

2023 Chevy Bolt — an all-electric car — FAQs

Why did we buy an EV (electric vehicle)? To save money.

- Electricity is less expensive than gasoline and it can be generated in many different ways.
- A recent Motortrend article is entitled, “Electric Vehicles Are Way, Way More Energy-Efficient than Internal Combustion Engines.” This is because even a very efficient gas-powered car wastes most of the energy in a gallon of gasoline as heat. Gasoline engines are only about 20% efficient. EVs average over 60% efficiency and about 20% more energy is recaptured through regenerative braking. The Bolt is rated at 120 MPGe (miles per gallon of gasoline-equivalent).
- EVs have fewer moving parts and fewer liquids resulting in lower maintenance costs.
 - No engine oil or air filter
 - No fuel pump, fuel line, fuel tank, or fuel cap
 - No catalytic converter or oxygen sensor
 - No spark plugs, spark plug wires, or ignition coil
 - No EVAP system (purge control valve or solenoid) or mass air flow sensor

After owning 2 electric cars, we discovered more perks.

- EVs are not dependent upon a single type of fuel. In South Dakota, wind generates over 50% of our electricity. Next is hydropower (over 25%), coal (about 10%), and natural gas (almost 6%).
- EVs are convenient. We never need an oil change. We never need to stop at a gas station. We can charge overnight using an ordinary outlet or our 240 volt outlet that was installed for free by GM.
- EVs are quiet. In fact, they need a loudspeaker to make sound when driving slowly in order to protect pedestrians.
- EVs are clean. They have no exhaust smell (or danger of carbon monoxide poisoning). With no engine oil, they are very clean under the hood.

Why did we buy a Chevy Bolt and not another make or model? We owned a 2015 Nissan Leaf from 2017 to 2022 and loved it. It was great for driving around Aberdeen, but its range was under 100 miles. Our Chevy Bolt has a range of over 250 miles—similar to much more expensive models from other manufacturers—but this Bolt cost only \$28,035.

How are electric cars to drive? Both the Nissan Leaf and Chevy Bolt have fantastic performance though they are by no means sports cars. Acceleration is immediate, powerful, and smooth. There is no shifting. The handling is superb because the battery provides a low center of gravity.

Why does this car have a standard 12-volt car battery? Safety. The Chevy Bolt has a 960 pound, 350 volt lithium ion battery for the drivetrain. Even if you could procure 350 volt headlights, electric windows, etc., the high voltage in every wire in the car would be very dangerous, particularly in an accident. Furthermore, by using readily available 12-volt accessories, fuses, and wiring harnesses, EV manufacturers save money.