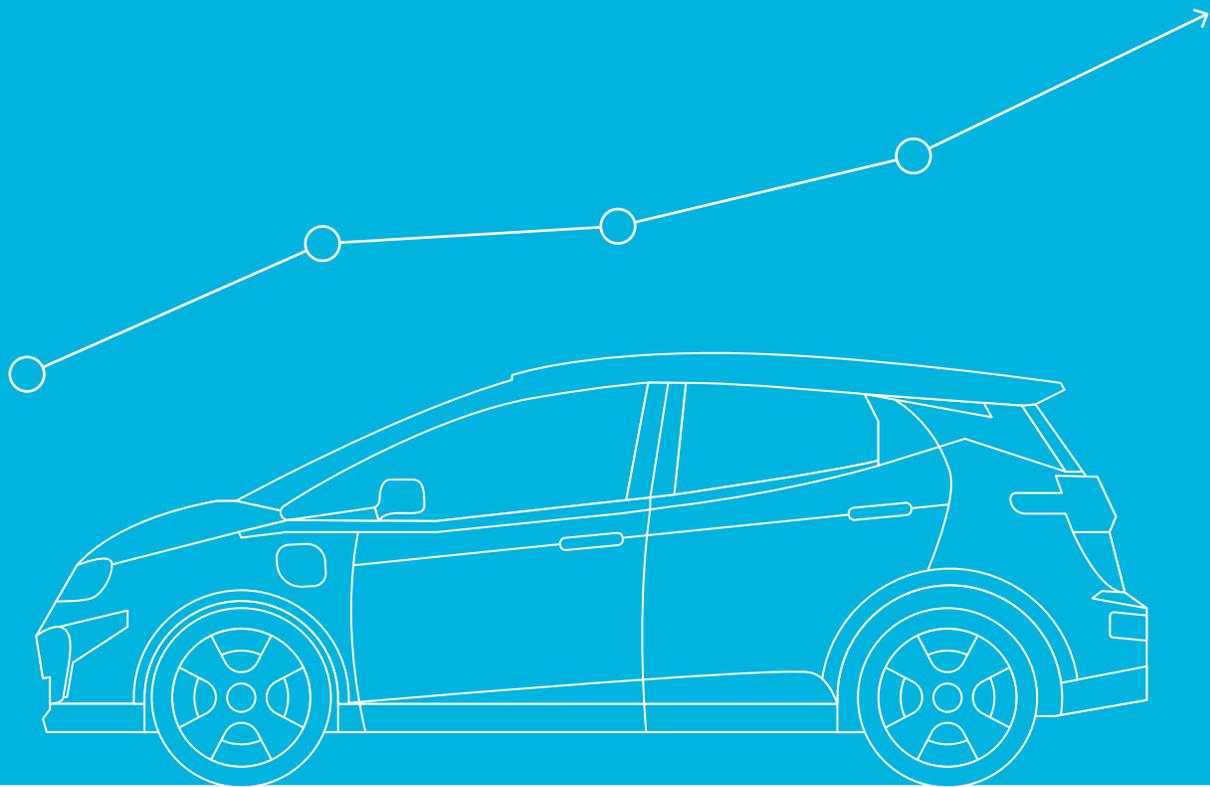


Leading the charge:

Why demand for EVs will increase
in a post-pandemic world



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In many ways, the world slowed down during the COVID-19 pandemic—many commuters stopped commuting, long-distance travel came to an end and people stayed closer to home. Even with 2020 being a record year for electric vehicle sales in B.C., many considering an electric vehicle pushed off their purchase. Now that the province is reopening, there is even more pent up demand for the technology that is expected to create an EV bottleneck in a post-COVID-19 world.

Highlights

- While 2020 was a record year in B.C. for electric vehicle adoption with the highest reported uptake North America, new research suggests it could have been even higher.
- A new survey¹ conducted on behalf of BC Hydro finds prior to the pandemic about one third of British Columbian drivers were considering purchasing an electric vehicle; however, a sharp decline in commuting and travel saw more than 50% of British Columbians driving less than they did before the pandemic began.
 - This resulted in 85% put off their purchasing decision.
- With the province reopening, there is an indication that more British Columbians may be hitting the road than before. While 55% of British Columbians indicated that they commuted by car to work or school pre-pandemic, that number is expected to rise by about 15% when things return to “normal”.
- These factors combined with the decision by most to put off their EV purchase until the pandemic was over is expected to drive more British Columbians to consider purchasing an EV than ever before, meaning 2021 is expected to be another record-breaking year for electric vehicle sales.
- In fact, about two-thirds of British Columbians indicate that they are considering purchasing an EV within the next several years—and the majority of those are hoping to secure an EV within the next year or two, which could drive demand up significantly.
- The primary drivers for switching to an EV are saving money on gas and protecting the environment. In fact, increasing gas prices continue to be a concern for about 85% of British Columbians.
 - Reduced maintenance costs and new technology features are secondary drivers.
- With the demand for EVs at an all time high and many British Columbians already on waitlists for the models they are interested in, an “EV bottleneck” is likely post-pandemic.
- Making matters worse is the microchip and lithium battery shortage that has impacted global auto production—including EVs.

Solutions

BC Hydro recommends the following tips to beat the bottleneck rush when buying an EV:

- Plan and be flexible: EVs are in high demand, so a very specific vehicle might take time to locate. That is why it is crucial to do some planning, short list some models and get on multiple waitlists, even outside your hometown.
- Buy used: Used EVs are cheaper and available from the same main channels as any other car—private sellers, used car dealers and certified used.
- Remember it all pays off: The purchasing process may seem daunting, but driving an EV pays off in many ways including:

¹ Online survey conducted by Majid Khoury of 800 British Columbians from May 17-19, 2021. Margin of error is +/- 3.5%, 19 times out of 20.

- Saving 80% in fuel costs over the course of a year, and about \$100 a month on maintenance costs compared to a gas-powered vehicle.
- Cashing in on rebates: rebates up to \$3,000 on the purchase of an EV are available in B.C., with another \$5,000 available through federal rebates.
- Lowering your carbon footprint—electricity in B.C. is generated from 96% clean resources, so driving an EV is the best way to help the environment.

EV popularity and the pandemic

Despite a global pandemic that kept most British Columbians home more than ever before, electric vehicle sales in B.C. accounted for almost 10% of car sales in 2020 –the highest rate per capita in North America.²

Now that the province is reopening, and many British Columbians will be returning to commuting and travel, new research suggests that demand for EVs will be even higher in 2021, as those who put off purchasing an EV will return to the market.

A new survey³ conducted on behalf of BC Hydro finds prior to the pandemic about one third of British Columbian drivers were considering purchasing an electric vehicle, but a decline in travel and commuting resulted in 85% putting off the purchase. As a result, there is even more pent up demand for the technology that is expected to create an EV bottleneck in a post-COVID-19 world.

This report will look at why the demand for EVs is growing, and how British Columbians can steer their way around the potential EV bottleneck.



85% of would-be EV purchasers put off buying in 2020

Commuting by car

The start of the COVID-19 pandemic marked the beginning of working from home and the end of a daily office commute for many. More than half of British Columbians said they are driving less than they did before the pandemic began, with almost a quarter cutting out a commute altogether and 28% commuting less often.

This sharp decline in commuting and travel resulted in most British Columbians (85%) putting off their EV purchase, which almost a third had been considering before the pandemic began.

However, as British Columbians ease back into a new normal routine, there is an indication that many will be driving more than they did before the pandemic. For example, while 55% of British Columbians indicated that they commuted by car to work or school pre-pandemic, that number is expected to rise by about 15% when things return to “normal.”

This factor combined with the decision by most to put off their EV purchase until the pandemic was over is expected to drive more British Columbians to consider purchasing an EV than ever before.

² The Zero Emissions Vehicle Update 2020

³ Online survey conducted by Majid Khoury of 800 British Columbians from May 17-19, 2021. Margin of error is +/- 3.5%, 19 times out of 20.

PRE-PANDEMIC COMMUTES



Drive—53%



Walk—16%



Bike—5%



Transit—22%



No commute—7%

More cars, more commutes, more cash

With more British Columbians planning to commute by car, concerns over gas prices will be another big driver towards EV adoption. In April 2021, the average price for gas in major B.C. metropolitan areas such as Vancouver, was \$1.52 per litre, and in Victoria it was \$1.48.⁴ Over 80% of British Columbians said they are concerned about rising gas prices, and 41% list gas prices as their primary reason for wanting to purchase an EV, second only to being environmentally friendly (44%). The top secondary reasons for wanting an EV is to save on maintenance costs, such as oil changes and engine repairs, as well as new technology features.

Adding to concern over gas prices is that the pandemic has accelerated an urban to suburban trend, as many employers shift to work from home models, and housing costs rise. For example, many Canadian metropolitan areas experienced high population losses to surrounding areas during the pandemic.⁵ This could translate into longer commutes into city centres for those that do go back to the office—almost 10% surveyed said they moved farther away from their primary work or school since the pandemic began. Longer commutes and higher gas prices will likely accelerate a switch to EVs, creating even more demand.

EVs as the new status symbol

Further adding to demand is the fact that electric vehicles are becoming a mark of success for consumers, in much the way BMWs and Mercedes brand were five to ten years ago. In fact, 60% said that they consider driving an EV such as a Tesla a 'status symbol,' and more government rebates were given to Tesla 3 base model owners than any other type of electric vehicle in B.C. last year—followed by Hyundai Kona, Toyota Prius Prime, Mitsubishi Outlander and Chevy Bolt.⁶

Supply and demand

The EV market is at a potential tipping point, as demand is on the rise and will likely continue to grow long-term. In fact, looking down the road, demand increases significantly—about two thirds said they would consider purchasing an EV in the next five years. And the majority are hoping to purchase on in the next one to two years. In fact, 60% said they would consider purchasing an EV if they could get one sooner—a sign that suppliers are already struggling with supply and demand issues.



2/3 of British Columbians considering purchasing an EV within 5 years



60% would purchase an EV if they could get one sooner

For instance, just as the pandemic eases and demand increases, there is a semiconductor chip shortage. Semiconductor chips are used to control the powertrain and battery in electric vehicles and are also used in the variety of touchscreens that are installed in

⁴ Statistics Canada

⁵ Statistics Canada

⁶ The Zero Emission Vehicle Update 2020

the driver's dash and in the back of passenger seats. The chip shortage happened largely because auto demand plummeted during the pandemic and suppliers did not stockpile enough chips—leaving them in a vulnerable position now that demand is picking up.

Another factor that will increase pent-up demand is a growing shortage of lithium ion batteries, which are the kind found in phones, laptops and EVs. As major automakers continue to ramp up their EV production, there are just not enough batteries being made in the U.S. for companies such as GM, Ford and even Tesla to keep up, and the U.S. is almost entirely dependent on Asia for batteries and the raw materials needed to manufacture them.

In fact, some project a serious lithium supply deficit in 2027 as mining capacity stalls while the EV boom continues. Rystad Energy estimates the supply deficit is poised to delay the production of the equivalent of around 3.3 million electric vehicles with a battery of 75 kilowatt-hours (kWh) already in 2027. The impact will grow quickly, to around 9 million EVs in 2028 and some 20 million in 2030.⁷

These issues coupled with the growing demand for EVs will likely lead to supply chain volatility and a bottleneck buying scenario for those in the EV market.

How to beat the rush

Buying an EV does not have to be complicated, but it should be approached a bit differently than buying a gas-powered model. For instance, a traditional car lot will likely not have what an EV consumer had in mind, so it is crucial to do some planning, short list some models and potentially get on a waitlist for a desired vehicle. EVs are in huge demand now, so a very specific vehicle might take time to locate.

Another option is to check out the used EV market. Used EVs are also cheaper because technology is continually advancing, but with far fewer moving parts than a gas-powered vehicle, a well-cared for EV should theoretically last a lot longer. Used EVs are available from the same main channels as any other car—private sellers, used car dealers and certified used. While going through a private seller is usually the cheapest route, there will likely not be any extra warranties or money back guarantees. On the other hand, used car dealerships might have more choice and be able to offer a limited warranty, but will likely be more expensive. Certified used EVs from a manufacturer dealership are the most expensive, but carefree way to go. These EVs will have low mileages, clean titles and have undergone a proper inspection. They will also come with a money back guarantee and the rest of the original warranty.

The purchasing process may seem daunting, but driving an EV pays off in many ways including saving 70% in fuel costs over the course of a year, and about \$100 a month on maintenance costs compared to a gas-powered vehicle. There are also up to \$8000 in federal and provincial rebates available to help with the purchase of an EV in B.C., not to mention the bonus of significantly lowering your carbon footprint. British Columbia is the ideal place to drive an electric vehicle because 96% of the electricity generated in the province is from clean, renewable resources. There are over 2500 public charging stations across the province and over 90 of those are BC Hydro's fast public charging stations which it is continually expanding. For more information on purchasing an EV in B.C. visit bchydro.com/ev.

⁷ Rystad Energy

