

# Developing future light-duty vehicle regulations in California

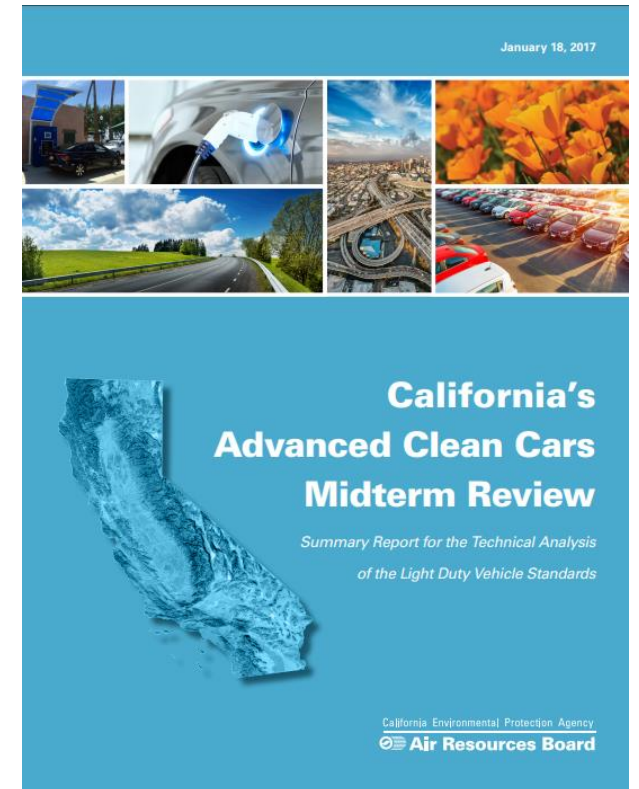
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**August 1, 2017**

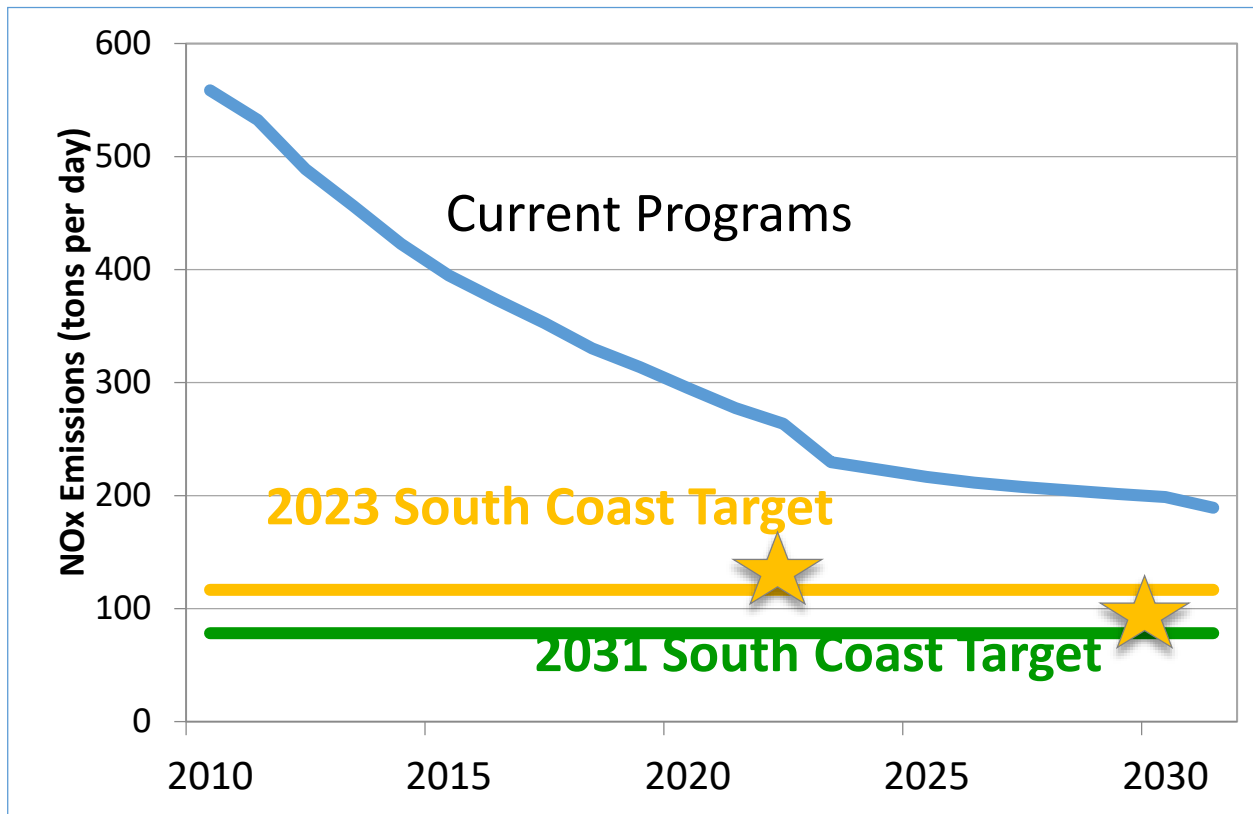
# California's Midterm Review Conclusions

- Joint Agency Review Supported Adopted MY 2022-2025 GHG standards, if Not Room for Strengthening
- PM standard is feasible but further action needed to ensure robust control
- Continue with existing technology-forcing ZEV requirements to develop the market
- Direct staff to immediately begin rule development for MY 2026 and beyond

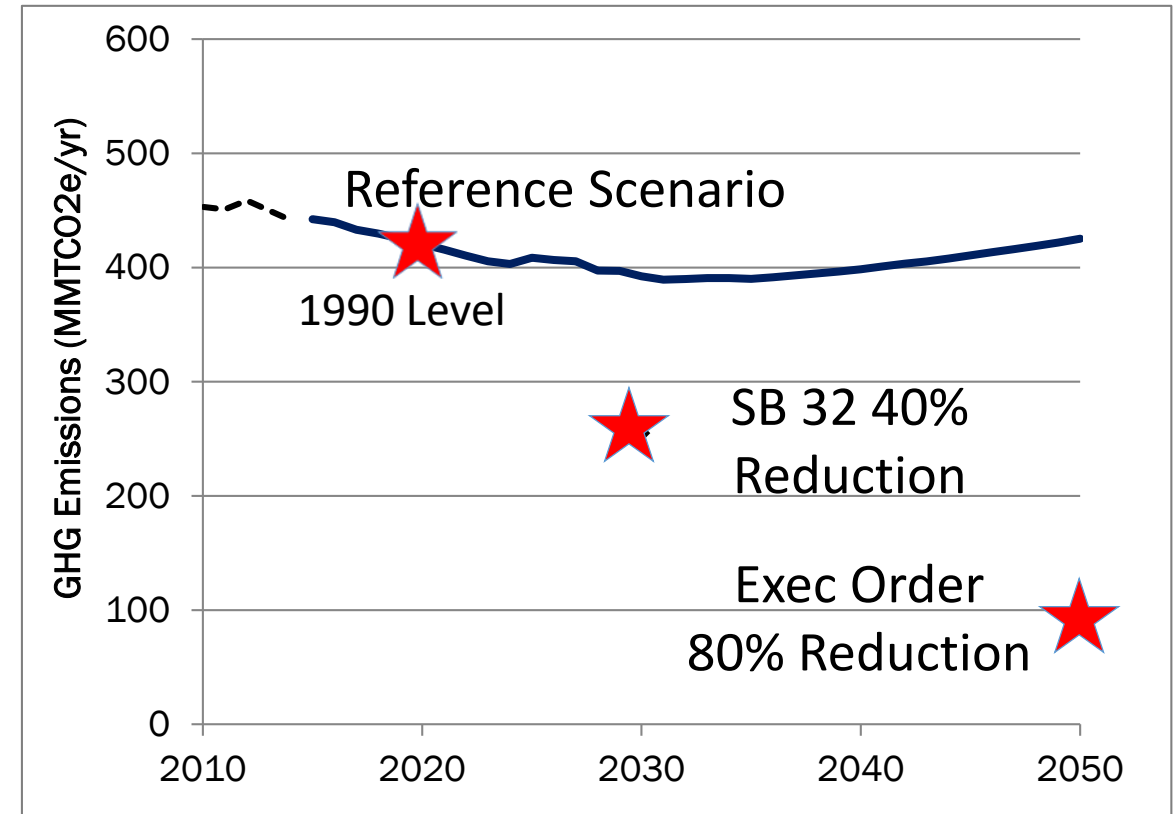


# Still need large emission reductions beyond current programs

## NOx, South Coast, All Sources

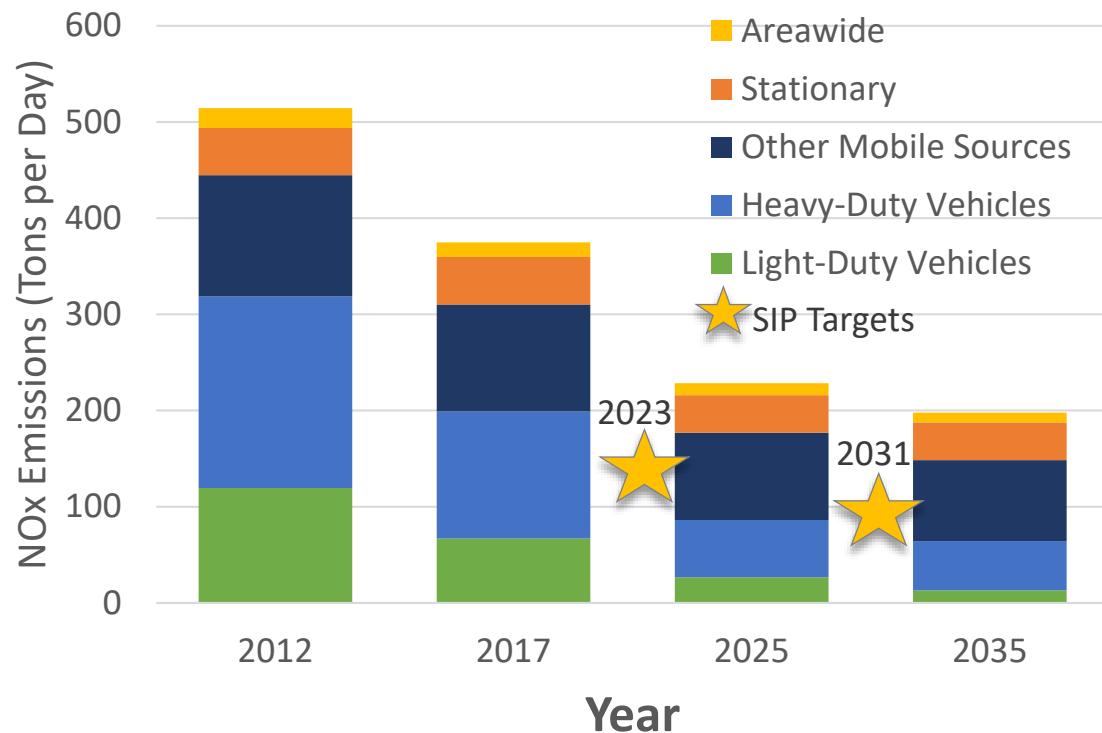


## GHGs, Statewide, All Sources



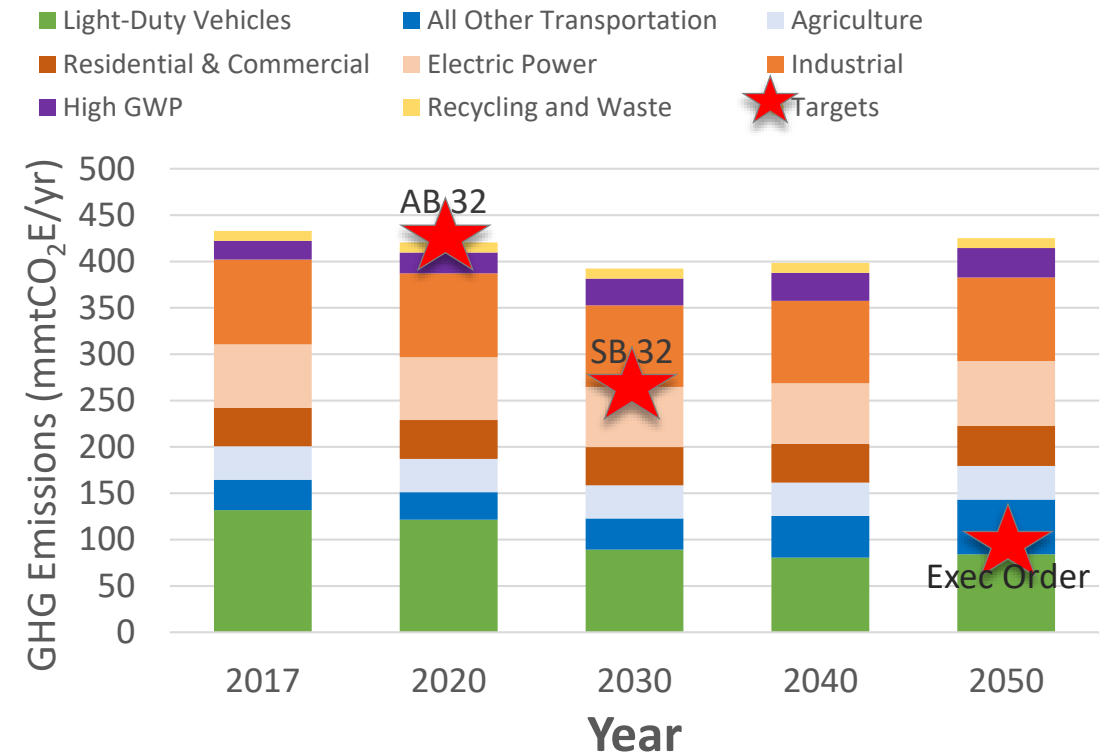
# Further emission reductions needed from all sectors, including light-duty vehicles

## NOx, South Coast Under Current Programs



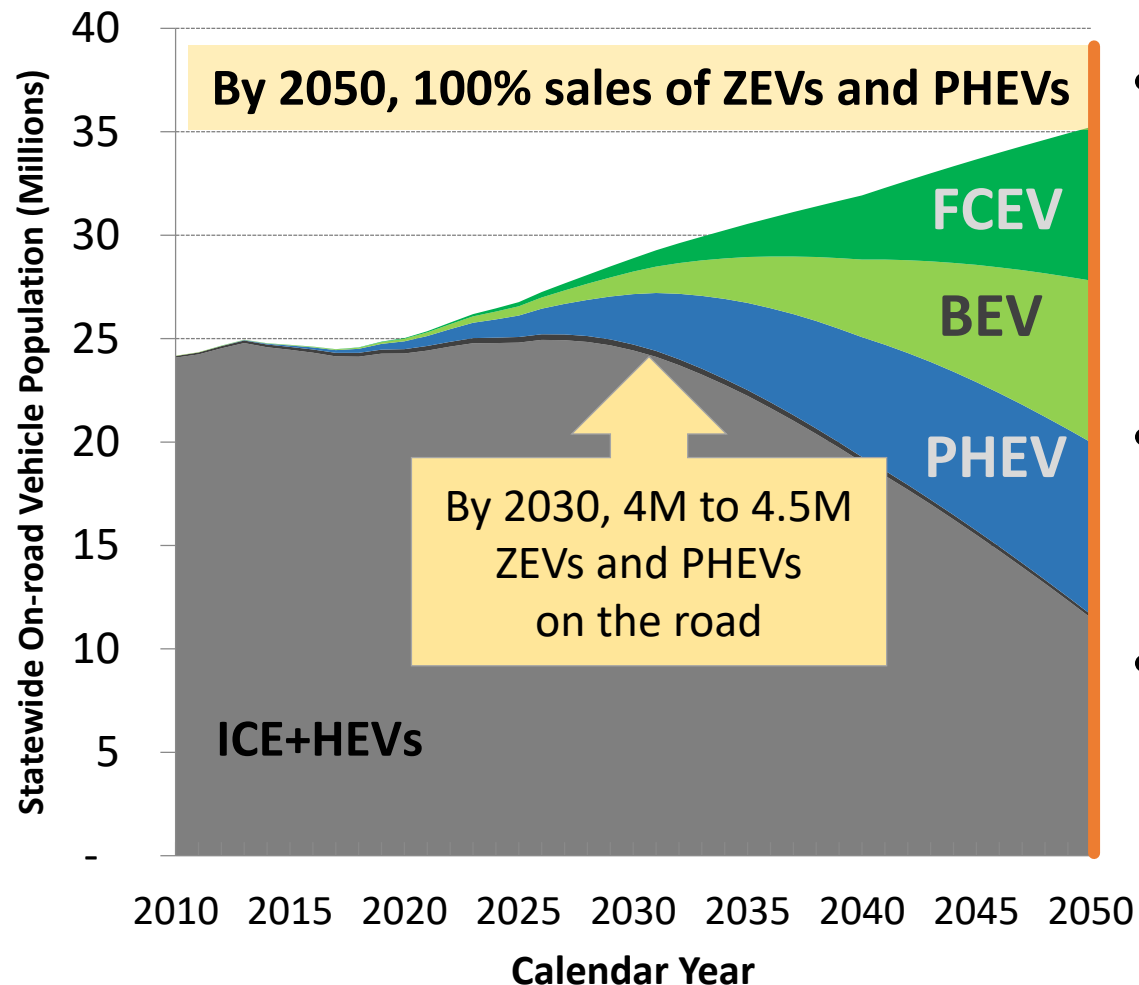
Source: CEPAM 2016 SIP, <https://www.arb.ca.gov/app/emsinv/fcemssumcat/fcemssumcat2016.php>

## GHGs, Statewide Under Current Programs



Note: CARB 2030 Scoping Plan contains strategies for achieving 2030 GHG target, [https://www.arb.ca.gov/cc/scopingplan/2030sp\\_pp\\_final.pdf](https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf)

# What might the light-duty sector need to do to achieve needed reductions?



- Compared to MY2025 vehicles, MY2035 vehicle emissions would be:
  - ~50% lower GHGs (emission rate declines 5-7% year-over-year)
  - ~40% lower NOx
- Significant increases in renewable fuel feedstocks and energy generation
- Slower growth of vehicle miles traveled (VMT) from light-duty vehicles

# Global Actions and Commitments to Electrification/Low Carbon Vehicles

## Government Goals/Policies

- **China** – Developing a version of the ZEV regulation
- **Québec Province** – Adopted a ZEV regulation
- **Netherlands, Norway** – Goal of 100% ZEVs and PHEVs by 2025
- **Germany** – Goal of 100% ZEVs and PHEVs by 2030
- **France, United Kingdom** – Ban of gasoline and diesel vehicles by 2040



Governors Brown (CA), Brown (OR), and Inslee (WA) with Fiji Prime Minister joining Under2 Coalition

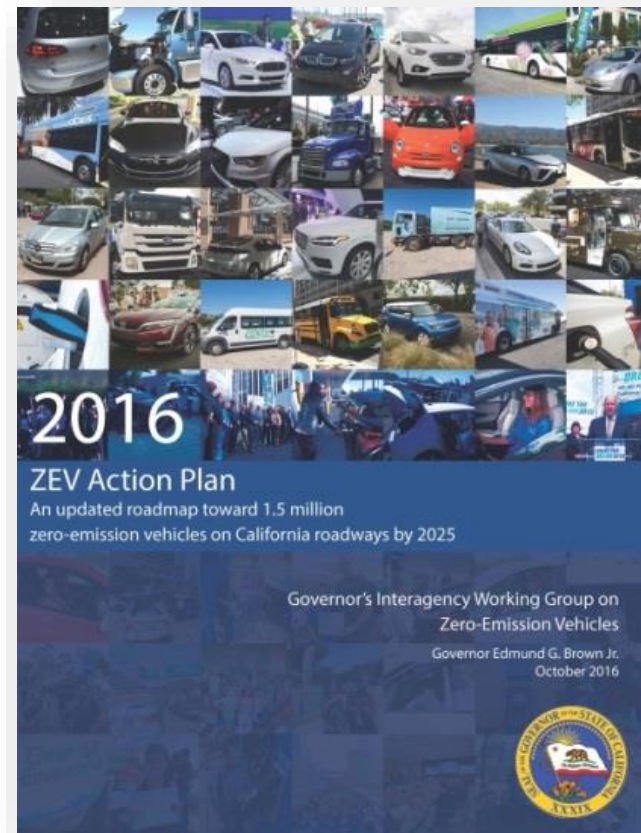
# Industry Commitments to Electrification/Low Carbon Vehicles

## Automaker Goals

- **Volvo** – Hybridize/Electrify all new models beginning 2019
- **Ford** – 13 new electrified vehicles by 2020
- **Daimler** – 10 new electrified vehicles by 2022
- **Volkswagen** – 30 new e-vehicles by 2025
- **Honda** – 2/3 of sales HEV, PHEV, or ZEV by 2030
- **Toyota** – Reduce global average new-vehicle CO<sub>2</sub> emissions by 90 percent by 2050

# Leading by example: Complementary Policies

- California has an unwavering commitment to ZEVs and multi-agency ZEV Action Plan
- Upping state government's ZEV purchases to 50 percent by 2025
  - Adding approximately 1,500 new ZEVs to the state fleet
- Expanding vehicle charging infrastructure to at least 5 percent of workplace parking spaces at state facilities
  - Adding approximately 4,500 new charging stations
- California invest over \$100 million annually
  - Infrastructure, purchase incentives, fleets, outreach campaigns





# Moving forward

- Working on 2026 and subsequent model year standards for further criteria and GHG reductions, as well as increases in ZEVs on the road based on these guiding principles:
  - Real-world emission reductions
  - Increased certainty of future ZEV volumes
  - Similar or lower system-wide emissions from new mobility options
  - Implementation feasibility (costs, jobs, infrastructure, consumers)
- Next Steps
  - Call for concepts to help solicit ideas on vehicle regulations in future years
  - Stakeholder meetings and workgroups
  - Public workshop to be held early 2018
  - Tentative 2020 Rulemaking for 2026 and beyond model years