

STATUS REPORT ON THE ADVANCED CLEAN CARS PROGRAM

Sacramento, California
October 24, 2013

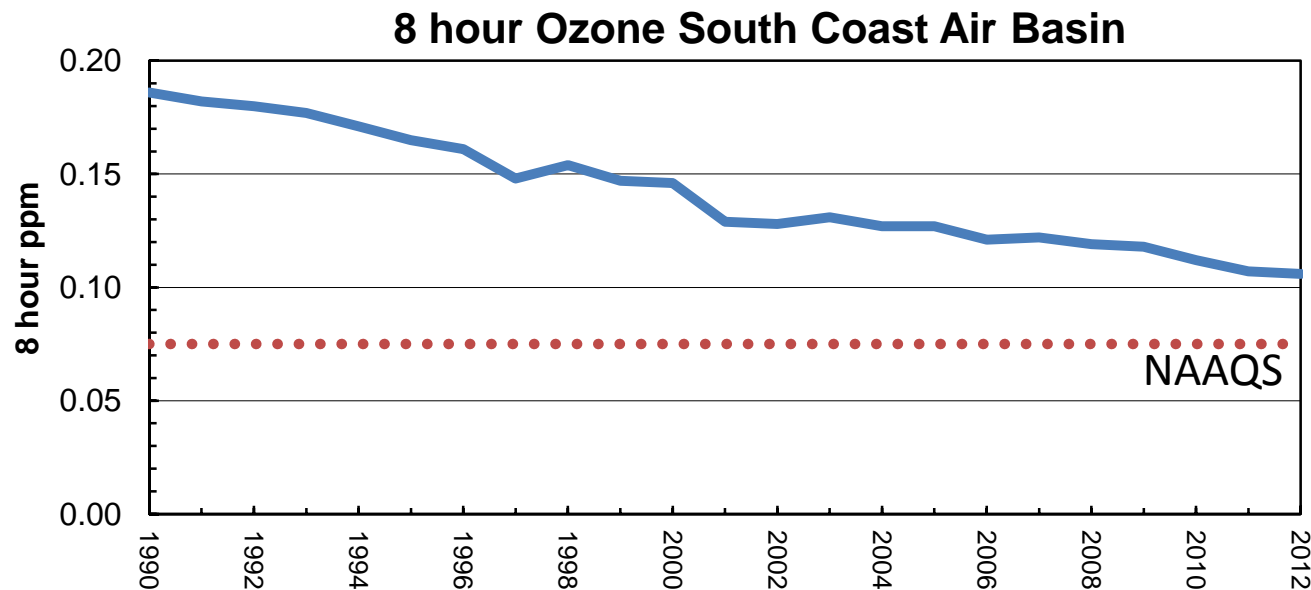
Overview

- Background
- Next Steps
- ZEV Implementation
- Status of ZEV Infrastructure

Meeting Criteria Pollutant Goals

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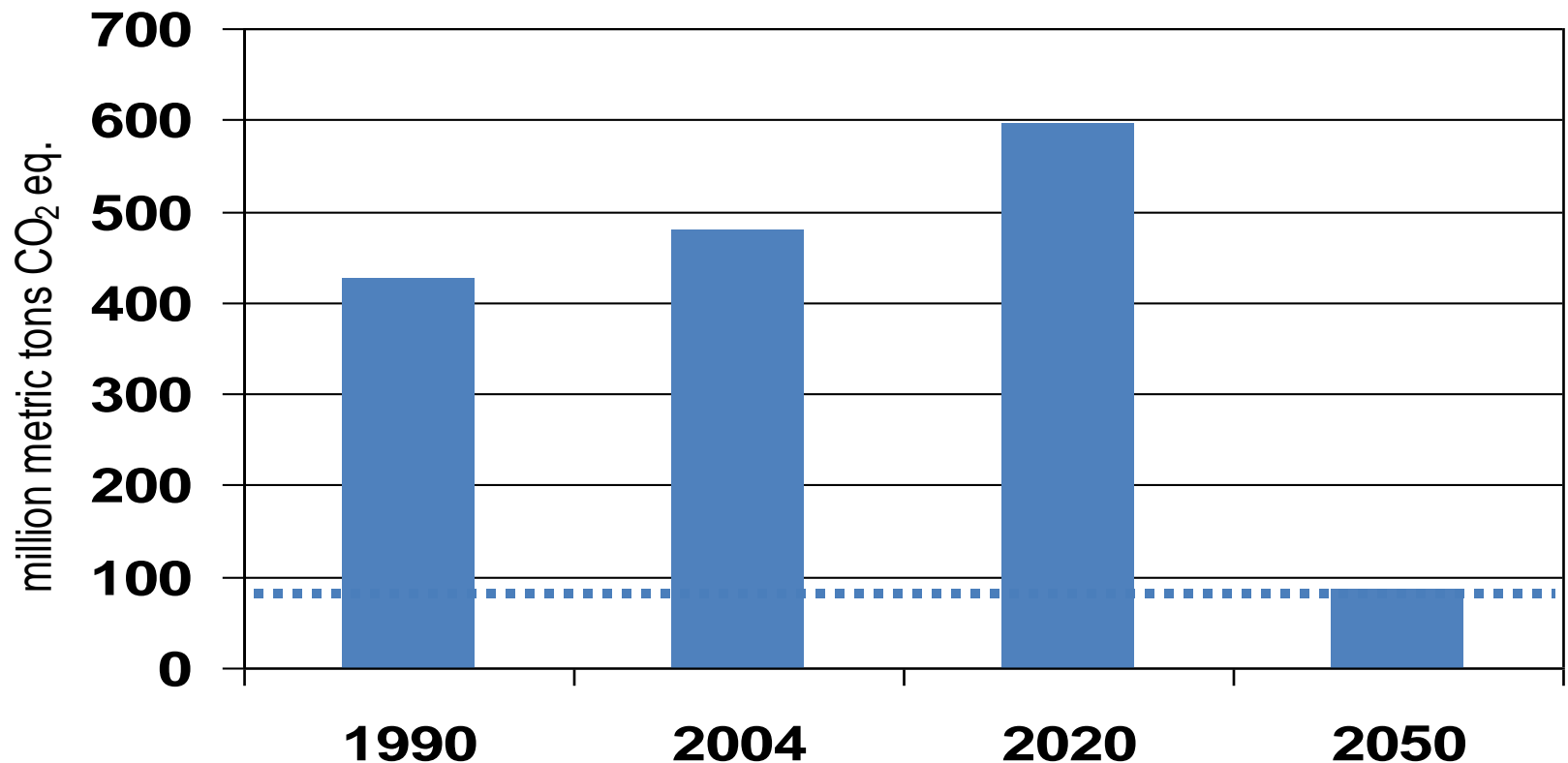
- Continued progress towards ozone attainment
- Reduce localized exposure
 - PM, toxics



Meeting Greenhouse Gas Goals

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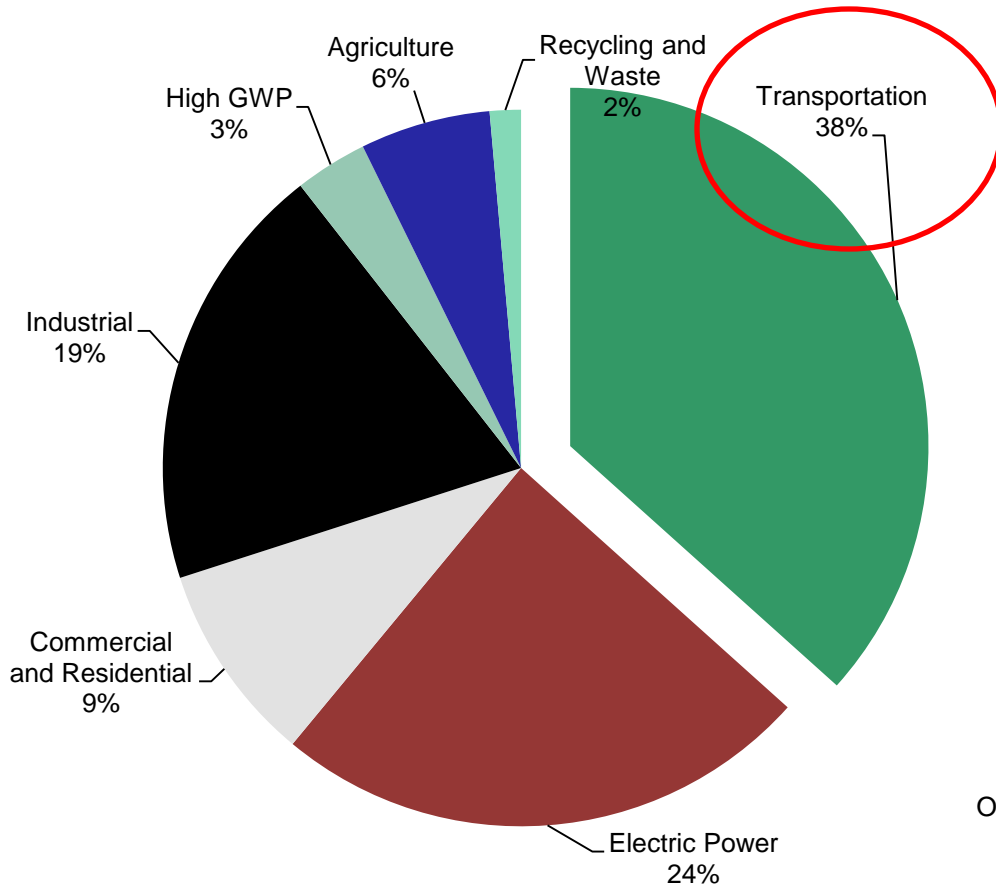
- Goal: 80% below 1990 levels by 2050



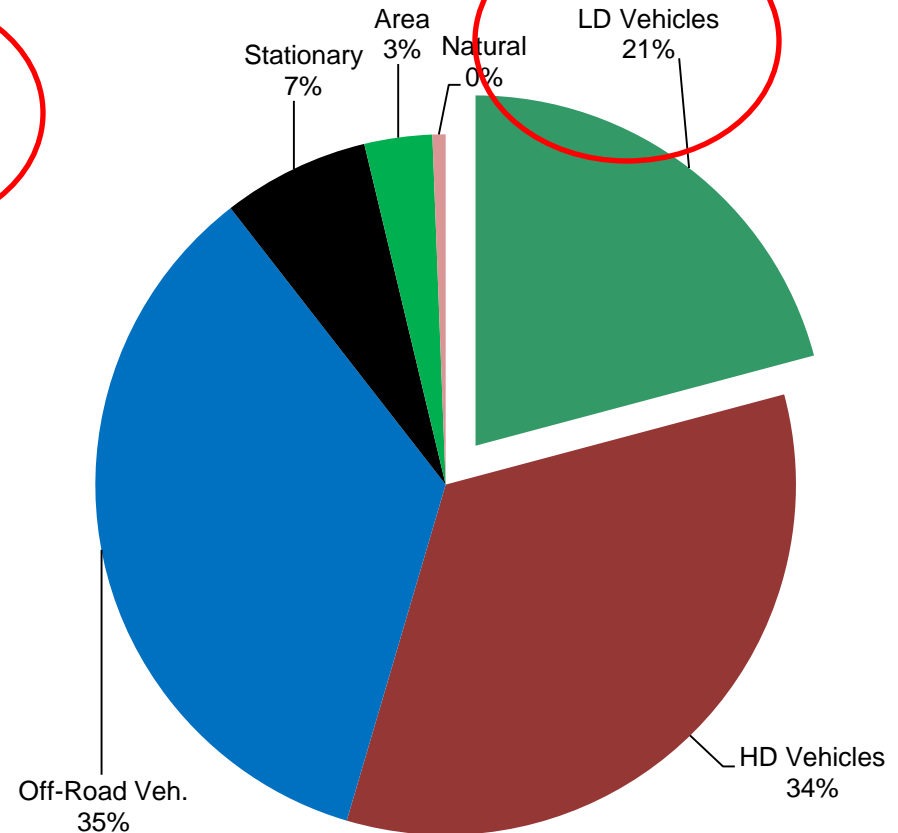
Transportation's Contribution to California Emissions

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Greenhouse Gas Emissions



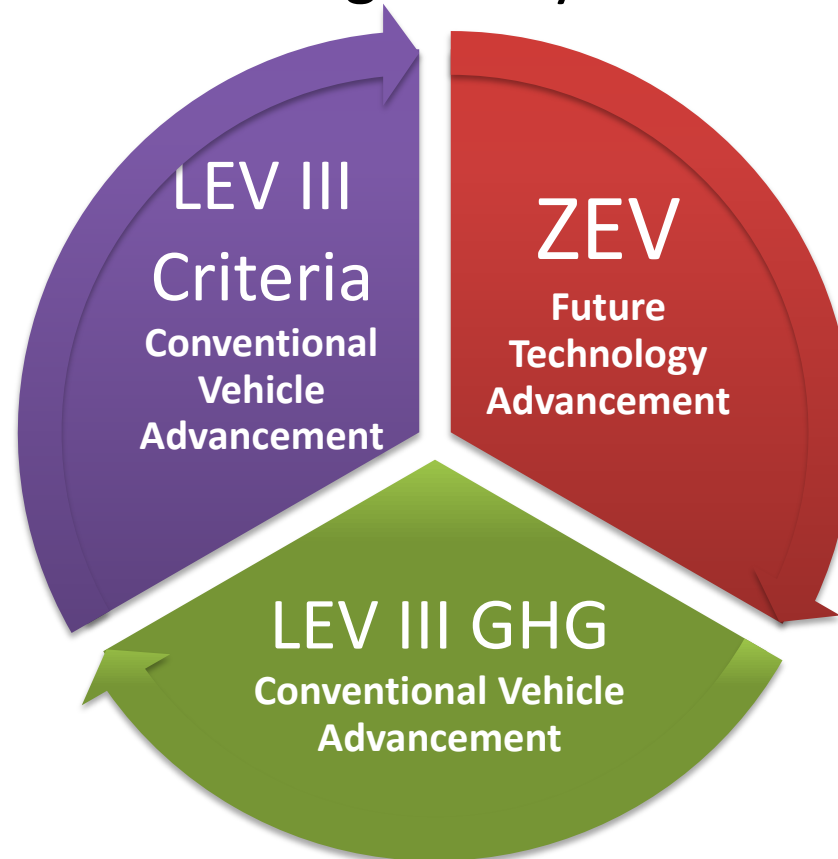
NOx Emissions



Advanced Clean Cars (ACC)

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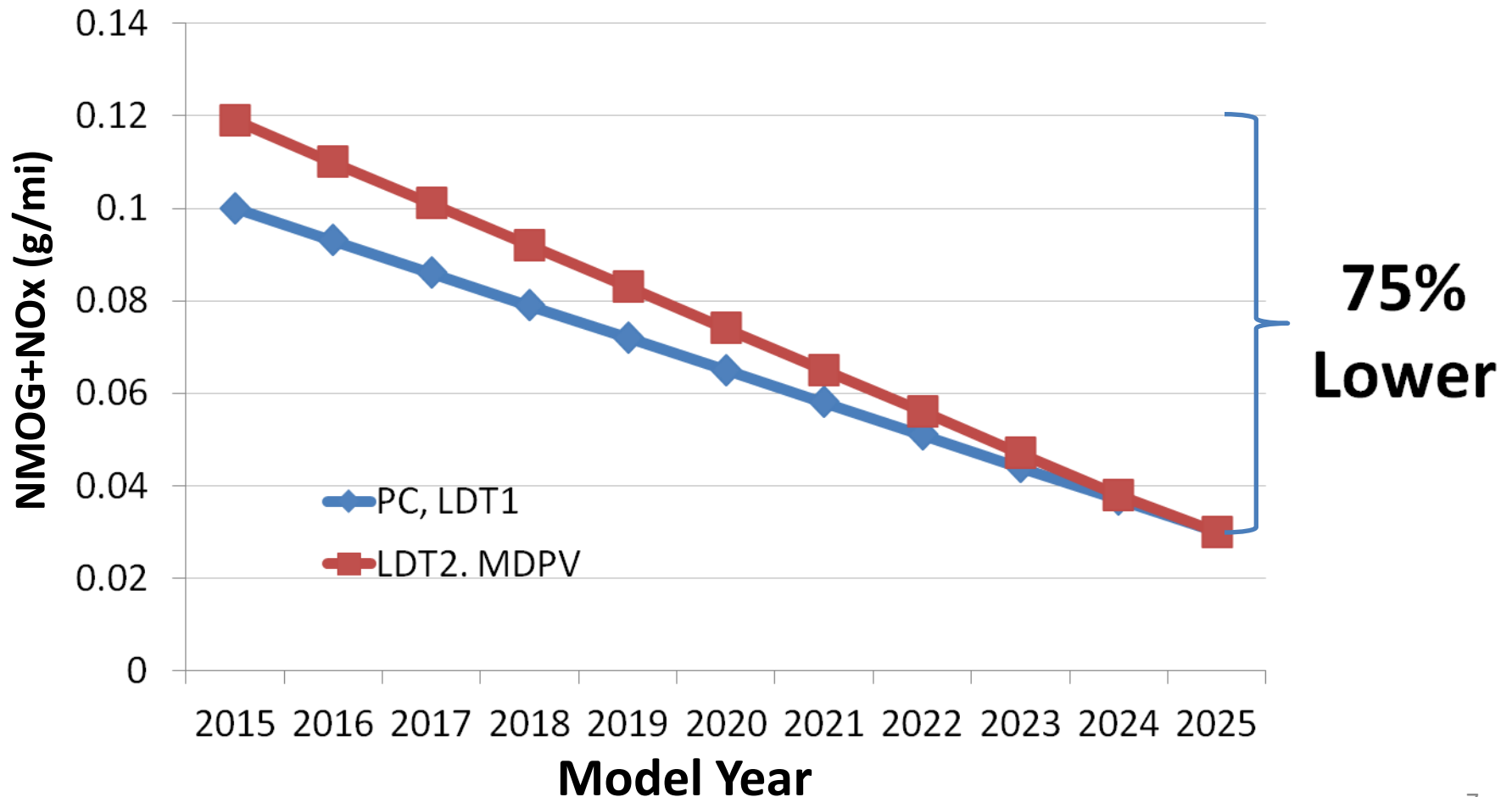
Multi-pronged approach to meeting mid- and long-term emission reductions from light duty vehicles



ACC Criteria Pollutant Standards

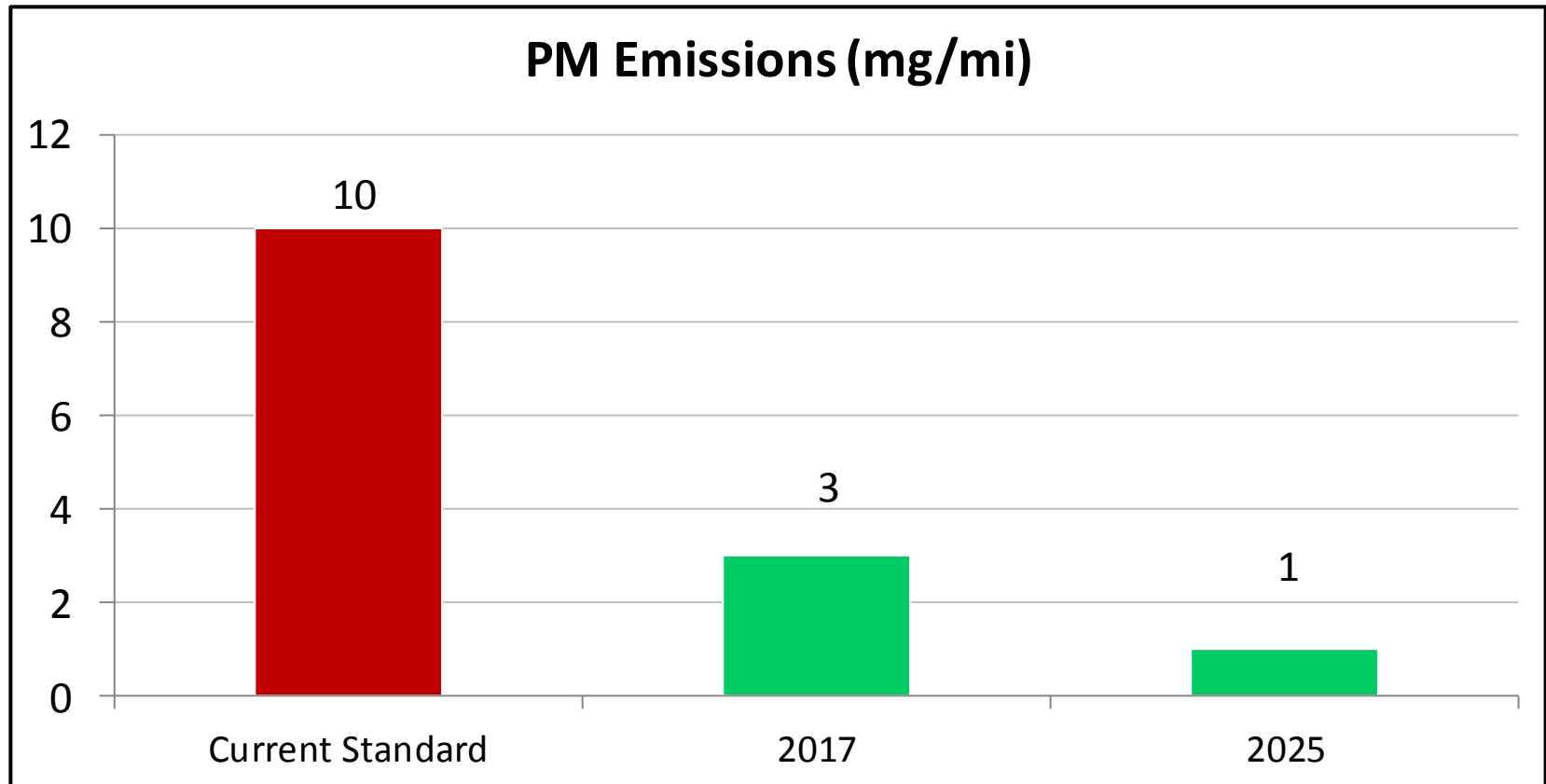
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150,000-mile New Vehicle Fleet Average Emissions



ACC Particulate Matter Standards

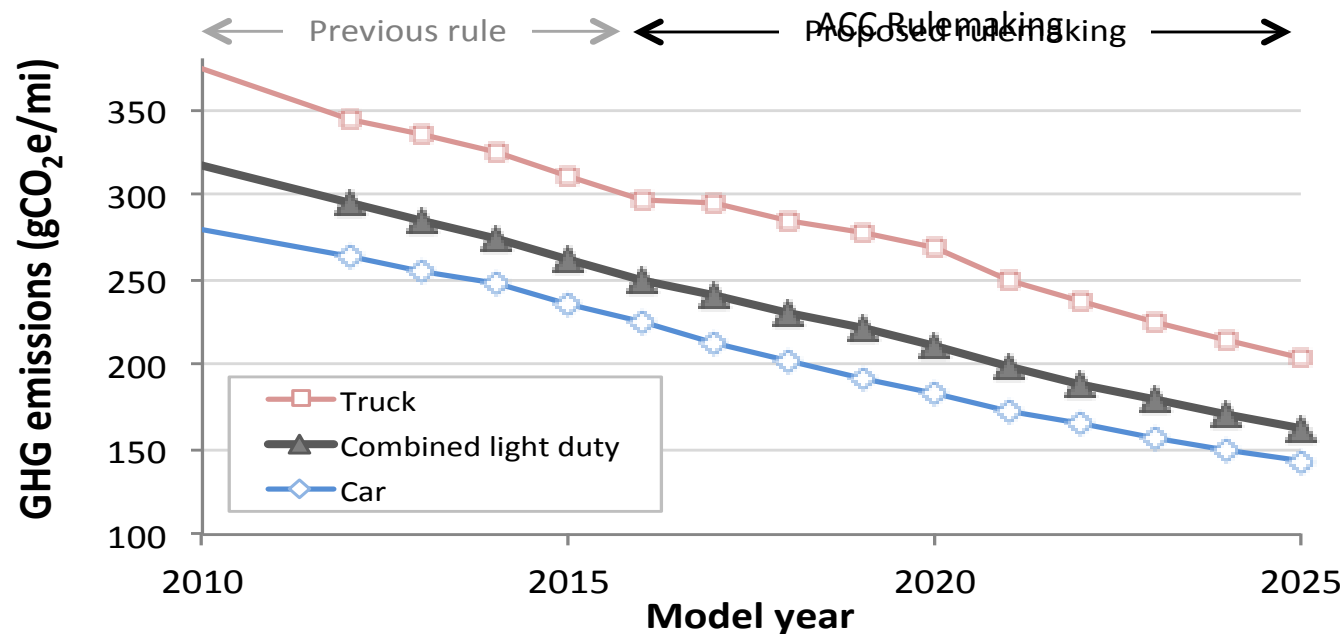
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ACC GHG Standards

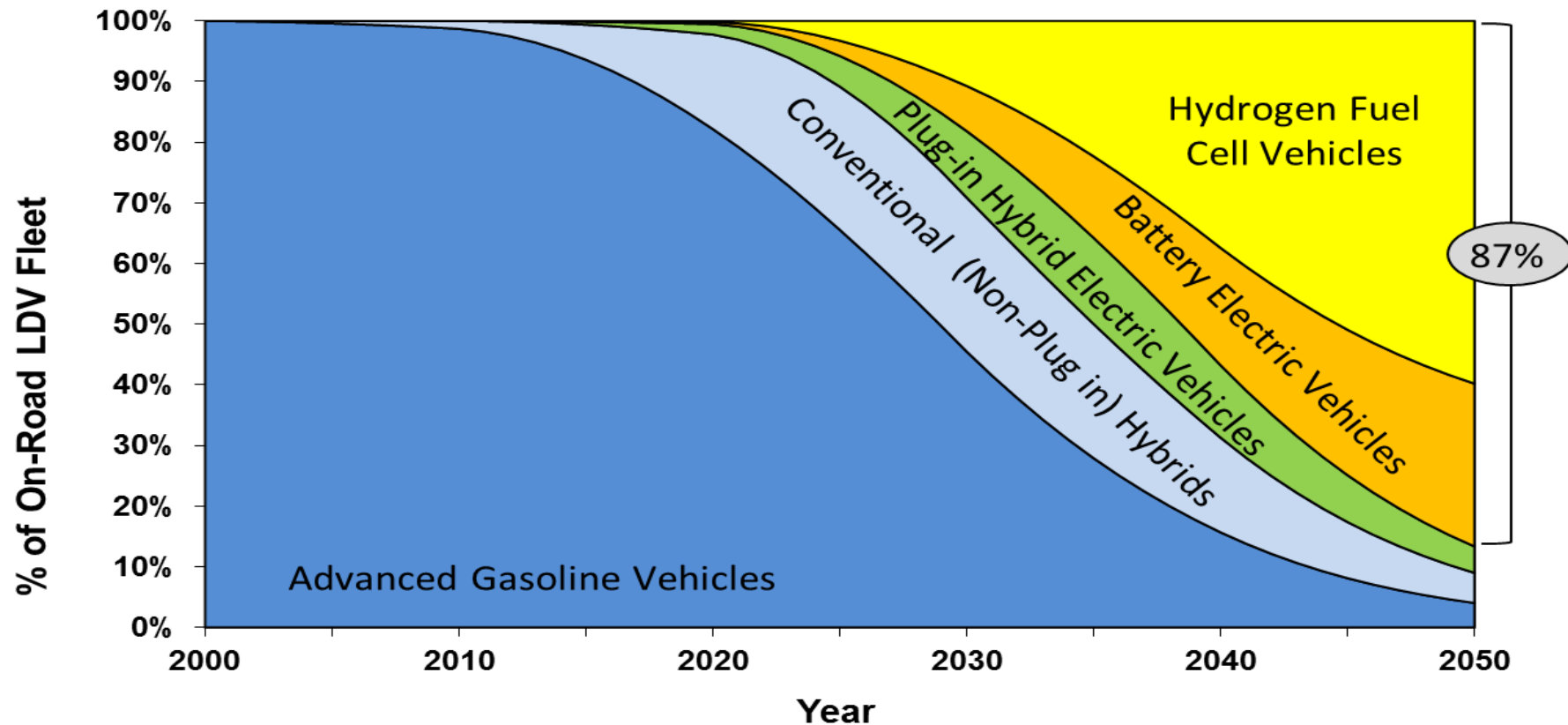
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- Standard: 166 gCO₂e/mile in 2025
 - GHG reduction of 4.6%/year for 2017-2025 model years
 - GHG reduction of 34% from 2016 to 2025



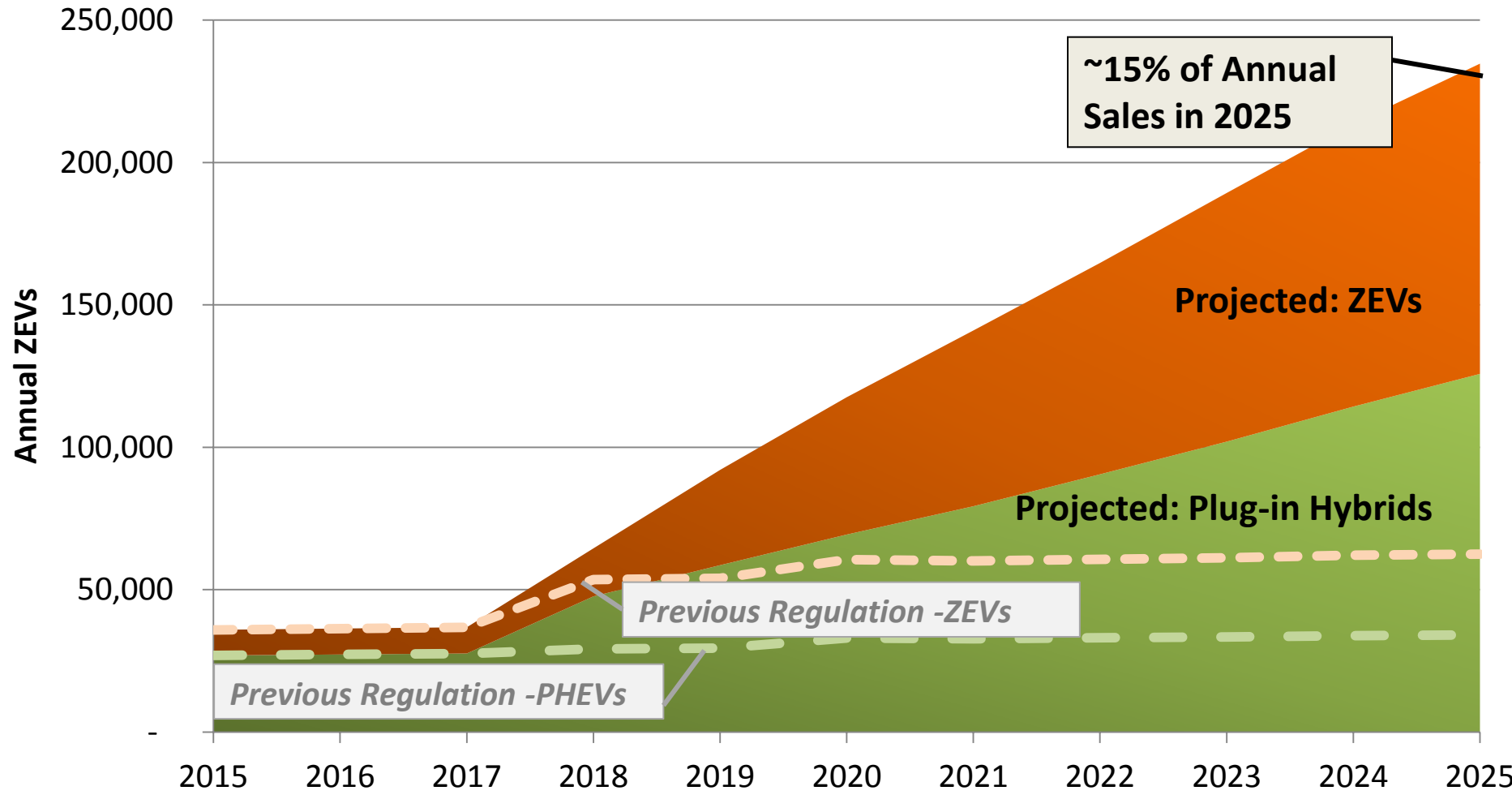
Meeting 2050 GHG Goals

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- ZEVs represent 87% of in-use fleet by 2050

Example Implementation of ZEV Requirements



ACC Timeline

- Summer 2011: Vehicle OEMs agree to proposed national GHG standards
 - 3-agency (ARB, EPA, NHTSA) midterm review required
- Jan. 2012: Board adopts ACC for Calif.
- Oct. 2012: EPA/NHTSA adopt national standards
- Nov. 2012: Board approves update to ACC with provision for nationwide compliance

Next Steps

ACC Midterm Review

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1. National GHG program

- Joint review with EPA, NHTSA, and ARB
- Re-assess appropriateness of 2022-2025 GHG standards

2. California PM standards

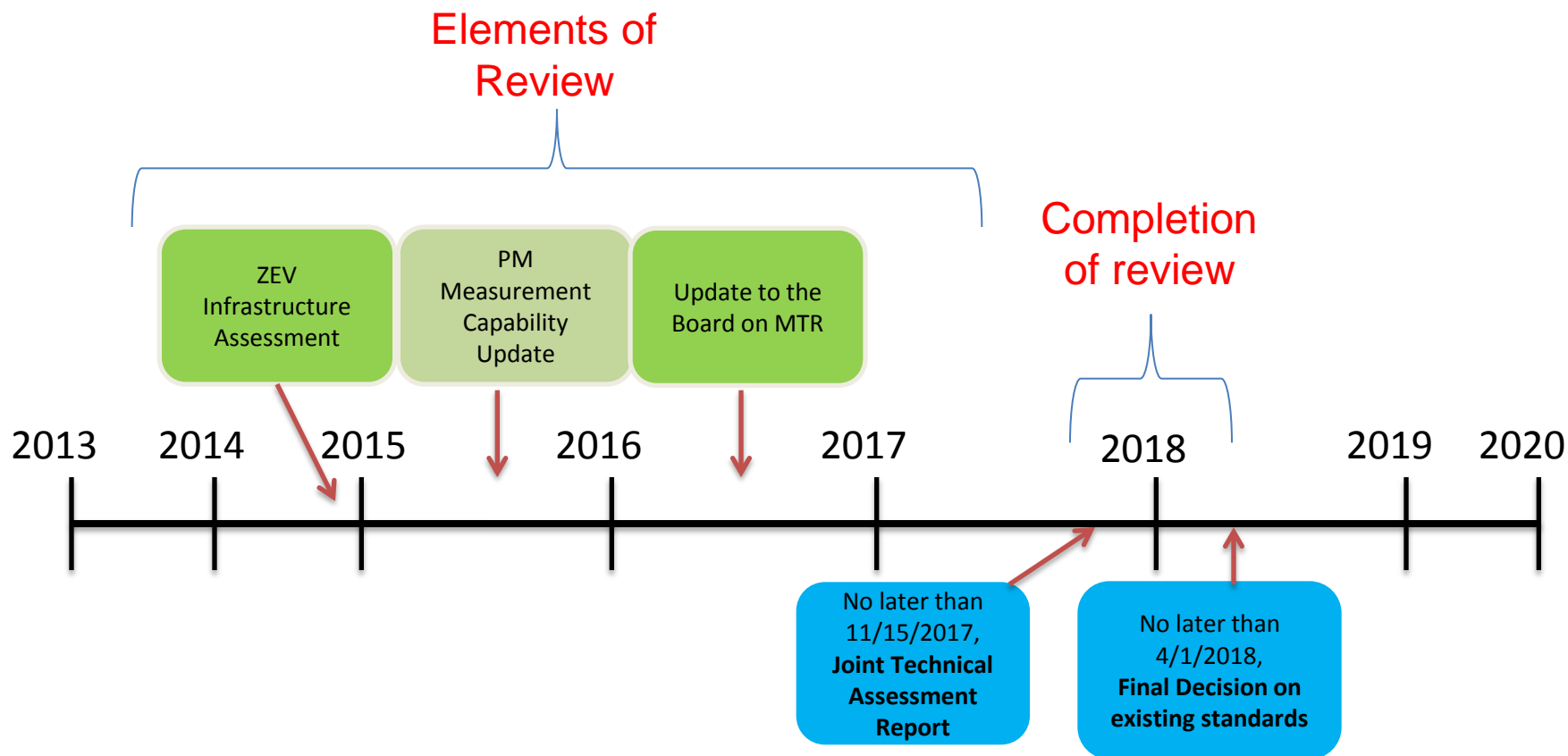
- Confirm measurement capability at low levels
- Re-assess appropriateness of 2025-2028 standards
 - Including technical feasibility and implementation year

3. California ZEV regulation

- Evaluate market response/consumer acceptance
- Re-assess ZEV requirements

Midterm Review Timeline

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ZEV Review Timeline

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- Why not push ahead the ZEV Review?
 - New market and consumer data needed to conduct meaningful review
 - New advanced BEVs and FCVs coming in 2015
 - ZEVs are integrated part of criteria pollutant and GHG goals
 - Planned Annual Updates to the Board

ZEV Implementation

California ZEV Action Plan

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- Executive Order Signed March 2012
 - 1.5 Million ZEVs in California by 2025
 - Infrastructure to support 1 Million ZEVs by 2020
 - 10 percent of state fleet vehicles shall be ZEVs by 2015 and 25 percent by 2020
- Action Plan finalized in February 2013
 - Multi agency plan for supporting the goals of the Executive Order
 - Focus on:
 - Public awareness and demand
 - Infrastructure
 - Fleets
 - Building ZEV industry

ZEVs Currently Offered

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Plug-In Hybrids



Fuel Cell Vehicles



Battery Electric Vehicles



California ZEV Incentives

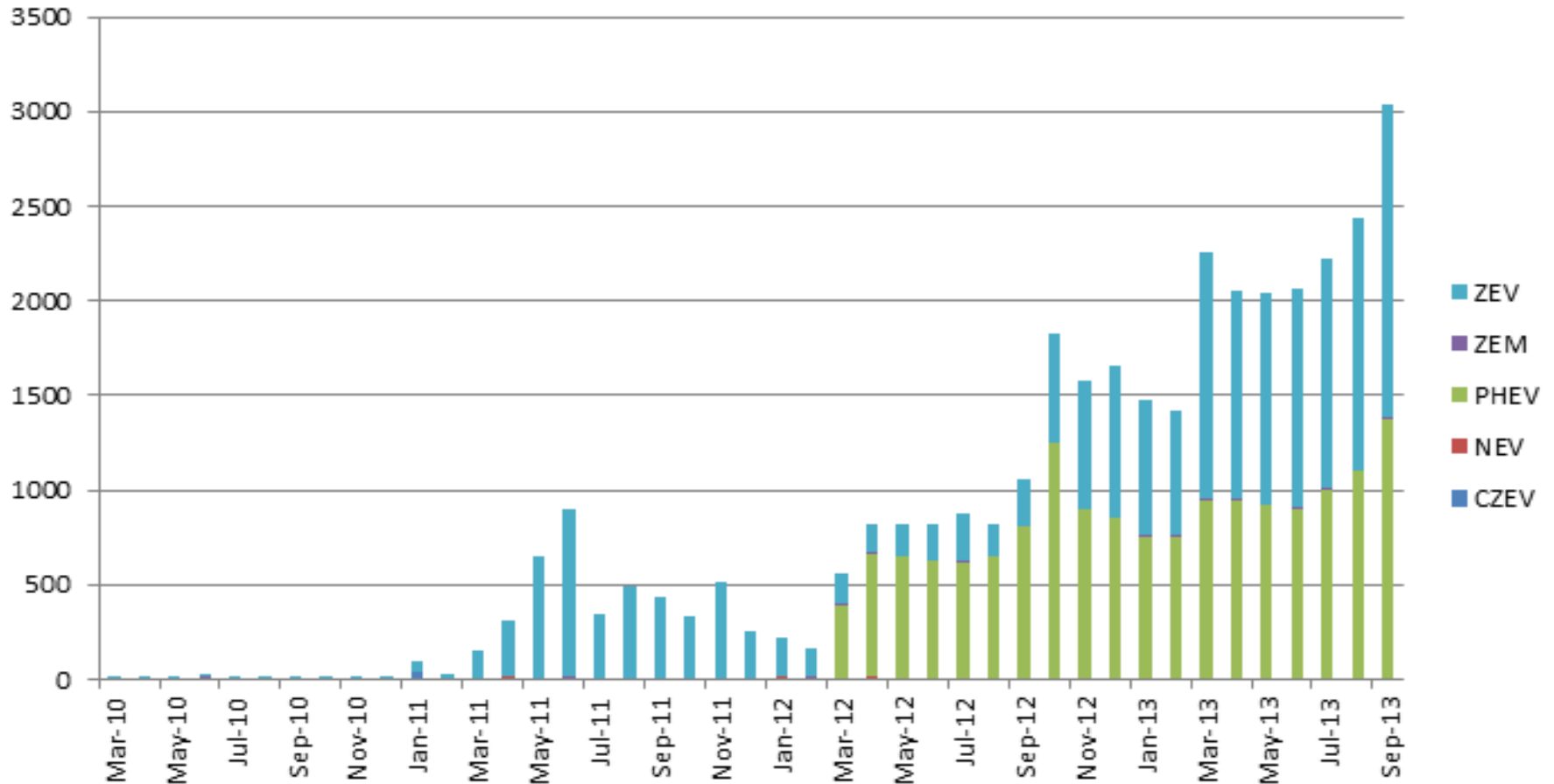
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- CVRP Rebates
 - \$2500 for Pure ZEV (Battery/Fuel Cell Electric)
 - \$1500 for PHEV (Plug-In Hybrids)
- HOV Lane Access
- Rebates for at Home Charging

ZEV Market Growth

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Monthly CVRP Rebates by Technology Type





Alternative and Renewable Fuel and Vehicle Technology Program Investments in ZEV Infrastructure

**California Air Resources Board Meeting
October 24, 2013**

Jim McKinney, Program Manager

Alternative and Renewable Fuel and Vehicle Technology Program



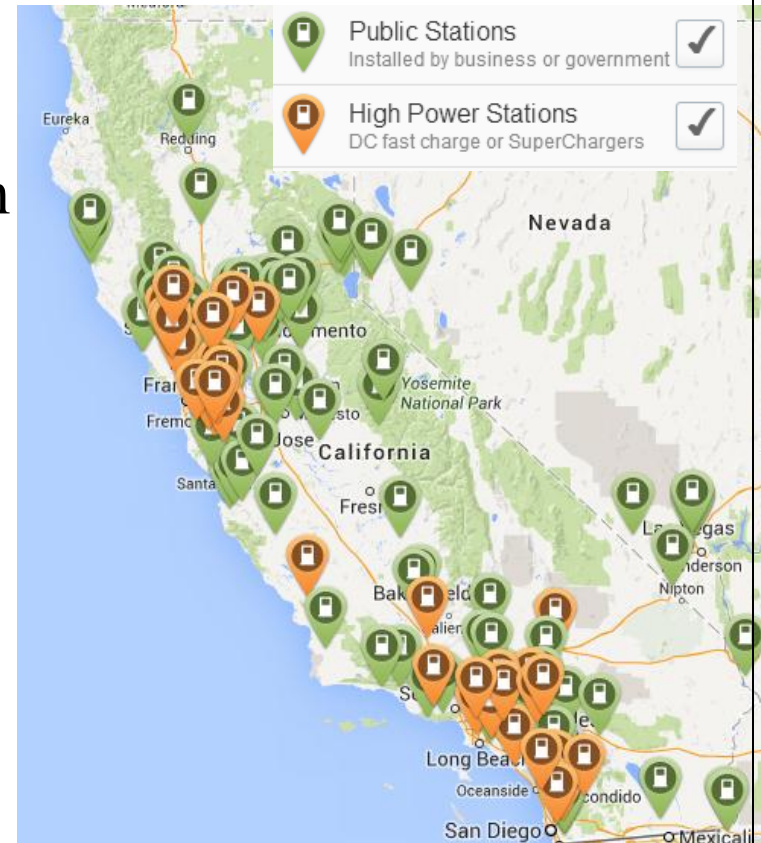
Public Charging Infrastructure

Existing Public Infrastructure

- Close to 1,000 Level 2 stations with over 2,800 connectors and 67 quick chargers

Development Activities

- CEC recent awards – \$2.5M for 39 quick chargers in So Cal
- NRG settlement: \$100 million
 - 200 combo fast charge/Level 2 station (“Freedom Stations”)
 - Infrastructure for 10,000 level 2 EVSEs for multi-family housing, workplace, schools and hospitals.



Map courtesy of [plugshare.com](https://www.plugshare.com)



EV Charger Support

EVSE Funding to Date = \$24.9 million

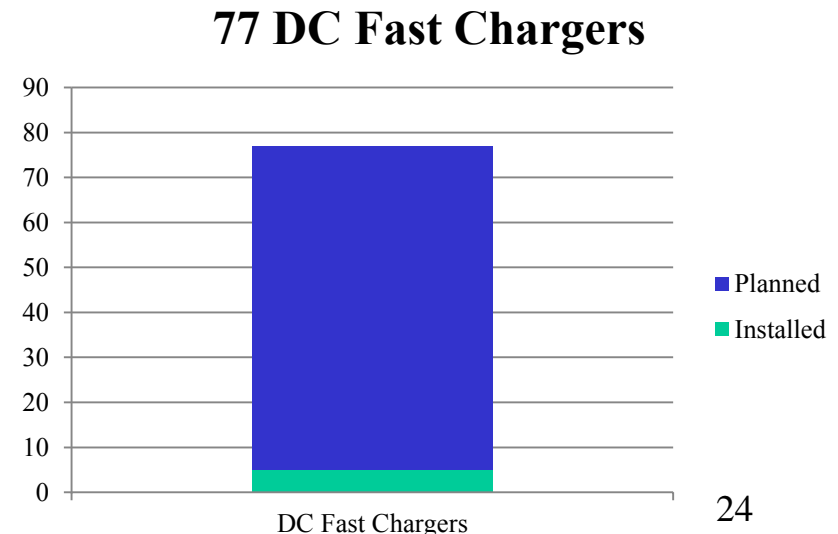
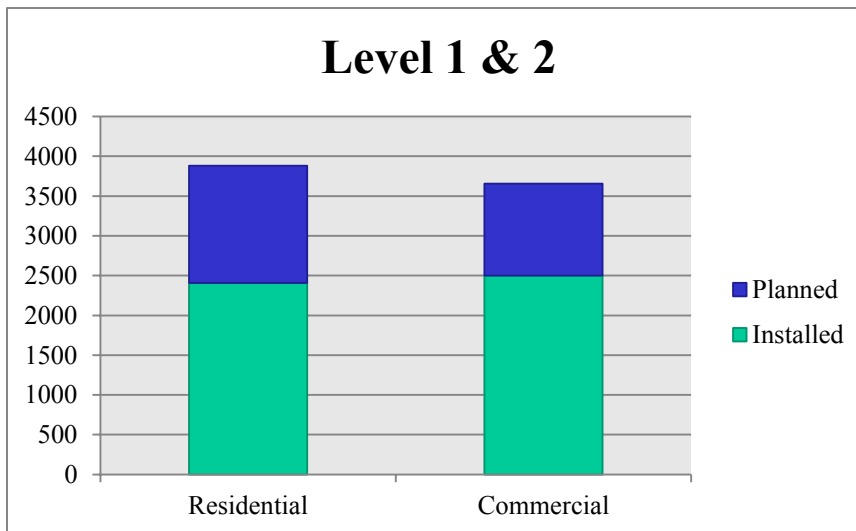
Total Funded = 7,613 level 2 & 3 charge points

Commercial = 3,096

Residential = 3,882

Workplace = 558

Plus 10 Regional Readiness
Planning Grants = \$1.9 M





Current EVSE Funding: \$33.6 M

2012-13 IP Funding = \$6 million

- Destination, Commercial & MUDs

2013-14 IP Funding = \$7 million

- Support ZEV Action Plan, State Garages

2014-15 IP Proposed Funding = \$15 million

- Destination, Workplace, MUDs, Fast Charging

- Statewide Infrastructure Plan: ZEV Action Plan Item
 - NREL Draft Report in Development with Energy Commission and ARB
- ARB EV Infrastructure Needs Assessment

Regional Readiness
Planning and
Implementation =
\$5.6 million



Hydrogen Station Funding

Total Funding to Date = \$41.4 million

17 New Stations = \$27 million

~ 7 Station Upgrades = \$6.7 million

– \$30 million in next solicitation

will fund about 16 additional stations

AC Transit Fuel Cell Bus Station = \$3 million

CDFG Div of Weights and Measures = \$4 million

– Retail Dispensing Fuel Standards

UC Irvine STREET Model = \$750,000



Multi-State ZEV MOU

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- Governors from eight “Section 177” ZEV States signing multi-state Memorandum of Understanding (MOU) to support ZEVs
 - Vermont, New York, Massachusetts, Rhode Island, Connecticut, Oregon, Maryland, California
- Outlines specific commitments to support ZEV commercialization through coordination of various state agencies