5 Ways You'll Save On Maintenance With an Electric Car

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GREEN ENERGY CONSUMERS ALLIANCE

Webinar logistics

Everyone is muted to avoid background noise.
Send questions to me via chat box.

Our mission

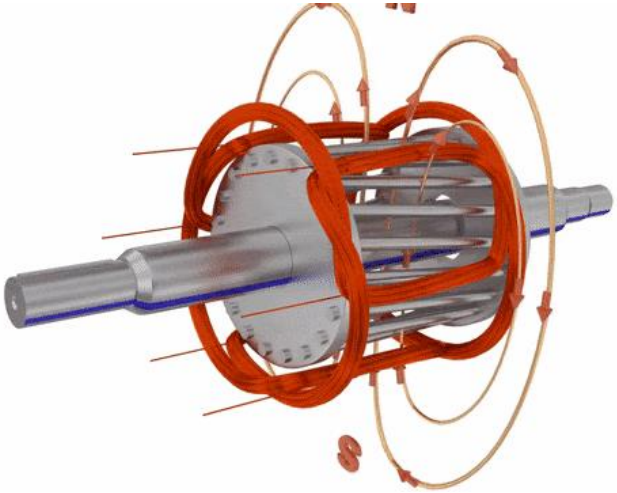
To harness our power as energy consumers to speed the transition to a low-carbon future.

Many benefits to electric cars

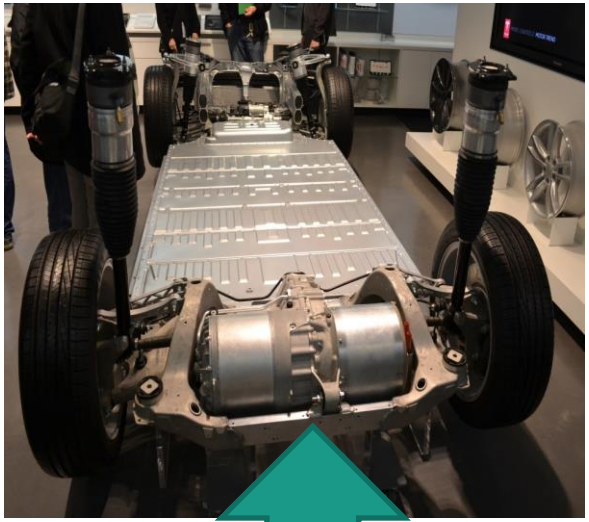
- Climate
- Air quality
- Lower fuel costs
- Fun to drive
- **Lower maintenance costs**

greenenergyconsumers.org/drivegreen

1. Electric motors are simpler than gas engines.



Electricity flowing from the battery creates a magnetic field. The magnet in the motor rotates and drives the wheels of the car to spin.

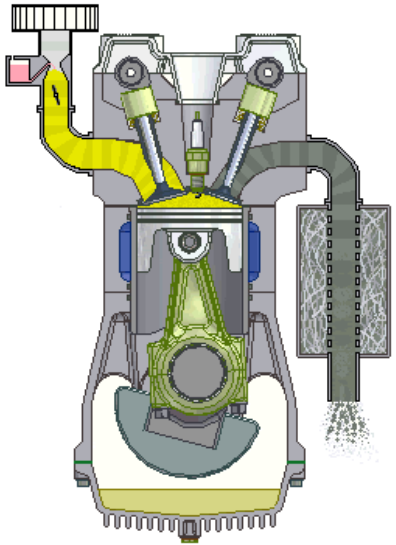


20 moving parts

Combustion engines are... complicated.

- Spark plug
- Ignition coil
- Transmission
- Filters
- Fuel injectors
- Intake/exhaust lines
- Alternator
- Catalytic converter
- Starter motor
- Purge control valves
- Fuel lines
- Oxygen sensors
- Mass air flow sensors

400 moving parts!



A fuel/air mixture is injected into the engine. The result is a controlled explosion that drives a piston to expand or contract.

2. Simpler powertrains require less service.

Not necessary in an electric vehicle:

Maintenance Schedule Additional Required Services - Normal	12 000 km/7,500 mi	24 000 km/15,000 mi	36 000 km/22,500 mi	48 000 km/30,000 mi	60 000 km/37,500 mi	72 000 km/45,000 mi	84 000 km/52,500 mi	96 000 km/60,000 mi	108 000 km/67,500 mi	120 000 km/75,000 mi	132 000 km/82,500 mi	144 000 km/90,000 mi	156 000 km/97,500 mi	168 000 km/105,000 mi	180 000 km/112,500 mi	192 000 km/120,000 mi	204 000 km/127,500 mi	216 000 km/135,000 mi	228 000 km/142,500 mi	240 000 km/150,000 mi
Rotate tires and perform Required Services. Check engine oil level and oil life percentage. Change engine oil and filter, if needed.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Replace passenger compartment air filter. (1)			✓			✓			✓			✓			✓			✓		
Inspect evaporative control system. (2)						✓						✓						✓		
Replace engine air cleaner filter. (3)						✓						✓						✓		
Replace spark plugs. Inspect spark plug wires and/or boots.								✓								✓				
Drain and fill engine cooling system. (4)																				✓
Visually inspect accessory drive belts. (5)																				✓
Replace brake fluid. (6)																				
Replace windshield wiper blades. (7)		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓
Replace hood and/or body lift support gas struts. (8)										✓										✓
Replace air conditioning desiccant. (9)																				

2020 Chevrolet Sonic

Compared to 2020 Chevrolet Bolt

Maintenance Schedule Additional Required Services	12 000 km/7,500 mi	24 000 km/15,000 mi	36 000 km/22,500 mi	48 000 km/30,000 mi	60 000 km/37,500 mi	72 000 km/45,000 mi	84 000 km/52,500 mi	96 000 km/60,000 mi	108 000 km/67,500 mi	120 000 km/75,000 mi	132 000 km/82,500 mi	144 000 km/90,000 mi	156 000 km/97,500 mi	168 000 km/105,000 mi	180 000 km/112,500 mi	192 000 km/120,000 mi	204 000 km/127,500 mi	216 000 km/135,000 mi	228 000 km/142,500 mi	240 000 km/150,000 mi
Rotate tires and perform Required Services.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Replace passenger compartment air filter. (1)			✓			✓			✓			✓			✓			✓		
Drain and fill vehicle coolant circuits. (2)																				✓
Replace brake fluid. (3)																				
Replace windshield wiper blades. (4)		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓
Replace hood and/or body lift support gas struts. (5)										✓										✓
Replace air conditioning desiccant. (6)																				

Even the brake pads last longer in electric vehicles.

Before I purchased the LEAF, I walked into the dealership's service area and asked the LEAF technician how service generally works out. The answer?

"Well at 7,500 miles we plug it into the computer and rotate the tires. At 15,000 miles, we plug it into the computer and rotate the tires."

Sold.

- Claude, Nissan LEAF

3. Less maintenance = time and money saved.

8.94 cents per mile for sedans

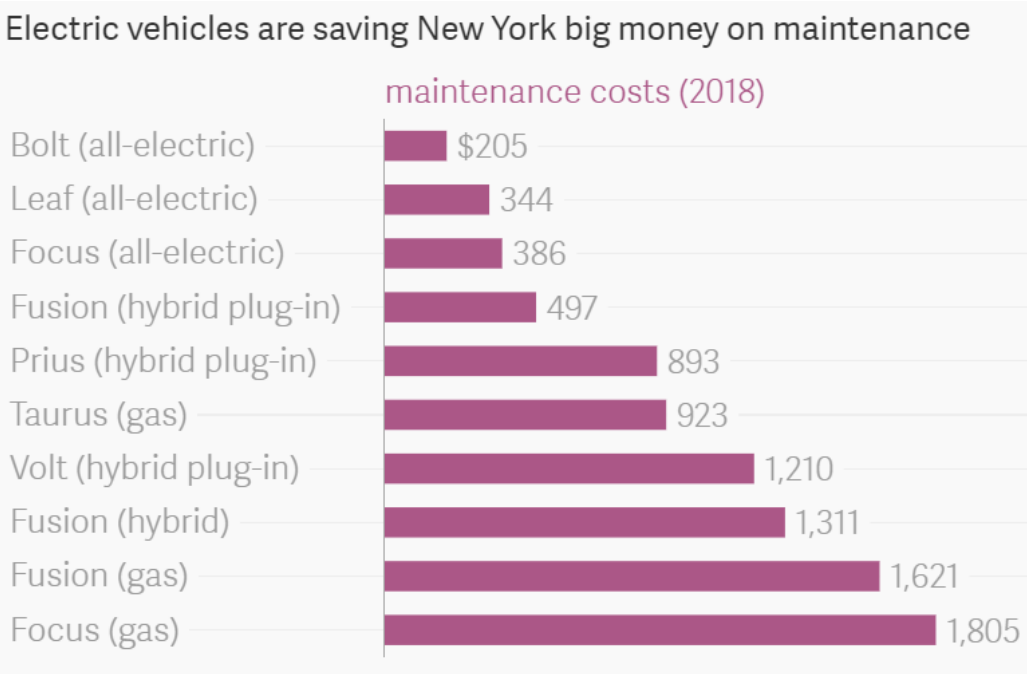
9.9 cents per mile for SUVs

6.6 cents per mile

$1,800 in savings during the first 5 years or 75,000 miles of driving

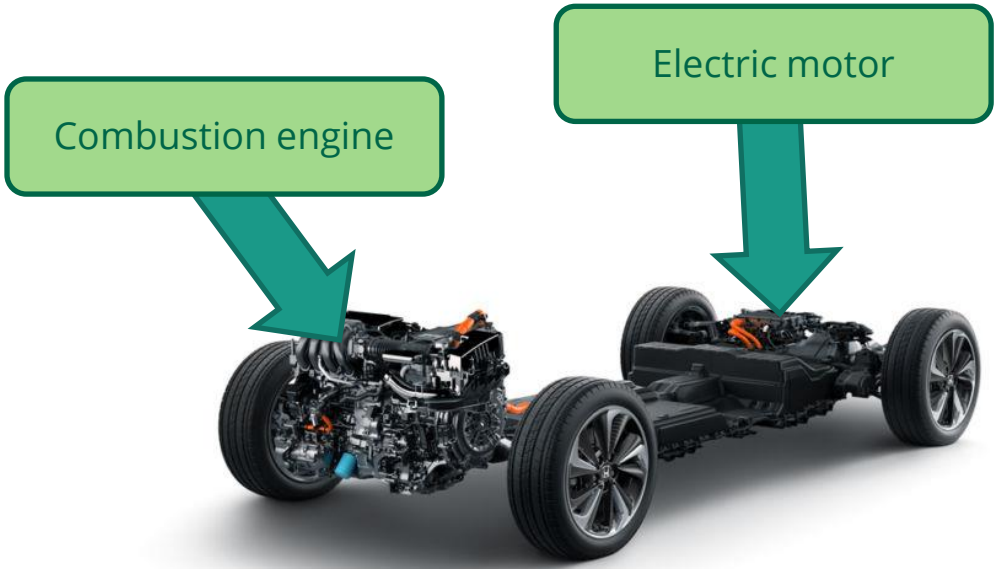
[AAA: *Your Driving Costs*]

But estimates can vary…



- New York City says electric cars are now the cheapest option for its fleet
- Over $900 in maintenance savings in one year of driving

What about plug-in hybrids?



- PHEVs have a gasoline engine, which means they still require regular maintenance.
- However, driving on an electric motor for a portion of your miles decreases the wear and tear on the gas engine, reducing the likelihood of costly repairs.
- Regenerative braking extends the life of brake pads.

Cost of Ownership

	Hyundai Kona EV	Toyota RAV4
Sticker Price	$36,950 -$1,000 Drive Green discount -$2,500 MOR-EV rebate -$7,500 federal tax credit = **$25,950**	**$25,850**
Combined City/Highway MPG	120 MPGe	35 MPG
Fuel Costs	15,000 miles * 27 kWh/100 miles * $0.20/kWh = **$810**	15,000 miles * 2.85 gal/100 miles * $2.50/gal = **$1,387**
Maintenance/repair costs	15,000 miles * $0.066 **= $990**	15,000 miles * 0.096 = **$1,440**
Operating costs over 5 years	($810*5) + ($990*5) = **$9,000**	($1,387*5) + ($1,440*5) = **$14,135**

Questions?

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4. Fewer repairs over the car's lifetime.

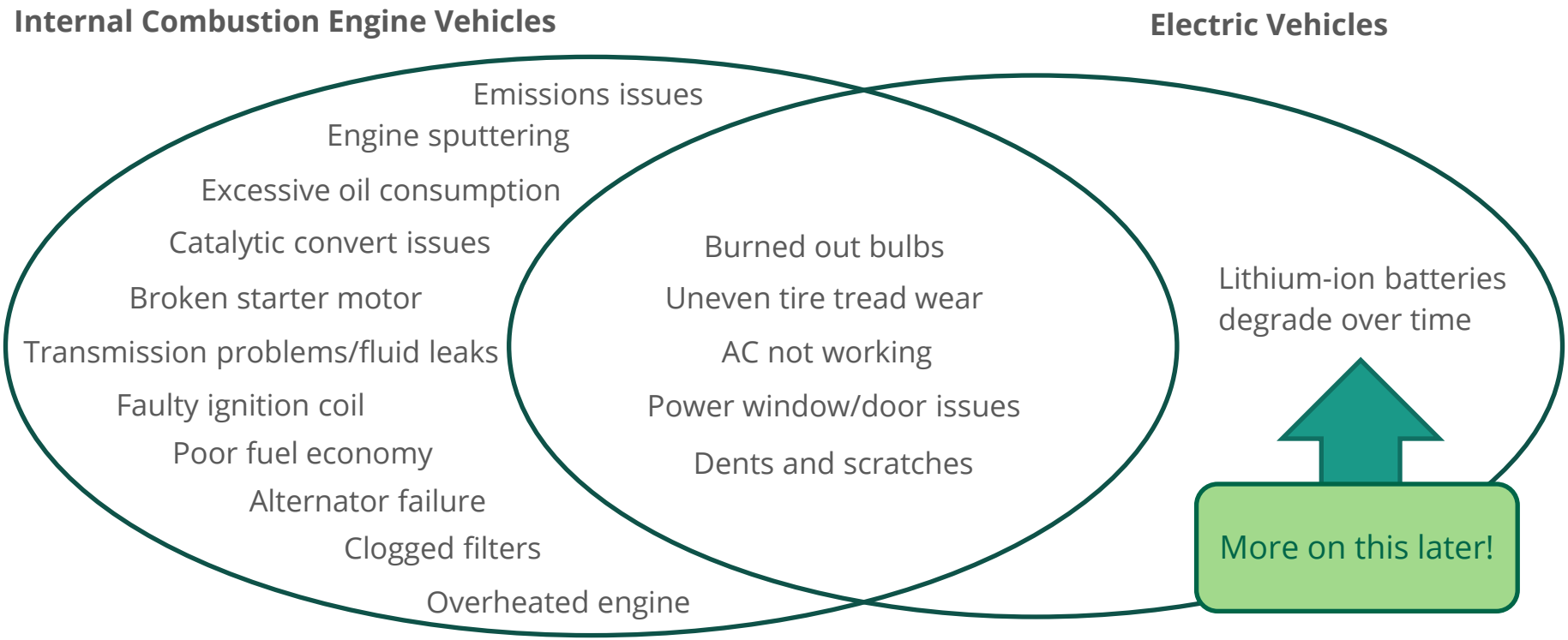
In the first 5 years...

Save $20-$55 on each oil change and service stop.

Over 150,000 miles...

Gas-powered cars become less reliable.
Save over $3,500 in lifetime maintenance and **repair.**

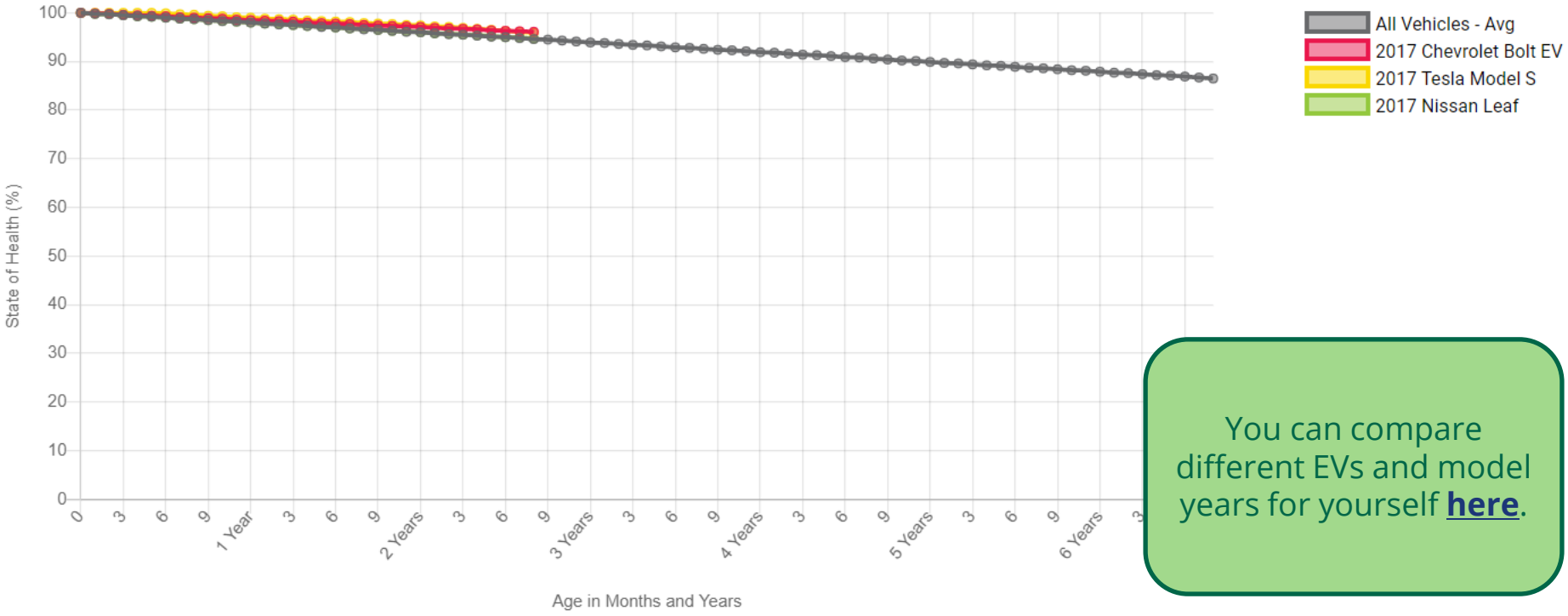
Most common car problems



No more “Check Engine” light

- The average unexpected car repair costs between $500 and $600.
- Gas-powered cars are scrapped when the cost of repair exceeds the value of the vehicle.
- Since the electric powertrain is expected to last much longer without costly repairs, EVs will be able to outlast the 150,000 miles expected of gas cars.

5. EV batteries hold up over time.



You can compare different EVs and model years for yourself **here**.

4% range loss in a 2017 Chevy Bolt over 3 years

2017 range	238 miles
2020 range	229 miles

Since the given 238-mile range is an estimate and largely depends on driving style, ambient temperature, and terrain, most drivers will not notice a 4% change in their maximum driving range.

But warranties will cover the battery if something goes wrong.

Electric Vehicle	Coverage	Percentage Guarantee
Nissan LEAF	8 years / 100,000 miles	Below “9 bars”, ~70%
Chevrolet Bolt	8 years / 100,000 miles	60%
Tesla	unlimited	
Volkswagen e-Golf	8 years / 100,000 miles	70%
BMW i3	8 years / 100,000 miles	70%

Helpful resource: “Evaluating EV Warranties” from MyEV

Many auto manufacturers automatically transfer the battery warranty to secondhand owners, so long as the warranty period has not ended. **Always read the fine print!**

TECH \ TRANSPORTATION \ CARS

Tesla's readying a 'million mile' battery that could greatly lower the cost of EVs

Reportedly coming first to China

By Sean O'Kane | @sokane1 | May 14, 2020, 12:41pm EDT

TECHNOLOGY NEWS MAY 19, 2020 / 12:11 PM / 7 DAYS AGO

GM says it is 'almost there' on million-mile electric vehicle battery

Paul Lienert

2 MIN READ

Battery care tips

1. Plug in before your charge drops below 20% .
2. Plan ahead for long-term storage – avoid leaving the EV parked at 100% for many days at a time.
3. Use DC fast charging only for long road trips.
4. Be mindful of the weather – park in the shade on extremely hot days if you can.

Questions?

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