EPRI | ELECTRIC POWER RESEARCH INSTITUTE

CONSUMER GUIDE TO ELECTRIC VEHICLES

APRIL 2020

WHY BUY AN ELECTRIC CAR?

Electric vehicles (EVs) are fun to drive, safe, comfortable, and convenient to refuel. They also cost less to operate per mile and produce no tailpipe emissions. Electric cars are available in almost every vehicle class, from subcompact to SUV.

Today's electric cars do everything a gas car can do—and more. Drivers love the high performance, the silent, instant acceleration, and the additional technology and safety features associated with electric vehicles.

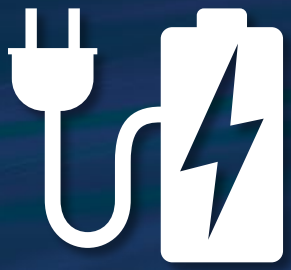
A growing network of public charging sites nationwide lets more consumers consider purchasing an electric car, though most EV drivers tend to charge at home—because it's convenient, and it usually saves money.

By replacing gasoline with domestic electricity, EVs cut fossil-fuel use and emissions, which benefits public health. Electrifying all forms of transport could reduce greenhouse gas emissions in 2050 by 57% versus 2015 levels.

About 46 EV models are available new today and 127 models, including pickup trucks, are expected by 2023.

EV 101

This guide highlights the two types of electric vehicles that plug into the electric grid to recharge their batteries. They are battery-electric—or all-electric—vehicles, and plug-in hybrids.



All-electric vehicles run solely with an electric motor and battery power. They burn no gasoline or diesel fuel, so they emit no emissions and have no tailpipe at all. Because battery technology is rapidly advancing, their costs are declining and their range between charges is increasing.

Plug-in hybrids pair an electric motor and battery with an internal-combustion engine. Plug-in hybrids drive solely on electricity until the battery is mostly empty. Then the engine turns on, and the car drives like a conventional hybrid.

Conventional hybrids, sometimes called "electrified vehicles," refuel only with gasoline. They don't plug in, so they're not considered electric cars, and aren't covered here.

ELECTRIC VEHICLE AVAILABILITY

Sales of electric cars today are about 2% of all U.S. light-duty vehicles. That number is expected to rise due to a global shift toward vehicle electrification. One forecast shows global EV sales increasing from 10 million a year in 2025 to 56 million in 2040.[1] Another forecasts the number of EVs on the road surging to 125 million globally by 2030.[2] Government regulations in China and Europe will likely drive the market in the near term.

Today, U.S. consumers can buy an electric car in almost every vehicle class (Figure 1). Automakers are offering more choices in body styles and trims. Some offer a variety of powertrains—gasoline, battery-electric, and plug-in hybrid—in the same car.

Thanks to better batteries and growing production, EV range is rising and costs are falling. According to a recent analysis by EPRI, the average range of all-electric vehicles will increase from 235 miles in 2020 to 279 miles by 2023.

Some EV models are available nationwide, but others aren't. Some are available only in states that have adopted zero emission vehicle (ZEV) regulations. Some can be ordered online and delivered at a local dealer, even if that dealer is in a non-ZEV state or doesn't usually stock electric cars.

Used electric cars are also available. Earlier generations of EVs now offered in the used-car market can serve as affordable EV options.

In addition, several ultra-luxury or limited-edition models priced over $150,000 are available. They are listed in the tables but are not featured in detail on the following pages.

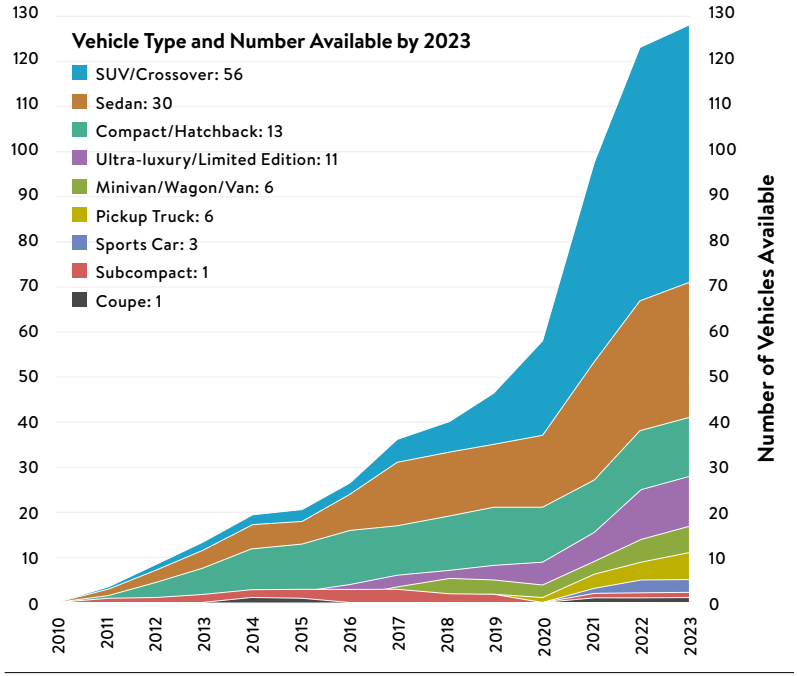


Figure 1. *The number and variety of EV models continues to grow. By the end of 2020, about 63 different models are expected to be available in the U.S. By 2023, approximately 127 models are projected.*

[1] *"Electric Vehicle Outlook 2019" Bloomberg NEF, 2019. https://about.bnef.com/electric-vehicle-outlook/#toc-download*

[2] *"Global Electric Vehicles Outlook" International Energy Agency, 2018. https://www.iea.org/news/strong-policy-and-falling-battery-costs-drive-another-record-year-for-electric-cars*

AVAILABLE NOW

BATTERY-ELECTRIC VEHICLE

MODEL NAME	RANGE (MILES)[1]	WHERE
SUV/CROSSOVER		
Audi e-tron	204	Nationwide
Jaguar I-Pace	234	Nationwide
Tesla Model X	258–328	Nationwide
Tesla Model Y	315	Nationwide
COMPACT/HATCHBACK		
BMW i3	153	Nationwide
Chevrolet Bolt EV	259	Nationwide
Mini Cooper SE	110	Nationwide
Nissan Leaf and Leaf Plus	150 and 226	Nationwide
Hyundai Ioniq Electric	170	Select Markets
Hyundai Kona Electric	258	Select Markets
Kia Niro EV	239	Select Markets
Volkswagen e-Golf	123	Select Markets
SEDAN		
Tesla Model 3	220–330	Nationwide
Tesla Model S	287–373	Nationwide
SUBCOMPACT		
Fiat 500e	84	Select Markets
ULTRA-LUXURY/LIMITED EDITION		
Porsche Taycan Turbo	201	Nationwide

PLUG-IN HYBRID

MODEL NAME	RANGE (MILES)[1]	WHERE
SUV/CROSSOVER		
Audi Q5 PHEV	20/390	Nationwide
BMW X3 xDrive30e	18/340	Nationwide
Land Rover Range Rover PHEV	19/480	Nationwide
Land Rover Range Rover Sport PHEV	19/480	Nationwide
Mitsubishi Outlander Plug-in Hybrid	22/310	Nationwide
Porsche Cayenne E-Hybrid	13/450	Nationwide
Volvo XC60 T8 eAWD	19/520	Nationwide
Volvo XC90 T8 eAWD	18/520	Nationwide
Lincoln Aviator Grand Touring	21/460	Select Markets
Subaru Crosstrek	17/480	Select Markets
COMPACT/HATCHBACK		
BMW i3 REx	126/200	Nationwide
Toyota Prius Prime	25/640	Nationwide
Hyundai Ioniq Plug-in Hybrid	29/630	Select Markets
Kia Niro Plug-in Hybrid	26/560	Select Markets
SEDAN		
Audi A8 L PHEV	17/420	Nationwide
BMW 530e and 530e xDrive	21/350 and 19/330	Nationwide
BMW 745e xDrive iPerformance	16/290	Nationwide
Ford Fusion Plug-in Hybrid	26/610	Nationwide
Porsche Panamera 4 E-Hybrid	14/490	Nationwide
Volvo S60 T8 eAWD	22/510	Nationwide
Volvo S90 T8 eAWD	21/490	Nationwide
Honda Clarity Plug-in Hybrid	47/340	Select Markets
Kia Optima Plug-in Hybrid	28/630	Select Markets
MINIVAN/WAGON/VAN		
Chrysler Pacifica Hybrid	32/520	Nationwide
Porsche Panamera 4 E-Hybrid Sport Turismo	14/490	Nationwide
Volvo V60 T8 eAWD	22/510	Nationwide
ULTRA-LUXURY/LIMITED EDITION		
Bentley Bentayga Hybrid	18/390	Nationwide
BMW i8 Roadster	18/320	Nationwide
BMW i8 Coupe	18/320	Nationwide
Karma Revero GT	61/330	Nationwide

[1] *Range for battery-electric vehicles is all-electric range. Range for plug-in hybrids is all-electric/combined (electric + gas) range. Sources for vehicles available now: www.fueleconomy.gov and manufacturer websites.*

COMING LATER IN 2020

BATTERY-ELECTRIC VEHICLE

MODEL NAME	RANGE (MILES)[1]
SUV/CROSSOVER	
Audi e-tron Sportback	218
Ford Mustang Mach-e	300
Rivian R1S	400
Volvo XC40 Recharge	200
COMPACT/HATCHBACK	
Volkswagen ID.4	310
SEDAN	
Polestar 2	TBA
PICKUP TRUCK	
Rivian R1T	400

PLUG-IN HYBRID

MODEL NAME	RANGE (MILES)[1]
SUV/CROSSOVER	
Audi A7 PHEV	TBA
Ford Escape Plug-in Hybrid	20/TBA
Lincoln Corsair Grand Touring	25/TBA
Mercedes-Benz GLC 350e	TBA
Mini Cooper S E Countryman All4	18/300
Porsche Cayenne E-Hybrid Coupe	TBA
Toyota RAV4 Prime	40/TBA
SEDAN	
BMW 330e	22/TBA
Mercedes-Benz S560e	19/510
ULTRA-LUXURY/LIMITED EDITION	
Polestar 1	60/300

[1] *Range for battery-electric vehicles is all-electric range. Range for plug-in hybrids is all-electric/combined (electric + gas) range. Sources for vehicles coming later in 2020: manufacturer and industry news websites; numbers shown are maximum estimated range; data subject to change.*

AVAILABLE NATIONWIDE

- *Electric cars available nationwide as of April 2020; discontinued models or older model years may still be available.*
- *Range sources: www.fueleconomy.gov and automaker specifications.*
- *Range per hour of charging assumes home or workplace charging; see FAQs, page 12.*
- *Fast-charging times are provided by automakers or calculated from automaker statements.*
- *Starting MSRPs are retrieved from automaker websites and may vary.*
- *Five-door vehicles are categorized as hatchbacks unless offered with all-wheel drive. Carmakers have taken to calling five-door vehicles "crossovers" to market them as SUVs, but without available AWD, they are just hatchbacks. We expect this distinction to shrink further in the future.*

Photo courtesy Audi

2020 Audi A8 L PHEV

Plug-in hybrid Sedan

EPA electric range: 17 miles
EPA total range (gas+electric): 420 miles
Range/hour of charging: 7 miles
Starting MSRP: $94,000

Photo courtesy Audi

2019 Audi e-Tron

Battery-electric SUV/Crossover

EPA electric range: 204 miles
Range/hour of charging: 22 miles
Fast charging: 160 miles in 30 minutes
Starting MSRP: $74,800

Photo courtesy Audi

2020 Audi Q5 PHEV

Plug-in hybrid SUV/Crossover

EPA electric range: 20 miles
EPA total range (gas+electric): 390 miles
Range/hour of charging: 8 miles
Starting MSRP: $52,900

Photo courtesy BMW

2020 BMW 530e and 530e xDrive

Plug-in hybrid Sedan

EPA electric range: 21 and 19
EPA total range (gas+electric): 350 and 330
Range/hour of charging: 7 miles
Starting MSRP: $53,900 and $56,200

Photo courtesy BMW

2020 BMW 745e xDrive iPerformance

Plug-in hybrid Sedan

EPA electric range: 16
EPA total range (gas+electric): 290
Range/hour of charging: 4 miles
Starting MSRP: $95,500

Photo courtesy BMW

2020 BMW i3

Battery-electric Compact/Hatchback

EPA electric range: 153 miles
Range/hour of charging: 30 miles
Fast charging: 120 miles in 40 minutes
Starting MSRP: $44,450

Photo courtesy BMW

2020 BMW i3 REx

Plug-in hybrid Compact/Hatchback

EPA electric range: 126
EPA total range (gas+electric): 200 miles
Range/hour of charging: 18 miles
Fast charging: 100 miles in 40 minutes
Starting MSRP: $48,300

Photo courtesy BMW

2020 BMW X3 xDrive30e

Plug-in hybrid SUV/Crossover

EPA electric range: 18 miles
EPA total range (gas+electric): 340 miles
Range/hour of charging: 6 miles
Starting MSRP: $48,550

Photo courtesy Chevrolet

2020 Chevrolet Bolt EV

Battery-electric Compact/Hatchback

EPA electric range: 259 miles
Range/hour of charging: 26 miles
Fast charging: 100 miles in 30 minutes
Starting MSRP: $36,620

Photo courtesy Chrysler

2020 Chrysler Pacifica Hybrid

Plug-in hybrid Minivan/Wagon/Van

EPA electric range: 32 miles
EPA total range (gas+electric): 520 miles
Range/hour of charging: 16 miles
Starting MSRP: $39,995

AVAILABLE NATIONWIDE

Photo courtesy Ford

2020 Ford Fusion Plug-in Hybrid

Plug-in hybrid Sedan

EPA electric range: 26 miles
EPA total range (gas+electric): 610 miles
Range/hour of charging: 13 miles
Starting MSRP: $35,000

Photo courtesy Jaguar

2020 Jaguar I-Pace

Battery-electric SUV/Crossover

EPA electric range: 234 miles
Range/hour of charging: 18 miles
Fast charging: 187 miles in 85 minutes
Starting MSRP: $69,850

Photo courtesy Land Rover

2020 Land Rover Range Rover PHEV

Plug-in Hybrid SUV/Crossover

EPA electric range: 19
EPA total range (gas+electric): 480
Range/hour of charging: 6 miles
Starting MSRP: $95,950

Photo courtesy Land Rover

2020 Land Rover Range Rover Sport PHEV

Plug-in Hybrid SUV/Crossover

EPA electric range: 19
EPA total range (gas+electric): 480
Range/hour of charging: 6 miles
Starting MSRP: $79,000

Photo courtesy BMW

2020 Mini Cooper SE

Battery-electric Compact/Hatchback

EPA electric range: 110 miles
Range/hour of charging: 27 miles
Fast charging: 88 miles in 36 minutes
Starting MSRP: $29,900

Photo courtesy Mitsubishi

2020 Mitsubishi Outlander Plug-in Hybrid

Plug-in hybrid SUV/Crossover

EPA electric range: 22 miles
EPA total range (gas+electric): 310 miles
Range/hour of charging: 6 miles
Fast charging: 18 miles in 25 minutes
Starting MSRP: $36,295

Photo courtesy Nissan

2020 Nissan Leaf and Leaf Plus

Battery-electric **Compact/Hatchback**

EPA electric range: 150 and 226 miles
Range/hour of charging: 19 miles
Fast charging: 120 miles in 40 minutes (Leaf)
Fast charging: 180 miles in 60 minutes (Leaf Plus)
Starting MSRP: $31,600 and $38,200

Photo courtesy Porsche

2019 Porsche Cayenne E-Hybrid

Plug-in hybrid **SUV/Crossover**

EPA electric range: 13 miles
EPA total range (gas+ electric): 450 miles
Range/hour of charging: 5 miles
Starting MSRP: $81,100

Photo courtesy Porsche

2020 Porsche Panamera 4 E-Hybrid

Plug-in hybrid **Sedan**

EPA electric range: 14 miles
EPA total range (gas+electric): 490 miles
Range/hour of charging: 5 miles
Starting MSRP: $103,800

Photo courtesy Porsche

2020 Porsche Panamera 4 E-Hybrid Sport Turismo

Plug-in hybrid **Minivan/Wagon/Van**

EPA electric range: 14 miles
EPA total range (gas+electric): 490 miles
Range/hour of charging: 5 miles
Starting MSRP: $107,800

Photo courtesy Tesla

Tesla Model 3

Battery-electric **Sedan**

EPA electric range: 220–330 miles
Range/hour of charging: 25–38 miles
Fast charging: Up to 172 miles in 15 minutes
Starting MSRP: $39,900

Photo courtesy Tesla

Tesla Model S

Battery-electric **Sedan**

EPA electric range: 287–373 miles
Range/hour of charging: 31–46 miles
Fast charging: Up to 130 miles in 15 minutes
Starting MSRP: $79,990

AVAILABLE NATIONWIDE

Photo courtesy Tesla

Tesla Model X

Battery-electric **SUV/Crossover**

EPA electric range: 258–328 miles
Range/hour of charging: 28–41 miles
Fast charging: Up to 115 miles in 15 minutes
Starting MSRP: $84,990

Photo courtesy Tesla

Tesla Model Y

Battery-electric **SUV/Crossover**

EPA electric range: 315 miles
Range/hour of charging: 31 miles
Fast charging: Up to 158 miles in 15 minutes
Starting MSRP: $52,990

Photo courtesy Toyota

2020 Toyota Prius Prime

Plug-in hybrid **Compact/Hatchback**

EPA electric range: 25 miles
EPA total range (gas+electric): 640 miles
Range/hour of charging: 12 miles
Starting MSRP: $27,750

Photo courtesy Volvo

2020 Volvo S60 T8 eAWD

Plug-in hybrid **Sedan**

EPA electric range: 22 miles
EPA total range (gas+electric): 510 miles
Range/hour of charging: 7 miles
Starting MSRP: $56,045

Photo courtesy Volvo

2020 Volvo S90 T8 eAWD

Plug-in hybrid **Sedan**

EPA electric range: 21 miles
EPA total range (gas+electric): 490 miles
Range/hour of charging: 7 miles
Starting MSRP: $63,845

Photo courtesy Volvo

Volvo V60 T8 eAWD

Plug-in hybrid **Minivan/Wagon/Van**

EPA electric range: 22 miles
EPA total range (gas+electric): 510 miles
Range/hour of charging: 7 miles
Starting MSRP: $67,300

Photo courtesy Volvo

2020 Volvo XC60 T8 eAWD

Plug-in hybrid **SUV/Crossover**

EPA electric range: 19 miles
EPA total range (gas+electric): 520 miles
Range/hour of charging: 6 miles
Starting MSRP: $54,595

Photo courtesy Volvo

2020 Volvo XC90 T8 eAWD

Plug-in hybrid **SUV/Crossover**

EPA electric range: 18 miles
EPA total range: 520 miles
Range/hour of charging: 6 miles
Starting MSRP: $67,000

AVAILABLE IN SELECT MARKETS

- *Electric cars available in select markets as of April 2020; discontinued models or older model years may still be available.*
- *Range sources: www.fueleconomy.gov and automaker specifications.*
- *Range per hour of charging assumes home or workplace charging; see FAQs, page 12.*
- *Fast-charging times are provided by automakers or calculated from automaker statements.*
- *Starting MSRPs are retrieved from automaker websites and may vary.*
- *Five-door vehicles are categorized as hatchbacks unless offered with all-wheel drive. Carmakers have taken to calling five-door vehicles "crossovers" to market them as SUVs, but without available AWD, they are just hatchbacks. We expect this distinction to shrink further in the future.*

Photo courtesy Fiat

2019 Fiat 500e

Battery-electric Subcompact

EPA electric range: 84 miles
Range/hour of charging: 21 miles
Fast charging: Not equipped
Starting MSRP: $33,460

Photo courtesy Honda

2020 Honda Clarity Plug-in Hybrid

Plug-in hybrid Sedan

EPA electric range: 47 miles
EPA total range (gas+electric): 340 miles
Range/hour of charging: 22 miles
Starting MSRP: $33,400

Photo courtesy Hyundai

2020 Hyundai Ioniq Electric

Battery-electric Compact/Hatchback

EPA electric range: 170 miles
Range/hour of charging: 29 miles
Fast charging: 136 miles in 54 minutes
Starting MSRP: $34,045

Photo courtesy Hyundai

2020 Hyundai Ioniq Plug-in Hybrid

Plug-in hybrid Compact/Hatchback

EPA electric range: 29 miles
EPA total range: 630 miles
Range/hour of charging: 13 miles
Starting MSRP: $26,500

Photo courtesy Hyundai

2020 Hyundai Kona Electric

Battery-electric Compact/Hatchback

EPA electric range: 258 miles
Range/hour of charging: 27 miles
Fast charging: 200 miles in 54 minutes
Starting MSRP: $37,190

Photo courtesy Kia

2020 Kia Niro EV

Battery-electric Compact/Hatchback

EPA electric range: 239 miles
Range/hour of charging: 25 miles
Fast charging: 100 miles in 30 minutes
Starting MSRP: $39,090

Photo courtesy Kia

2020 Kia Niro Plug-in Hybrid

Plug-in hybrid Compact/Hatchback

EPA electric range: 26 miles
EPA total range: 560 miles
Range/hour of charging: 11 miles
Starting MSRP: $28,500

Photo courtesy Kia

2020 Kia Optima Plug-in Hybrid

Plug-in hybrid Sedan

EPA electric range: 28 miles
EPA total range (gas+electric): 630 miles
Range/hour of charging: 10 miles
Starting MSRP: $36,090

Photo courtesy Lincoln

2020 Lincoln Aviator Grand Touring

Plug-in Hybrid SUV/Crossover

EPA electric range: 21
EPA total range (gas+electric): 460
Range/hour of charging: 8 miles
Starting MSRP: $68,800

Photo courtesy Subaru

2020 Subaru Crosstrek Hybrid

Plug-in hybrid SUV/Crossover

EPA electric range: 17 miles
EPA total range (gas+electric): 480 miles
Range/hour of charging: 8 miles
Starting MSRP: $35,145

Photo courtesy Volkswagen

2020 Volkswagen e-Golf

Battery-electric Hatchback

EPA electric range: 123 miles
Range/hour charging: 21 miles
Fast charging: 100 miles in 60 minutes
Starting MSRP: $31,895

FREQUENTLY ASKED QUESTIONS

WHERE CAN I CHARGE AND HOW LONG DOES IT TAKE?

You can charge your electric car at home, at work, or in public. It's as easy as charging your smart phone or computer. Simply plug it in and carry on with life. Your car charges while you sleep, work, or play.

Most drivers with a driveway or a garage prefer the convenience of charging at home. You simply plug into an up-to-date standard 120-volt household outlet, using the cord that comes with the car. This is called Level 1 charging. It's the simplest and most economical home-charging solution because it requires no other equipment or installation. Charging at Level 1 delivers roughly 3 to 5 miles of range per hour.

For faster home charging, you can install a dedicated 240-volt charging station. It's an appliance, like an electric clothes dryer. This is called Level 2 charging. Charging at Level 2 delivers roughly 8 to 24 miles of range per hour or more, depending on the car and the charging station.

Level 1 and Level 2 charging is available in public and at some workplaces.

For even faster charging, a growing number of DC Fast charging stations are available in strategic locations nationwide along highway corridors and near shopping centers. DC Fast charging cannot be installed at home. Most (but not all) electric cars are equipped to accept DC Fast charging, though all can charge at Levels 1 and 2. Fast-charging speed varies by car and installation. See details in Table 1. For more information, see "Consumer Guide to Electric Vehicle Charging," October 2019 (EPRI Product ID 3002016961).

Table 1. *Charging levels and range replenished*

CHARGING LEVEL; DESCRIPTION	LOCATION	MILES OF RANGE REPLENISHED[1]
Level 1 (120 volts); cord comes with car; three-prong outlet or charging station	Home, Work, Public	3–5 miles of range/hour
Level 2 (240 volts); charging station	Home, Work, Public	8–24 miles of range/hour, more on some models
DC Fast; charging station - 50 kW[2]	Work, Public	2–3 miles of range/minute; charges a 100-mile range car to 80% in 30 minutes
DC Fast; charging station - 150 kW[2]	Work, Public	6–9 miles of range/minute; charges a 240-mile range car to 80% in 30 minutes
DC Fast; charging station - 350 kW[2]	Work, Public	12–18 miles of range/minute; charges a 300-mile range car to 80% in 20 minutes

[1] *The amount of range replenished may vary beyond the numbers shown, depending on the charger type and vehicle.*

[2] *Most current U.S. DC Fast chargers offer a maximum power level of 50 kW–150 kW. Tesla Superchargers offer 120 kW–150 kW. Tesla V3 Superchargers promise up to 250 kW, Porsche uses up to 270 kW at stations from Electrify America and other networks, and multiple networks promise 350 kW+ DC Fast chargers for future vehicles that can take advantage of them.*

HOW MUCH DOES IT COST TO CHARGE?

Charging cost depends on several factors: the price of electricity, your car's efficiency (how much electricity it uses to travel one mile), and how many miles you drive.

Home charging is the most economical. At the U.S. national average residential price of 12.8 cents per kilowatt-hour (kWh), fueling a car with electricity is roughly equivalent to buying gasoline at $1 a gallon. Many utilities offer discounted residential EV rates.

Public charging costs vary by region and network provider. Some public stations are free and open to all, with electricity subsidized by the property owner. Charging networks' fee structure and membership requirements vary. Nonetheless, charging on the go usually costs no more than the current average cost of gasoline—but more than that of home charging, as shown in Table 2.

Table 2. *Average cost to drive 30, 100, and 200 miles using electricity (with home and public charging options) compared to gasoline. Although gasoline prices vary by region and season, the cost of home charging is roughly equivalent to gasoline at $1/gallon (numbers are rounded to the nearest $0.10).*[1]

MILES DRIVEN	GASOLINE COST	ELECTRICITY COST HOME CHARGING	ELECTRICITY COST PUBLIC CHARGING LEVEL 2	ELECTRICITY COST PUBLIC CHARGING DC FAST
30	$2.80	$1.10	$1.50	$2.60
100	$9.30	$3.70	$4.90	$8.60
200	$18.60	$7.30	$9.70	$17.10

[1] *These calculations assume: an average U.S. light-duty vehicle efficiency of 25 mpg and a regular unleaded gasoline price of $2.33/gallon (a 2021 projection by the U.S. Energy Information Agency Short-Term Energy Outlook); an average electric vehicle efficiency of 3.5 miles/kWh; an average U.S. residential electricity price of $0.1279; and an average value of $0.17/kWh and $0.30/kWh for Level 2 and DC Fast public charging respectively.*

WHAT INCENTIVES ARE AVAILABLE?

A federal tax credit of up to $7,500 may be available for qualified EVs. Some state and local governments offer vehicle purchase and charging station incentives. In some states, electric cars can use carpool lanes with a single driver and receive parking and charging perks. Some utilities offer EV charging incentives. The U.S. Dept. of Energy Office of Energy Efficiency and Renewable Energy tracks currently available incentives nationwide.

WHAT SHOULD I CONSIDER IN EVALUATING AN EV?

Consider your driving needs and lifestyle. If you have only one car or often drive long distances, a plug-in hybrid with its backup internal-combustion engine can provide a worry-free transition to EVs.

If your daily driving patterns are predictable, or if you like the idea of a gasoline-free driving experience, an all-electric vehicle may be a good choice. Access to workplace or public charging can effectively double your range and may alleviate worries about range.

Consider costs and benefits. With lease options, discounted electricity rates, and government purchase incentives, EVs can cost less to operate over their lifetime despite higher sticker prices. And just like other innovations, EV costs are falling as technology improves and production volumes rise.

Consider environmental benefits. Electric cars have lower emissions than gasoline-powered vehicles, even in areas where much of the electricity is generated by power plants that burn fossil fuels. For more information, see "Environmental Assessment of a Full Electric Transportation Portfolio" (EPRI Product ID 3002006881).

FOR MORE INFORMATION:

Explore automakers' websites for product updates and check your local electricity provider's website for information about EVs.

Other sources:

Electric Drive Transportation Association: www.electricdrive.org and www.goelectricdrive.org

U.S. Dept. of Energy Alternative Fuels Data Center: www.afdc.energy.gov/fuels/electricity.html

U.S. Dept. of Energy and U.S. Environmental Protection Agency fuel economy information: http://www.fueleconomy.gov/

Plug In America: www.pluginamerica.org

The Electric Power Research Institute, Inc. (EPRI, www.epri.com) conducts research and development relating to the generation, delivery and use of electricity for the benefit of the public. An independent, nonprofit organization, EPRI brings together its scientists and engineers as well as experts from academia and industry to help address challenges in electricity, including reliability, efficiency, affordability, health, safety and the environment. EPRI also provides technology, policy and economic analyses to drive long-range research and development planning, and supports research in emerging technologies. EPRI members represent 90% of the electricity generated and delivered in the United States with international participation extending to 40 countries. EPRI's principal offices and laboratories are located in Palo Alto, Calif.; Charlotte, N.C.; Knoxville, Tenn.; Dallas, Texas; Lenox, Mass.; and Washington, D.C.

3420 Hillview Avenue, Palo Alto, California 94304-1338
PO Box 10412, Palo Alto, California 94303-0813 • USA
800.313.3774 • 650.855.2121 • askepri@epri.com • www.epri.com

©2020 Electric Power Research Institute (EPRI), Inc. All rights reserved. Electric Power Research Institute, EPRI, and TOGETHER...SHAPING THE FUTURE OF ELECTRICITY are registered service marks of the Electric Power Research Institute.

3002018113