

THE ACCELERATING PACE OF ELECTRIC VEHICLE ADOPTION

Sara Hastings-Simon

Sales of electric cars are taking off. In this *policy trends* I look at global progress in the context of a net zero target.

The [International Energy Agency's \(IEA\) May 2021 net zero report](#) outlines a pathway for the global energy system to reach a goal of net zero emissions by 2050. The pathway is in line with [Canada's commitment to net zero by 2050](#) to avoid the worst impacts of climate change, yet the global pathway was met with skepticism by some given the magnitude of changes required.

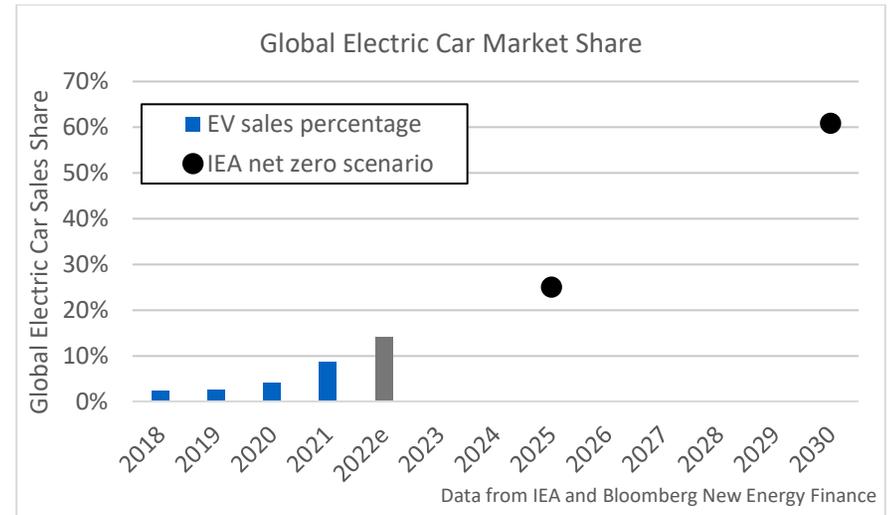
The IEA report highlights electric vehicles (EVs) — electric light-duty vehicles, including passenger cars and light commercial vehicles (vans, light trucks) — as one of the key technologies that will need to dramatically scale up by 2030 on a net zero pathway. While sales grew globally through the 2010s, the total market share remained far from the levels necessary for IEA net zero pathway, 25% of sales by 2025, rising to just over 60% in 2030 (see figure).

However, [global sales numbers from the past two years](#), along with expectations for 2022, start to paint a very different picture of progress. With a near doubling of global market share from 2019 to 2020, followed by another doubling in 2021 to 9%, overall sales are rising rapidly. Bloomberg New Energy Finance, in a projection prior to the recent oil price rise, [expects the market share to hit 14% in 2022](#) while EV [sales numbers from Jan 2022](#) already show an increase in sales of 87% compared to Jan 2021. And while the conflict in Ukraine is tragic first and foremost, many expect rising gasoline prices to further increase EV sales in 2022 as higher prices increase EV's operating cost advantages.

While the scale-up required to reach the IEA's 2030 target is significant, the trajectory of sales of EVs through 2021, and sales expected in 2022, put the world more than on pace with this ambitious target. In fact, at the current growth rate EV share of vehicle sales would reach the 2030 target by 2026, demonstrating the potential to achieve the light-duty vehicle electrification portion of a net zero goal.

There are a number of factors driving the growth of EV sales, including government policy, falling battery costs, charging network buildouts, and shifting customer preferences. After years of slow progress many major auto manufacturers are [embracing aggressive electrification targets](#) with ever-increasing model choice and availability. And the phenomenon is global, with [China leading the way with 3.4 million electric vehicle sales in 2021](#), representing roughly half of total new electric car registrations. Hurdles to further increasing supply remain as increasing EV sales will put pressure on

critical minerals, but battery recycling companies are building out a recycling value chain and mining companies are investing in future production.



But what does the rapid increase in EV sales mean for the future of oil demand? While personal transportation is not the only source of demand for oil, it does represent a significant portion. The IEA report examines the implications of following a net zero pathway on global fossil fuel demand, showing it would decline from 2022 onwards.

In the US, one of the largest importers of Canadian oil, 44% of oil consumption is in the form of motor gasoline. As a result, rapid adoption of electric vehicles has the potential to meaningfully reduce US demand for oil, over time offsetting the (potentially long-term) reduction in Russian imports and reducing demand for Canadian oil.

Whatever the exact trajectory of EV sales and resulting oil demand changes, one thing is clear: energy markets are poised to be highly volatile over the next decade as a period of transition creates opportunities for supply-demand imbalances. Periods of high oil prices can generate significant royalties for the Government of Alberta, but extra care should be taken with the proceeds in light of the potential for rapid demand decline. Most of all, governments should watch and respond to EV sale percentages closely over the coming months and years and ensure economic plans are robust in the face of a decline demand for oil.