



Outline: Consumer Characteristics Brief

- I. Context: Consumer Eligibility Criteria
- II. Where is the funding going?: <u>Consumers Rebated</u>
- III. What is the path forward?: <u>Strategic Segments</u>
- IV. <u>Summary & Select Findings</u>

Additional Resources

EVs = light-duty plug-in hybrid, battery, and fuel-cell electric vehicles (PHEVs, BEVx vehicles, BEVs, and FCEVs)

<u>Criteria</u> Consumers Rebated trategic Segments







Consumer Eligibility Criteria Shape Outcomes

as of Mar. 2010	as of Dec. 2013	as of Dec. 2014 / Jan. 2015	as of Mar. 2016	as of Nov. 2016
 Incentive stacking permitted 36-month ownership requirement Rebates per year limit = 20 	 Rebates per year limit = 2 as of May 2014 18-month application window 	 30-month ownership requirement (retroactive) Total rebate limit = 2 	 \$250k-\$500k income cap (PEVs) +\$1,500 for income- qualified households (≤ 300% FPL*), excl. ZEMs 	 \$150k-\$300k inconcap (PEVs) +\$2,000 for income qualified household 300% FPL*), excl. ZI ≥ 20 UDDS electric miles
as of Jan. 2018	as of Jan. 2019	as of Dec. 2019	as of Apr. 2020	as of Apr. 2021
 \$150k-\$300k income cap on stacking HOV decal (only binding on FCEVs) Rebate Now SD County preapproval pilot with point-of- 	 Stacking with CVAP grant not permitted (retroactive) 	 Base MSRP ≤ \$60k (PEVs) ≥ 35 UDDS electric miles +\$2,500⁺ for incomequalified households (≤ 300% FPL*), excl. ZEMs 3-month application window ‡ Total robatos limit = 1 § 	 Stacking with CVAP grant permitted as of Jan. 2021 +\$2,500 for income-qualified households (≤ 400% (EDL*), evel. 7EMc 	 ≥ 30 U.S. EPA electric miles (45 UDDS) Rebate Now preapproval option limited to income qualified househow expanded to inclusion SI Valley
sale option			400% FPL ² J, $excl. ZEIVIS$	
			*	PL = Federal Poverty Level.



+ Change due to \$500 decrease in standard rebate amounts.

‡ COVID exemptions on application window effectively delayed implementation until 4/15/2021.

§ A second rebate can be approved for a FCEV if the first rebate was for a PEV.











Funding Availability Has Been Regularly Disrupted (as of Oct 2019)

Table 3: CVRP Waitlists

Waitlist Year	Start Date	End Date	Length in Days
2011*	6/20	9/30	102
2013*	5/1	6/30	60
2014	3/28	7/22	116
2016	6/11	9/28	109
2017**	6/30	11/20	143
2019**	6/5	9/23	110

* Dates approximate.

** For standard applications only; no waitlist for income-qualified increased rebates.

Image from https://cleanvehiclerebate.org/sites/default/files/attachments/CVRP_Disruptions_Fact_Sheet.pdf





Approved Applications Over Time



5/3/21 image from <u>https://cleanvehiclerebate.org/eng/rebate-statistics</u>



With COVID exemptions, rebate applications for CY 2019 purchases/leases for individuals spanned 1/1/2019 - 1/6/2021.

16% applied in 2020.







Where Are EV Rebates Going? Public Dashboards and Data Facilitate Informed Action

Statewide EV Rebate Programs: CA, MA, CT, NY (OR and NJ dashboards forthcoming)



cleanvehiclerebate.org

ct.gov/deep

mor-ev.org

	19			10			20					
§ 1500				1,46				52	258	9	0	
teba								1.	-	1,10	1.	
5 1000	350	34.2	5			22						PHE
ber					658		80					55
E 500							49					
2												
0												BEV
to	5 2	0	5	Q	1	à.	2	C	-	0	0.	DHE
) ->	6	-		-	~		3	5	3	8	FIL
Rebates b	o ž oy Mal	ke ai	nd N	ي Node	Ma	<	Me	2		Rel	ී bates	by Deale
Rebates b	o ž oy Mai	ke an	nd N odel 3	lode	Ma	<	5,832	J.		Rel Tesla	bates Motor	by Deale
Rebates b Tesia	o ž oy Mai	ke an Ma Ma	nd N odel 3 odel 1	Mode s r	Ma	<	5,832 1,331	'n		Rel Tesla River	Motors head T	by Deale s New York I byota
Rebates b Tesia	o ž	ke al Ma Ma Ma	nd N odel 3 odel 1 odel 3 odel 3	Mode s Y x s	en Ma	<	5,832 1,331 1,150 926	ŋ		Rel Tesla River Smith Plaza	Motors head To town 1 Kia	by Deale s New York I byota loyota
Rebates b Tesia	o ž oy Mal	ke al Ma Ma Ma Pr	odel 3 odel 3 odel 3 odel 1 odel 3	Mode 3 Y K S Yrime	e M	<	5,832 1,331 1,150 926 6,862	J.		Rel Tesla River Smith Plaza Fucci	Motor head T town 1 Kia IIIo Kia	by Deale by Deale s New York I byota foyota of Schenec
Rebates b Tesia Toyota	γ Ž	ke an Ma Ma Ma Pr RJ	odel 1 odel 1 odel 2 odel 9 ius P	Aode S Y X S Yime Yime	Ma	<	5,832 1,331 1,150 926 6,862 96	JL.		Rel Tesla River Smith Plaza Fucci Hose	Motor head T town 1 Kia illo Kia iton To	by Deale by Deale s New York I byota foyota of Schenec yota Scion
Rebates b Testa Toyota Chevrolet	o ž ny Mal	ke al Ma Ma Ma Pr RJ Ba	odel 3 odel 3 odel 3 odel 4 ius P AV4 P odt	Alode 3 Y X S trime trime	-M	<	5,832 1,331 1,150 926 6,862 96 1,691	JL.		Rel Tesla River Smith Plaza Fucci Hosel Lia Te	Motor head T town 1 Kia Illo Kia Iton To byota o	by Deale s New York I byota foyota of Schenec yota Scion f Colonie
Rebates b Tesla Toyota Chevrolet	oy Mal	Ke an Ma Ma Ma Pr RJ Ba	odel 3 odel 3 odel 3 odel 3 odel 3 odel 3 nus P AV4 P olt	Alode S Y K S Vrime Prime	-M	<	5,832 1,331 1,150 926 6,862 96 1,691 1,691	JL.		Rel Tesla River Smith Plaza Fucci Hosel Lia Te Sunri	Motors head T htown 1 Kia illo Kia iton To byota o ise Toy	by Deale by Deale s New York I byota foyota of Schenec yota Scion f Colonie ota
Rebates b Tesia Toyota Chevrolet Honda	γ ž	Ke al Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma	nd N odel 3 odel 3 odel 3 odel 4 odel	Alode 3 Y X S Yime Yrime	an Ma	<	5,832 1,331 1,150 926 6,862 96 1,691 1,645 2,104	1		Rel Tesla River Smith Plaza Fucci Hosel Lia Te Sunri Dorse	Motor head T town 1 Kia Illo Kia iton To byota o ise Toy chel To	by Deale by Deale s New York I byota foyota of Schenec yota Scion f Colonie ota yota
Rebates b Tesia Toyota Chevrolet Honda Ford	γ Ž	Ke at Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma	nd N odel 3 odel 3 odel 3 odel 3 ius P AV4 P olt olt arity usion	Mode 3 Y X S rime Prime	an a	<	5,832 1,331 1,150 926 6,862 96 1,691 1,645 2,104 1,777	1		Rel Tesla River Smith Plaza Fucci Hosel Lia To Sunri Dorso Bob J	Motor head T town T Kia illo Kia illo Kia iton To byota o ise Toy chel To Johnso	by Deale by Deale s New York I byota foyota of Schenec yota Scion of Schenec yota Scion of Schenec yota Scion of Schenec yota Scion of Schenec
Rebates b Tesla Toyota Chevrolet Honda Ford	oy Mal	Ke at Mc Mc Mc Mc Mc Mc Mc Nc Ct Fu C-1	nd N odel 3 odel 1 odel 3 odel 4 ius P AV4 P olt olt arity ision MAX	Aode 3 Y X S Yrime Yrime Prime Energ Energ	24 H	<	5,832 1,331 1,150 926 6,862 96 1,691 1,645 2,104 1,777 250	1		Rel Tesla River Smith Plaza Fucci Hosel Lia Tr Sunri Dorso Bob J Roma	Motor head T htown 1 Kia illo Kia iton To oyota o ise Toy chel To Johnso ano Toy	by Deale by Deale s New York I byota foyota of Schenec yota Scion e to Colonie ota yota n Chevrolet yota Ltd
Rebates b Tesia Toyota Chevrolet Honda Ford	≥ ž	Ke at Mk Mk Mk Mk Mk Mk Mk Mk Mk Mk Mk Mk Mk	nd N odel 3 odel 4 nu AV4 P ott ott ott odel 3 odel 3 odel 3 odel 3 odel 3 odel 3 odel 4 nu AV4 P	Ande Ande Y Y X S S rrime rrime Energ Energ	an a	<	5,832 1,331 1,150 926 6,862 96 1,691 1,691 1,691 1,691 1,691 1,691 2,104 1,777 250 25	1		Rel Tesla River Smith Plaza Fucci Lia To Sunri Dorso Bob J Roma	Motor head T town 1 Kia illo Kia illo Kia illo Kia illo Kia illo Kia chel To Johnso ano Toy iton Ch	by Deale by Deale by Deale by the server of the by ota for the server ota systa n Chevrolet rota Ltd servelet, Inc.
Rebates b Tesla Toyota Chevrolet Honda Ford Hyundai	oy Mal	Ke at Mc Mc Mc Mc Mc Mc Nc Cl Fu C- Fu C- Fu	nd N odel 3 odel 3 odel 3 odel 4 odel 3 odel 4 ius P AV4 P olt arity sision MAX ocus nic Pit	Mode Alode 3 Y K S S rime Energ Energ Lug-In I	ew Al	<	5,832 1,331 1,150 926 6,862 96 1,691 1,645 2,104 1,777 250 25 967			Rel Tesla River Smith Plaza Fucci Hosel Lia Tr Sunri Dorso Bob J Roma Hosel Prest	Dates Motor: head T trown 1 Kia lilo Kia lilo Kia ilo Kia royota o oyota o oyota o ton To johnso ano Toy iton Ch ige Toy	by Deale by Deale s New York I byota foyota of Schenec yota Scion of Colonie ota yota n Chevrolet iota Ltd sevrolet, Inc. rota
Rebates b Tesla Toyota Chevrolet Honda Ford Hyundal) ž	Ke at Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma	nd N odel 3 odel 4 N odel 5 odel 4 N odel 5 odel 4 N odel 5 odel 4 N odel 5 N odel 5 Nodel 5 N Odel 5 N Ode	Mode Alode Alode Alode Alode Alode Aloge Alo	ew H Hy s	<	5,832 1,331 1,150 926 6,862 96 1,691			Rel Tesla River Smith Plaza Fucci Lia Tr Sunri Dorse Bob J Roma Hosel Henn	bates bates Motor: head T town 1 Kia llo Kia llo Kia llo Kia tor To oyota o se Toy yota o tor To lohnso ano To liton Ch ige To yostead	by Deale by Deale s New York is byota foyota of Schenec yota Scion ef Colonie ota yota n Chevrolet rota Ltd ievrolet, Inc rota Ford Lincol
Rebates b Tesla Toyota Chevrolet Honda Ford Hyundal	o Ż ny Mal	Ke at Mic Mic Mic Mic Mic Mic Mic Mic Mic Mic	nd N odel 3 odel 3 odel 3 odel 9 odel	Ande Ande Y Y X S S S S S S S S S S S S S S S S S	pi pi Hy	<	5,832 1,331 1,150 926 6,862 96 1,691 1,691 1,695 2,104 1,777 250 25 967 396 265	2		Rel Tesla River Smith Plaza Fucci Hosel Lia To Sunri Dorso Bob J Roma Hosel Prest Hemp Magu	bates bates Motor: head T trown 1 Kia llo Kia llo Kia llo Kia llo Cha copyota o se Toy chel To Johnso ano Toy iton Ch ige Toy ostead ire Che ostead	by Deale by Deale by ota toyota toyota toyota of Schenec yota Scion of Colonie ota yota no Chevrolet tota Ltd wevrolet, Inc. rota Ford Lincol wrolet Cadi





nyserda.ny.gov (dashboards done by NYSERDA)

- > 442,000 EVs and consumers have received > \$979 M in rebates
- > 75,000 survey responses being analyzed so far, statistically represent > 319,000 consumers
- Reports, presentations, and analysis growing

As of 11/4/2020



Equity Statistics Dashboard



8/6/20 images from https://cleanvehiclerebate.org/eng/rebate-statistics









CA Consumer Survey Data: Plug-in EVs* (Shows Rebates to Individuals Only)

	2013–2015 Edition	2015–2016 Edition	2016–2017 Edition	2017–2019 Edition	Total
Vehicle Purchase/ Lease Dates	Sep. 2012 – May 2015	April 2015 – May 2016	May 2016 – May 2017	June 2017 – Dec. 2019	Sep. 2012 – Dec. 2019
Survey Responses (total n)**	19,460	11,611	8,957	25,615	65,643
Program Population (N)***	91,100	45,700	46,800	149,000	332,600

* PEVs include PHEVs and BEVs.

** Subsequently weighted to represent the program population along the dimensions of vehicle category, vehicle model, buy vs. lease, and county. *** Small numbers of rebated vehicles are not represented in the time frames due to application lags. Rounded to nearest 100.







Distribution of Plug-in EV *Funding* by Household Income: CY 2019 Purchases/Leases







Distribution of Plug-in EV *Rebates* by Household Income: CY 2019 Purchases/Leases



Distribution of Plug-in EV *Rebates* by Household Income: **CVRP and MOR-EV**

MOR-EV Consumer Survey: life of program (June 2014 through April 2020 purchase/lease dates). Question weighted n = 6,616. CVRP Consumer Survey: 2017–2019 edition (June 2017 through December 2019 purchase/lease dates). Question weighted n = 22,529.

Setting an Appropriate Baseline: U.S. Car Buyers Are Different Than the Population

	All U.S. Population (Census 2018)	New-Vehicle Buyers U.S. MYs 2016–17 (2017 NHTS)
Selected solely white/Caucasian	61%	< 74%
≥ 50 Years Old	35%	< 51%
≥ Bachelor's Degree	23% <<	<< 57%
Own Residence*	63%	< 77%
≥ \$75k HH Income*	40%	< 62%
Selected Male	49%	= 51%

* Based upon household level data.

Census 2018: 2014–2018 American Community Survey, PUMS. NHTS 2017 is weighted to represent population, not new-vehicle subset. New-vehicle buyers identified based on within-100-mile match between odometer and miles driven while owned. "Prefer not to answer," "I don't know," and similar responses are excluded throughout.

- New-car buyers are different on almost every dimension.
- More frequently:
 - White
 - Older
 - Degree holders
 - Residence owners
 - Higher income
- Some of the difference explained by driving or buying age
- The rest may be due in part to social inequities

Assessing Progress with Appropriate Comparisons (*not* population statistics)

	CVRP, P	ourchase/Lease Da	CA New-Vehicle Buyers	CA Populatio	
The majority of new-car buyers	9/12 – 12/18 Clean Vehicles wghtd n = 62,092 *	CY 2017 Clean Vehicles wghtd n = 9,664 †	CY 2019 Plug-in EVs wghtd n = 6,196	MYs 2016–17 (2017 NHTS CA add-on)	(Census 2018)
Selected solely white/Caucasian	59%	58%	51%	51%	38%
≥ 40 years old	76%	76%	73%	68%	45%
≥ Bachelor's degree in HH	83%	82%	82%	+	‡
≥ \$100k Household Income	74%	68%	68%	56% §	35% §
Own Residence	83%	79%	80%	63% §	54% §
Selected Male	74% ¶	72% ¶	70% ¶	50%	50%

* FCEV weighted n = 1,087. + FCEV weighted n = 415. + Census & NHTS data characterize individual educational attainment, whereas rebate data characterize highest household attainment. § Based upon household-level data. ¶ Starting in June 2017, 100% includes non-binary options.

"Prefer not to answer," "I don't know," and similar responses are excluded throughout. Census 2018: 2014–2018 American Community Survey, PUMS. NHTS weighted to represent population, not new-vehicle subset. New-vehicle buyers identified by within-100-mile match between odometer and miles driven while owned.

Latest Progress with Appropriate Comparisons (not population statistics)

	CVRP Plug-in FVs	CA New-Vehicle Buyers	CA Population
	CY 2019 Purchase/Leases	MYs 2016–17	
The majority of new-car buyers	wghtd n = 6,196	(2017 NHTS CA add-on)	(Census 2018)
Selected solely white/Caucasian	51%	51%	38%
≥ 40 years old	73%	68%	45%
≥ Bachelor's degree	82%	‡	‡
≥ \$100k Household Income	68%	56% §	35% §
Own Residence	80%	63% §	54% §
Selected Male	70% ¶	50%	50%

‡ Census & NHTS data characterize individual educational attainment, whereas rebate data characterize highest household attainment. § Based upon household-level data. ¶ Starting in June 2017, 100% includes non-binary options.

"Prefer not to answer," "I don't know," and similar responses are excluded throughout. Census 2018: 2014–2018 American Community Survey, PUMS. NHTS weighted to represent population, not new-vehicle subset. New-vehicle buyers identified by within-100-mile match between odometer and miles driven while owned.

16

Explaining Differences with Appropriate Comparisons (*not* population statistics)

The majority of new-car buyers	CVRP Plug-in EVs CY 2019 Purchase/Leases wghtd n = 6,196	Portion of total difference attributable to EVs	CA New-Vehicle Buyers MYs 2016–17 (2017 NHTS CA add-on)	Portion of total difference explained by car buying	CA Population (Census 2018)
Selected solely white/Caucasian	51%	← 0% →	51%	← 100% →	38%
≥ 40 years old	73%	← 18% →	68%	← 82% →	45%
≥ Bachelor's degree	82%	n.a.	‡	n.a.	‡
≥ \$100k Household Income	68%	← 36% →	56% §	← 64% →	35% §
Own Residence	80%	← 65% →	63% §	← 35% →	54% §
Selected Male	70% ¶	← 100% →	50%	\leftarrow 0% \rightarrow	50%

‡ Census & NHTS data characterize individual educational attainment, whereas rebate data characterize highest household attainment. § Based upon household-level data. ¶ Starting in June 2017, 100% includes non-binary options.

"Prefer not to answer," "I don't know," and similar responses are excluded throughout. Census 2018: 2014–2018 American Community Survey, PUMS. NHTS weighted to represent population, not new-vehicle subset. New-vehicle buyers identified by within-100-mile match between odometer and miles driven while owned.

17

Starting Point: CA Plug-in Vehicles

	Low-Hanging Fruit (Existing Adopters)
	CY 2019 weighted n = 6,196
Selected solely white/Caucasian	51%
≥ 40 Years Old	73%
≥ Bachelor's Degree in HH	82%
Own Residence	80%
≥ \$100k HH Income	68%
Selected Male	70% [‡]

* NHTS data characterize individual educational attainment, whereas other data characterize highest household attainment. + Based upon household-level data. ‡ 100% includes non-binary options. Rebate data filtered by purchase/lease date. "Prefer not to answer," "I don't know," and similar responses are excluded throughout. NHTS weighted to represent population, not new-vehicle subset. New-vehicle buyers identified based on within-100-mile match between odometer and miles driven while owned.

Vehicle Buyers MYs '16-'17 (2017 NHTS) 51% 68% * 63% * 56% *

50%

CA New-

Paths Forward: CA Plug-in Vehicles

	Low-Hanging Fruit (Existing Adopters)	"Rebate Essentials"	"EV Converts"	CA New- Vehicle Buyers	Increased Rebate Recipients Low-/Moderate-Income
	CY 2019 weighted n = 6,196	CY 2019 weighted n = 3,340	CY 2019 weighted n = 1,262	MYs '16–'17 (2017 NHTS)	CY 2019 weighted n = 687
Selected solely white/Caucasian	51%	45%	39%	51%	36%
≥ 40 Years Old	73%	70%	68%	68%	67%
≥ Bachelor's Degree in HH	82%	83%	79%	*	66%
Own Residence	80%	78%	77%	63% †	63%
≥ \$100k HH Income	68%	64%	63%	56% *	6%
Selected Male	70% [‡]	71% [‡]	66% [‡]	50%	65% [‡]

* NHTS data characterize individual educational attainment, whereas other data characterize highest household attainment. + Based upon household-level data. + 100% includes non-binary options. Rebate data filtered by purchase/lease date. "Prefer not to answer," "I don't know," and similar responses are excluded throughout. NHTS weighted to represent population, not new-vehicle subset. New-vehicle buyers identified based on within-100-mile match between odometer and miles driven while owned.

Summary & Select Findings

Summary & Select Findings: Consumer Characteristics

gender slowly trending in right direction

Program design and disruptions (e.g., waitlists) shape impacts **Rebated Consumer Characteristics and Appropriate Baselines** • Home ownership and, in particular, male gender are much more frequent

• Income:

- higher, but 62% <\$150k
- portion \geq \$100k within 12 percentage points of CA new-vehicle buyers
- different picture than painted by population stats
- Age older but in the ballpark
- Metric of race/ethnicity comparable to new-vehicle buyers
- 0–100% of the differences between rebate recipients and the population are

Paths Forward

beyond to increased access

explained by new-vehicle buying (e.g., 64% of the income difference is not about EVs)

Strategic consumer segments present possible paths toward the mainstream and

Consumer Survey Data (Shows Rebates to Individuals Only)

	CLEAN VEHICLE REBATE PROJECT	MOR-EV Massachusetts Offers Rebates for Electric Vehicles	Connecticut Hydrogen and Electric Automobile Purchase Rebate		Total
Vehicle Purchase/ Lease Dates	Sep. 2012* – Dec. 2019	Jun. 2014 – Apr. 2020	May 2015 – Sep. 2018	Mar. 2017 – Jul. 2018	Sep. 2012* – Apr. 2020
Survey Responses (total n)**	66,902	6,616	1,565	1,808	76,891
Program Population (N)***	339,200	16,100	3,500	8,600	367,400

*Two fuel-cell EVs rebated by CVRP with purchase/lease dates from Dec. 2010 – Sep. 2012 are included.
** Subsequently weighted to represent the program population along the dimensions of vehicle category, model, buy vs. lease, and county.
*** Small numbers of rebated vehicles are not represented in the time frames due to application lags. Rounded to nearest 100.

Rebated Plug-in EV Consumer Characteristics

		New-Vehicle Buyers	CLEAN VEHICLE REBATE PROJECT	Massachusetts Offers Rebates for Electric Vehicles	Connecticut Hydrogen and Electric Automobile Purchase Rebate	YOR
	U.S. Population (Census 2018)	U.S. MYs 2016–17 (2017 NHTS)	CY 2019 weighted n = 6,196	CY 2019 weighted n = 630	CY 2017 weighted n = 516	Mar. – Dec. 20 weighted $n = 1,0$
Selected solely white/Caucasian	61%	74%	51%	75%	88%	86%
≥ 50 Years Old	35%	51%	50%	50%	59%	60%
≥ Bachelor's Degree in HH*	23%*	57%*	82%	93%	85%	73%*
Own Residence	63% †	77% †	80%	91%	89%	90%
≥ \$75k HH Income	40% +	62% *	81%	92%	81%	78%
Selected Male	49%	51%	70% [‡]	79%	71%	68%

* Census, NHTS & NYS data characterize individual educational attainment, whereas other rebate data characterize highest household attainment. + Based upon household-level data. + 100% includes non-binary options.

Rebate data filtered by purchase/lease date. "Prefer not to answer," "I don't know," and similar responses are excluded throughout. Census 2018: 2014–2018 American Community Survey, PUMS. NHTS 2017 is weighted to represent population, not new-vehicle subset. New-vehicle buyers identified based on within-100-mile match between odometer and miles driven while owned.

Rebated EV Consumer Characteristics: Trending in Some of the Right Directions

	MOR-EV, Purchase/lease dates:			New England New-Vehicle	MA
	CY 2017 weighted n = 1,330	CY 2018 weighted n = 2,844	CY 2019 weighted n = 630	MYs 2016–17 (2017 NHTS)	Population (Census 2018)
Selected solely white/Caucasian	85%	80%	75%	87%	72%
≥ 50 years old	61%	55%	50%	49%	36%
≥ Bachelor's degree in HH	90%	90%	93%	*	*
Own Residence	92%	91%	91%	83%**	62%**
≥ \$75k HH Income	88%	91%	92%	72%**	51%**
Selected Male	74%	79%	79%	50%	49%

* Census & NHTS data characterize individual educational attainment, whereas rebate data characterize highest household attainment. ** Based upon household-level data. "Prefer not to answer," "I don't know," and similar responses are excluded throughout. Census 2018: 2014–2018 American Community Survey, PUMS. 2017 NHTS: filtered for states = CT, MA, ME, RI, VT, NH. NHTS is weighted to represent population, not new-vehicle subset. New-vehicle buyers identified based on within-100-mile match between odometer and miles driven while owned.

26

Select Publications (Reverse chronological, as of 7/30/21)

- lacksquare<u>Clean Vehicle Rebate Project with Program Data and Other Case-Specific Inputs," Energies, vol. 14, no. 15, Jul. 2021.</u>
- lacksquare<u>Characteristics</u>," *Energies*, vol. 14, no. 7, p. 1899, Mar. 2021.
- ${\color{black}\bullet}$ EVS33, and Zenodo, Portland OR, 2020. https://doi.org/10.5281/ZENODO.4021408
- Plug-in Hybrid and Electric Vehicle Research Center, 2019.
- Survey, 2013–2015 Edition | Clean Vehicle Rebate Project, Center for Sustainable Energy (CSE), San Diego CA, 2018.
- \bullet
- Clean Vehicle Rebate Project, Center for Sustainable Energy (CSE), San Diego CA, 2017.
- for Sustainable Energy (CSE), 2017.
- Rebate, Transp. Res. Rec. 2628 (2017) 23–31.

N. Pallonetti and B. D. H. Williams, "Refining Estimates of Fuel-Cycle Greenhouse-Gas Emission Reductions Associated with California's

B. D. H. Williams and J. B. Anderson, "Strategically Targeting Plug-In Electric Vehicle Rebates and Outreach Using 'EV Convert'

B.D.H. Williams, J.B. Anderson, A. Lastuka, Characterizing Plug-in Hybrid Electric Vehicle Consumers Who Found the U.S. Federal Tax Credit Extremely Important in Enabling Their Purchase, in: 33rd Electr. Veh. Symp., Electric Drive Transportation Association (EDTA),

S. Hardman, P. Plötz, G. Tal, J. Axsen, E. Figenbaum, P. Jochem, S. Karlsson, N. Refa, F. Sprei, B.D. Williams, J. Whitehead, B. Witkamp, Exploring the Role of Plug-In Hybrid Electric Vehicles in Electrifying Passenger Transportation, International EV Policy Council, UC Davis

B.D. Williams, J. Orose, M. Jones, J.B. Anderson, <u>Summary of Disadvantaged Community Responses to the Electric Vehicle Consumer</u>

B.D. Williams, J.B. Anderson, Strategically Targeting Plug-in Electric Vehicle Rebates and Outreach Using Characteristics of 'Rebate-Essential" Consumers in 2016–2017, in: 31st Int. Electr. Veh. Symp., Society of Automotive Engineers of Japan, Inc., Kobe, Japan, 2018.

• C. Johnson, B.D. Williams, C. Hsu, J.B. Anderson, Summary Documentation of the Electric Vehicle Consumer Survey, 2013–2015 Edition

• C. Johnson, B.D. Williams, J.B. Anderson, N. Appenzeller, Evaluating the Connecticut Dealer Incentive for Electric Vehicle Sales, Center

C. Johnson, B.D. Williams, Characterizing Plug-In Hybrid Electric Vehicle Consumers Most Influenced by California's Electric Vehicle

Select Presentations (Reverse chronological, as of 7/30/21)

- Data from Statewide Electric Vehicle Rebate Programs: Vehicles, Consumers, Impacts, and Effectiveness ${\color{black}\bullet}$
- CVRP CY 2019 Data Brief: Vehicle Replacement & Incentive Influence ${}^{\bullet}$
- CVRP CY 2019 Data Brief: Consumer Characteristics (this presentation) ${\color{black}\bullet}$
- **CVRP Data Brief: MSRP Considerations**
- What Vehicles Are Electric Vehicles Replacing and Why? ${\color{black}\bullet}$
- **Electric Vehicle Incentives and Policies** ${\color{black}\bullet}$
- Proposed FY 2019–20 Funding Plan: Final CVRP Supporting Analysis
- **CVRP:** Data and Analysis Update
- Cost-Effectively Targeting EV Outreach and Incentives to "Rebate-Essential" Consumers
- Electric Vehicle Rebates: Exploring Indicators of Impact in Four States
- Targeting EV Consumer Segments & Incentivizing Dealers
- Findings
- **CVRP Income Cap Analysis: Informing Policy Discussions**

EV Purchase Incentives: Program Design, Outputs, and Outcomes of Four Statewide Programs with a Focus on Massachusetts

Supporting EV Commercialization with Rebates: Statewide Programs, Vehicle & Consumer Data, and Select Findings Yale Webinar: Supporting EV Commercialization with Rebates: Statewide Programs, Vehicle & Consumer Data, and Select

Recommended citation

B.D.H. Williams and N. Pallonetti, Presentation: "CVRP CY 2019 Data Brief: Consumer Characteristics," Clean Vehicle Rebate Project, administered by the Center for Sustainable Energy on behalf of the California Air Resources Board, revised January 2022 for ADA.

CleanVehicleRebate.org

