HVIP: California Incentives for Trucks and Buses

Sustain SoCal's Zero Emissions Vehicle Incentives Lunch & Learn

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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

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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 9 years
- 6,500 + vouchers
- 1,000 fleets

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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

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Sample Voucher Amounts

Zero-Emission Trucks:

GVWR (lbs)	Base Vehicle Incentive	
	Outside Disadvantaged Community	In Disadvantaged Community
5,001 – 8,500	$20,000	$25,000
8,501 – 10,000	$25,000	$30,000
10,001 – 14,000	$50,000	$55,000
14,001 – 19,500	$80,000	$90,000
19,501 – 26,000	$90,000	$100,000
26,001 – 33,000	$95,000	$110,000
>33,000	$150,000	$165,000
>33,000 Hydrogen Fuel Cell Truck	$300,000	$315,000

Zero-Emission Transit Buses:

Bus Length and Bus Type	Base Vehicle Incentive	
	Outside Disadvantaged Community	In Disadvantaged Community
20 ft – 24 ft	$80,000	$90,000
25 ft – 29 ft	$90,000	$100,000
30 ft – 39 ft	$120,000	$135,000
40 ft – 59 ft	$150,000	$165,000
≥ 40 ft. Double Decker Bus	$175,000	$190,000
≥ 60 ft. Zero-Emission Battery-Electric Articulating Transit Bus	$175,000	$190,000
≥ 40 ft. Hydrogen Fuel Cell Electric Bus	$300,000	$315,000

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Sample Voucher Amounts

Eligible ePTO Voucher Caps

Energy Storage Capacity	Base Vehicle Incentive[1]
3 – 10 kWh	$20,000
10 - 15 kWh	$30,000
> 15 kWh	$40,000

1 - ePTO funding amounts may cover up to 50 percent of the incremental cost of the ePTO vehicle, not to exceed the funding levels listed in this table.

Eligible Hybrid Truck and Bus Vehicle Conversion Voucher Amounts

GVWR (lbs)[1]	Base Vehicle Incentive[2]
6,001 – 8,500	$2,000
8,501 – 10,000	$6,000
10,001 – 19,500	$9,000
19,501 – 26,000	$12,000
26,001 - 33,000	$15,000
> 33,000	$18,000

1- Tractor trailers utilize Gross Combined Vehicle Weight for purposes of determining Base Vehicle Incentive.

2- A vehicle that achieves 35 miles or more of AER are eligible for the following additional funding amounts: $5,000/vehicle if below 8,501 lbs; $10,000/vehicle if 8,501 to 19,500 lbs; and $45,000/vehicle if over 19,500 lbs.

Examples of Trucks

BYD

Phoenix

Motiv

BYD

Chanje

Lightning Systems

Orange EV

Workhorse

BYD

Zenith Motors

Motiv

BYD

Zenith Motors

Motiv

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Examples of Buses

Phoenix Motors

ElDorado National

Blue Bird

Lightning Systems

Proterra

GreenPower

Motiv Power Systems

BYD

Lion Bus

Zenith

Motiv Power Systems

New Flyer Industries

Complete Coach Works

Blue Bird

Motiv Power Systems

Greenpower

Gillig

Zenith Motors

Blue Bird

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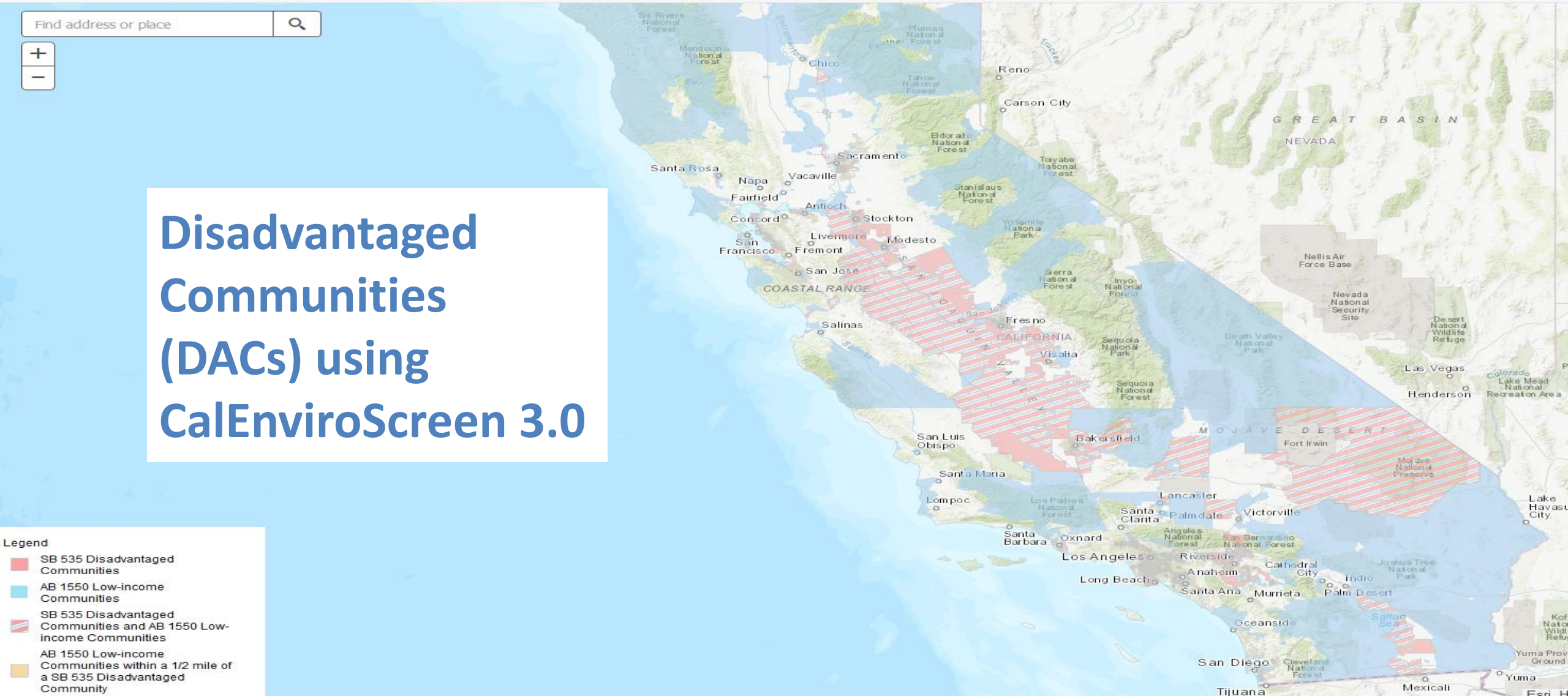
CALIFORNIA HVIP

Disadvantaged Communities (DACs) using CalEnviroScreen 3.0



Infrastructure Voucher Enhancement

- Up to $30k per BEV vehicle voucher
- Up to $100k per FCEV vehicle voucher
- Reimburses EVSE purchases and only covers EVSE equipment cost
- Does not cover labor
- No utility upgrade cost
- Can include load management software and energy storage

Can Combine HVIP Incentives

- For a private fleet, combined incentives can cover up to 90% of vehicle cost for advanced vehicle technology.
- For a public fleet, combined incentives can cover up to 100% of vehicle cost for advanced vehicle technology.

Examples of Hybrid and ePTO Vehicles

Hino

XL Hybrids

Altec

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Low NOx Incentives Natural Gas Vehicles

- 8.9-liter L9N - $45,000
- 11.9-liter ISX12N - $45,000
- Requires RNG Contract
- RNG not required for fleets of 10 or less
- Available for New and Repowers

Low NOx Engine Voucher Amount

Engine Manufacturer/Displacement/Low NOx Certification	
Cummins Westport/8.9 Liter/0.02 g/bhp-hr[1]	$45,000
Cummins Westport/11.9 Liter/0.02 g/bhp-hr	$45,000

1 – New Refuse trucks using the 8.9-L Low NOx engine that replace natural gas refuse trucks are not eligible; new transit buses using the 8.9-L Low NOx engine are not eligible.

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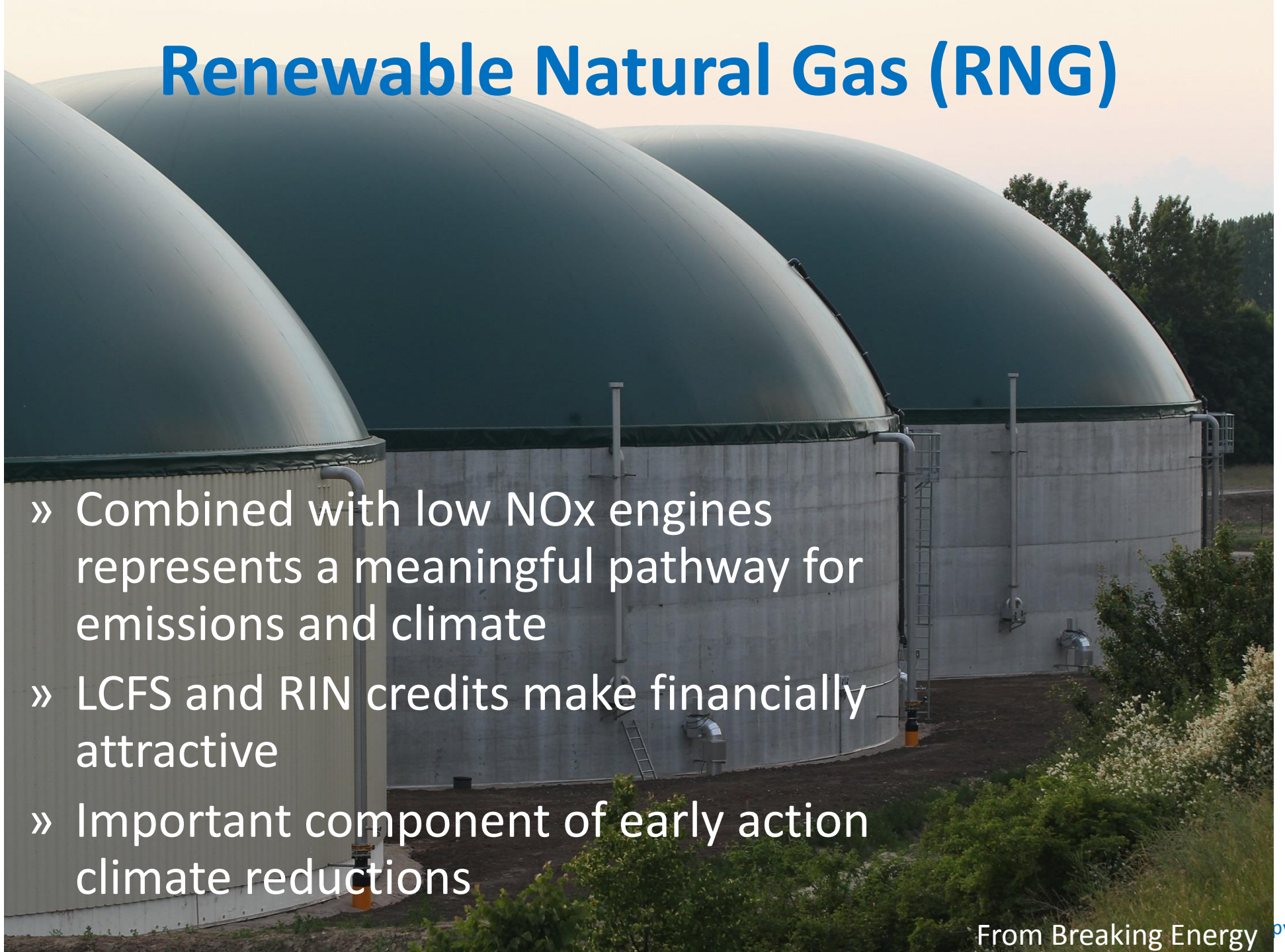
Renewable Natural Gas (RNG)



- Combined with low NOx engines represents a meaningful pathway for emissions and climate
- LCFS and RIN credits make financially attractive
- Important component of early action climate reductions

From Breaking Energy

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Examples of Low NOx Vehicles

Mack

Freightliner

Kenworth

Autocar

Kenworth

Mack

Crane Carrier

Crane Carrier

Volvo

Crane Carrier

Autocar

Peterbilt

Mack

Mack

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Low NOx Engine Repowers

Cummins L9N

Cummins ISX12N

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ELIGIBLE TECHNOLOGIES YOUR CLEAN VEHICLES APPROVED VENDOR LIST SUBMIT A VOUCHER REQUEST

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.

Eligible HVIP Vehicles

- List expanding almost daily
- Go to web site to see most current list of vehicles

Hybrid and Zero-Emission Vehicles

Low NOx Natural Gas Engine Vehicles begin on page 8

Manufacturer: Altec

Type: Utility

Aerial Boom Vehicle with JEMS: 16-20 kWh Lithium-Ion battery and 3000 PSI maximum hydraulic pressure

Chassis Model	TA50, AM55	AM55E	TA60	12E8
Gross Vehicle Weight	> 26,000	> 26,000	> 26,000	>26,000
Vehicle Year/Engine Model Year	2013/2013	2014/2014	2014/2014	-
Exportable Power	NO	> 3.0 kW	YES	YES	YES
Year 4 ARB Preliminary Voucher Amount	$20,000	$22,000	$22,000	$22,000	$22,000

Specifications

Manufacturer: AMP Electric Vehicles

Type: Delivery

E-100 V.2 All-Electric Step Van with Workhorse Chassis

Gross Vehicle Weight	19,500
Vehicle Year/Engine Model Year	2016/2016
Year 4 ARB Preliminary Voucher Amount	$80,000

Specifications

Manufacturer: Autocar

Type: Refuse

Xpeditor E3 Refuse Vehicle with Cummins ISL9 Engine and Parker RunWise Advanced Series Hydraulic Hybrid Drive

Gross Vehicle Weight	38,001-66,000	38,001-80,000
Vehicle Year/Engine Model Year	2015/2012 2013/2012	2016/2012
Year 4 ARB Preliminary Voucher Amount	$40,000	$40,000

Specifications

Manufacturer: BYD Motors

Type: Truck

T5 Battery Electric Delivery Truck

Gross Vehicle Weight	14,001-19,500
Battery Specification	145 kWh
Vehicle Year/Engine Model Year	2016/2016
Year 4 ARB Preliminary Voucher Amount	$80,000

Specifications

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 ARB Preliminary Voucher Amount	$90,000

Specifications

Type: Truck

BTT Battery Electric Tractor

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

Specifications

Type: Bus

CS 23-Ft Zero-Emission Electric Coach

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

Specifications

Type: Bus

K7M 30-Ft All Electric Zero-Emission Transit Bus

Gross Vehicle Weight	>26,000	42,659
Battery Specification	182.5 kWh	197 kWh
Vehicle Year/Engine Model Year	2015-16/2015-16	2017/2017
Year 4 ARB Preliminary Voucher Amount	$101,000	$95,000

Specifications

35-Ft Zero-Emission Transit Bus

Gross Vehicle Weight	33,000-55,000
Battery Specification	270 kWh
Vehicle Year/Engine Model Year	2016/2016
Year 4 ARB Preliminary Voucher Amount	$101,000

Specifications

Type: Bus

K9M & K9S 40-Ft All Electric Zero-Emission Transit Bus

Gross Vehicle Weight	33,001-55,000	41,877	42,659
Battery Specification	324 kWh	324 kWh	324 kWh
Vehicle Year/Engine Model Year	2014-16/2014-16	2017/2017	2017/2017
Year 4 ARB Preliminary Voucher Amount	$101,000	$95,000	$95,000

Specifications

Type: Bus

C10M 45-Ft Articulated All Electric Coach

Gross Vehicle Weight	49,604
Battery Specification	394 kWh
Vehicle Year/Engine Model Year	2017/2017
Year 4 ARB Preliminary Voucher Amount	$95,000

Specifications

Type: Bus

K11M 60-Ft Articulated All Electric Zero-Emission Transit Bus

Gross Vehicle Weight	33,001-55,000	33,001-55,000	65,016	
Battery Specification	547.5 kWh	547.5 kWh	591 kWh	
Vehicle Year/Engine Model Year	2015/2015	2016/2016	2017/2017	
Year 4 ARB Preliminary Voucher Amount	$95,000	$101,000	$95,000	

Specifications

Manufacturer: GreenPower

Type: Bus

GreenPower EV350 40-Foot All Electric Bus

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

Specifications

Type: Bus

GreenPower EV550 40-Foot All Electric Double Decker Bus

Gross Vehicle Weight	>60,000
Vehicle Year/Engine Model Year	2017/2017
Year 4 ARB Preliminary Voucher Amount	$95,000

Specifications

Type: Bus

GreenPower SYNAPSE 72 All Electric School Bus

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

Specifications

Manufacturer: Hino Motors

Type: Delivery

195h Delivery Truck with Parallel Hybrid System

Delivery Type	Beverage, Package, Food Delivery	Liquid Propane Pick-Up & Delivery	Uniform & Linen Delivery	Other Delivery
Gross Vehicle Weight	14,001-19,500	14,001-19,500	14,001-19,500	14,001-19,500
Vehicle Year/Engine Model Year	2017/2016 2016/2015	2017/2016 2016/2015	2017/2016 2016/2015	2017/2016 2016/2015
Year 4 ARB Preliminary Voucher Amount	$18,000	$18,000	$18,000	$18,000

Specifications

Type: Delivery

195h-DC Delivery Truck with Parallel Hybrid System

Delivery Type	Beverage, Food Delivery	Package Delivery	Liquid Propane Pick-Up & Delivery	Uniform & Linen Delivery	Other Delivery
Gross Vehicle Weight	14,001-19,500	14,001-19,500	14,001-19,500	14,001-19,500	14,001-19,500
Vehicle Year/Engine Model Year	2017/2016	2017/2016 2016/2015	2017/2016	2017/2016	2017/2016 2016/2015
Year 4 ARB Preliminary Voucher Amount	$18,000	$18,000	$18,000	$18,000	$18,000

Specifications

Manufacturer: Lion Bus

Type: Bus

eLion School Bus

Gross Vehicle Weight	33,000
Battery Specification	90, 105, 130 kWh
Vehicle Year/Engine Model Year	2016/2016
Year 4 ARB Preliminary Voucher Amount	$95,000

Specifications

Manufacturer: Motiv Power Systems

Type: Truck or Bus

Motiv All-Electric Powertrain for Ford E450

Body Types Available	School Bus, Shuttle Bus, Box Truck, Flat Bed	School Bus, Shuttle Bus, Box Truck, Flat Bed	School Bus, Shuttle Bus, Work Truck, Box Truck
Gross Vehicle Weight	14,001-16,000	14,500	14,001-19,500
Battery Specification	80, 100, 120 kWh	80, 100, 120 kWh	80, 100, 120 kWh
Vehicle Year/Engine Model Year	2014/2014	2015/2015	2016/2016 2017/2017
Year 4 ARB Preliminary Voucher Amount	$80,000	$80,000	$80,000

Specifications

Type: Truck or Bus

Motiv All-Electric Powertrain for Ford F59

Body Types Available	Bus, Walk-in Van	Delivery Truck, School Bus, Shuttle Bus	Delivery Truck, School Bus, Shuttle Bus	Delivery Truck, School Bus, Shuttle Bus
Gross Vehicle Weight	22,000	16,500-19,500	19,501-22,000	26,001-33,000
Battery Specification	80, 100, 120 kWh	100, 120 kWh	100, 120 kWh	100, 120 kWh
Vehicle Year/Engine Model Year	2015/2015	2016/2016	2016/2016	2017/2017
Year 4 ARB Preliminary Voucher Amount	$90,000	$80,000	$90,000	$95,000

Specifications

Type: Bus

Motiv All-Electric Powertrain for Ford F59 Starcraft e-Quest XL School Bus

Body Types Available	School Bus	School Bus
Gross Vehicle Weight	16,500-19,500	19,501-22,000
Battery Specification	100, 120 kWh	100, 120 kWh
Vehicle Year/Engine Model Year	2016/2016 2017/2017	2016/2016 2017/2017
Year 4 ARB Preliminary Voucher Amount	$80,000	$90,000

Specifications

Type: Bus

Xcelsior Bus with Lithium-Ion Battery Pack

Chassis Model	XE35	XE40
Gross Vehicle Weight	42,540-44,312	42,540-44,312
Battery Specification	100, 150, 200 kWh	100, 150, 200, 300 kWh
Vehicle Year/Engine Model Year	2015/2015	2015/2015
Year 4 ARB Preliminary Voucher Amount	$117,000	$117,000

Specifications

Manufacturer: Orange EV

Type: Terminal Truck

T-Series 4x2 Terminal Truck

	Standard Duty	Extended Duty (N)
Gross Vehicle Weight	81,000	>33,000
Battery Specification	80 kWh	160 kWh
Vehicle Year/Engine Model Year	2017/2017	2017/2017
Year 4 ARB Preliminary Voucher Amount	$95,000	$95,000

Specifications

Type: Terminal Truck Conversion

T-Series 4x2 Terminal Truck Conversion of Kalmar Ottawa Truck

	Standard Duty	Extended Duty (N)
Gross Vehicle Weight	81,000	81,000
Battery Specification	80 kWh	160 kWh
Vehicle Year/Engine Model Year	2017/2017	2017/2017
Year 4 ARB Preliminary Voucher Amount	$71,250	$71,250

Specifications

Manufacturer: Phoenix

Type: Bus

ZEUS 100 Shuttle Bus

Gross Vehicle Weight	10,001-14,000	14,001-19,500
Battery Specification	102-120 kWh	105 kWh
Vehicle Year/Engine Model Year	2015/2015	2016/2016
Year 4 ARB Preliminary Voucher Amount	$50,000	$80,000

Specifications

Type: Utility

Zero-Emission Flat Bed Truck with Li-Ion Battery

Gross Vehicle Weight	10,001-14,000	14,001-19,500
Battery Specification	102kWh	105kWh
Vehicle Year/Engine Model Year	2015/2015	2016/2016
Year 4 ARB Preliminary Voucher Amount	$50,000	$80,000

Specifications

Manufacturer: Proterra

Type: Bus

Catalyst 35-foot Urban Transit Bus

Chassis Model	BE35-74T
Gross Vehicle Weight	>26,000
Vehicle Year/Engine Model Year	2013/2013
Year 4 ARB Preliminary Voucher Amount	$95,000

Specifications

Type: Bus

Catalyst 40-foot Urban Transit Bus

Chassis Model	BE40
Gross Vehicle Weight	>38,000
Vehicle Year/Engine Model Year	2015/2015
Year 4 ARB Preliminary Voucher Amount	$95,000

Specifications

Type: Bus

Catalyst 40-foot Urban Transit Bus

Chassis Model	BE40 Extended Range	BE40 with Fast Charge
Gross Vehicle Weight	>38,000	>38,000
Battery Specification	128, 160, 192, 224, 256, 288, 320 kWh	53, 66, 79, 92, 105, 119, 132 kWh
Vehicle Year/Engine Model Year	2016/2016	2016/2016
Year 4 ARB Preliminary Voucher Amount	$95,000	$115,000

Specifications

Type: Bus

Catalyst 35-foot Urban Transit Bus

Chassis Model	BE35 Extended Range	BE35 with Fast Charge
Gross Vehicle Weight	>38,000	>38,000
Battery Specification	128, 160, 192, 224, 257, 288, 320 kWh	79, 92, 105, 119, 132 kWh
Vehicle Year/Engine Model Year	2017/2017	2017/2017
Year 4 ARB Preliminary Voucher Amount	$95,000	$115,000

Specifications

Manufacturer: XL Hybrids

Type: Bus or Delivery

GM 2500/3500 (Chevy Express/GMC Savana) with XL3 Hybrid Upfit

Gross Vehicle Weight	8,501-10,000
Vehicle Year/Engine Model Year	2016/2016
Year 4 ARB Preliminary Voucher Amount	$2,500

Specifications

Type: Bus or Delivery

Ford Transit T150/T250/T350 Passenger/Cargo Van 3.5 and 3.7 L with XL3 Hybrid Upfit

Gross Vehicle Weight	8,501-10,000
Vehicle Year/Engine Model Year	2017/2017
Year 4 ARB Preliminary Voucher Amount	$2,500

Specifications

Manufacturer: Zenith Motors

Type: Delivery

Electric Cargo Van

Gross Vehicle Weight	10,001-14,000	10,001-14,000
Wheelbase	159"	136"
Battery Specification	62.1kWh	51.8kWh
Vehicle Year/Engine Model Year	2014/2014 2015/2015 2016/2016	2014/2014 2015/2015 2016/2016
Year 4 ARB Preliminary Voucher Amount	$50,000	$50,000

Specifications

Type: Bus

Electric Shuttle Van

Gross Vehicle Weight	10,001-14,300
Battery Specification	51.84 kWh, 62.1kWh
Vehicle Year/Engine Model Year	2014/2014; 2015/2015; 2016/2016
Year 4 ARB Preliminary Voucher Amount	$50,000

Specifications

Low NOx Natural Gas Engine Vehicles

Type: Refuse

Autocar 4x2 and 6x4 Xpeditor with Cummins Westport ISL G NZ engine

Gross Vehicle Weight	80,000	33,000-80,000
Vehicle Year/Engine Model Year	2017/2017	2018/2017
Year 4 ARB Preliminary Voucher Amount	$8,500	$8,500

Specifications

Manufacturer: Crane Carrier Company

Type: Truck

CDE2 with Cummins ISL G 8.9 L Engine

Gross Vehicle Weight	23,000-52,000
Vehicle Year/Engine Model Year	2017/2017
Year 4 ARB Preliminary Voucher Amount	$14,667

Specifications

Type: Truck

LDT2 with Cummins ISL G 8.9 L Engine

Gross Vehicle Weight	23,000-52,000
Vehicle Year/Engine Model Year	2017/2017
Year 4 ARB Preliminary Voucher Amount	$14,667

Specifications

Type: Truck

LET2 with Cummins ISL G 8.9 L Engine

Gross Vehicle Weight	23,000-52,000
Vehicle Year/Engine Model Year	2017/2017
Year 4 ARB Preliminary Voucher Amount	$14,667

Specifications

Manufacturer: Cummins Westport

Type: Engine

ISL G Near Zero 8.9 L Engine

Gross Vehicle Weight	NA
Vehicle Year/Engine Model Year	2019
Year 4 ARB Preliminary Voucher Amount	$15,000

Specifications

Manufacturer: El Dorado National-CA

Type: Bus

XHF with Cummins ISL G 8.9 L Engine

Gross Vehicle Weight	34,700-36,460
Vehicle Year/Engine Model Year	2017/2016
Year 4 ARB Preliminary Voucher Amount	$15,000

Specifications

Type: Bus

AXESS with Cummins ISL G 8.9 L Engine

Gross Vehicle Weight	42,100-44,300
Vehicle Year/Engine Model Year	2017/2016
Year 4 ARB Preliminary Voucher Amount	$15,000

Specifications

Type: Bus

EZRIDE-MAX with Cummins ISL G 8.9 L Engine

Gross Vehicle Weight	33,945-36,000
Vehicle Year/Engine Model Year	2017/2016
Year 4 ARB Preliminary Voucher Amount	$15,000

Specifications

Manufacturer: GILLIG

Type: Bus

Low Floor Bus with Cummins Westport ISL G NZ Engine

	29-Foot	35- and 40-Foot
Gross Vehicle Weight	35,000	41,600
Vehicle Year/Engine Model Year	2016/2016	2016/2016
Year 4 ARB Preliminary Voucher Amount	$10,000	$10,000

Specifications

Manufacturer: New Bus

Type: Bus

40' LFS CNG with Cummins ISL-G 8.9 L Engine

Gross Vehicle Weight	41,070
Vehicle Year/Engine Model Year	2017/2016
Year 4 ARB Preliminary Voucher Amount	$10,000

Specifications

Manufacturer: Peterbilt

Type: Truck

Model 320 with Cummins ISL-G 8.9 L Engine

Gross Vehicle Weight	33,000-80,000
Vehicle Year/Engine Model Year	2018/2017
Year 4 ARB Preliminary Voucher Amount	$8,695

Specifications

Type: Truck

Model 520 with Cummins ISL-G 8.9 L Engine

Gross Vehicle Weight	33,000-80,000
Vehicle Year/Engine Model Year	2018/2017
Year 4 ARB Preliminary Voucher Amount	$8,694

Specifications

Type: Truck

Model 567 with Cummins ISL-G 8.9 L Engine

Gross Vehicle Weight	33,000-80,000
Vehicle Year/Engine Model Year	2018/2017
Year 4 ARB Preliminary Voucher Amount	$8,400

Specifications

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