning of fossil fuels and climate change.

California's Efforts to Spur the EV Boom

In the United States, California has long been a leader in advancing renewables and the EV sector. In April 2020, California announced an ambitious goal to add 5 million EVs by 2030. With only about 700,000 EVs currently on the road, California will need a drastic increase in EV charging infrastructure to meet consumer demand. EV infrastructure has quickly become the largest issue facing the EV sector in California.

To meet the goals set in California in the next decade, the state would need to add roughly 29 new sites a day during this period, for a total of 73,000 new shared public charging stations. Compare this with the past year, when California

opened roughly four sites per day; it is obvious how far California will need to progress to meet these new goals. California currently has 6,200 public charging stations.

A 2018 law requires the California Energy Commission to biennially issue an assessment of the EV charging infrastructure needed to support state mandated EV goals. The California Energy Commission set a near-term goal of 1.5 million zero-emission vehicles and 250,000 charging stations on-line by 2025. Private-public partnerships will be needed to meet these very lofty goals, but not all experts agree on whether public charging infrastructure remains the largest obstacle to the industry. These experts believe residential charging stations and charging stations at places of employment can limit the need for a significant number of public charging stations.

Similarly, there are other analysts who believe that, unless major U.S. automakers, like Ford and GM, start to produce more EVs, California's goal simply will not be met and the subsequent need for EV infrastructure would not be needed. EVs only account for roughly 5% of Ford and GM's production. Other experts believe increasing the range of EVs is a bigger issue than EV infrastructure.

U.S. House of Representatives Democrats have drafted a proposal to spend billions on clean energy infrastructure. House Democrats have seen what other countries in Europe and Asia have done to restart the economy by helping to subsidize green infrastructure and technology. The House Democrats plan to spend billions of dollars of the next round of COVID-19 pandemic stimulus money on a combination of water infrastructure, cleanup for contaminated sites, and a national network of EV charging stations. While most in Washington would agree that this green wish-list is unlikely to pass the Republican-held Senate, this does help provide a roadmap for the future if November's elections result in significant wins for Democrats in both the White House and Senate.

Conclusion

The lack of EV charging infrastructure is seen as a major impediment to the EV sector. As governments across the globe think of ways to reemerge from this pandemic with an economy that is stronger and more resilient than it was before, EVs continue to get a significant amount of attention. Here in the United States, California is paving the way with very strong EV targets that will have a significant impact on EV charging infrastructure in the future. Six months ago, no one could have predicted the current state of the world. There is no telling what the next six months have in store for the EV sector, but the pathway for EVs to breakout and EV charging infrastructure to expand in tandem is becoming clearer by the day. **em**

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