2018 Clean Car Buying Guide

CleanAir CHOICES

South Coast AQMD

SCAQMD

Cleaning the air that we breathe...

ADVISOR

Buying a Car

Consumers have more choices thanever before in today's car market. Alternative fueled cars offer some of the most exciting designs and features and can save significant money at the gas pump too. These new vehicles also help reduce air pollution so consumers can breathe easier.

For those who grew up in Southern California in the 1970's or earlier, there may be memories of smoggy polluted days when the sky was always a beige grey, eyes teared and burned, and lungs hurt to breathe. The public outcry during that smoggy time led to the formation of the South Coast Air Quality Management District (SCAQMD), whose mission is to clean up the air pollution impacting all those living in the four-county region of Los Angeles, San Bernardino, Riverside and Orange. While air quality in the four-county region (known as the South Coast Air Basin or Basin) is significantly better, we also know that the impacts of air pollution are far more significant than originally realized, with strong linkages to respiratory and cardiovascular disease, cancer and other medical issues.

That is why the SCAQMD continues to work to reduce air pollution to protect public health. Currently, more than 80 percent of the air pollution in the South Coast Air Basin comes from the emissions produced by motor vehicles--cars, trucks, trains, heavy-duty equipment, planes and marine vessels.

Everyone can do their part to reduce air pollution by choosing the cleanest modes of transportation possible that also fits their budget and lifestyle. Some of these choices include cleaner fueled vehicles, such as electric vehicles, hydrogen fuel cell vehicles or hybrid vehicles. This guide seeks to help consumers better understand the choices available on the market and how to best choose the car that is suited for them and their unique needs.

Should You Go Electric?

Although electric vehicle charging stations are becoming more widespread, they are still not as widely available as gasoline fueling stations. For those living in single-family residences, a Battery Electric Vehicle (BEV) might be a good option; consumers can charge their vehicles in the comfort of their own home with installation of a charger. For those residing in an apartment or a condominium, perhaps a plug-in hybrid electric vehicle might be a better option, since charging and fueling can be done at your convenience.

While hydrogen fueling stations are also still limited, many more are in development, and for those living or working near a hydrogen fueling station, they may benefit more by buying a fuel cell vehicle.

In fact, SCAQMD has a free app available on iTunes or the Android store to identify nearby alternative fueling stations on a smart phone.

How Far Do You Drive?

How much range is needed or desired? According to the U.S. Department of Transportation's Federal Highway Administration, the average American drives an estimated 13,476 miles every year--nearly 37 miles per day! For those whose daily drives are longer, a car with more range may be required. Many BEVs have shorter ranges than their gasoline counterparts due to limitations of the vehicle battery but there are options available in the market. For example, Transitional Zero Electric Vehicle (TZEV) owners enjoy convenience of their vehicle automatically switching to gasoline when the electric charge runs out. A hydrogen fuel cell ZEV also has a longer range and can drive up to 312 miles on a full tank, depending on the model.

What Kind of Lifestyle Do You Have?

The lifestyle consumers live impacts what kind of car they should choose as well. For example, do you have children or a big family? Do you frequently drive around many people, or do you usually travel alone? Those with children or big families or who frequently travel from one location to another with many people may want a roomier car with more seats. Several car companies are offering larger hybrid electric vehicles to fit larger capacity needs. For those frequently driving solo, a compact two-seater might do the trick and some ZEVs and TZEVs qualify for a sticker to drive the High Occupancy Vehicle (HOV) lane without any passengers. Visit this link for more information: www.arb.ca.gov/ msprog/carpool/carpool.htm. Available ZEVs and TZEVs range from two to seven seats, and vehicle sizes range from subcompact to full-size SUV.

Show Me the Money!

Rebates and incentives are available for the purchase of a ZEV or TZEV. California residents may receive a rebate of up to $5,000 from the state, or more, depending on income.

Additionally, qualified applicants may be eligible to receive up to $9,500 to replace their existing car with a cleaner vehicle or other clean modes of transportation (such as transit passes) through SCAQMD's Replace Your Ride Program. Residents are also eligible to receive a federal income tax credit of up to $7,500. This credit varies on the battery used to power the vehicle.

Incentive funds are also available to install an electric car charging station in single-family residences. SCAQMD offers up to $500 through its Residential EV Charging Rebate Program and some local utilities offer rebates. For more information, please visit:

- **SCAQMD's Community – Clean Air Choices:** www.aqmd.gov/home/ programs/community
- **Replace Your Ride Program:** www.replaceyourride.com
- **Drive Clean California:** www. driveclean.ca.gov/pev/Incentives.php
- **Clean Vehicle Rebate Project:** www.cleanvehiclerebate.org/eng

To estimate the cost of ownership for one of these alternative fueled vehicles, visit the U.S. Department of Energy's website: *www.afdc.energy.gov/calc/*

What About Other Clean Fuel Vehicles?

SCAQMD's Car Buying Guide focuses solely on ZEVs and TZEVs as they are currently the cleanest commercially available vehicles. For information on alternative low-emission vehicle options, including compressed natural gas (CNG) vehicles, please visit: *www.driveclean.ca.gov/Find_Special_Resources/Fleets.php.*

Active and Public Transportation:

Active transportation options such as walking or riding a bike for short trips is another great option to help reduce air pollution. Public transportation like taking the bus or train when possible is also an excellent option and can save time by avoiding traffic on the freeways.

We hope this guide will help consumers choose the right transportation for their lifestyle. Choosing cleaner transportation options benefits us all by reducing air pollution and protecting public health.

For more information about SCAQMD, please visit www.aqmd.gov or call 909-396-2432 or send an email to PublicAdvisor@aqmd.gov.

Advanced Technology - Zero-Emission Vehicles (ZEVs)

Advanced Technology-Partial Zero-Emission Vehicles (AT-PZEVs) and (TZEVs) AT-PZEV is an acronym for Advanced Technology Partial Zero Emission Vehicle.

Type of Vehicle	Make	Models	MPGe City/Hwy*	Carbon Footprint (CO_2 tons/yr)**	MSRP ($)	Passengers	Range (miles)	220/240V Charging Time
BMW								
ZEV	BMW	I3S (94AH)	126/99	0.00	$47,650	4	107 miles	4.8 hrs at 240V
ZEV	BMW	I3 (94AH)	129/106	0.00	$44,450	4	124 miles	4.8 hrs at 240V
Chevrolet								
ZEV	Chevrolet	Bolt EV	128/110	0.00	$37,495	5	238 miles	4.5 hrs at 240V
Ford								
ZEV	Ford	Focus FWD	118/96	0.00	$29,120	4.5/5	115 miles	5.5 hrs at 240V
Hyundai								
ZEV	Hyundai	Ioniq Electric	150/122	0.00	$29,500-$36,000	5	124 miles	4 hrs at 240V
Kia								
ZEV	Kia	Soul Electric	120/92	0.00	$32,250	5	111 miles	5 hrs at 240V
Nissan								
ZEV	Nissan	Leaf S, SL, SV (30 kW - hr battery pack)	125/100	0.00	$29,990-$36,200	5	150 miles	6 hrs at 240V
Smart								
ZEV	Smart	FourTwo Electric Drive (Coupe)	124/94	0.00	$23,900	2	58 miles electric, 112 total	3 hrs at 240V
ZEV	Smart	FourTwo Electric Drive (Convertible)	112/91	0.00	$28,100	2	57 miles electric, 112 total	3 hrs at 240V
Fiat								
ZEV	Fiat	500e	121/103	0.00	$32,995	4	84 miles electric	4 hrs at 240V

Ford Focus

Nissan Leaf

Advanced Technology - Zero-Emission Vehicles (ZEVs)

Type of Vehicle	Make	Models	MPGe City/Hwy*	Carbon Footprint (CO_2 tons/yr)**	MSRP ($)	Passengers	Range (miles)	220/240V Charging Time
Honda								
ZEV	Honda	Clarity Electric	150/122	0.00	Not Available as of 4/12/18	5	89 miles electric	3.5 hrs at 240V
ZEV	Honda	Clarity Fuel Cell	69/67	0.00	Lease Only	5	366 miles	Refuel 3-5 min at a hydrogen station
Tesla								
ZEV	Tesla	Model S 75 kWh	97/100	0.00	$105,150-$206,692	5	249 miles	10 hrs at 240V (standard charger)
ZEV	Tesla	Model S 100 D	101/102	0.00	$105,150-$206,692	5	335 miles	12 hrs at 240V (standard charger)
ZEV	Tesla	Model S 75D	102/105	0.00	$105,150-$206,692	5	259 miles	12 hrs at 240V (standard charger)
ZEV	Tesla	Model S P100 D	92/105	0.00	$196,200- $206,692	5	315 miles	12 hrs at 240V (standard charger)
ZEV	Tesla	Model X 100D	86/89	0.00	$119,000-$218,300	7	295 miles	12 hrs at 240V (standard charger)
ZEV	Tesla	Model X75D	91/95	0.00	$119,000-$218,300	7	238 miles	12 hrs at 240V (standard charger)
ZEV	Tesla	Model XP100D	92/105	0.00	$119,000-$218,300	5	315 miles	12 hrs at 240V (standard charger)
ZEV	Tesla	Model 3 Long Range	136/123	0.00	$35,000- $59,500	5	310 miles	10 hrs at 240V (standard charger)
Toyota								
ZEV	Toyota	Mirai (fuel cell)	67/67	0.00	$58,365	5	312 miles	Refuel 5 min. at hydrogen fueling station
Volkswagon								
ZEV	Volkswagen	e-GOLF	126/111	0.00	$30,495	5	125 miles	5.3 hrs at 240V

Advanced Technology-Partial Zero-Emission Vehicles

Advanced Technology-Partial Zero-Emission Vehicles (AT-PZEVs) and (TZEVs) AT-PZEV is an acronym for Advanced Technology Partial Zero Emission Vehicle. These are vehicles that meet the super ultra-low emission vehicle (SULEV) and PZEV tailpipe emissions requirements, but also include components on the cutting edge of technology that help to improve the fuel mileage of PZEVs. Hybrid drivetrain components are a good example. PZEVs run on gasoline, yet offer extremely clean SULEV tailpipe emissions with zero evaporative emissions and 150,000 mile emission warranty. The term AT-PZEV is being replaced by the term TZEV, and is an acronym for Transitional Zero Emission Vehicle.

Type of Vehicle	Make	Models	MPGe City/Hwy*	Carbon Footprint (CO_2 tons/yr)**	MSRP ($)	Passengers	Range (miles)	220/240V Charging Time
Audi								
Plug-In Hybrid (gasoline/ electric)	Audi	Audi A3 E-TRON 83 (electric)	34 (gasoline)	2.4	$39,500	5	16 miles electric, 380 total	2.25 hrs at 240V
BMW								
Plug-In Hybrid (gasoline/ electric)	BMW	I3, I3S, REX (94Ah)	35 (gasoline) 111 (electric)	0.4	$44,450-$51,500	4	97 miles electric 180 total	4.8 hrs at 240V
Plug-In Hybrid (gasoline/ electric)	BMW	530E	29 (gasoline) 72 (electric)	3.2	$52,400	5	16 miles electric, 370 total	2 hrs at 240V
Plug-In Hybrid (gasoline/ electric)	BMW	530E XDRIVE	28 (gasoline) 67 (electric)	3.3	$54,700	5	15 miles electric, 360 total	2 hrs at 240V
Chevrolet								
Plug-In Hybrid (gasoline/ electric)	Chevrolet	Volt Low Emissions Package ONLY	42 (gasoline) 106 (electric)	0.8	$34,095	5	53 miles electric, 420 miles total	4.5 hrs at 240V
Chrysler								
Plug-In Hybrid (gasoline/ electric)	Chrysler	Pacifica	32 (gasoline) 84 (electric)	1.8	$39,995	7	33 miles electric, 566 total	2 hrs at 240V
Ford								
Plug-In Hybrid (gasoline/ electric)	Ford	Fusion Energi	42 (gasoline) 104 (electric)	1.7	$31,305-$39,305	5	21 miles electric, 610 total	2.5 hrs at 240V
Honda								
Plug-In Hybrid (gasoline/ electric)	Honda	Clarity Plug-In Hybrid	42 (gasoline) 110 (electric)	0.9	$33,400	5	47 miles electric, 340 total	2.2 hrs at 240V
Hyundai								
Plug-In Hybrid (gasoline/ electric)	Hyundai	Ioniq Plug-In Hybrid	52 (gasoline) 119 (electric)	1.2	$22,000-$27,550	5	29 miles electric, 630 hybrid mode total	2.3 hrs at 240V
Kia								
Plug-In Hybrid (gasoline/ electric)	Kia	Optima Plug-In Hybrid 2.0L	40 (gasoline) 103 (electric)	1.5	$35,210	5	29 miles electric, 610 total	3 hrs at 240V
Mitsubishi								
Plug-In Hybrid (gasoline/ electric)	Mitsubishi	Outlander PHEV	25 (gasoline) 74 (electric)	2.8	$34,535	5	22 miles electric, 310 total	3.5 hrs at 240V

Advanced Technology-Partial Zero-Emission Vehicles

Type of Vehicle	Make	Models	MPGe City/Hwy*	Carbon Footprint (CO_2 tons/yr)**	MSRP ($)	Passengers	Range (miles)	220/240V Charging Time
Volvo								
Plug-In Hybrid (gasoline/ electric)	Volvo	S90 T8	29 (gasoline) 71 (electric)	2.7	$63,650-68,150	5	21 miles electric, 410 total	3 hrs at 240V
Plug-In Hybrid (gasoline/ electric)	Volvo	XC60 T8	26 (gasoline) 59 (electric)	3.3	$52,900-56,700	5	18 miles electric, 370 total	3 hrs at 240V
Plug-In Hybrid (gasoline/ electric)	Volvo	XC90 T8	27 (gasoline) 62 (electric)	3.1	$64,950-104,900	7	19 miles electric, 380 total	3 hrs at 240V
Mercedes Benz								
Plug-In Hybrid (gasoline/ electric)	Mercedes Benz	C 350E	30 (gasoline) 51 (electric)	3.5 3.5	$47,900 $47,900	5 5	8 miles electric, 410 total	1.5 hrs at 240V
Plug-In Hybrid (gasoline/ electric)	Mercedes Benz	GLC 350E 4MATIC	25 (gasoline) 74 (electric)	3.5	$49,900	5	9 miles electric, 350 miles total	1.9 hrs at 240V

Vehicles on the ZEV list are eligible for White Clean Air Vehicle Decals (allow single occupant HOV Lane Usage) through Jan. 1, 2019.

Vehicles issued a white decal in 2017 or 2018 will be eligible to reapply for a decal in 2019 granting them access to high–occupancy toll lanes until January 1, 2022.

AT-PZEVs & TZEVs (except non-plug-in hybrids)
Vehicles listed on page 2 are eligible for Green Clean Air Vehicle Decals (allow single occupant HOV Lane Usage) through Jan. 1, 2019. Vehicles issued a green decal in 2017 or 2018 will be eligible to reapply for a decal in 2019 granting them access to high–occupancy toll lanes until January 1, 2022.

More information is available at https://www.dmv.ca.gov/portal/dmv/detail/vr/decal. Effective January 1, 2018, the Department of Motor Vehicles cannot issue a CAV decal to an applicant who has received a consumer rebate through the Clean Vehicle Rebate Project (CVRP), nor can an applicant participate in both the CAV Decal Program and the CVRP unless income restrictions are met. The zero emission and plug-in vehicles are also eligible to receive incentives through the Clean Vehicle Rebate Project (AB 118) www.cleanvehiclerebate.org.

*Approximate MPGe based on 2018 model year data; Tailpipe Carbon Footprint information based on vehicle driven 15,000 miles per year.
Source: www.fueleconomy.gov. For more information, see CARB's website at http://www.arb.ca.gov/msprog/onroad/cert/cert.php (Updated: 4/12/2018)

Comparing Vehicle Technologies: The Benefits of Alternative Fuel Vehicles

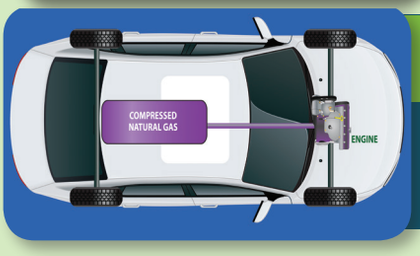
Fuel Economy & Greenhouse Gas Rating – A rating system on greenhouse gas and tailpipe emissions from 1 (worst) to 10 (best).
MPG – Miles per gallon.
MPGe – Miles per gallon equivalent. This is a measure used by the U.S. Environmental Protection Agency (EPA) to explain the energy consumption of an advanced technology vehicle in comparison to the fuel economy of a conventional internal combustion engine.
Smog Rating - This rating reflects vehicle tailpipe emissions that contribute to local and regional air pollution. Vehicles that score a 10 are the cleanest.

Gasoline Vehicle — MPG 19 MPG

Cost Savings in 5 Years N/A **Driving Range** 200-300+ miles **Refuels with:** Gasoline
Average Charging/Refueling Time 5-10 Minutes
Smog Rating 7 **Fuel Economy & Greenhouse Gas Rating** 6

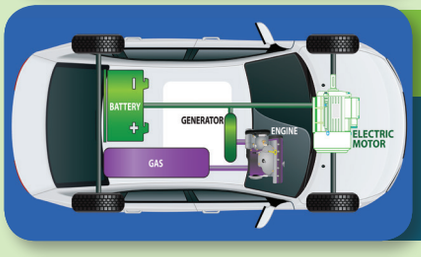
Diesel Vehicle — MPG 25 MPG

Cost Savings in 5 Years N/A **Driving Range** 400-500+ miles **Refuels with:** Diesel
Average Charging/Refueling Time 5-10 Minutes
Smog Rating 6 **Fuel Economy & Greenhouse Gas Rating** 5



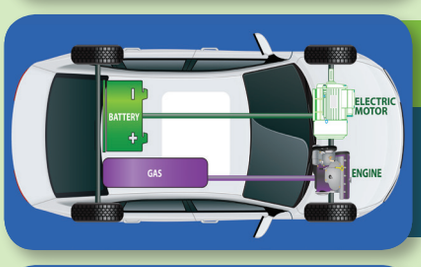
Compressed Natural Gas (CNG) Vehicle
MPG 31 MPG (CNG only)

Cost Savings in 5 Years $6,250 **Driving Range** 200-225 miles
Refuels with: Compressed Natural Gas (CNG)
Average Charging/Refueling Time 5-10 Minutes
Smog Rating 9 **Fuel Economy & Greenhouse Gas Rating** 8



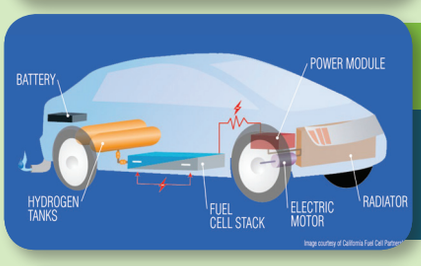
Extended Range Plug-In Hybrid Electric Vehicle
MPG 98-100 MPGe; 35-45 MPG

Cost Savings in 5 Years $8,000 **Driving Range** 20-80 miles (electric only); 250-300 (electric and gasoline)
Refuels with: Gasoline and Electricity
Average Charging/Refueling Time 8-12 Hours (120V); 3-4 Hours (240V)
Smog Rating 9 **Fuel Economy & Greenhouse Gas Rating** 10



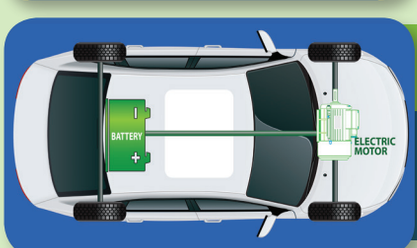
Plug-In Hybrid Electric Vehicle (PHEV)
MPG 95-115 MPGe; 45-50 MPG

Cost Savings in 5 Years $6,750 **Driving Range** 10-20 miles (electric only); 450-500 (electric and gasoline)
Refuels with: Gasoline and Electricity
Average Charging/Refueling Time 3-7 Hours (120V); 1.5-3 Hours (240V)
Smog Rating 9 **Fuel Economy & Greenhouse Gas Rating** 10



Hydrogen Fuel-Cell Vehicle
MPG 50-70 MPGe (hydrogen only)

Cost Savings in 5 Years $6,000 **Driving Range** 200-300+ miles
Refuels with: Hydrogen
Average Charging/Refueling Time 3-8 minutes
Smog Rating 10 **Fuel Economy & Greenhouse Gas Rating** 10



Electric Vehicle
MPG 76-115 MPGe

Cost Savings in 5 Years $8,500 **Driving Range** 70-200 miles
Refuels with: Electricity
Average Charging/Refueling Time 20 Hours (120V); 8 Hours (240V); 20-40 Minutes (480V)
Smog Rating 10 **Fuel Economy & Greenhouse Gas Rating** 10

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