

California's Data-Driven Electric Vehicle Incentive Program Design

Special thanks to John Anderson, Madelyn Stafford, Regina McCormack, Zach Henkin, Francis Alvarez, and Kier Havel!

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Jonathan Changus, Director of California Transportation Programs



About CSE

Mission-driven 501(c)(3) nonprofit

Center for Sustainable Energy® (CSE) is a national nonprofit that is transforming markets for clean transportation and distributed energy through software-enabled program design and administration.

- Administer cutting-edge programs valued at over \$4 billion for governments, utilities and the private sector across the U.S.
- Leader in data-driven incentive program design and administration, for:
 - Electric vehicle and EV charging incentive programs
 - Renewable energy incentive programs (solar and storage)
- Headquartered in San Diego with more than 250 employees across the nation

Objective and trusted

CSE's independence and data-driven approach have made it a trusted resource and partner for over 25 years.

- Fee-for-service model makes CSE independent and unbiased
 - Operations funded by delivering service for value under contract
 - No members or donors to influence positions or actions
 - No shareholder pressure for profit or dividends
- CSE's data and insights have informed federal and state policies

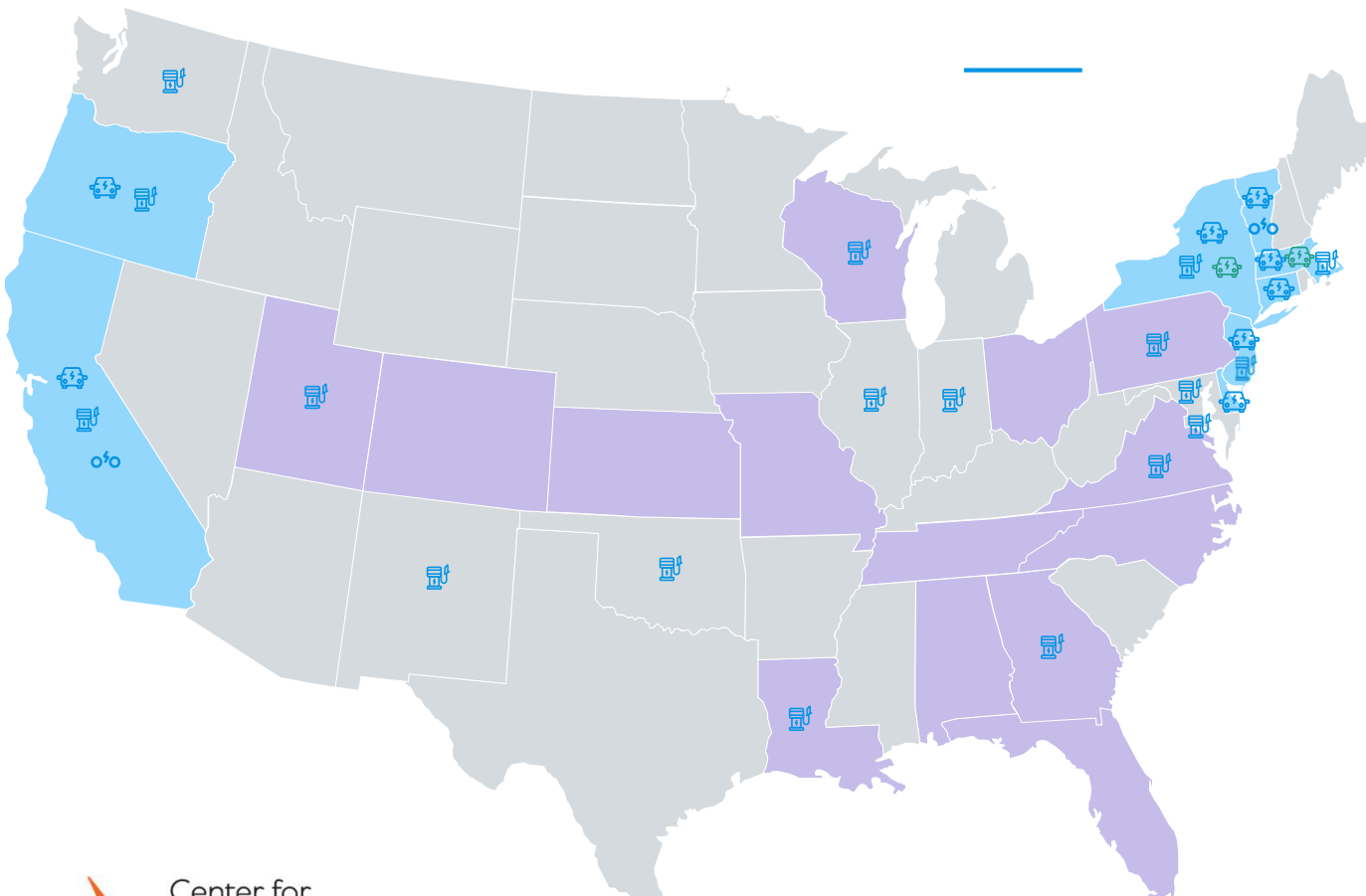
One mission —

DECARBONIZE.

Our vision is a future with sustainable, equitable and resilient transportation, buildings and communities.



EV Rebate/EV Infrastructure Programs Covering 105 Million Americans



- Statewide incentive programs
- Drive Electric USA Project Advisory Committee
- EV Infrastructure
- Light Duty EVs
- Medium/Heavy Duty EVs
- Electric Bikes

CALIFORNIA

- CALeVIP**
- CVRP**
- Bear Valley Electric EVI
- Central Sierra ZEV
- DOE VCI-MUD LA Bureau of Streetlighting
- DOE VCI-MUD San Francisco, San Mateo and Campbell
- Irvine ZEV Transition Plan
- Los Angeles Clean Cities
- PG&E Used EV
- Port of San Diego
- Sac Metro AQMD CC4A
- San Bernardino ZEV
- San Diego County EV charger plan
- San Diego County Green Fleet Action Plan
- San Diego Regional Clean Cities
- SCE Clean Fuel Reward Program
- SCP eBike

CONNECTICUT

- CHEAPR**

DELAWARE

- CVRP**

GEORGIA

- DOE VCI-MUD Atlanta

ILLINOIS

- Chicago Area Clean Cities
- DOE VCI-MUD Chicago Commonwealth Edison

INDIANA

- South Shore Clean Cities

LOUISIANA

- LADOT NEVI Plan Support

MARYLAND

- Maryland Clean Cities
- DOE VCI-MUD Takoma Park

MASSACHUSETTS

- MOR-EV**
- MOR-EV MD/HD**
- MasseVIP**
- Boston University Campus Fleet

NEW MEXICO

- Public Service Company of New Mexico (PNM)

NEW JERSEY

- Charge Up New Jersey**

NEW YORK

- Charge Ready NY**
- Drive Clean NY**
- NY Truck Voucher Program**
- Clean Communities of Central New York

OKLAHOMA

- Tulsa Area Clean Cities

OREGON

- OCVRP**
- OCVRP Equity & Dealer Outreach**
- Columbia-Willamette Clean Cities
- DOE VCI-MUD Portland

PENNSYLVANIA

- PennDOT NEVI Implementation Plan Team
- PECO EVsmart

UTAH

- DOE VCI-MUD Salt Lake City

VERMONT

- Vermont New PEV, Replace Your Ride, E-bikes**

VIRGINIA

- Virginia Clean Cities

WASHINGTON

- Seattle City Light
- DOE VCI-MUD Seattle 2030 District
- DOE VCI-MUD Snohomish County PUD 1
- Western Washington Clean Cities

WASHINGTON, D.C.

- Greater Washington Region Clean Cities

WISCONSIN

- Wisconsin Clean Cities

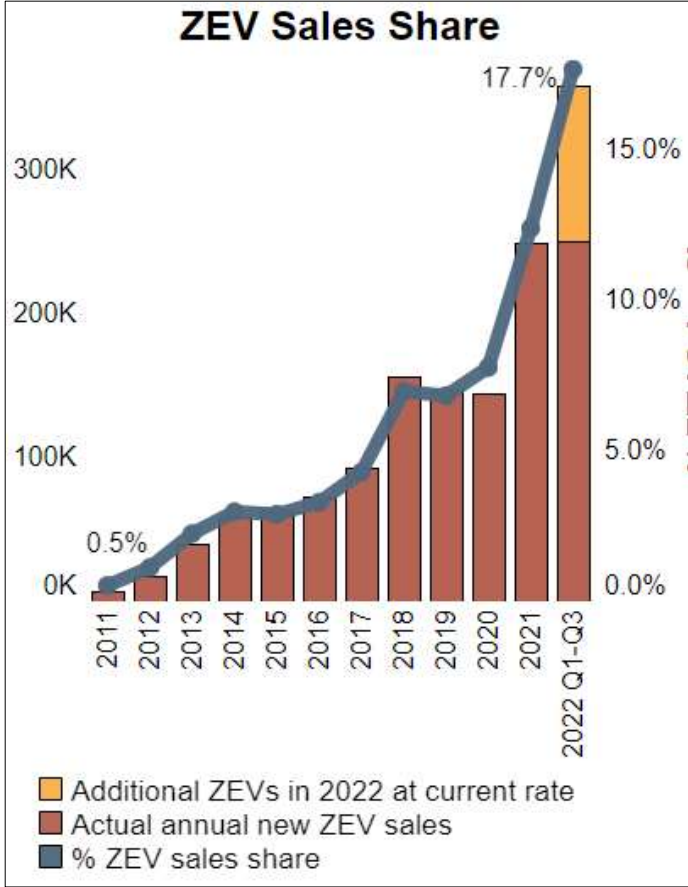


California's New Zero-Emission Vehicle (ZEV) Market

The Good News

LIGHT-DUTY ZEV			TOTAL LIGHT-DUTY		
CUMULATIVE SALES			ANNUAL SALES		
Sales through 2022: Q1-Q3			Sales in 2022: Q1-Q3		
1,304,581			250,486		
BEV	PHEV	FCEV	BEV	PHEV	FCEV
872,716	417,867	13,998	209,702	38,742	2,042
			1,415,308		
			ZEV Sales Share ⊗		
			17.70%		

- New ZEV sales are booming.
- This is a trend over the past couple of years. ZEVs were:
 - 7.8% of new vehicle sales in 2020
 - Increased to 12.4% in 2021
 - Pushing 18% in 2022



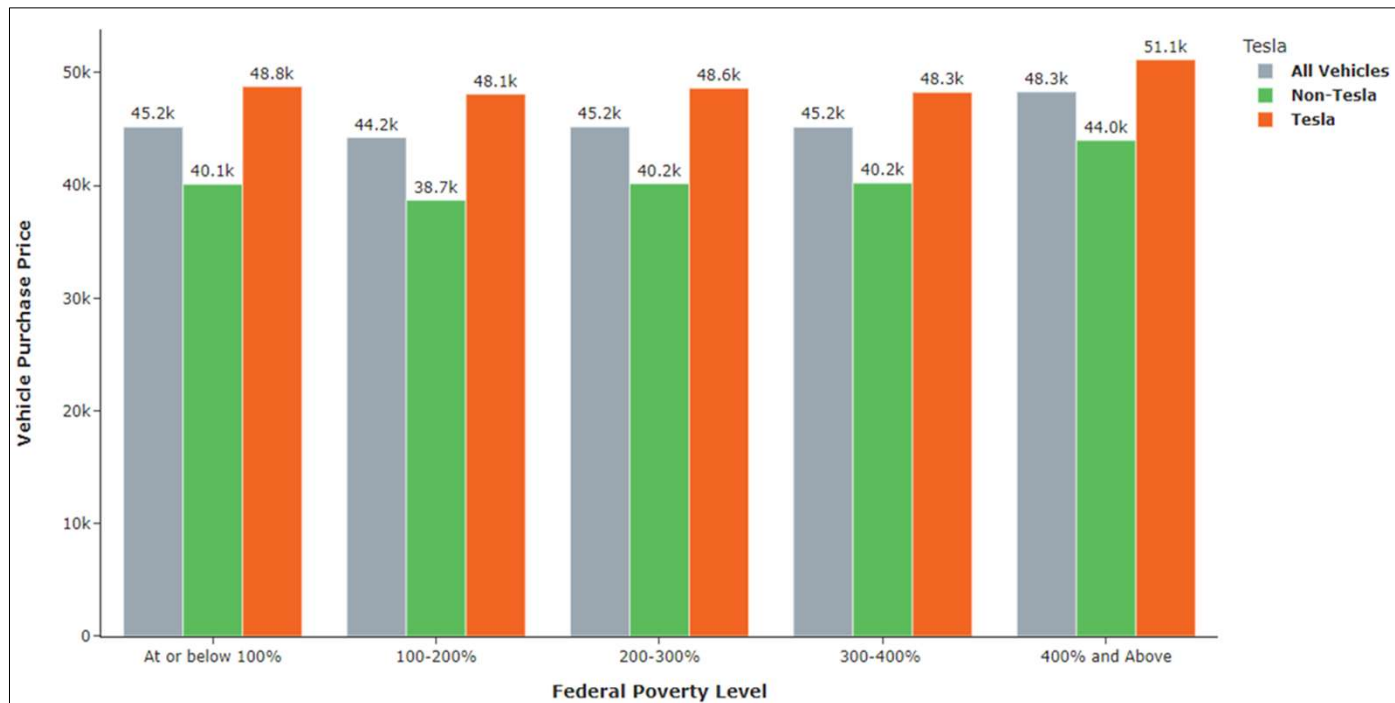
The Bad News

“EV prices were up 9.7 percent in September 2022 compared to a year ago in September 2021. The average new EV price last month was \$65,291, which is well above the industry average and aligns more with luxury versus mainstream prices.”



Source: KBB, “Electrified Vehicle Sales Hit Record, According to Kelley Blue Book”

Clean Vehicle Rebate Project (CVRP): Price and Income



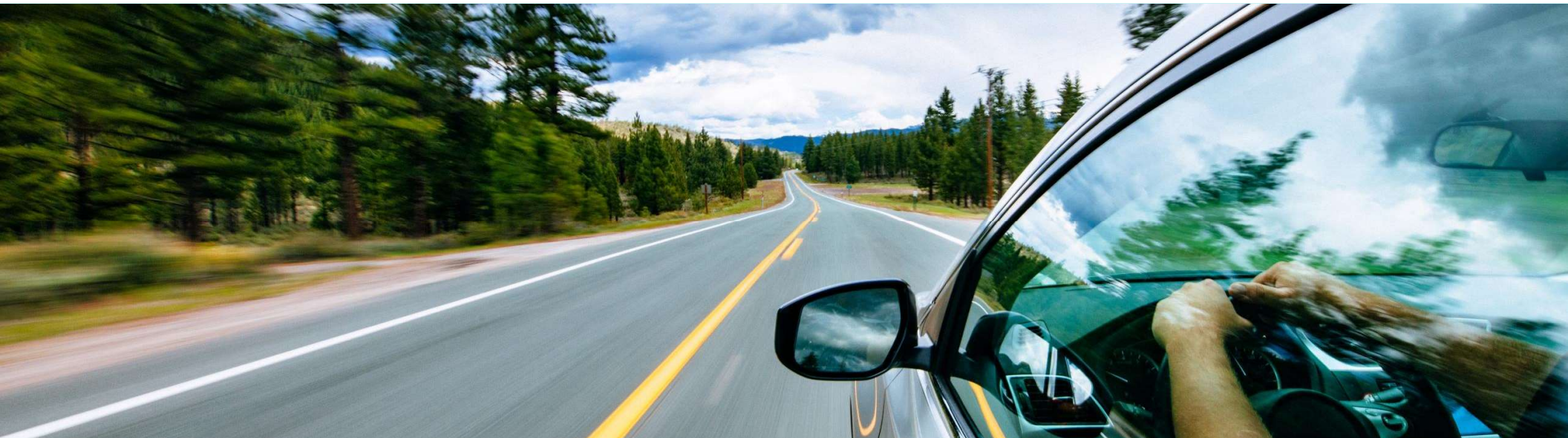
Lower income CVRP recipients are not buying substantially lower priced EVs.

Vehicle Affordability & Incentive Amounts

Source: CSE, "Vehicle Affordability and Incentives Amount"

Affordability Calculation Purposes

Does a given incentive mix enable meaningful vehicle choice for consumers?



Cost Calculations

Loan Costs

- Principal
(incl. tax & fees)
- Interest

+

Operating Costs

- Insurance
- Fuel
- Maintenance

=

TOTAL
MONTHLY
OPERATING
COSTS

New Vehicle Inputs

- 2022 model year vehicles from FuelEconomy.gov
- Make, model, and trim combinations where trim is related to electric range
- Where price information is available
- Limited to CVRP-eligible vehicles
 - Under MSRP cap
 - Exceeding all-electric range minimum



Photos from Kelly Blue Book

Vehicle Cost Assumptions

- Vehicle cost: MSRP or KBB Fair Purchase Price without options
- Interest rate: 9.77% for new, 10% for used
- Insurance premium: \$190/month
- Maintenance: \$33/month (lifetime average)
- DMV and doc fees: \$789
- Sales tax rate: 8.82% (average via taxfoundation.org)
- Fuel costs: varies by vehicle, based on FuelEconomy.gov
- Purchasing power adjustment for larger households



Max Monthly Cost

Including interest, insurance, fuel, and lifetime-average maintenance costs

Four-person household / Joint-filers		
Income Level	Income	Max Monthly Cost
225% of FPL	\$62,438	\$390
300% of FPL	\$83,250	\$520
400% of FPL	\$111,000	\$694
CVRP Income Cap	\$200,000	\$1,250

Example: New CVRP-Eligible BEVs

- Four-person household
- \$111,000 income (400% FPL)
- CVRP-eligible vehicles
- \$14,000 point-of-sale incentive



2022 Model Year Options = 1

- Nissan LEAF (40 kWh)



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2022 Model Year Options = 1

- Nissan LEAF (40 kWh)

Income	Incentive				
	\$2k	\$4.5k	\$10k	\$14k	\$21.5k
\$62,438					
\$83,250					
\$111,000				1	7
\$200,000	8	12	17	22	27

Four-person Household: CVRP Eligible NEW EVs

PHEV

Income	Incentive				
	\$2k	\$4.5k	\$10k	\$14k	\$21.5k
\$62,438					
\$83,250					
\$111,000					
\$200,000	3	3	5	5	5

BEV

Income	Incentive				
	\$2k	\$4.5k	\$10k	\$14k	\$21.5k
\$62,438					
\$83,250					
\$111,000				1	7
\$200,000	8	12	17	22	27

Out of 33 model year 2022 vehicles for which price data are available. Price data are gathered from OEM websites and auto media sites. Vehicles are combinations of make, model, and trim, where the trim results in a difference in all-electric range, as provided by fueleconomy.gov.

Coming Soon! Federal, State and Local EV Incentives

Federal Tax Credit

- The Inflation Reduction Act of 2022 revamped the existing [federal EV tax credit](#):
 - **The Good News:** Car shoppers will be able to received the value of the tax credit from the car dealership at the time of purchase. This is HUGE.
 - **The Bad News:** New battery sourcing and manufacturing requirements eliminate most EV models from being eligible for at least the next 2-3 years.

The [Affordable Electric Vehicles for America Act of 2022](#) was introduced on November 4th and would phase in for the sourcing and manufacturing requirements.

IRS Federal
Tax Credit
Program

\$30,000 Sample new
vehicle price

-\$7,500 Federal Tax Credit*
(Subject to change)

\$22,500 **Estimated cost**
Does not include
taxes, licensing &
other fees

*Federal Tax Credit calculation varies by car model and is subject to change. Visit the IRS website and consult a tax professional to make sure you qualify.



California Low-Income Incentive Programs

Clean Vehicle Rebate Project (400% FPL)

Vehicle Type	Current	Proposed
Plug-in Hybrid EV	\$3,500	\$6,500
Battery EV	\$4,500	\$7,500
Fuel Cell EV	\$7,000	\$7,500

Clean Cars 4 All (300% FPL)

Vehicle Type	Current	Proposed
Plug-in Hybrid EV	\$7,500	\$9,500
Battery EV	\$7,500	\$10,000
Fuel Cell EV	\$7,500	\$10,000

+ \$2,000 for residents of a Disadvantaged Community

Financing Assistance (300% FPL)

Vehicle Type	Current	Proposed
Plug-in Hybrid EV	\$4,500	\$7,000
Battery EV	\$5,000	\$7,500
Fuel Cell EV	\$5,000	\$7,500

What does this mean for low-income San Diegans looking to buy an EV in 2023?

- For a **NEW** Battery Electric Vehicle (i.e., Chevy Bolt)
 - Federal Tax Credit: **\$7,500** AND
 - Clean Vehicle Rebate Program: **\$7,500** AND
 - San Diego County Air Pollution Control District Clean Cars 4 All program: **\$10,000** plus **\$2,000** for DAC residents (requires the scrapping of older vehicle)

OR

 - Statewide Financing Assistance: **\$7,500** (no scrapping requirement)

If CARB approves the proposed incentive amounts, low-income San Diegans could receive a combined total incentive for a BEV between \$22,500 and \$27,000.

Thank you!

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<https://energycenter.org/>