



Investing for Tomorrow, Today

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California Energy Commission

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California's Policy Goals and Objectives

Policy Objectives	Policy Origin	Goals and Milestones
Greenhouse Gas Reduction	AB 32, SB 350	Reduce greenhouse gas emissions to 1990 levels by 2020, 40% below 1990 levels by 2030 and 80% below 1990 levels by 2050 in California
Petroleum Reduction	California State <i>Alternative Fuels Plan</i>	Reduce petroleum fuel use to 15 percent below 2003 levels by 2020 in California
Low Carbon Fuel Standard	AB 32, California Global Warming Solutions Act	10% reduction in carbon intensity of transportation fuels in California by 2020
Air Quality	Clean Air Act	80% reduction in NOx from current levels by 2023
ZEV Mandate	Executive Order B-16-2012	Infrastructure to accommodate 1 million ZEVs by 2020 and 1.5 million ZEVs on California roadways by 2025
Integrated Energy Policy Report	SB 1389 (2002)	2014 IEPR: Chapter 3 recommendations for ZEV infrastructure deployment



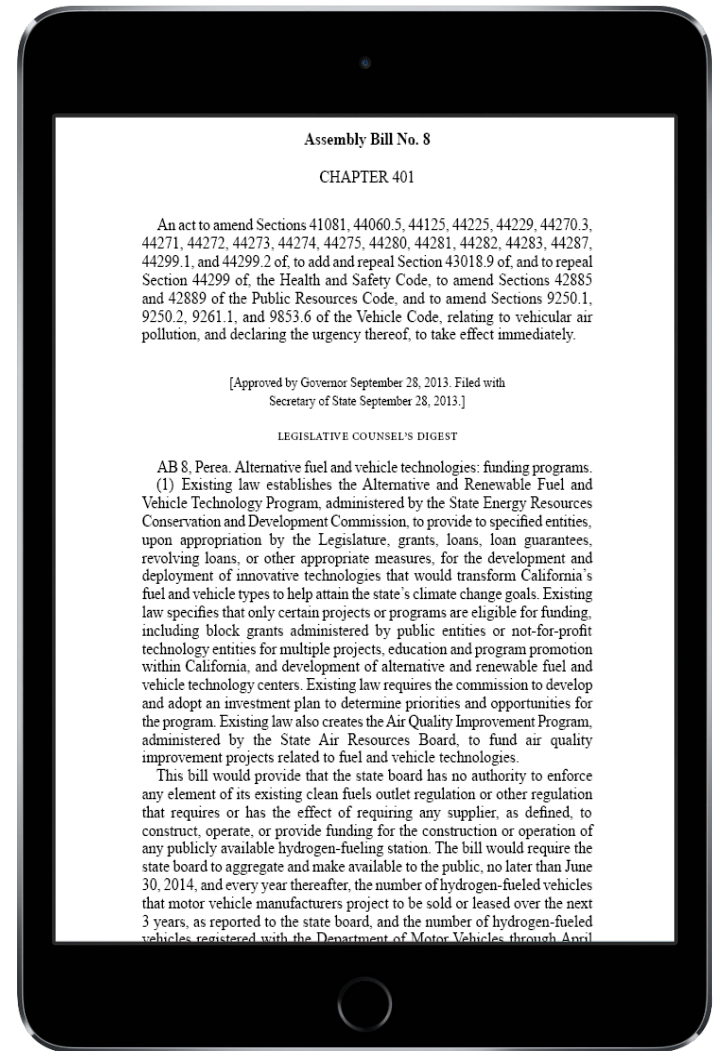
Alternative and Renewable Fuel and Vehicle Technology Program

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

Health and Safety Code 44272(a)

Complementary state goals

- Improve air quality
- Increase alternative fuel use
- Reduce petroleum dependence
- Promote economic development



Electric Vehicle Infrastructure Support is Growing

Charging Stations Funded by ARFVTP (as of March 2017)

	Private Installations		Publicly Accessible Installations				Total
	Single Family Residential	Private Fleet	Multiunit Dwelling	Commercial	Workplace	DC Fast Chargers	
Total	3,936	107	345	3,311	424	555	8,678
Subtotal	4,043		4,635				8,678

Other Initiatives



New Energy and Industrial Technology
Development Organization

electrify america

nrg
EVgo

- \$80.1 M for Charging Infrastructure
 - Includes a \$15.2 M agreement with Center for Sustainable Energy to provide EV charging incentives throughout California.

- \$9.75 M for 43 Regional Readiness Planning Grants



EV Charging Infrastructure Pilots

Investor Owned Utilities

Investor Owned Utility	Markets	Proposed # of EV Charging Stations	Estimated Cost
Southern California Edison	MUD, Workplace, Public	1,500	\$22 Million
San Diego Gas & Electric	MUD, Workplace	3,500	\$45 Million
Pacific Gas & Electric	MUD, Workplace	7,500	\$130 Million



Building a Foundation for Hydrogen Fueling Stations

Station Funding to Date = \$126.5 million

Public Station Funding

- 60 Funded Stations = \$106.1 million
- 3 Station Upgrades = \$6.7 million
- 45 O&M Support Grants = \$12.8 million
- 1 mobile refueler = \$0.9 million

Other Funding Activities

- 5 Hydrogen Regional Readiness Plans
- AC Transit Fuel Cell Bus Station
- CDFA Div. of Weights and Measures
- UC Irvine STREET Model



An Emerging Network

Mary's Valley Rally *April 2016*



Bay Area H2 Tour *April 2017*



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Better Data, Better Decisions

Data Collection with NREL

- ❑ Monitor station utilization
- ❑ Determine how station deployment supports Zero Emission Vehicle (electric and hydrogen fuel cell) adoption
- ❑ Strategically plan for additional stations and funding opportunities that will support the goal of 1.5 million vehicles on California roadways by 2025
- ❑ Track impact of electric vehicle charging and hydrogen refueling station investments





Thank you

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