



HVIP: California Incentives for Trucks and Buses

TRSA California Legislative Conference
August 14, 2018



CALSTART - non-profit, clean transportation technology coalition NOT a Think Tank – a *DO Tank*

Mission:

**Support and
expand clean
transportation
tech industry**

**Drive faster
commercialization**

**Tech and fuel
neutral**

Goals:

- **High-quality jobs;**
- **Clean air;**
- **Reduced dependence on oil;**
- **Meet global warming goals**



CALSTART's 190+ Member Companies and Organizations

(PARTIAL LISTING)

Making Clean Transportation Happen



What is HVIP?

- Streamlined, first-come-first-served “voucher” incentives – no proposal process
- Electric, hybrid, fuel cell, EPTO
- Low-NOx natural gas
- Trucks and buses
- New vehicles and retrofits
- Operating now for 8 years
- 4,500 + vouchers

www.californiahvip.org



Why *Voucher* Incentives?

- Point of purchase discount
 - Fleets get immediate discount at sale
- Dealers learn voucher system
 - Fewer complications for fleets
- Set-aside funding for each voucher
 - Price certainty at time of request



Sample Voucher Amounts

Zero-Emission Trucks:

GVWR (lbs)	Base Vehicle Incentive		
	1 to 100 vehicles ¹		>100 vehicles
	Outside DAC	In DAC	
5,001 – 8,500	\$20,000	\$25,000	\$12,000
8,501 – 10,000	\$25,000	\$30,000	\$18,000
10,001 – 14,000	\$50,000	\$55,000	\$30,000
14,001 – 19,500	\$80,000	\$90,000	\$35,000
19,501 – 26,000	\$90,000	\$100,000	\$40,000
26,001 – 33,000	\$95,000	\$110,000	\$45,000
>33,000	\$150,000	\$165,000	\$70,000
Hydrogen Fuel Cell Electric Truck	\$300,000	\$315,000	\$142,000



Sample Voucher Amounts

Hybrid Trucks:

GVWR (lbs) ¹	Base Vehicle Incentive	
	1 to 100 vehicles	> 100 vehicles
6,001 – 8,500	\$ 8,000	\$ 6,000
8,501 – 10,000	\$10,000	\$ 8,000
10,001 – 19,500	\$15,000	\$10,000
19,501 – 26,000	\$20,000	\$12,000
26,001 – 33,000	\$25,000	\$15,000
> 33,000	\$30,000	\$20,000

Hybrid Truck Conversions:

GVWR (lbs) ¹	Base Vehicle Incentive	
	1 to 100 vehicles ²	>100 vehicles
6,001 – 8,500	\$2,000	\$1,000
8,501 – 10,000	\$6,000	\$3,000
10,001 – 19,500	\$9,000	\$4,500
19,501 – 26,000	\$12,000	\$6,000
26,001 - 33,000	\$15,000	\$7,500
> 33,000	\$18,000	\$9,000



Infrastructure “Plus Up” for ZEVs

- Cover cost of EVSE – up to **\$30,000** per vehicle for BEV
 - Fleets are eligible if submitted a voucher after 12/15/17
 - Cost of EVSE and related systems (load management, energy storage)

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Electric Cargo Vans

Chanje



Workhorse



Zenith





Electric Step Vans

Chanje



Workhorse



BYD



Zenith





Electric Step Vans

Motiv



Hybrids – New Players, Prices



» Hino Class 5 Cab-over highly competitive for price and selling well

XL Hybrids

- » New and existing vehicle conversion to cost-effective hybrid electric on medium-duty vehicles
- » Solid payback in high mileage applications
- » Fast conversion uses known QVM approach





Hybrid-Electric Trucks

Hino



XL Hybrids





AVAILABLE VOUCHER FUNDS

ALL APPROVED TECHNOLOGIES **\$ 119,905,902**

LOW NOX NG **\$ 14,433,983**

ADJUST TEXT SIZE: **-** **+** RESET

Your Clean Vehicles

HVIP offers incentives for eligible zero-emission and hybrid trucks and buses and vehicles using engines that meet the optional low-NOx engine standard in California. Use the filters below to select an eligible vehicle technology that best fits your business needs.



Can Combine HVIP ZE Incentives

- Moyer Funding
- Prop 1B
- Cumulative incentives can't exceed 90% of total cost of vehicle
- School and transit buses can go to 100% incentives

Hybrid and Zero-Emission Vehicles

Low NOx Natural Gas Engine Vehicles begin on page 8

Manufacturer: Altec

Type: Utility

Artel Open Vehicle with 40Ah 16-20 kWh Lithium-Ion battery and 3000 PSI maximum hydraulic pressure

Chassis Model	TASD	AM55	AM55E	TASD	12E8
Gross Vehicle Weight	>26,000	>26,000	>26,000	>26,000	>25,000
Vehicle Year/Engine Model Year	2013/2013	2014/2014	2016/2016	2014/2014	2014/2014
Exportable Power	NO	>3.2 kW	YES	YES	YES
Year 4 ABB Preliminary Voucher Amount	\$30,000	\$33,000	\$33,000	\$33,000	\$33,000



Manufacturer: AMP Electric Vehicles

Type: Delivery

1500 V-2 All Electric Step Van with Workhorse Chassis

Gross Vehicle Weight	15,000
Vehicle Year/Engine Model Year	2014/2014
Year 4 ABB Preliminary Voucher Amount	\$60,000



Manufacturer: Ashroo

Type: Refuse

Refactor C2 Refuse Vehicle with Cummins IS3 Engine and Parker Run/Wise Advanced Series Hydraulic Hybrid Drive

Gross Vehicle Weight	38,001-43,000
Vehicle Year/Engine Model Year	2015/2012
Year 4 ABB Preliminary Voucher Amount	\$40,000



Manufacturer: BYD Motors

Type: Truck

T5 Battery Electric Delivery Truck

Gross Vehicle Weight	14,000-15,000
Battery Specification	145 kWh
Vehicle Year/Engine Model Year	2016/2016
Year 4 ABB Preliminary Voucher Amount	\$80,000



Manufacturer: Daimler Trucks

Type: Truck

T7 Battery Electric Delivery Truck

Gross Vehicle Weight	19,501-26,000
Battery Specification	175 kWh
Vehicle Year/Engine Model Year	2016/2016
Year 4 ABB Preliminary Voucher Amount	\$90,000



Manufacturer: ERF

Type: Truck

ERT Battery Electric Tractor

Gross Vehicle Weight	>57,000
Battery Specification	188 kWh
Vehicle Year/Engine Model Year	2017/2017
Year 4 ABB Preliminary Voucher Amount	\$95,000



Manufacturer: GM

Type: Bus

CR 32 Fz Zero-Emission Electric Coach

Gross Vehicle Weight	18,331
Battery Specification	135 kWh
Vehicle Year/Engine Model Year	2017/2017
Year 4 ABB Preliminary Voucher Amount	\$80,000



Manufacturer: GM

Type: Bus

GV30 30-Ft All Electric Zero-Emission Transit Bus

Gross Vehicle Weight	>25,000
Battery Specification	321.5 kWh
Vehicle Year/Engine Model Year	2015-2019/16
Year 4 ABB Preliminary Voucher Amount	\$151,000



Manufacturer: GM

Type: Bus

K13M 40-Ft Articulated All Electric Coach

Gross Vehicle Weight	41,877
Battery Specification	324 kWh
Vehicle Year/Engine Model Year	2014-2016/14
Year 4 ABB Preliminary Voucher Amount	\$131,000



Manufacturer: GM

Type: Bus

KL1M 40-Ft Articulated All Electric Zero-Emission Transit Bus

Gross Vehicle Weight	41,877
Battery Specification	324 kWh
Vehicle Year/Engine Model Year	2014-2016/14
Year 4 ABB Preliminary Voucher Amount	\$131,000



Manufacturer: GreenPower

Type: Bus

GreenPower EV300 40-Foot All Electric Bus

Gross Vehicle Weight	>33,000
Vehicle Year/Engine Model Year	2015/2016
Year 4 ABB Preliminary Voucher Amount	\$95,000



Manufacturer: GreenPower

Type: Bus

GreenPower EV300 40-Foot All Electric Double Decker Bus

Gross Vehicle Weight	>40,000
Vehicle Year/Engine Model Year	2017/2017
Year 4 ABB Preliminary Voucher Amount	\$95,000



Manufacturer: GreenPower

Type: Bus

GreenPower S19NA15 72-All Electric School Bus

Gross Vehicle Weight	>30,000
Vehicle Year/Engine Model Year	2017/2017
Year 4 ABB Preliminary Voucher Amount	\$95,000



Manufacturer: Hino Motors

Type: Delivery

159H Delivery Truck with Parallel Hybrid System

Delivery Type	Surge/High Food Delivery	Liquid Propane-Pickup Delivery	Uniform & Linen Delivery	Other Delivery
Gross Vehicle Weight	14,000-15,500	14,000-15,500	14,000-15,500	14,000-15,500
Vehicle Year/Engine Model Year	2017/2016	2017/2016	2017/2016	2017/2016
Year 4 ABB Preliminary Voucher Amount	\$18,000	\$18,000	\$18,000	\$18,000



Manufacturer: Hino Motors

Type: Delivery

159H-DC Delivery Truck with Parallel Hybrid System

Delivery Type	Surge/High Food Delivery	Liquid Propane-Pickup Delivery	Uniform & Linen Delivery	Other Delivery
Gross Vehicle Weight	14,000-15,500	14,000-15,500	14,000-15,500	14,000-15,500
Vehicle Year/Engine Model Year	2017/2016	2017/2016	2017/2016	2017/2016
Year 4 ABB Preliminary Voucher Amount	\$18,000	\$18,000	\$18,000	\$18,000



Manufacturer: IVECO

Type: Truck

T5 Battery Electric Delivery Truck

Gross Vehicle Weight	14,000-15,000
Battery Specification	145 kWh
Vehicle Year/Engine Model Year	2016/2016
Year 4 ABB Preliminary Voucher Amount	\$80,000



Manufacturer: IVECO

Type: Truck

T7 Battery Electric Delivery Truck

Gross Vehicle Weight	19,501-26,000
Battery Specification	175 kWh
Vehicle Year/Engine Model Year	2016/2016
Year 4 ABB Preliminary Voucher Amount	\$90,000



Manufacturer: Manitex

Type: Truck

MT Battery Electric Tractor

Gross Vehicle Weight	>57,000
Battery Specification	188 kWh
Vehicle Year/Engine Model Year	2017/2017
Year 4 ABB Preliminary Voucher Amount	\$95,000



Manufacturer: Manitex

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Manufacturer: Manitex

Type: Truck

Catalyst 35-Foot Urban Transit Bus

Gross Vehicle Weight	35,000
Vehicle Year/Engine Model Year	2012/2013
Year 4 ABB Preliminary Voucher Amount	\$95,000



Manufacturer: Manitex

Type: Bus

Catalyst 40-Foot Urban Transit Bus

Gross Vehicle Weight	40,000
Vehicle Year/Engine Model Year	2013/2013
Year 4 ABB Preliminary Voucher Amount	\$95,000



Manufacturer: Manitex

Type: Bus

Catalyst 40-Foot Urban Transit Bus

Gross Vehicle Weight	40,000
Vehicle Year/Engine Model Year	2013/2013
Year 4 ABB Preliminary Voucher Amount	\$95,000



Manufacturer: Manitex

Type: Bus

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Gross Vehicle Weight	40,000
Vehicle Year/Engine Model Year	2013/2013
Year 4 ABB Preliminary Voucher Amount	\$95,000



Manufacturer: Manitex

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Manufacturer: Manitex

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Year 4 ABB Preliminary Voucher Amount	\$95,000



Manufacturer: Manitex

Type: Bus

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Gross Vehicle Weight	40,000
Vehicle Year/Engine Model Year	2013/2013
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Manufacturer: Manitex

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Manufacturer: Manitex

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AVAILABLE VOUCHER FUNDS

ALL APPROVED TECHNOLOGIES \$ 120,974,902

LOW NOX NG \$ 15,553,983

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"This program is a win-win-win for California. Where its policies really tie together with cleaning California's air, addressing global climate change, and creating jobs. This [program] helps put us on the track to making sure our children can breathe clean air." - Senator Connie Leyva

The California Air Resources Board (CARB) in partnership with CALSTART launched the Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP) and Low NOx Engine Incentives in 2009 to accelerate the purchase of cleaner, more efficient trucks and buses in California.

The greatest barrier to purchasing cleaner trucks and buses is the higher price tag.





Making Clean Transportation Happen



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