

**DOCKETED**

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# 2019-2020 Investment Plan Update for the Clean Transportation Program (formerly the Alternative and Renewable Fuel and Vehicle Technology Program)

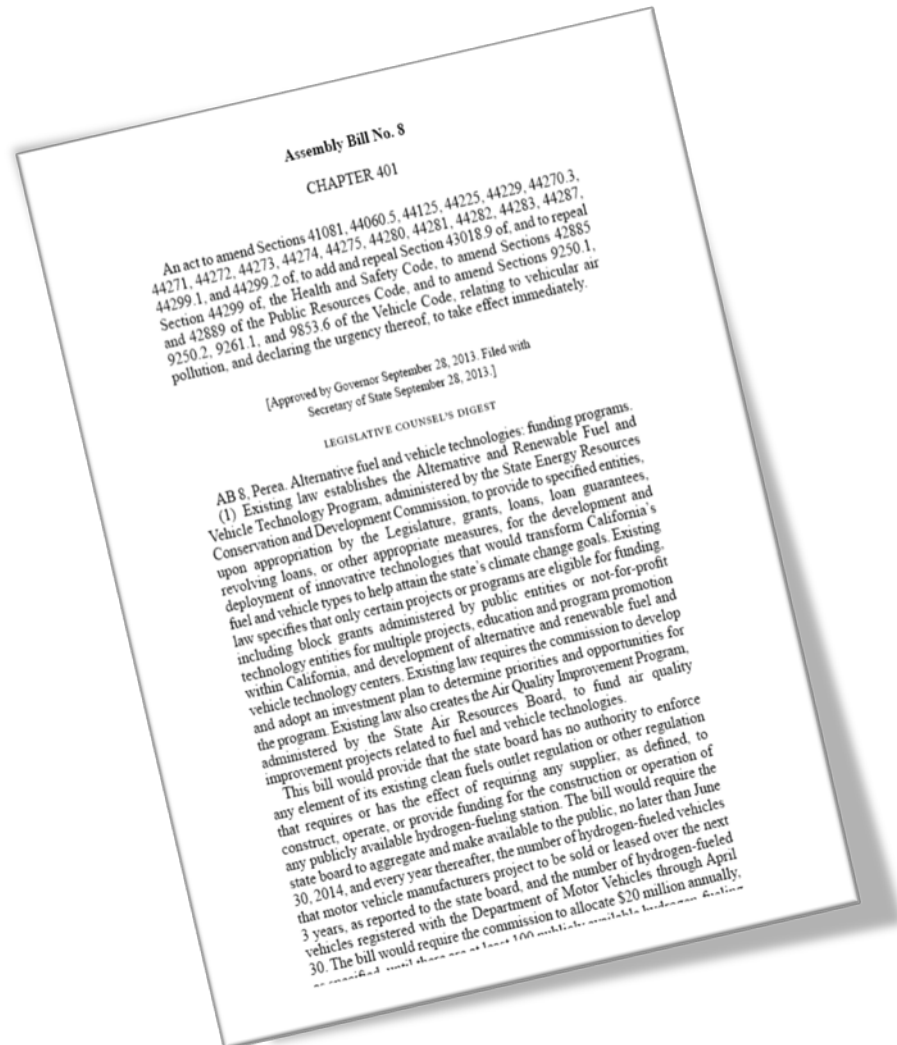


August 5, 2019  
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Fuels and Transportation Division  
California Energy Commission



# Clean Transportation Program Origins in Statute

- Established by Assembly Bill 118 (Nunez, 2007)
- Provides up to \$100 million per year in funds
- Extended to January 1, 2024 by Assembly Bill 8 (Perea, 2013)





# Purpose of the Clean Transportation Program

*“...to develop and deploy innovative technologies that transform California’s fuel and vehicle types to help attain the state’s climate change policies.”*

- California Health and Safety Code 44272(a)

## Complementary goals:

- Improve air quality
- Investments in low-income and disadvantaged communities
- Promote economic development
- Increase alternative fuel use
- Reduce petroleum dependence

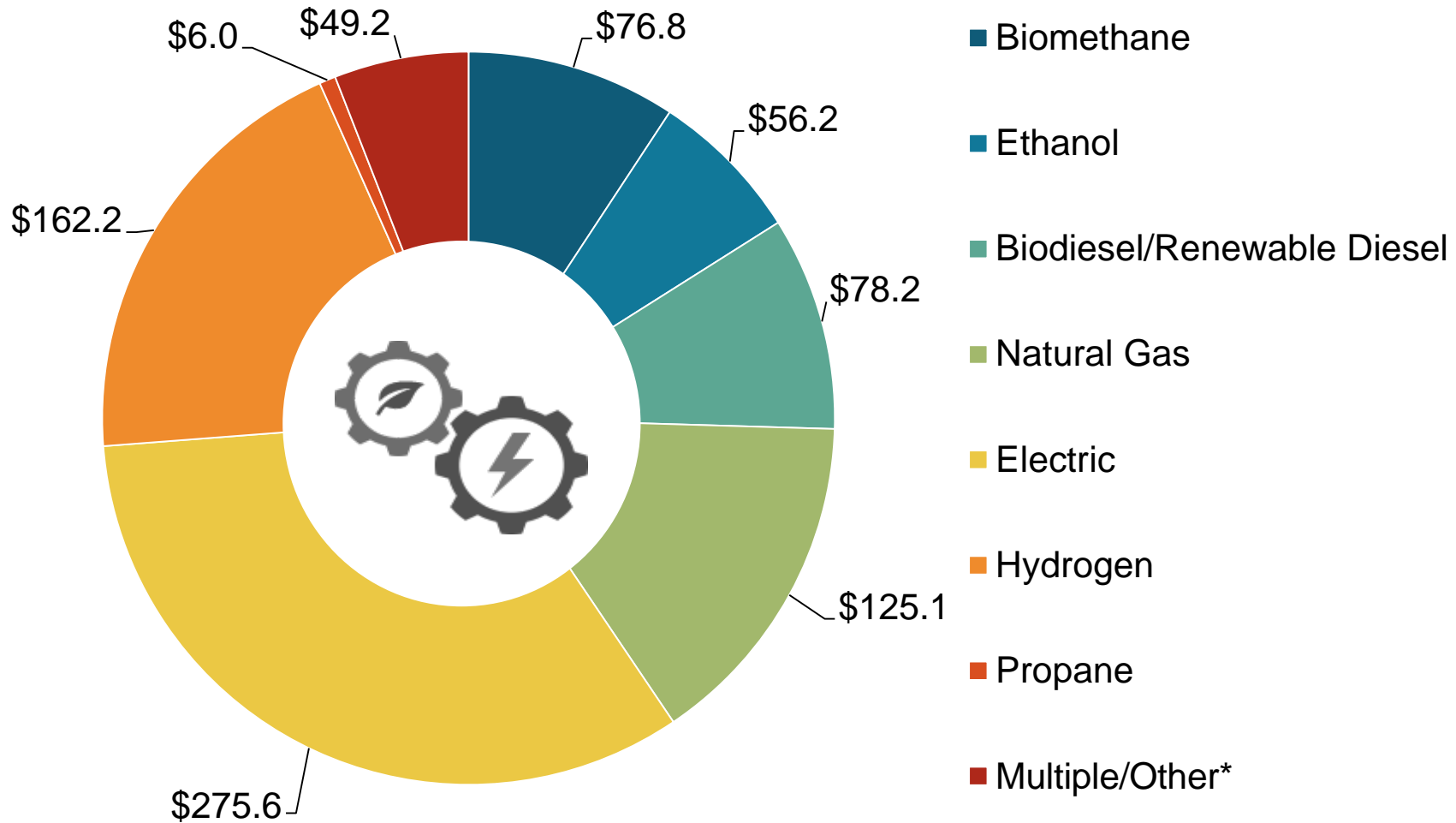


# Investment Plan Purpose

- Basis for Fiscal Year 2019-2020 solicitations, agreements, and other funding opportunities
- \$95.2 million funding appropriation for a portfolio of fuels, technologies, and supporting elements
- Sets allocations for investment categories (not individual projects)



# Clean Transportation Program Funding To-Date (in millions)



Note: As of March 1, 2019



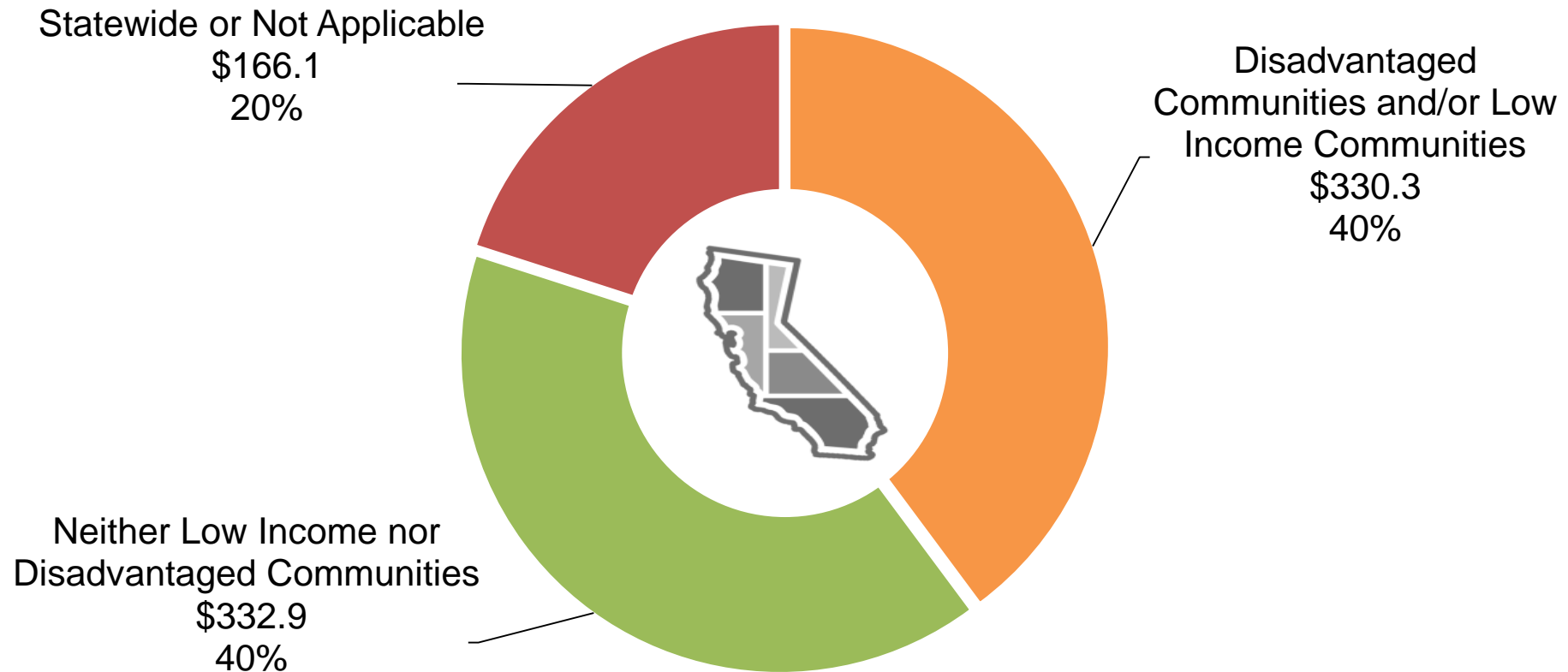
# Commitment to Diversity

The Energy Commission adopted a resolution on April 8, 2015, to firmly commit to increasing:

- Participation of women, minority, disabled veteran and LGBT business enterprises in program funding opportunities
- Outreach to and participation by disadvantaged communities
- Diversity in geographic regions
- Diversity in participation at Energy Commission proceedings
- Diversity in employment and promotional opportunities



# Clean Transportation Program Funding Toward Disadvantaged and/or Low-Income Communities (in millions)



Note: As of March 1, 2019





# Key Changes in Revised Lead Commissioner Report

- Program Rebranding
- Feedback from Disadvantaged Communities Advisory Group
- Reconfiguration of Funding Categories
- Funding Shift Toward Zero-Emission Transportation Technologies



# Disadvantaged Communities Advisory Group Comments

- Move 100 percent of program funding toward zero-emission fuels
- Increase transparency and metrics of how projects “benefit” disadvantaged communities
- Exclusively fund projects benefiting disadvantaged communities
- Prioritize and invest in community outreach and engagement
- Expand support for workforce development opportunities
- Prioritize funding for energy resiliency



# Assessing Charging Infrastructure Needs

## Progress Toward 250,000 Charging Connectors by 2025

	Level 2 Charging Connectors	DC Fast Charging Connectors
Existing charging connectors (Estimated)	37,400	2,900
Allocated Funding for Chargers (Includes anticipated funding from Clean Transportation Program)	124,600	3,500
<b>Total</b>	162,000	6,400
<b>2025 Goal</b> (Executive Order B-48-18)	<i>240,000</i>	<i>10,000</i>
<b>Gap from Goal</b>	<b>78,000</b>	<b>3,600</b>



# Revised Lead Commissioner Report Proposed Funding Allocation

Category	Funded Activity	2019-2020
<b>Zero-Emission Vehicles and Infrastructure</b>	Light-Duty Electric Vehicle Charging Infrastructure	\$32.7
	Medium- and Heavy-Duty Zero-Emission Vehicles and Infrastructure	\$30
	Hydrogen Refueling Infrastructure	\$20
<b>Alternative Fuel Production</b>	Zero- and Near Zero-Carbon Fuel Production	\$10
<b>Related Needs and Opportunities</b>	Workforce Development	\$2.5
	<b>Total</b>	<b>\$95.2</b>



# Previously Approved Investment Plan Allocations (in Millions)

Category	Funded Activity	2017-2018	2018-2019
<b>Zero-Emission Vehicle Infrastructure</b>	Electric Vehicle Charging Infrastructure	\$16.6	\$94.2*
	Hydrogen Refueling Infrastructure	\$19.4	\$20
	Manufacturing	\$4.9	\$8.5
	Workforce Training and Development	\$3.4	
	Emerging Opportunities	\$0.4	-
<b>Advanced Technology Vehicle Support</b>	Advanced Freight and Fleet Technologies	\$17.5	\$17.5
<b>Alternative Fuel Production</b>	Low-Carbon Fuel Production and Supply	\$22.9	\$12.5**
<b>Natural Gas Vehicles and Infrastructure</b>	Natural Gas Vehicles	\$10.0	-
	Natural Gas Fueling Infrastructure	\$2.1	-
	Total	\$97.2	\$152.7



# Light-Duty Electric Vehicle Charging Infrastructure

**\$32.7 million**  
Proposed Allocation

## Executive Order B-16-2012

- 1.5 million zero-emission vehicles in California by 2025

## Executive Order B-48-18

- 5 million zero-emission vehicles in California by 2030
- 250,000 EV chargers in California by 2025 (including 10,000 DC Fast Chargers)

## Complement Other Funding Sources

- Utilities, Electrify America, EVgo



# Light-Duty Electric Vehicle Charging Infrastructure Installed Through Clean Transportation Program

Total Awards							
\$94.9 M for charging infrastructure							
Status	Private Access			Publicly Accessible			Total
	Residential (Single & Multifamily)	Fleet	Workplace	Multifamily Housing	Public	Corridor / Urban Metro	
Installed	3,936	115	364	341	3,118	226	8,100
Planned	0	-	76	8	191	1,280	1,555
<b>Total</b>	<b>3,936</b>	<b>115</b>	<b>440</b>	<b>349</b>	<b>3,309</b>	<b>1,506</b>	<b>9,655</b>



# Potential Light-Duty Electric Vehicle Infrastructure Funding Opportunities

- CALeVIP



- Innovative Charging Technologies
- eMobility Projects
- Planning and Readiness





# Medium- and Heavy-Duty Zero-Emission Vehicles and Infrastructure

**\$30 million**  
Proposed Allocation

## Medium- and Heavy-Duty Vehicles ( $\geq 10,000$ pounds)

- 3 percent of on-road vehicle stock
- 23 percent of on-road GHG emissions; 60 percent of NO<sub>x</sub>; 52 percent of PM<sub>2.5</sub>
- 60 percent of on-road NO<sub>x</sub> emissions
- 52 percent of on-road PM<sub>2.5</sub> emissions

Supports California's Sustainable Freight Action Plan

Coordinate with CARB on Medium- and Heavy-Duty ZEV Investments

Focus on Medium- and Heavy Duty ZEV Infrastructure

- Additional Areas of Interest: Grid Integration, Integrated Storage Solutions, Charging Management



# Hydrogen Refueling Infrastructure

**\$20 million**  
Proposed Allocation

## Assembly Bill 8 (2013)

- \$20 million annual allocation
- Target: 100 publicly available stations

## Executive Order B-48-18

- Target: 200 publicly available stations by 2025

## Potential Benefits From Co-located Stations for Passenger Vehicles With Trucks/Buses

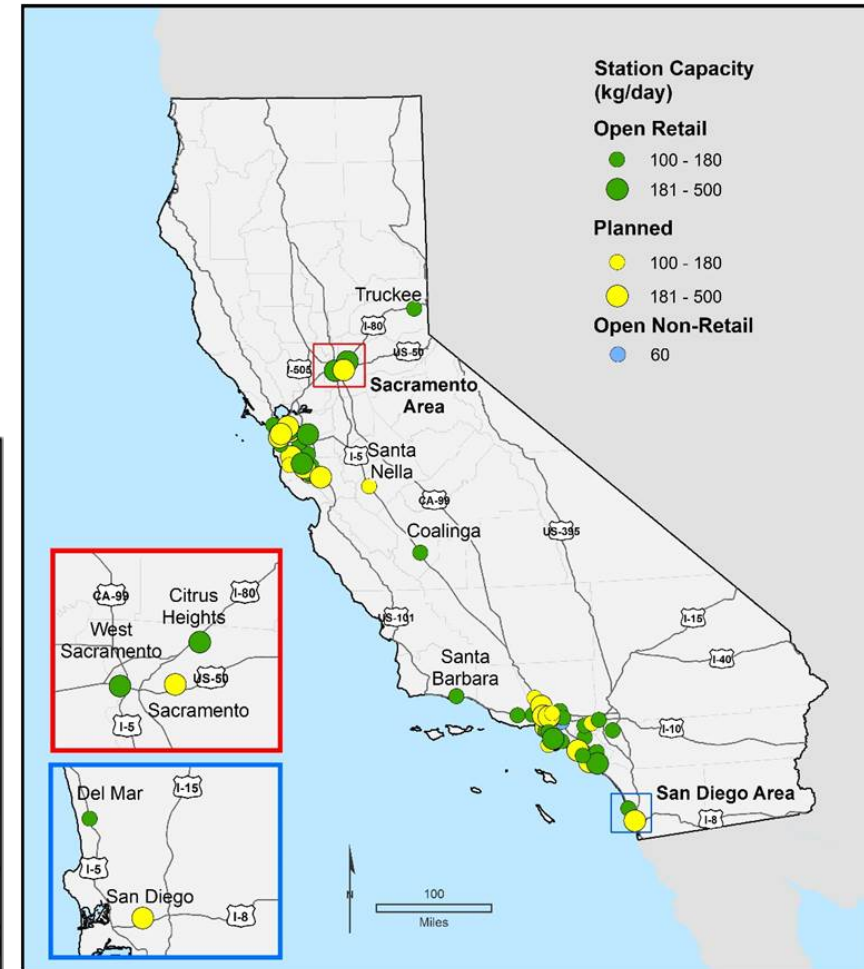
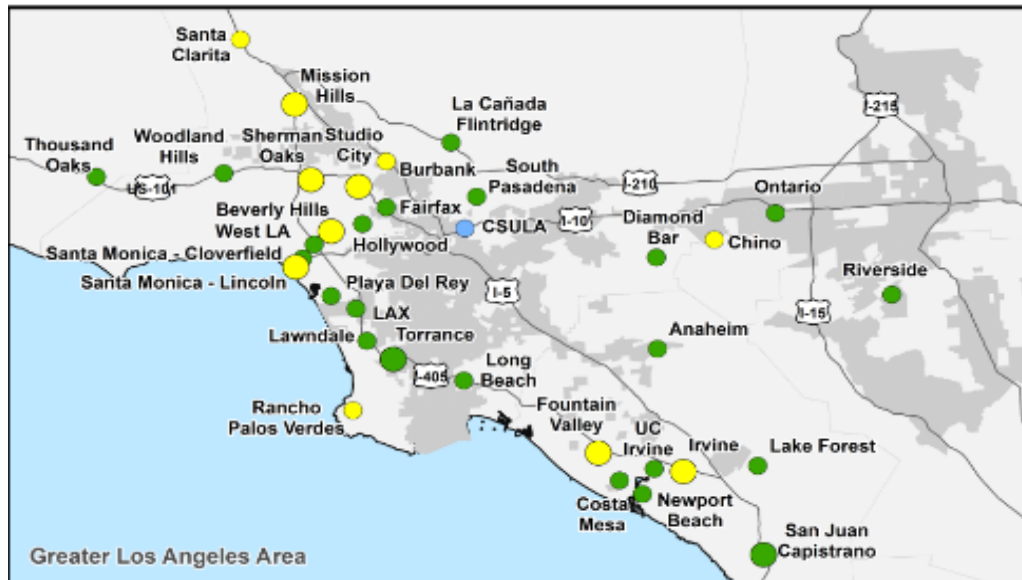
- Sustainable revenue streams
- Lower fuel costs (inc. for light-duty users)
- Expansion of ZEV truck/bus refueling opportunities



# Funded Hydrogen Station Locations

- 40** Stations Open Retail
- 24** Stations Under Construction
- 13** Stations in Disadvantaged Communities

Up to 17,000 kg/day Capacity  
(equivalent to 24,000 FCEVs)





# Zero- and Near Zero-Carbon Fuel Production

**\$10 million**  
Proposed Allocation

Displaces fossil fuels and reduces GHGs

Focused on conversions of waste streams and renewable hydrogen production

- Senate Bill 1383 (2016) – Reduce short-lived climate pollutants
- Senate Bill 1505 (2006) – Requires 33.3% renewable hydrogen



# Workforce Development

**\$2.5 million**  
Proposed Allocation

Support ZEV and ZEV infrastructure workforce needs

Prioritize workforce activities for disadvantaged communities

Expand and strengthen partner agency collaboration

- Public agencies (e.g. California Employment Training Panel)
- Community Colleges (e.g. Cerritos Community College District)



# 2019-2020 Investment Plan Update Schedule and Next Steps

Milestones	Scheduled Date
Release Draft Staff Report	November 2, 2018 
1 <sup>st</sup> Advisory Committee Meeting	November 8, 2018 
Release Revised Staff Report	January 10, 2019 
2 <sup>nd</sup> Advisory Committee Meeting	February 6, 2019 
Release Lead Commissioner Report	March 27, 2019 
Release Revised Lead Commissioner Report	July 26, 2019 
3 <sup>rd</sup> Advisory Committee Meeting	August 5, 2019
Release 2 <sup>nd</sup> Revised Lead Commissioner Report (if needed)	August 2019
Business Meeting Approval	September 11, 2019

More information:

<https://www.energy.ca.gov/programs-and-topics/programs/clean-transportation-program>

Submit e-comments by August 9, 2019 at:

<https://ww2.energy.ca.gov/altfuels/2018-ALT-01/documents/>

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# 2019-2020 Investment Plan Update

## Proposed Funding Allocation

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# Issue #1 – Overall Approach: Focus on Zero-Emission Transportation

This program is one of a suite of state initiatives to achieve ambitious goals for GHG reduction, transportation electrification and carbon neutrality. However, there are trade-offs between achieving near-term benefits (such as reducing criteria pollutant and GHG emissions and increasing alternative fuel use) and the longer-term transition to zero-emission transportation.

- Do you think the proposed focus on ZEVs and ZEV infrastructure is the best use of Clean Transportation Program funds this year?
- How should our program fit into the broader suite of state regulatory and funding programs?



## Issue #2 – ZEV Infrastructure Priorities (Light-Duty Passenger Vehicles)

There is a critical shortfall in infrastructure to support the state's goals of 1.5 million ZEVs by 2025 and 5 million ZEVs by 2030. This includes a gap of over 80,000 charging connectors.

- What do you think of the Investment Plan's proposed focus on addressing the light-duty vehicle charging gap?
- Should this program target specific regions? Specific charging technologies? Specific project types?



## Issue #2 – ZEV Infrastructure Priorities (Medium- and Heavy-Duty Vehicles)

This Investment Plan focuses our medium- and heavy-duty funding on zero-emission technologies. The main allocation is higher than in previous years. Additionally, we have raised the prospect of co-locating hydrogen refueling stations for passenger and medium- and heavy-duty vehicles.

- Relative to light-duty funding, are these proposed allocation amounts and approaches appropriate?
- Are there types of projects we should prioritize?



## Issue #3 – Equity and the Advisory Committee

We are committed to ensuring equity within the Clean Transportation Program. We want to look at more than the location of program funding to assess impacts to disadvantaged communities.

- What strategies should we employ to ensure our Investment Plan is attentive to equity?
- Given tradeoffs between different project types, what metrics should we use to prioritize benefits to disadvantaged communities?
- How should we expand or modify the Advisory Committee to include additional perspectives and ideas?