

# ARE WE FINALLY AT A TIPPING POINT OF ADOPTION FOR BATTERY ELECTRIC VEHICLES?

An Ipsos Point of View

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GAME CHANGERS





## KEY FINDINGS

- New battery electric vehicles (BEV) coming to the market in 2021 and 2022 are in segments that consumers desire the most.
- Federal and State level support is increasing with the 2021 infrastructure bill with increased federal incentives plus the continued build out of charging infrastructure across the nation.
- Gas prices in 2021 are at an all-time high, fueling desire from consumers for alternative powertrains.
- Range and charging speed are hitting a key sweet spot for consumers.
- However, lack of experience and familiarity with electric vehicles are still the key barriers of adoption, with both consumers and sales and service providers.

This November marked the return of the 2021 LA Automobility conference after a year hiatus as result of the COVID-19 pandemic. There was a lot of excitement of new vehicles coming to the U.S. market from a variety of auto manufacturers. The press releases and highlighted vehicles on display were focused on new electric vehicles coming to the U.S. market in the coming years including the following:

- Fisker Ocean
- Mullen FIVE
- Kia EV9
- Hyundai Concept SEVEN
- Subaru Solterra
- VinFast e35 and e36
- Nissan Ariya
- Toyota bZ4X
- Ford F150 Lightning

Each vehicle offers unique design styles, benefits, attractive range and charging speeds, but most compelling is that each of these future vehicles are of larger size that the U.S. consumer wants in an SUV or crossover and even a full-size truck, including the Ford F150 Lightning.

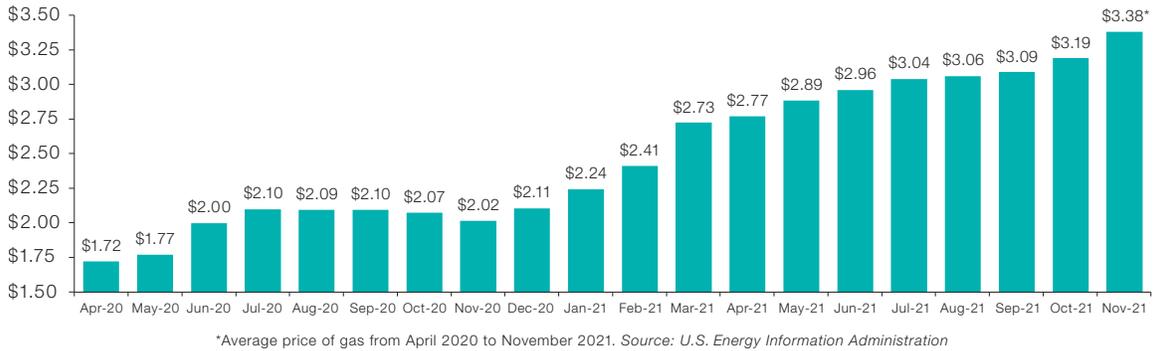
The excitement of the incoming all new battery electric vehicles seems to be happening at the perfect time in the U.S. market. The new infrastructure bill has increased support for electric vehicles from the government, which will provide more incentive dollars to buy an electric vehicle. The expansion of public charging stations will enable consumers to take longer trips across the U.S. more conveniently.



And gas prices are now at an all-time high. Consumers want a vehicle that meets their needs and is not too expensive to operate. Unfortunately, current gas prices prevent this on most “gas only” powered vehicles.

## Rising gas prices is a huge issue, almost 2x\* increase gas prices since mid-2020

### U.S.: Average Cost per Gallon of Conventional Regular Grade Gasoline

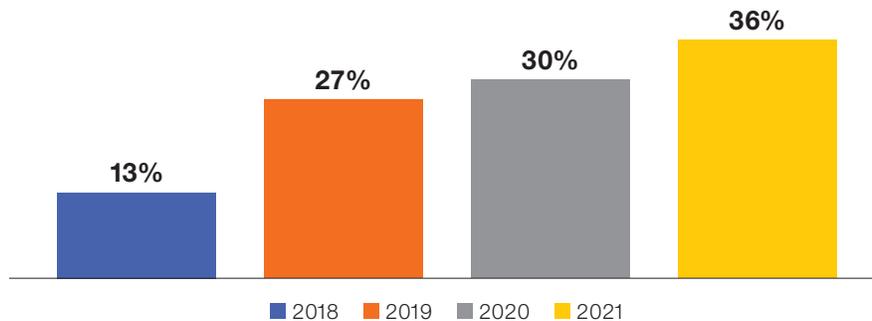


## Battery electric vehicle interest is very strong; 3x increase since 2018

Our Ipsos Mobility Navigator Study reveals that since 2018, interest in battery electric vehicles has tripled, with over a third of U.S. consumers now willing to consider a battery electric vehicle. This is the highest level we have monitored over the last few years and is an encouraging trend for broader adoption.

### Interest in Battery Electric Vehicle

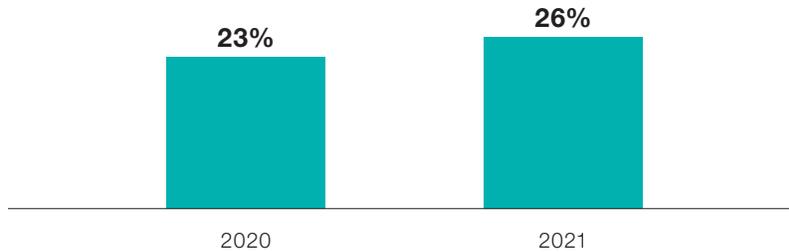
Top 2 Box % Among U.S. new vehicle owners (n=2,000)



Despite the increased level of interest, most U.S. vehicle owners lack familiarity with electric vehicles, with just about one in four knowing a fair amount in 2021. We expect this to improve in the coming years with all the new vehicle launches that are coming. Plus, consumers are motivated to seek out cost-saving alternatives since operating a gas vehicle has become so expensive amid increasing fuel prices. The last time gas prices rose this significantly in 2012, Toyota Prius Hybrid sales jumped about 50%, showing consumers' willingness to shift vehicle preferences due to rising fuel costs.

### Familiarity with Pure Battery Electric Vehicles

"Know a fair amount" or Top Box % Among U.S. new vehicle owners (n=2,000)



### But range anxiety is real; consumers need to be educated about battery electric vehicles overall

The new rising interest with the variety of electrified vehicles coming to market is accompanied by familiar concerns from consumers considering the shift to electric.

The top barriers preventing battery electric vehicle consideration are battery life, range, charging time and affordability. The lack of knowledge has been a root issue that has caused electric vehicle sales to only be around 2% to 3% of all vehicle sales in the U.S. the last couple of years. Vehicle owners don't know how well the battery will last over time. Will 250 or 300 miles of total range be enough for their needs?

Additionally, drivers must decide whether to charge at home daily versus weekly and needing to stop at a public charging station when they lack familiarity on where to go and how to charge.

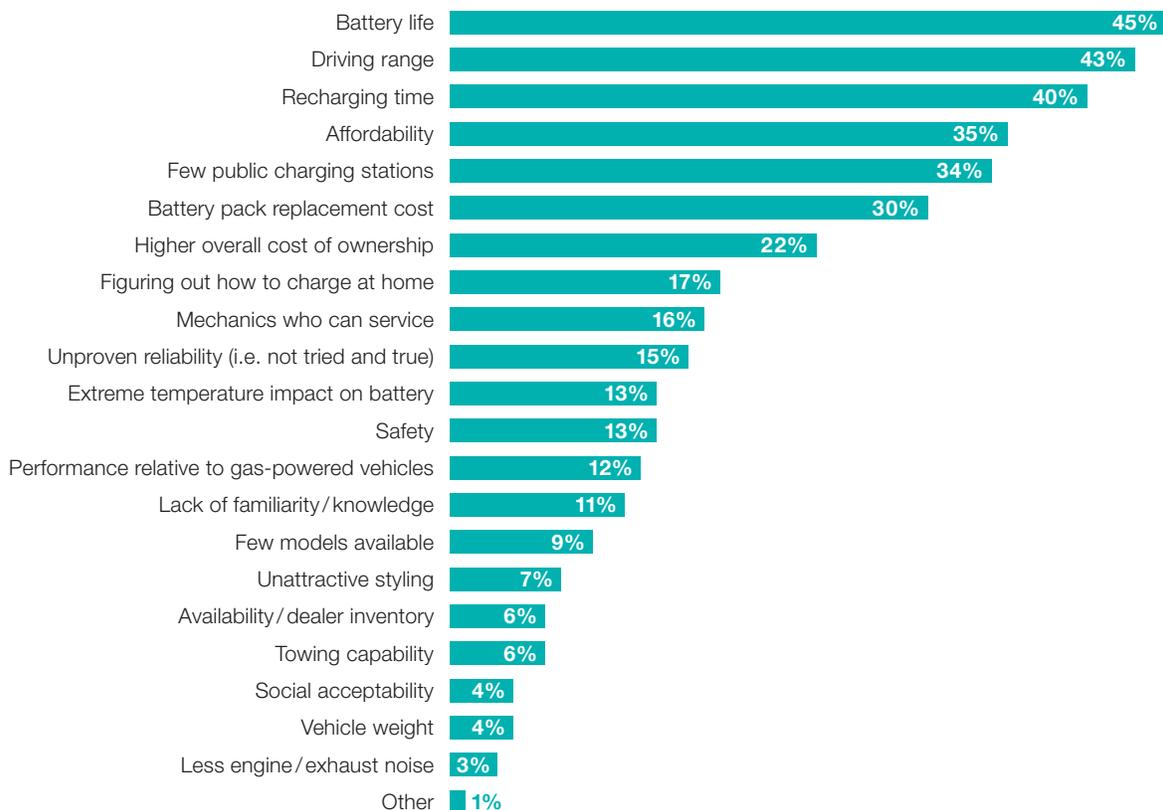
The Boomer and Gen X consumer mindset has been influenced by years of driving presenting a harder behavioral shift than Millennials or Gen Z consumers with the new electric technology. The younger generations don't necessarily have the learned behavior of going 450 miles on a tank of gas and knowing there is a gas station available when you need it. And, frankly, most vehicle owners don't even think about gas station availability: They are confident they can find a station no matter where they're going in the U.S.



Most U.S. vehicle owners visit a gas station perhaps three to four times a month, depending on their driving habits. Electric vehicles require a shift in behavior to plug in a car nightly at home, similar to plugging in a smartphone.

### Barriers Impacting Battery Electric Vehicle Consideration

Among U.S. new vehicle owners (n=2,000)



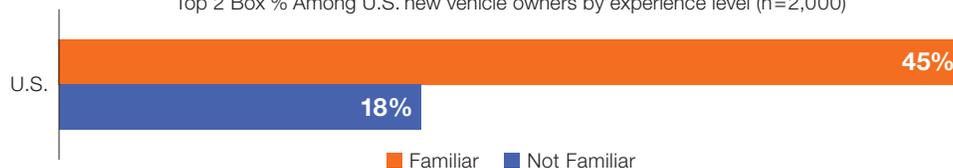
### Consumers who are familiar with BEVs are 2.5x more interested

Most BEV owners charge at home nightly, plugging in when they get home and getting additional range overnight. They may top off or get additional range from public charging stations on longer road trips, but most of their charging will happen at home. The additional range at public charging stations can be quick and not require more than 10 to 30 minute durations. This is not much longer than a typical gas station visit, but most consumers don't know this. They assume the worst and think they must charge for long periods of time while in public. That is simply not true.

Using a home charger for electric charging is also more convenient and cheaper than pumping gasoline, and the overall cost of ownership of a battery electric vehicle is much better than a gas vehicle.

### Interest in Battery Electric Vehicle by Level of Familiarity

Top 2 Box % Among U.S. new vehicle owners by experience level (n=2,000)



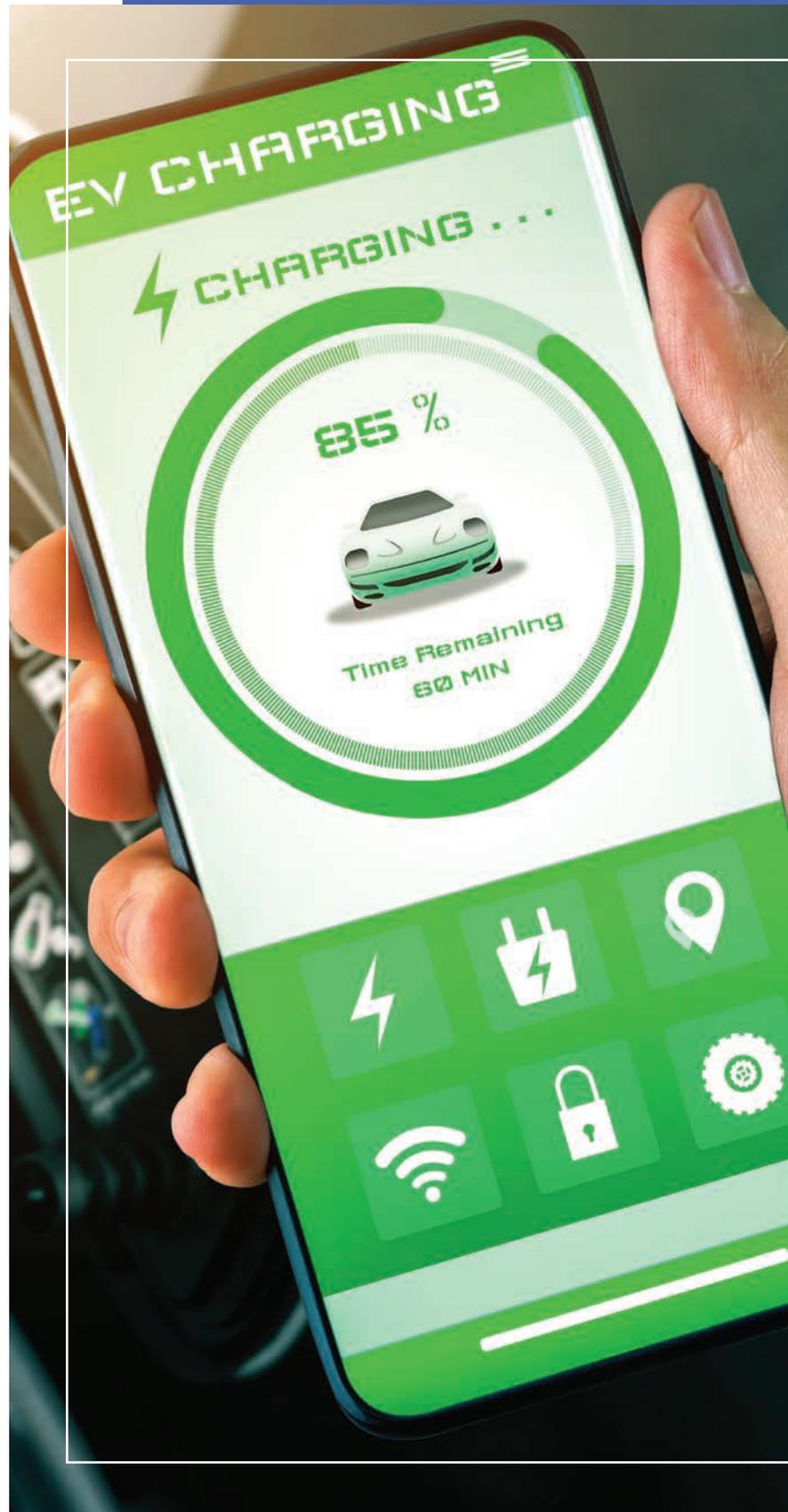
As more consumers become familiar with the basics of battery electric vehicles, they become significantly more interested. Battery electric vehicles are more cost effective to own, cleaner to operate and fun to drive, with their instant torque and acceleration. If you haven't driven one yet, schedule your test drive across the multiple new vehicles hitting the market today, you will be impressed!

Battery electric vehicles are finally at a key sweet spot in the market. Here's what is exciting as 2022 arrives:

- Variety of battery electric vehicle choices in the market
- Variety of range choices to meet everyone's needs, including 200 to 400 mile ranges
- Development of fast-charging solutions in public, with up to 80% charge within 20 minutes
- Affordable energy prices, with gasoline close to \$4 a gallon across the U.S.
- Attractive government incentives
- Infrastructure investment with more public charging stations, HOV lanes and parking spaces for EVs

**Battery electric vehicles are the future. It is time to join the revolution and take advantage of the significant benefits that battery electric vehicles provide**

Ipsos continues to monitor the acceptance of electrification and trends impacting the automotive & mobility industry. The 2022 Mobility Navigator will be the sixth year of monitoring these key mobility developments and activities. We look forward to sharing our results from this syndicated study.



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