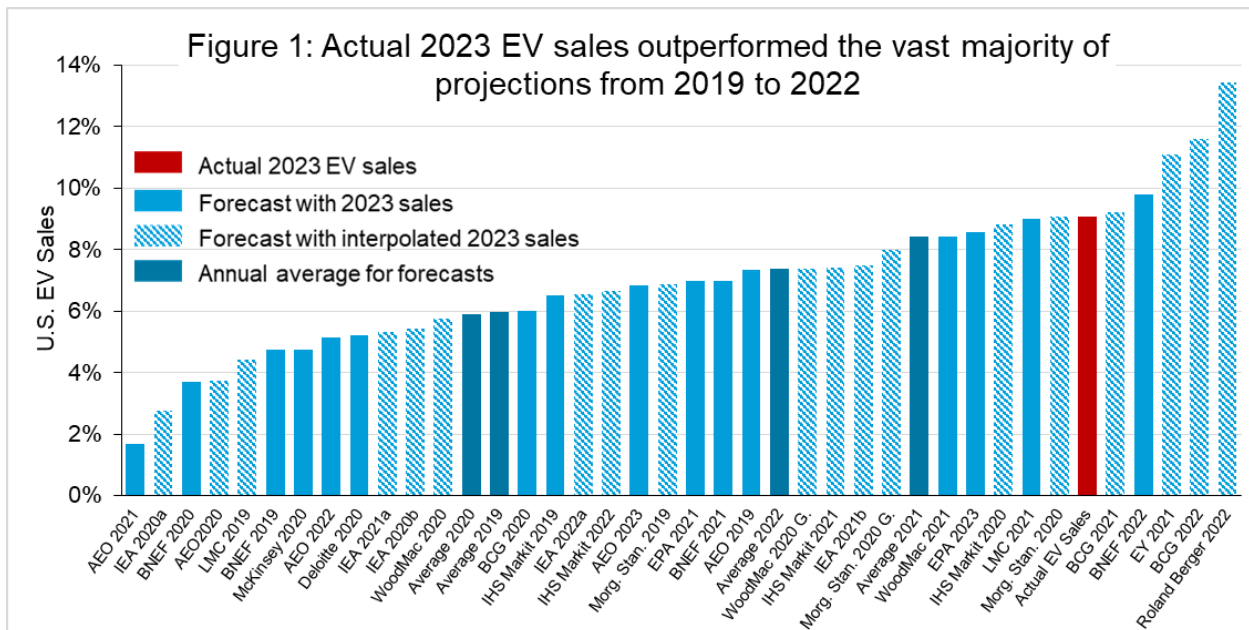




Electric vehicle sales are going further, faster than experts predicted

Actual 2023 EV sales outperformed over 85% of expert forecasts from 2019 to 2022

Last year, over [1.4 million electric vehicles](#) (EVs) were sold in the U.S., 9.1% of all light-duty vehicle sales. This far outpaced projections made even a few years ago. The year-over-year growth for EV sales last year was over 50% and EV sales last year are almost 4.5 times higher than those from 2019. This growth is expected to continue.

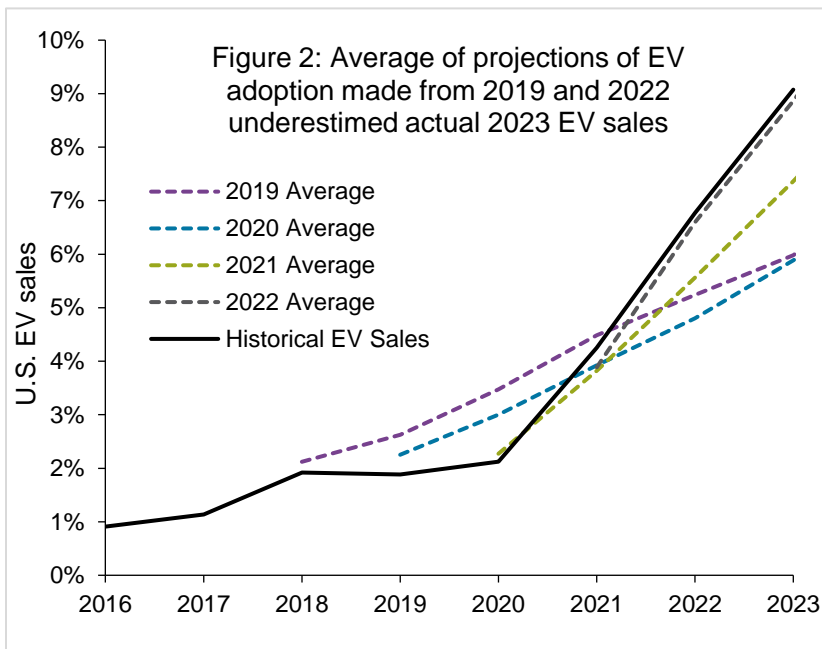


Of the 35 expert forecasts we identified from 2019 to 2022, actual 2023 U.S. EV sales outperformed over 85% of them, in many cases more than doubling the expected EV sales. This includes both battery electric vehicles (BEVs) and plug-in hybrids (PHEVs). Figure 1 shows all of the projected sales for 2023 from expert forecasts. The red bar is actual calendar year 2023 EV sales based on [Argonne National Lab](#) monthly plug-in vehicle sales reporting. The darker teal bars are the annual averages for all of the forecasts made in each year from 2019 to 2022.

The crosshatched bars are forecasts where the 2023 values were linearly interpolated and the solid bars represent projections that included publicly available forecasts for 2023. Compared with only the forecasts with publicly available 2023 values, actual 2023 sales outperformed 95% of the projections. Since linearly interpolating between an earlier and later year likely overestimates the forecast for 2023 given the expected shape of EV sales adoption over time, looking only at forecasts with 2023 predictions is likely more accurate.

The sources of the forecasts span many types of organizations including governmental (EPA, EIA, and International Energy Agency), consulting firms (McKinsey, BCG, Deloitte, and EY), data and market research providers (IHS Markit, LMC Automotive, Wood Mackenzie, Bloomberg New Energy Finance), and financial institutions (Morgan Stanley).

Figure 2 shows the forecasted EV sales grouped by the year the projection was made and averaged. It also shows historic EV sales. Actual EV sales outpaced the averaged forecasts in 2022 and 2023. The average forecasts from 2019 and 2020 follow a similar trajectory, and the forecasts from 2021 and 2022 each follow a trajectory of about 1.5 percentage points above the earlier forecast. This may be due to a range of factors, including changes in federal and state policies, improving EV economics, increasing model availability, and shifting



consumer sentiment. The average 2019 forecast is also generally slightly higher than that in 2020. This may be the result of differences in the makeup of the forecasters, a result of forecasters incorporating COVID-19 into their models, or a combination of both.

Methodology

EDF identified 13 different sources that produced EV sales forecasts for the U.S. and collected the 35 forecasts these institutions made in 2019 through 2022. We focused on this timeframe to better understand how recent EV sales growth compared to historical projections, including those made in the prior year (2022) and before. Five forecasts were made in 2019, 12 in 2020, 10 in 2021, 6 in 2022, and 2 in early 2023. Where possible, year-by-year forecasts were used. When only some years for each forecast were available, the intervening years were linearly interpolated. If a forecast did not identify an EV sales baseline, the actual EV sales for the year before the forecast was used. Most of the forecasts include both BEVs and PHEVs. For forecasts that only modeled BEVs, a proportionate level of PHEVs was added to make the forecasts compatible to be included. This proportion was determined using actual BEV and PHEV sales for each year. For instance, in 2018, there were 0.6 PHEVs sold for every BEV and in 2023, there were 0.26 PHEVs sold for every BEV. Values were extracted from charts and figures when necessary. With thanks to BloombergNEF for providing data from their 2019 through 2022 Long-term EV Outlooks for U.S. EV sales.

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