

# Buy A Used EV?



# Consider A Used EV

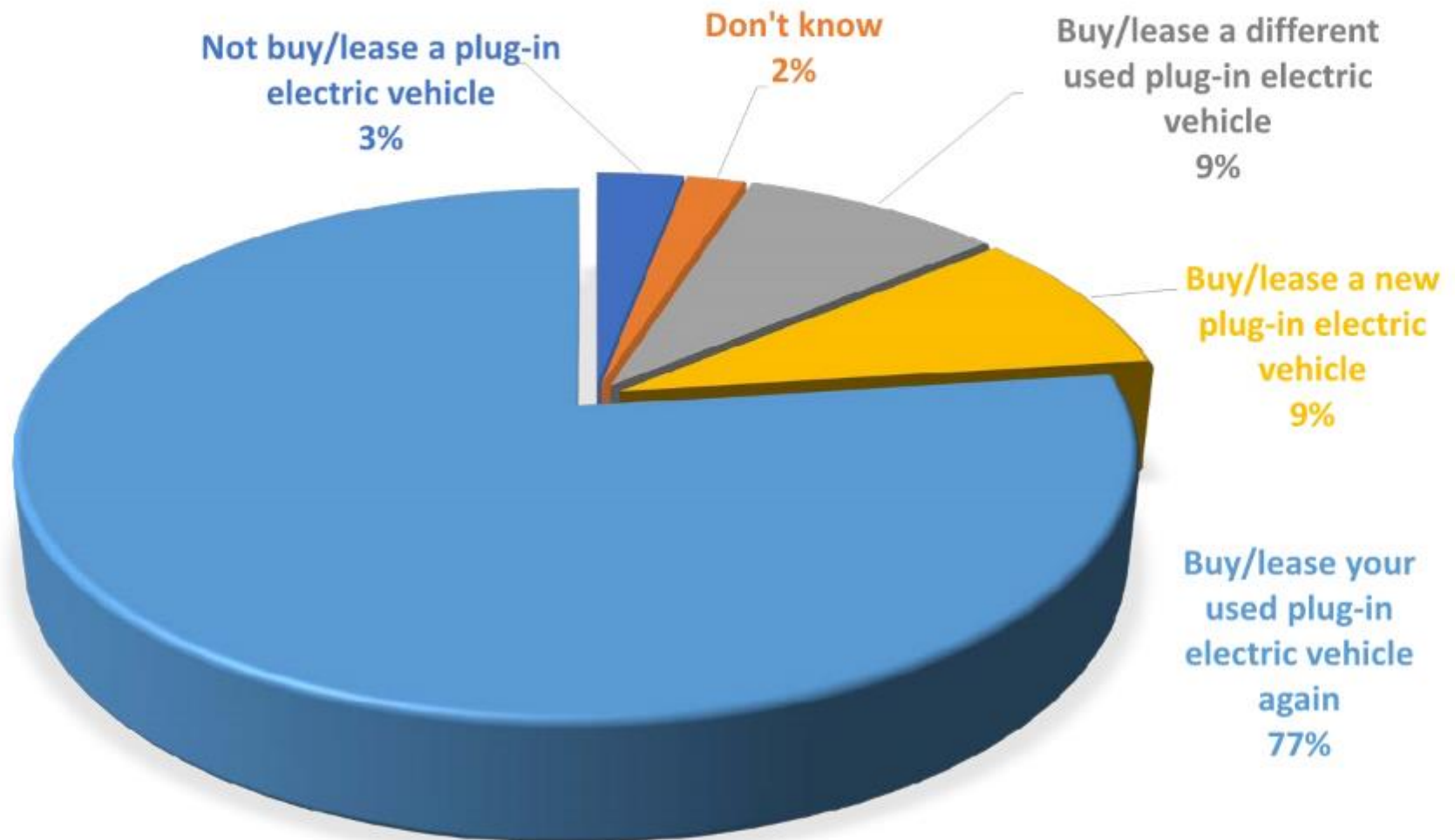


It's a Great Time to Buy a Used EV

Consumers Reports

8/31/18

# 95% of used PEV owners would get another PEV if they had to redo purchase



# Used EVs

- Benefits
  - Avoids initial depreciation
  - Lower initial costs
  - Lower insurance
  - Lower registration
  - EV's generally more reliable



Great first car for new young drivers

# Used EVs

- Risks
  - Old models have old tech:
    - slower charge (sometimes),
    - communications
    - no auto pilot
  - Wide variance in range - 60 to 300+
- Careful when comparing against MSRP
  - \$0% to 70% MSRP reduction due to incentives

# Types Of Vehicles



Pure Battery Electric Vehicles

Powered exclusively by battery. Newer models typically have 150+ miles of range



Plug-in Hybrid Electric Vehicles

Have an internal combustion engine and an electric powered engine. Typically 30-50 miles on battery and a full gas tank



Hybrid Electric Vehicles

Non-plug in hybrids capture energy through braking system for greater fuel efficiency

← Plug In Electric Vehicles →

**10 Months, 11,000 Miles**



**Still on first tank of gas**

# Used EVs – Same but Different

- Gas / Hybrid Vehicles:
  - inspection by local mechanic for about \$100 for a full inspection of the engine, brakes and transmission
- Plug In EVs:
  - **Check battery range**
  - Battery warranty
  - Body, suspension, all buttons / switches, tires
  - Portable charger (120V, 240V)
  - If BEV – DC Fast Charger?
  - If PHEV – Check both EV miles and gas miles
- Homework
  - What's the vehicle history? Carfax report, etc
  - Ask “Do you have the title?”
  - Kelly Bluebook, etc
  - **Owner's Groups**





# EVs: Low - Midrange BEVs



- **Range:** typical 60 – 90, 100 to 150 miles per charge
- **Charging:** home at night, workplace at day
- **Commuting or City Car:** Fun to drive, inexpensive to own, easy to park, very safe vehicles



- **Recommendation:**
  - Range should be 2X typical daily usage.
  - Excellent for two-car families
  - **Always get a DC Fast Charger port**
  - **Great first car for new young drivers**



- **Risk:** Occasionally may need to stop at public charger to boost range (9 min gains 24 miles)

# EVs: Full Range BEVs



- **Range:** typical 200 to 370 miles per charge
- **Charging:** home at night, workplace at day
- **Family Car:** Fun to drive, inexpensive to own, easy to park, very safe vehicles



- **Recommendation:**
  - Range dependent on frequency of road trips
  - 50% more than common road trips
  - Used higher end EVs similar price to new mid range EV



- **Risk:** Occasionally may need to stop at DC Fast Chargers to boost range

# Battery Life

## Battery Degradation Warranties

Model	Period	Capacity
BMW i3	8yr/100K miles	70%
Chevrolet Bolt EV	8yr/100K miles	60%
Fiat 500e	<i>None - degradation specifically excluded</i>	
Ford Focus Electric	<i>None - degradation specifically excluded</i>	
Kia Soul EV	10yr/100K miles	70%
Mercedes B250e	8yr/100K miles	70% **
Mitsubishi I-MiEV	<i>None - degradation specifically excluded</i>	
Nissan Leaf (24 kW)	5yr/60K miles	9 bars *
Nissan Leaf (30 kW)	8yr/100K miles	9 bars *
Tesla (all)	<i>None - degradation specifically excluded</i>	
smart fortwo electric	unknown or not specified ***	
Volkswagon e-Golf	8yr/100K miles	70%

# EVs: PHEVs



- **Engine Extends Range:** Gasoline engine powers car after battery is depleted (or heavy load)
- **Charging:** home at night, workplace at day
- **Recommendation:**
  - Good match for 1 or 2 car family, or if long trips are frequent
  - Best when battery range covers typical daily use
- **Check both Engine and Motor Wear:**  
Example: Jay Leno 450 miles of Volt gas engine wear after 11,000 miles of driving.



# Popular Used PHEVs



**Chevy Volt,**  
40 – 53 mi + gas  
\$11K - \$22k



**Toyota Prius Prime,**  
20-25 mi + gas  
\$21K - \$27k



**Ford Fusion Energi**  
26 mi + gas  
\$8K - \$16k



**BMW i3,**  
72-150 mi  
\$12K - \$31k

# Popular Used BEVs (older)



**FIAT 500e,**  
70 mi  
\$6K - \$10k



**iMEV,**  
50 mi  
\$5K - \$10k



**Nissan LEAF,**  
75- 95  
\$6K - \$12k



**Tesla Model S,**  
200 – 250 mi  
\$30K - \$40k



**Chevy Bolt,**  
220 mi  
\$20K - \$26k

# Reference Sites

- [Pluginamerica.org](http://Pluginamerica.org)
- [PlugStar.com](http://PlugStar.com)
  - compare against new
- Consumer's Reports
- [Plugshare.com](http://Plugshare.com)
- Online Owner Forums

