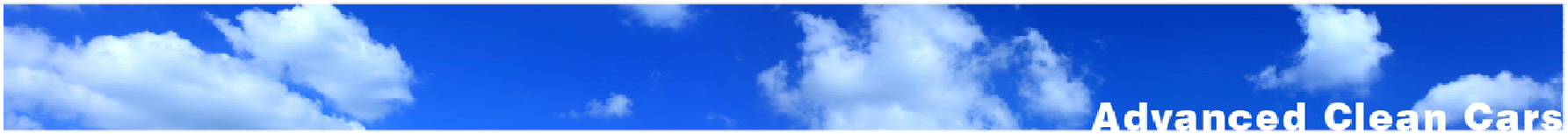
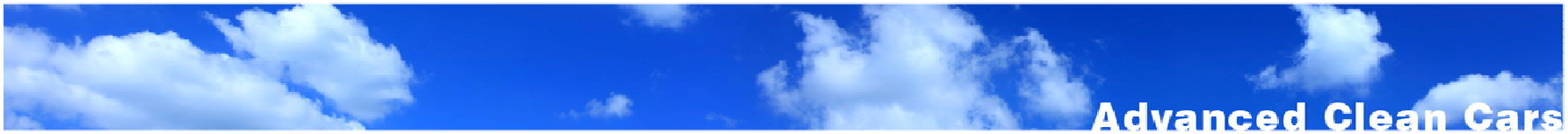


California Energy Commission
DOCKETED
13-IEP-1C
TN # 69769
MAR 01 2013

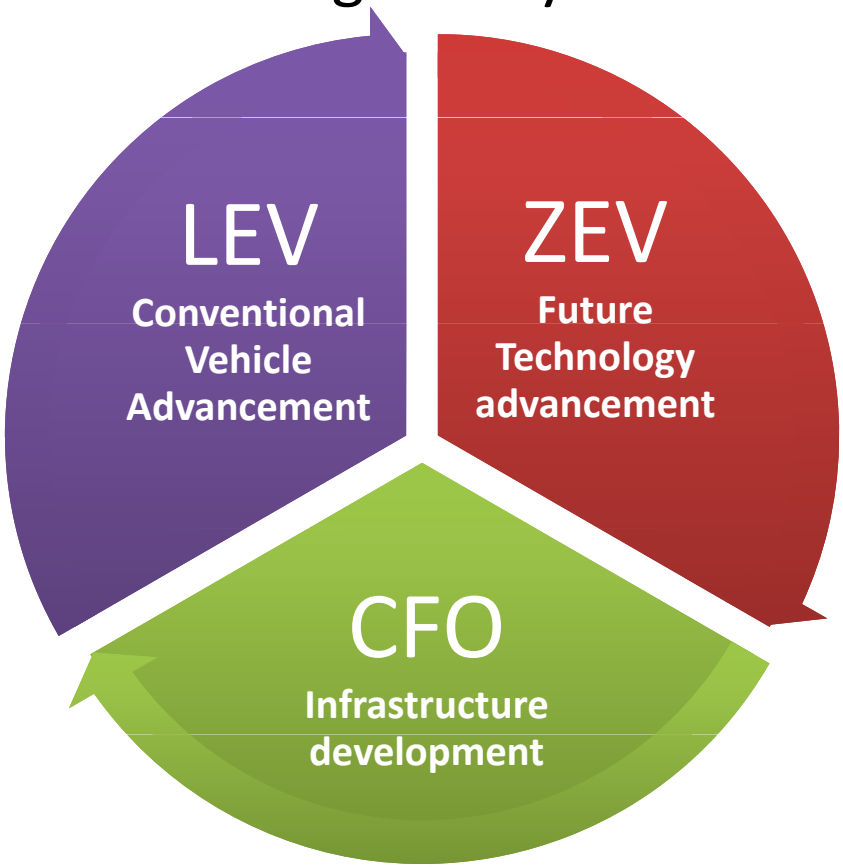
California's Zero Emission Vehicle Regulation

Gerhard Achtelik
California Air Resources Board
February 2012

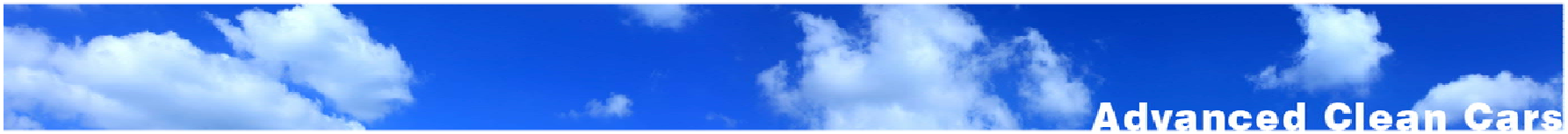
Advanced Clean Cars

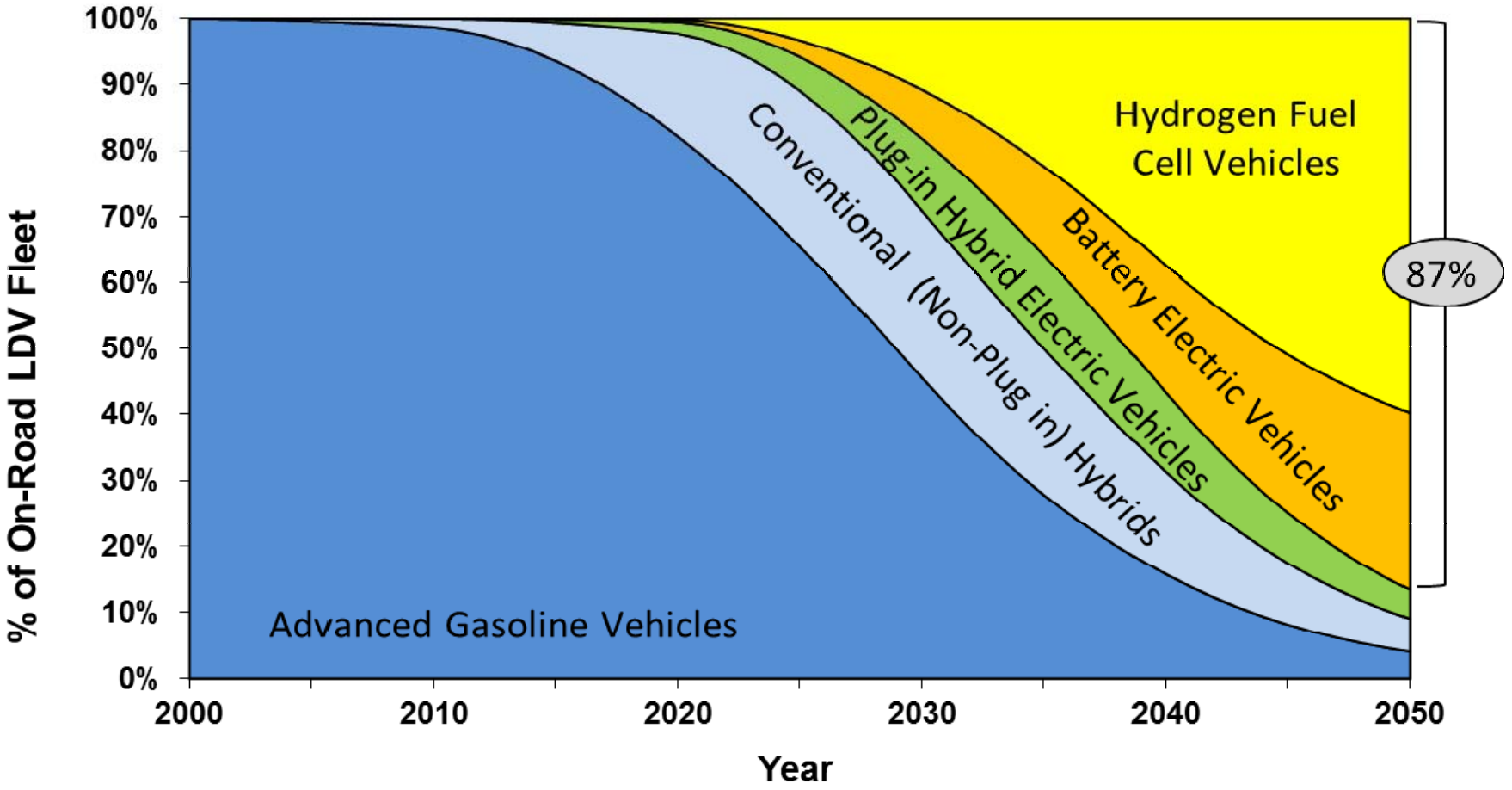


Multi-pronged approach to meeting mid- and long-term emission reductions from light duty vehicles

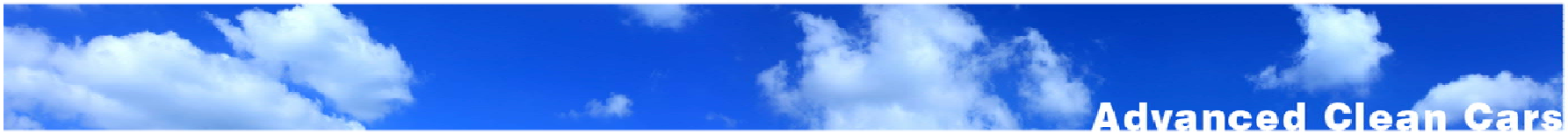


Meeting GHG Goals





How The ZEV Regulation Works



- Requires large OEMs to produce zero emitting passenger vehicles

Battery Electric Vehicles

Hydrogen Fuel Cell

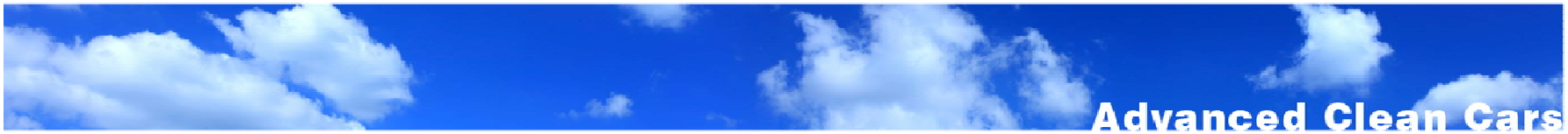
- May substitute some with near-zero emission vehicles

Plug-in Hybrid Electric Vehicles

Conventional Hybrids

Clean Gasoline Vehicles

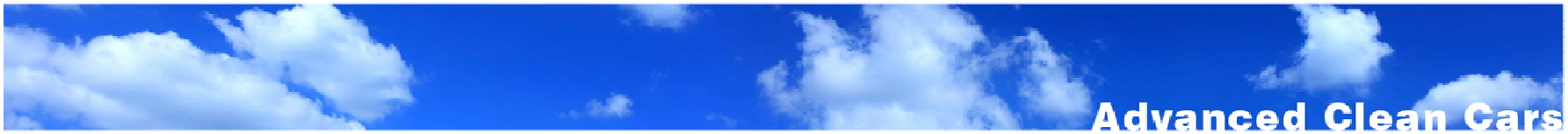
Zero Emission Vehicle Program Success

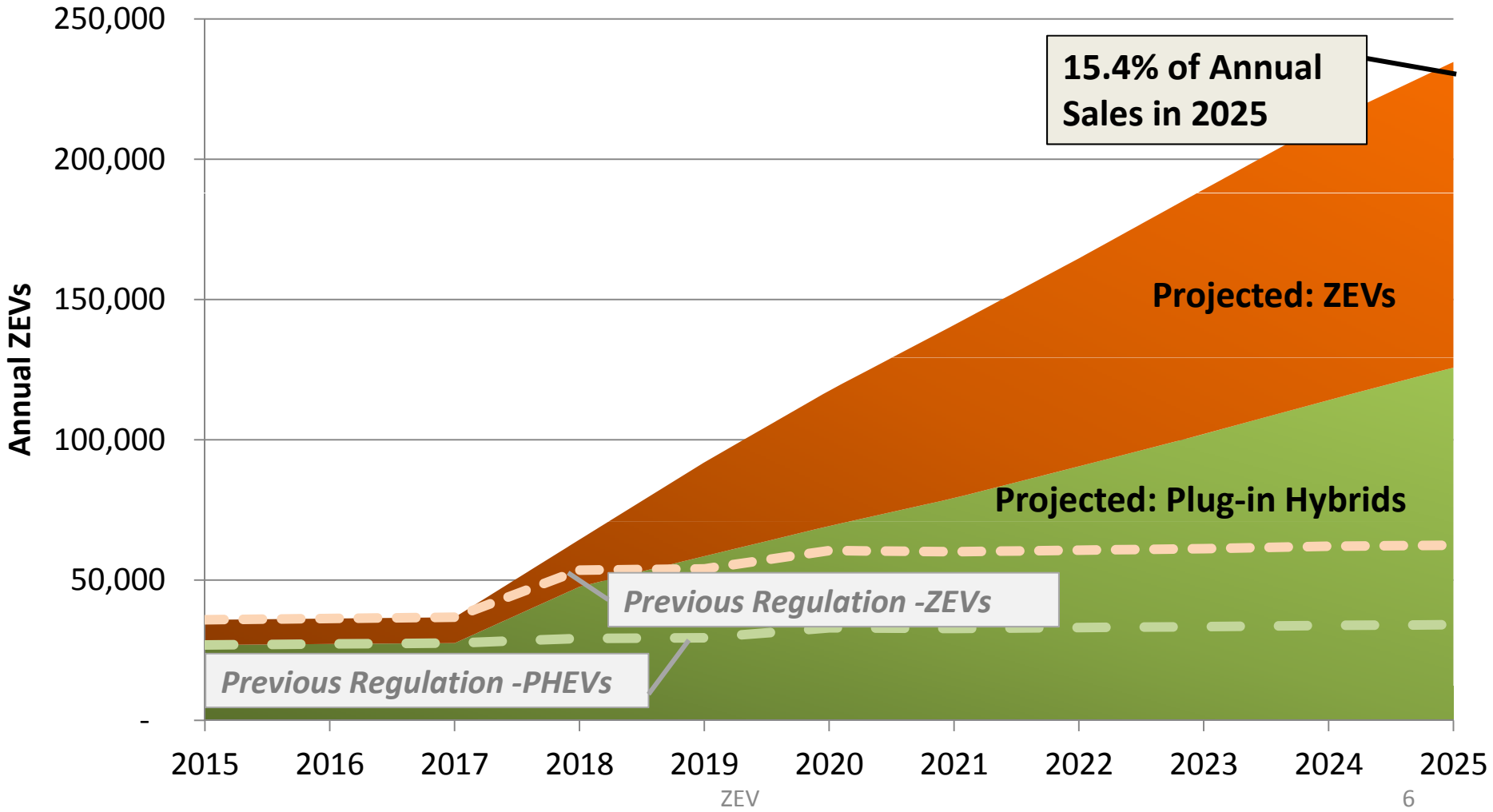


- ZEVs – over 39,000 with many more coming to market
  - Battery Electric Vehicle (10,000)
  - Hydrogen Fuel Cell Vehicle (370)
- Plug-in Hybrid Electric Vehicles (PHEV)

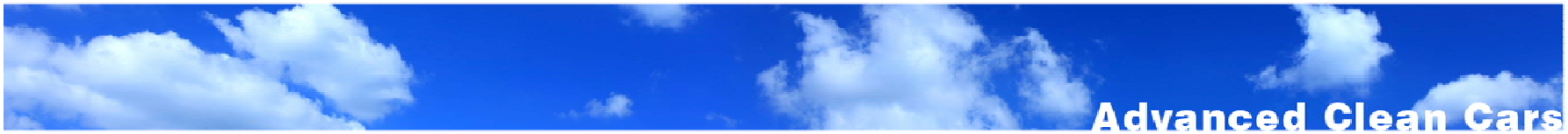
- Conventional Hybrids – over 450,000
- Partial zero emission vehicles (PZEV) – over 2,000,000
  - Gasoline car that meets strictest air quality standards

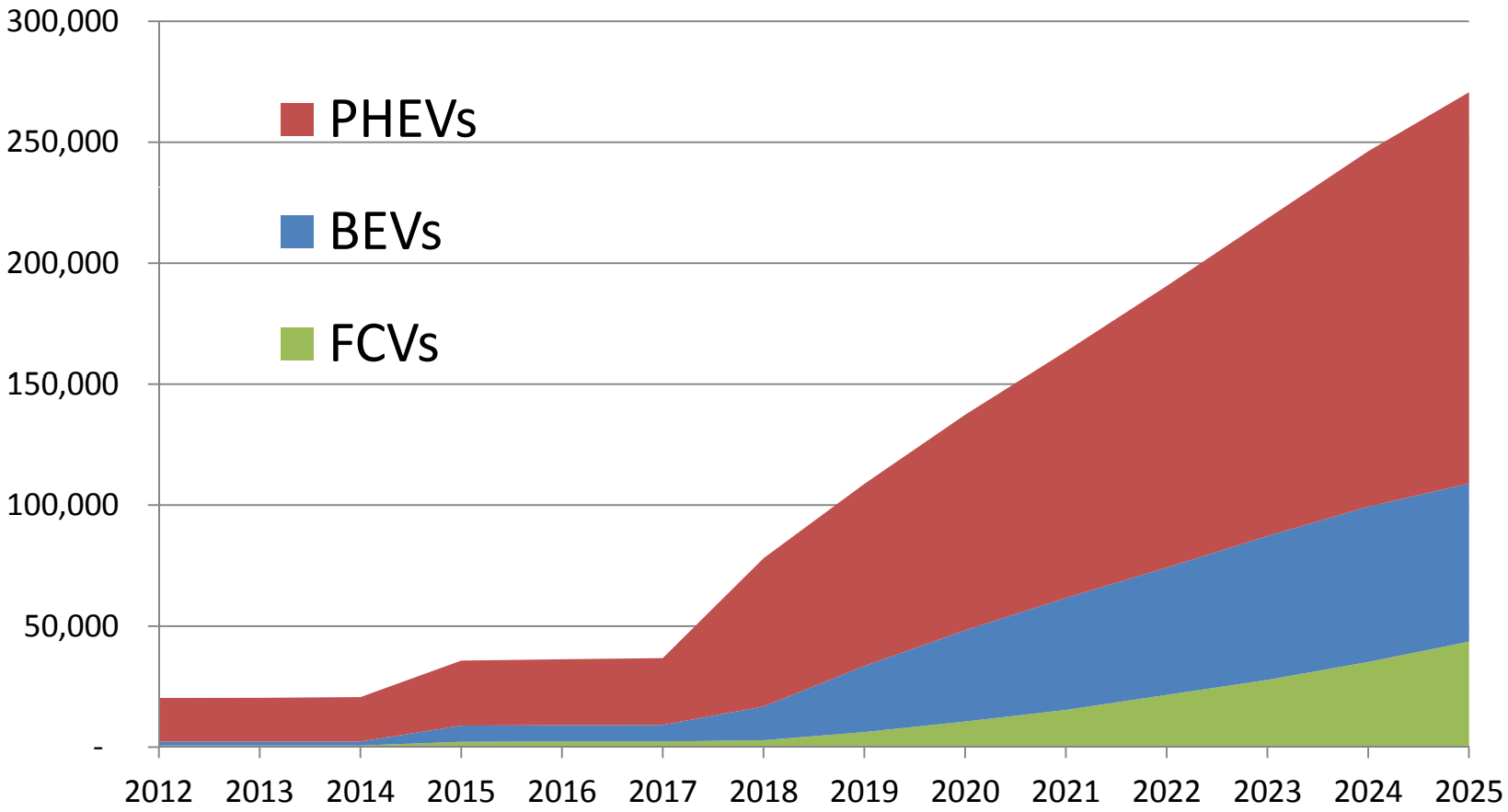
2015-2025 ZEV Requirements



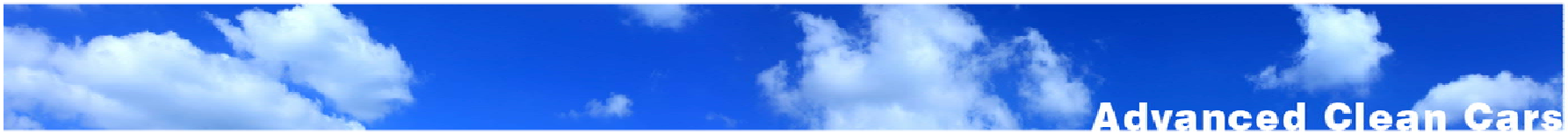


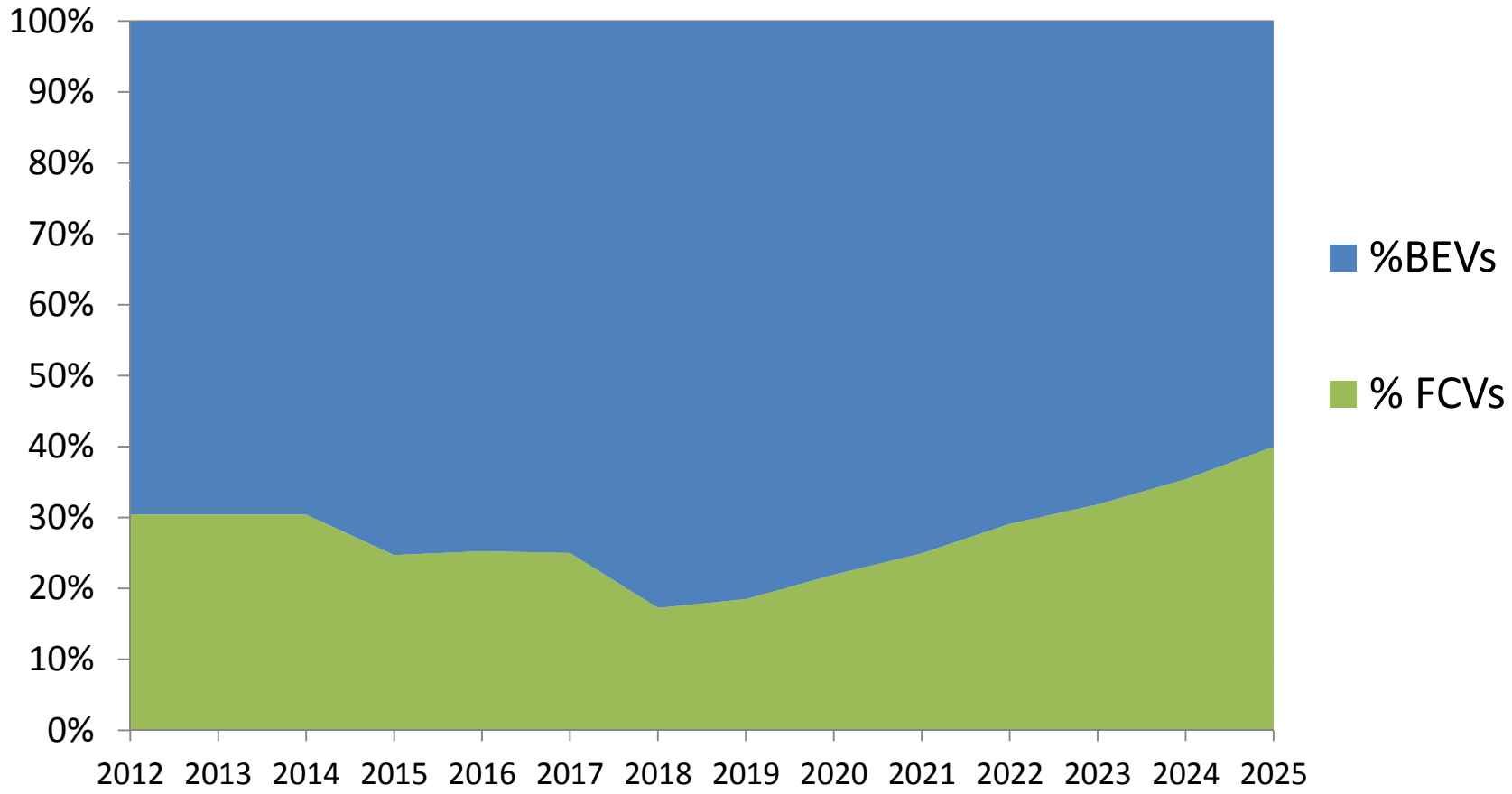
Vehicle Compliance Scenario



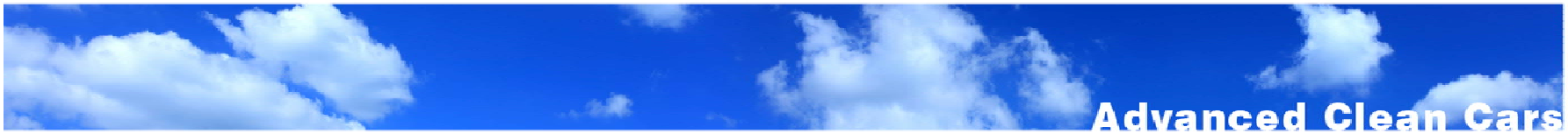


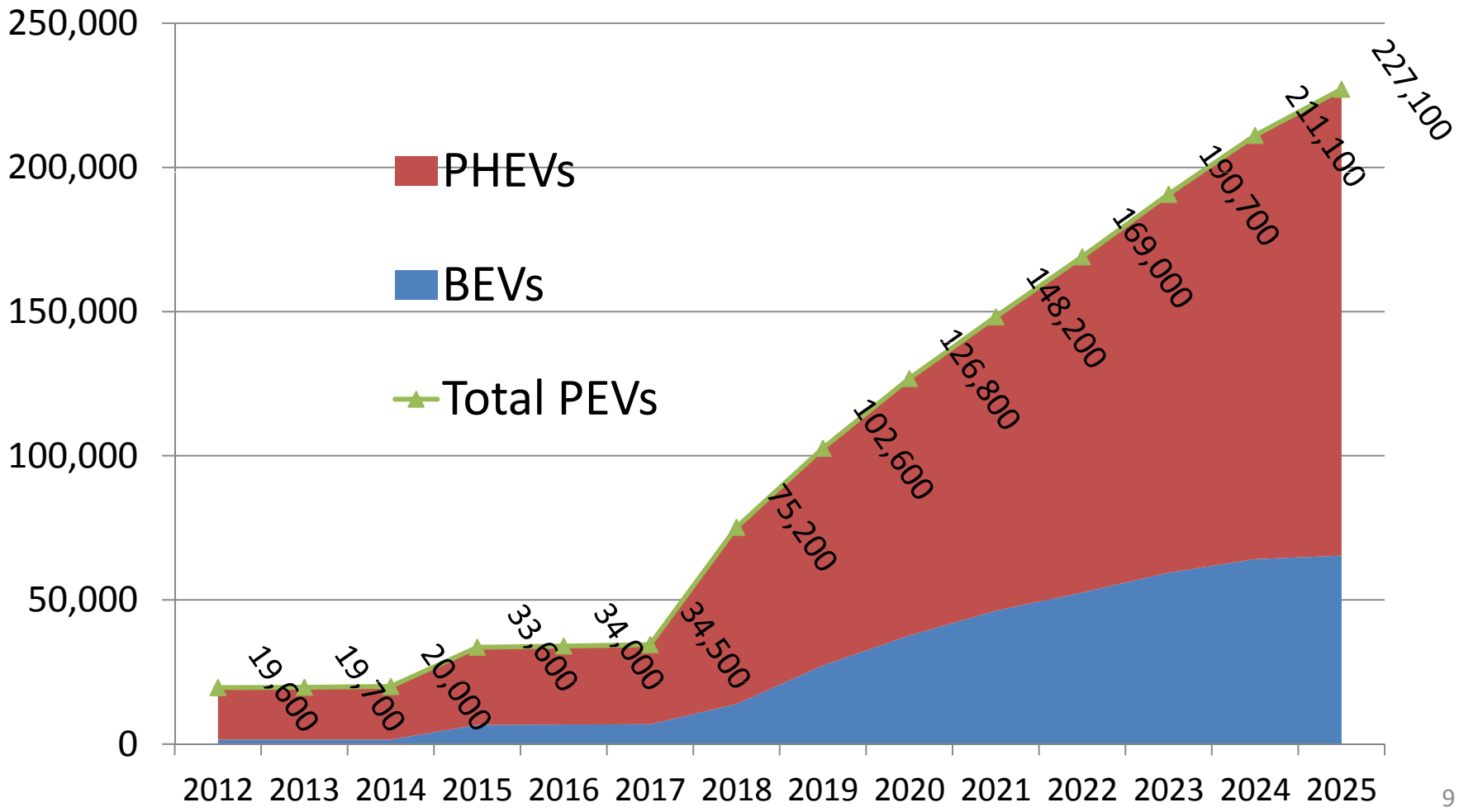
Percent Battery Electric and Fuel Cell



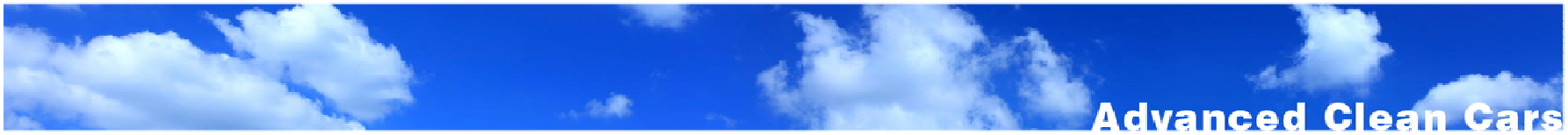


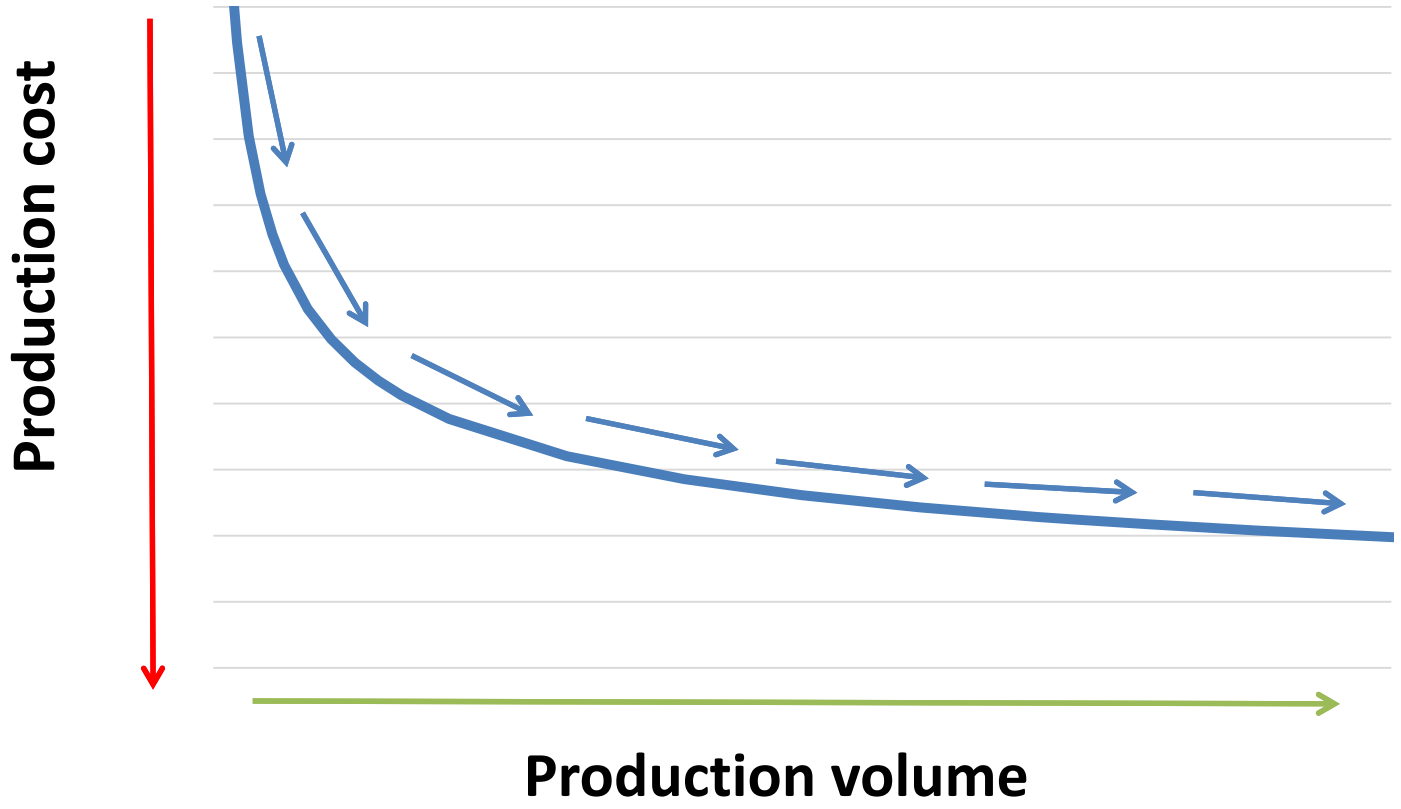
Total Plug in Vehicles



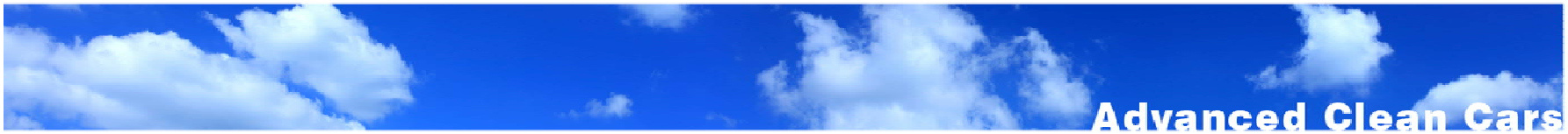


Increased Production Drives Down Price





Compliance 2018MY +



Must Make ZEVs

- Chrysler
- Ford
- GM
- Honda
- Nissan
- Toyota
- BMW
- Hyundai
- Kia
- Mazda
- Mercedes
- Volkswagen

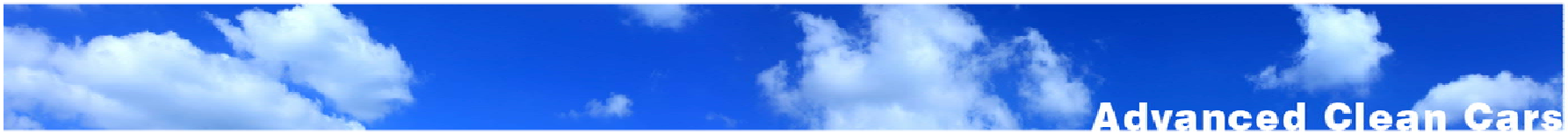
> 20,000 sales

Can make PHEVs

- JLR
- Mitsubishi
- Subaru
- Volvo

*** IVMs will be able to fully comply with Plug-in Hybrids**

Transformation of Light Duty Fleet



Clean, efficient vehicles are needed to meet California's health and climate change goals

- Significant near-term reductions in smog forming emissions
- 80% reduction in GHGs from 1990 levels by 2050

This means that, by 2025,

- ZEV technology is commonplace with multiple light duty platforms
- Fueling infrastructure is in place to meet increasing vehicle demands