Chart of the Week #2024-28
Acceptability of EV Wait Times at DC Fast Charging Locations

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Probability of Unacceptable Wait Times at DC Fast Chargers in 2050 at CAFE mandated EV Adoption Rates

Number of DC Fast Charging Stations (thousands)

Percent Likelihood

>1 Hour Wait Time

>2 Hour Wait Time

Energy Policy Research
Independent Analysis
Acceptability of EV Wait Times at DC Fast Charging Locations

• The Biden Administration’s strict tightening of the CAFE standards would force an estimated 53% of vehicles on U.S. roads to be EVs by 2050.

• This will place increased stress on U.S. charging infrastructure. Currently, the U.S. has approximately 7,700 DC fast charging stations.

• Even in the scenario where enough charging stations are built to keep average wait times under an hour, 15% of charging stations will experience wait times in excess of an hour; 3% will experience wait times in excess of two hours.

• These numbers are equivalent to 750,000 American drivers experiencing over 1 hour wait times and 150,000 experiencing over 2 hour wait times each day.

• In order to keep the probability of wait times that are in excess of one hour under 1%, EPRINC’s analysis indicates that 70,000 new charging stations would need to be constructed for a total of 350,000 charging ports.

• There remains much uncertainty around how much waiting time is acceptable to consumers. Any charging station reliability concerns compounds this issue.
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- This chart and analysis is informed by a forthcoming EPRINC report, entitled “Electric Vehicles vs Internal Combustion Engines: An Energy Economic Analysis”. Stay tuned.

- This slide deck is available at: https://eprinc.org/chart-of-the-week/

- For more information on these charts, please contact Matthew Sawoski (matthews@eprinc.org).