

DOCKETED

Docket Number:	17-ALT-01
Project Title:	2018-2019 Investment Plan Update for the Alternative and Renewable Fuel and Vehicle Technology Program
TN #:	223077
Document Title:	Presentation - Overview of the 2018-2019 Investment Plan Update for the ARFVTP
Description:	Presentation overviewing the second revised staff report of the 2018-2019 Investment Plan Update for the ARFVTP, from the March 15, 2018 ARFVTP Advisory Committee meeting and public workshop by Jacob Orenberg.
Filer:	Jacob Orenberg
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	3/28/2018 4:18:29 PM
Docketed Date:	3/28/2018



Overview of the 2018-2019 Investment Plan Update for the ARFVTP

Jacob Orenberg

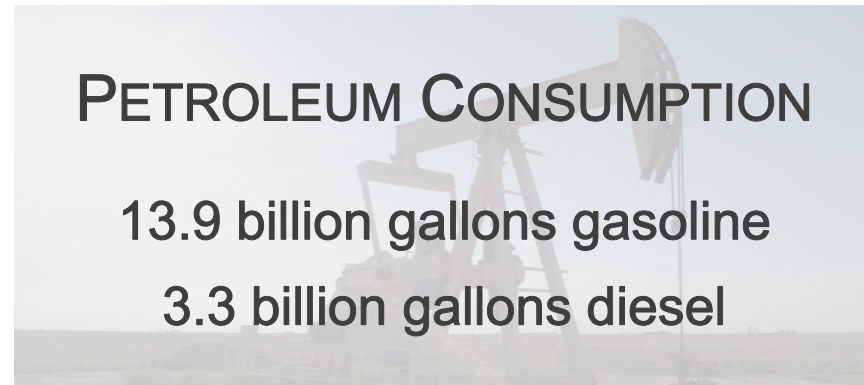
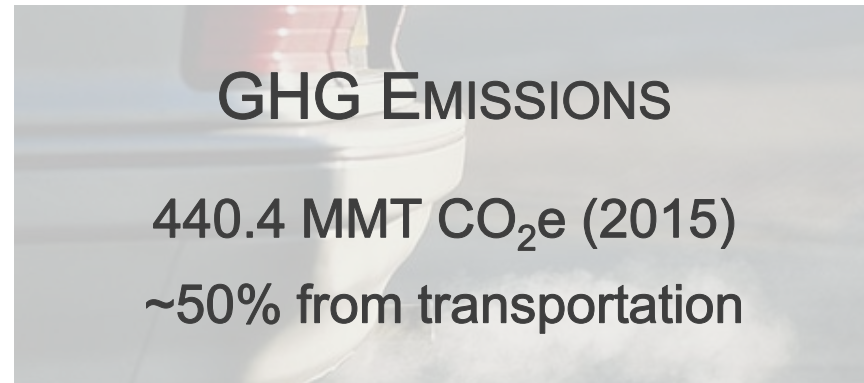
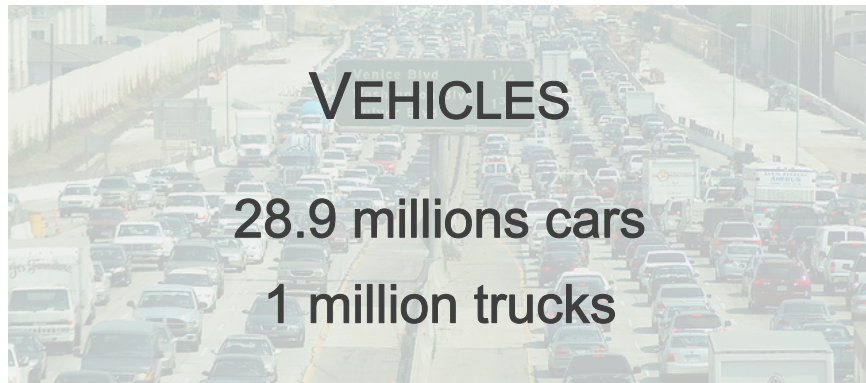
Fuels and Transportation Division
California Energy Commission

March 15, 2018

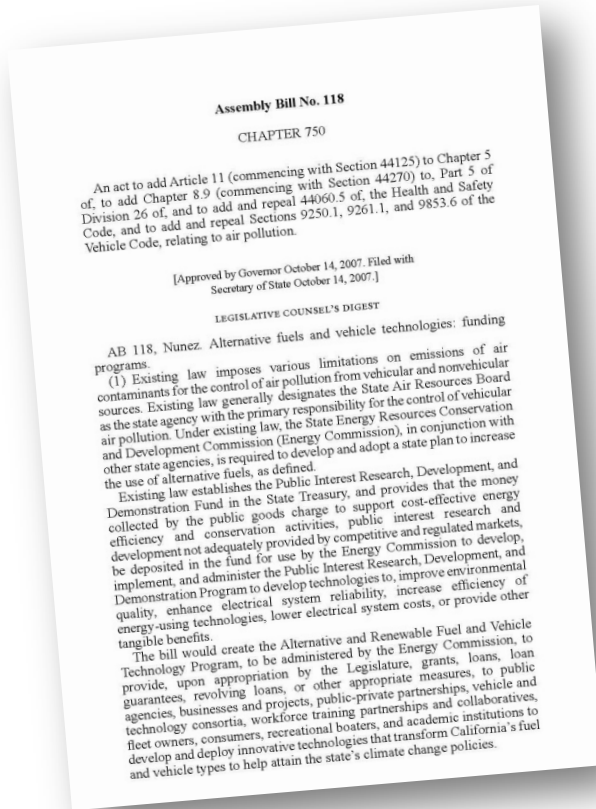
Meeting Agenda

- 10:00 am Introductions and Opening Remarks
- 10:15 am Presentation: Overview of the *2018-2019 Investment Plan Update for the ARFVTP*
- 10:45 am Advisory Committee Discussion and Public Comment
- 12:00 pm Lunch break
- 1:00 pm Advisory Committee Discussion and Public Comment
(continued)





ARFVTP Origins In Statute



Established by Assembly Bill 118
(Nunez, 2007)

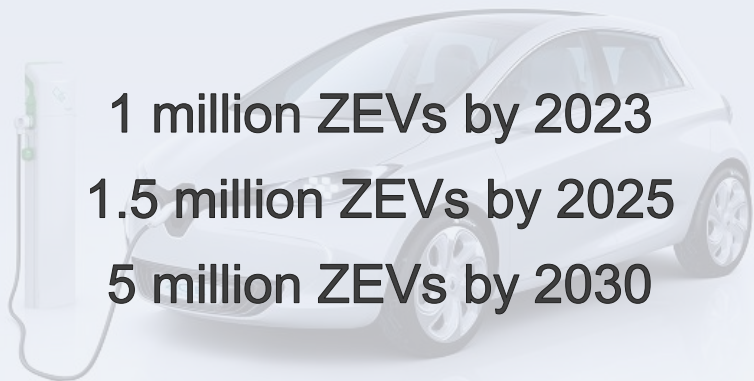
“...to develop and deploy innovative technologies that transform California’s fuel and vehicle types to help attain the state’s climate change policies.”

California Health and Safety Code 44272(a)





E.O. B-16-12
SB 1275 (2014)
E.O. B-48-18



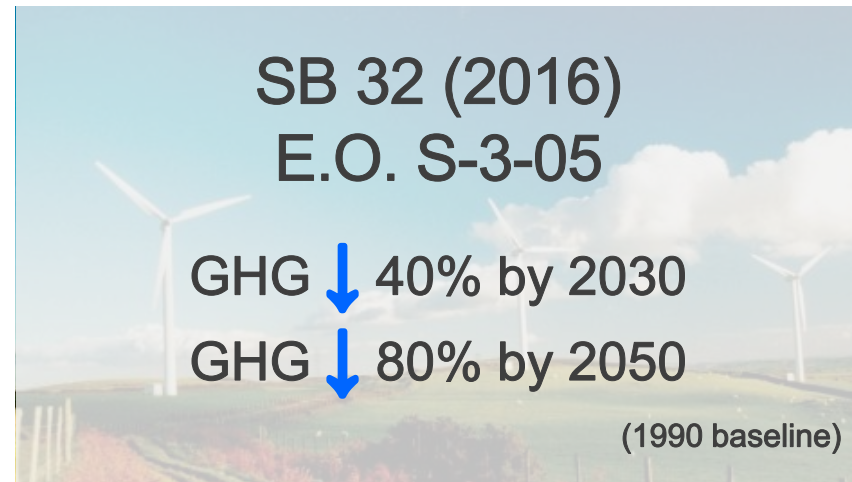
1 million ZEVs by 2023
1.5 million ZEVs by 2025
5 million ZEVs by 2030

250,000 EV chargers by 2025
200 hydrogen stations by 2025

SB 32 (2016)
E.O. S-3-05

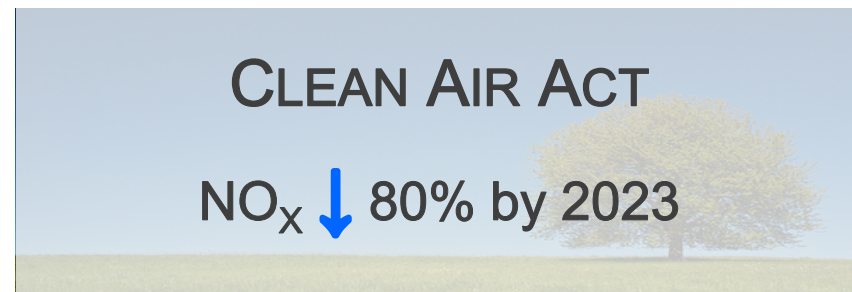
GHG ↓ 40% by 2030
GHG ↓ 80% by 2050

(1990 baseline)



CLEAN AIR ACT

NO_x ↓ 80% by 2023



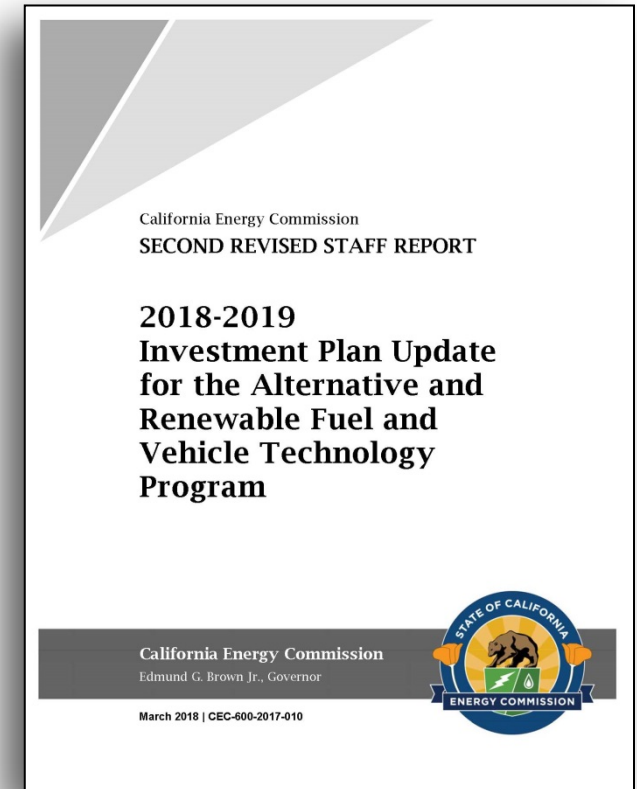
Investment Plan Purpose



Basis for FY 2018-2019 solicitations, agreements, and other funding opportunities

Describes funding allocations for technologies, fuels, and supporting elements

Funding allocations for categories (not individual projects)



ARFVTP Funding To-Date



Fuel Type	Cumulative Awards (in millions)	Percent of Funding	Cumulative Number of Agreements
Biomethane	\$62.7	8%	21
Ethanol	\$48.5	6%	20
Biodiesel	\$51.3	7%	19
Renewable Diesel	\$21.0	4%	8
Electricity	\$265.5	35%	181
Hydrogen	\$152.2	20%	96
Natural Gas	\$99.0	13%	151
Propane	\$6.0	1%	31
Multiple/Other	\$47.0	6%	89
Total	\$753.2		616



As of February 1, 2018



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 and participation by disadvantaged communities
- Diversity in participation at Energy Commission proceedings
- Diversity in employment and promotional opportunities





Fairness – Increase funding accessibility to all Californians

Inclusion – Small businesses make up a significant portion of the U.S. economy

Job Creation – Projects can create jobs for residents of the under-served communities

Diversity of Ideas – Great ideas occur in a variety of areas

Diversity in Communities' Needs – Needs vary widely from one area to the next (air quality, socioeconomic, etc.)



Investment Plan Update Schedule



Activity	Date
Released Draft Staff Report	November 2, 2017
1 st Advisory Committee Meeting	November 7, 2017
Released Revised Staff Report	January 10, 2018
Released 2 nd Revised Staff Report	March 5, 2018
2 nd Advisory Committee Meeting	March 15, 2018
Release Lead Commissioner Report	April 2018
Business Meeting Approval	May 9, 2018





Executive Order B-48-18 (ZEV & infrastructure deployment)

Governor's draft California Budget for 2018-2019

- \$235 million for zero-emission vehicle infrastructure

- \$25 million for low-carbon fuel production

- \$17.5 million for advanced freight and fleet technologies

Significant changes to allocations & layout



2018-2019 Investment Plan Layout



Context of the Investment Plan Update



Zero-Emission Vehicle Infrastructure



Advanced Technology Vehicle Support



Alternative Fuel Production



Natural Gas Vehicles and Infrastructure



Electric Vehicle Charging Infrastructure



1.5 million Zero-Emission Vehicles by 2025

5 million Zero-Emission Vehicles by 2030

250,000 EV chargers needed by 2025

Including 10,000 fast chargers

About 14,000 public chargers installed statewide

(As-of March 2018)





\$134.5 million

Proposed Allocation

76,000 – 128,000 chargers installed by 2025

(Expected to be installed under a business-as-usual scenario; from all sources)

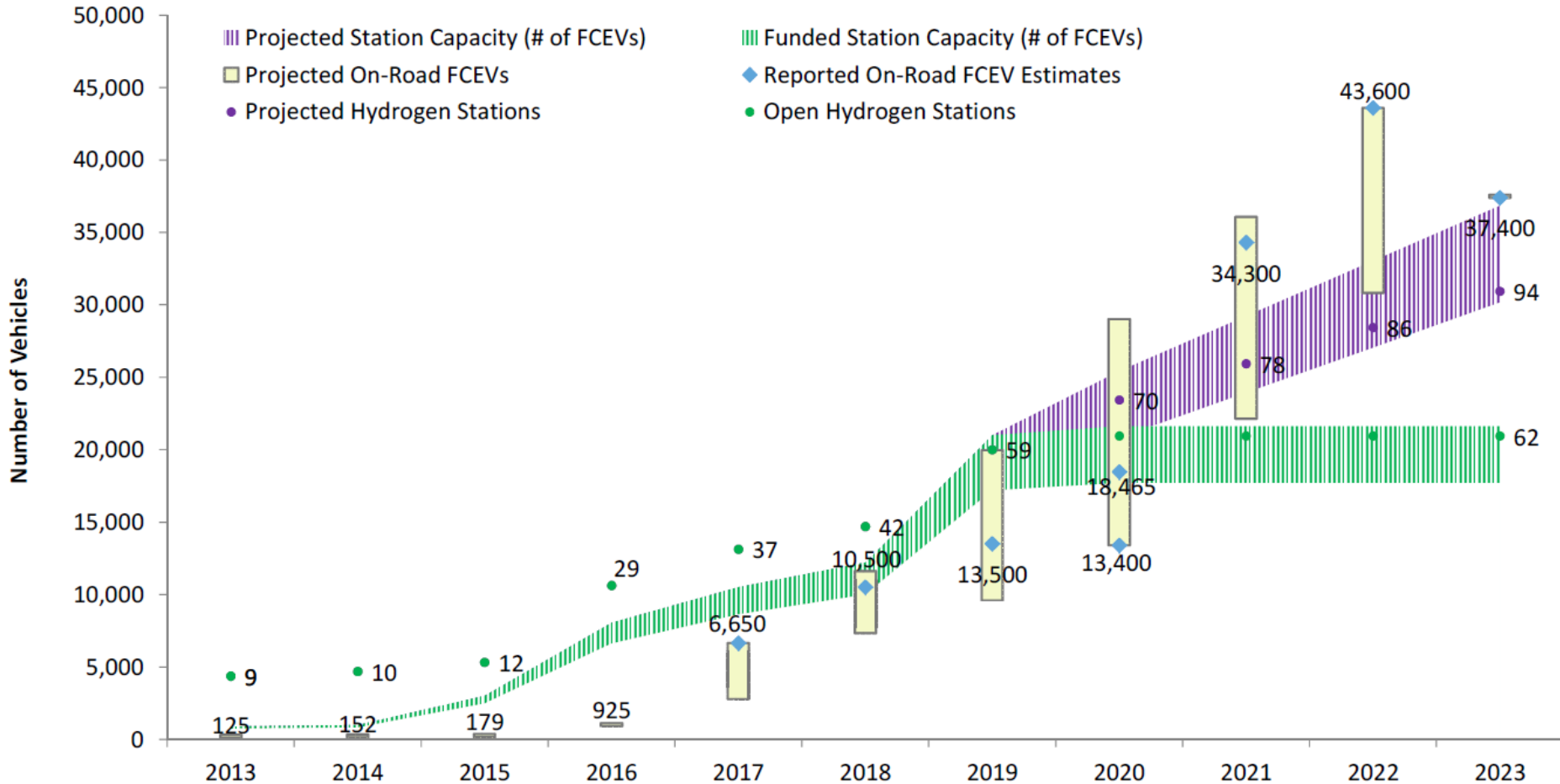
Shortfall of 122,000 – 174,000 chargers expected by 2025

Estimated cost: \$963 million to \$2.89 billion

(In addition to currently planned and expected public and private investments)



Hydrogen Refueling Infrastructure



Source: California Air Resources Board.



Hydrogen Refueling Infrastructure



\$92 million

Proposed Allocation

Funding support for additional 40+ refueling stations

- Complete initial network of 100 stations

- Provide sufficient fueling capacity into 2022

- Enable further FCEV sales throughout the state

Continued funding for Operations & Maintenance support





\$8.5 million
Proposed Allocation

Support for ZEV infrastructure industry & workforce needs

Encourage new or expanded in-state manufacturing facilities

Goals Supported:

- Indirect support for other ARFVTP project types
- Equitable economic development





\$17.5 million

Proposed Allocation

Medium- and heavy-duty vehicles (10,000 lbs & up)
Zero-emission and advanced technology powertrains

Freight transportation & goods movement

Dedicated fueling infrastructure for fleets





\$25 million
Proposed Allocation

Proposed funding source:

Greenhouse Gas
Reduction Fund

Liquid and gaseous fuels (non-petroleum)

Focus on waste-based & renewable feedstocks

Pilot, demonstration, and commercial scale

Renewable hydrogen production

Biomass and renewable electricity feedstocks





Unencumbered funds still available

\$2.4 million for natural gas fueling infrastructure

\$9.7 million for natural gas vehicle incentives

Continued support from existing & new sources

Natural Gas Vehicle Incentive Project

GFO-17-605 – natural gas vehicle funding for air districts

Clean Truck and Bus Voucher Project (ARB)

No allocation proposed for FY 2018-2019





Seeking feedback from all stakeholders

Comments requested no later than March 21, 2018

E-commenting available at:

<http://energy.ca.gov/altfuels/2017-ALT-01/>

Release Lead Commissioner Report in April 2018

Business Meeting approval expected May 9, 2018

Upcoming workshops to discuss funding allocations



Proposed Funding Allocations



Category	Funded Activity	Proposed Allocation
Zero-Emission Vehicle Infrastructure	Electric Vehicle Charging Infrastructure	\$134.5 million
	Hydrogen Refueling Infrastructure	\$92 million
	Manufacturing & Workforce Development	\$8.5 million
Advanced Technology Vehicle Support	Advanced Freight and Fleet Technologies	\$17.5 million
Alternative Fuel Production	Low-Carbon Fuel Production and Supply	\$25 million*
Natural Gas Vehicles and Infrastructure	Natural Gas Vehicles	-
	Natural Gas Fueling Infrastructure	-
Total		\$277.5 million

*Funding expected from the Greenhouse Gas Reduction Fund

