

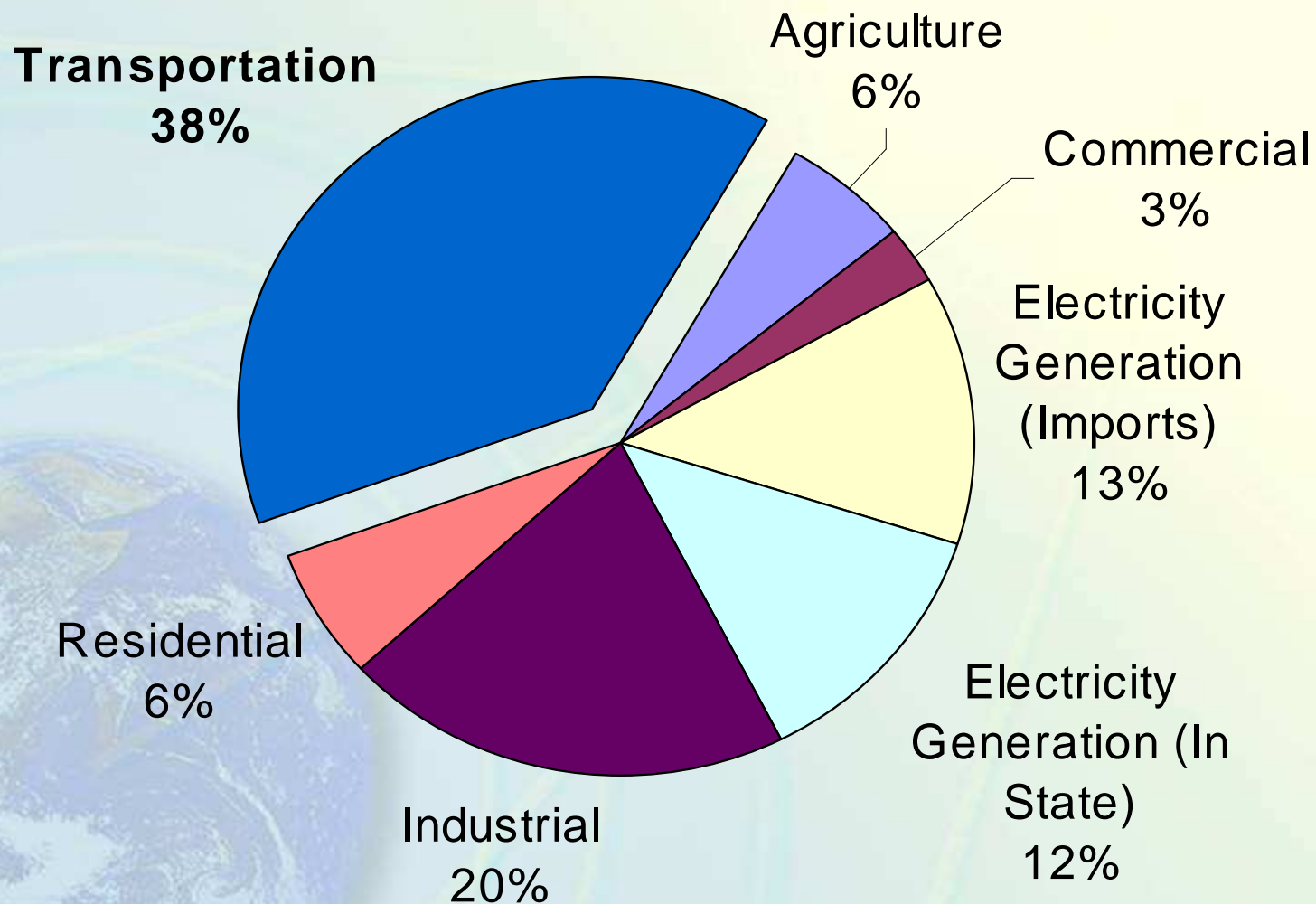


# **AB 32 Implementation Update: Transportation**

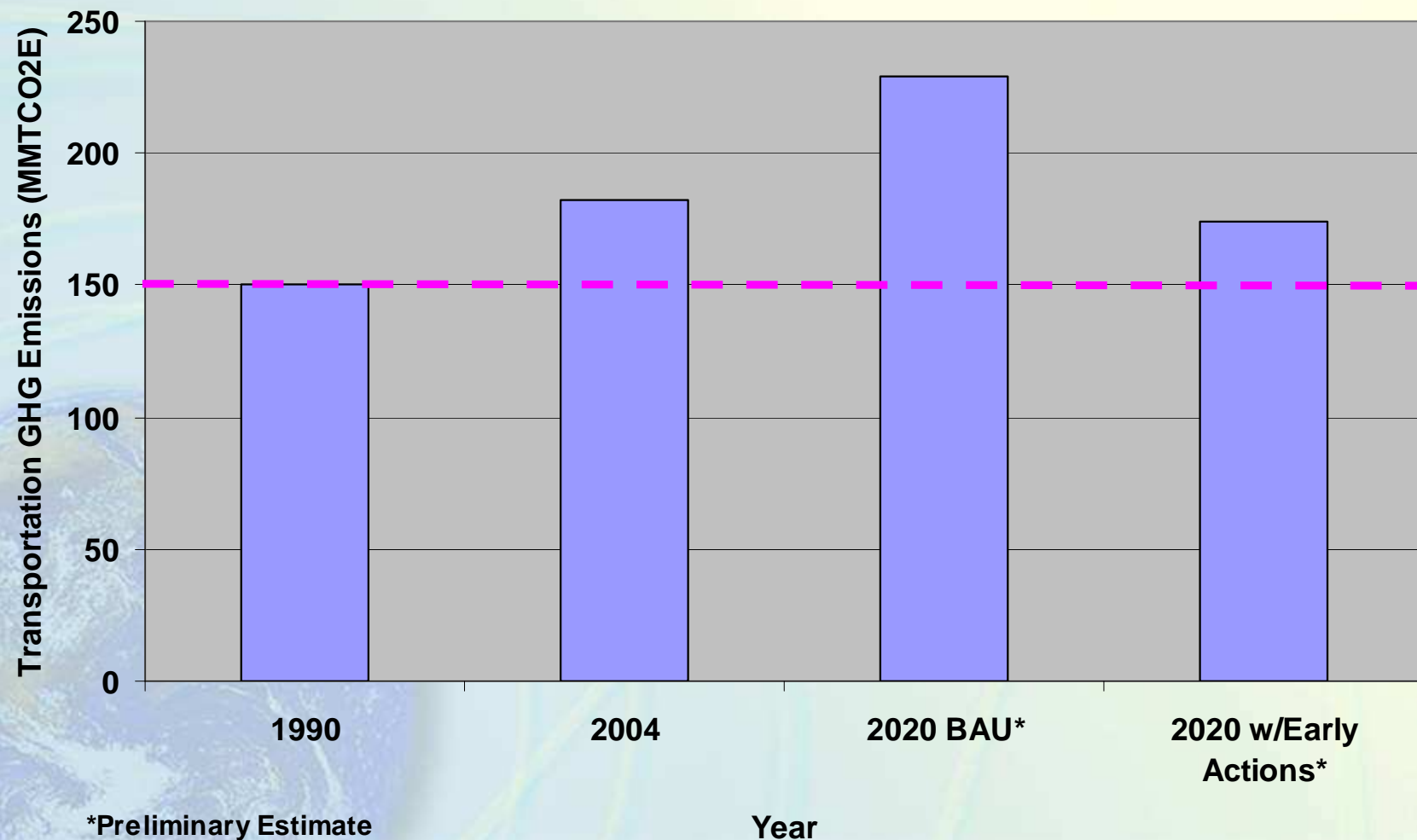
**California Air Resources Board**

**February 28, 2008**

# California 2004 GHG Emissions (480 MMTCO<sub>2</sub>E)



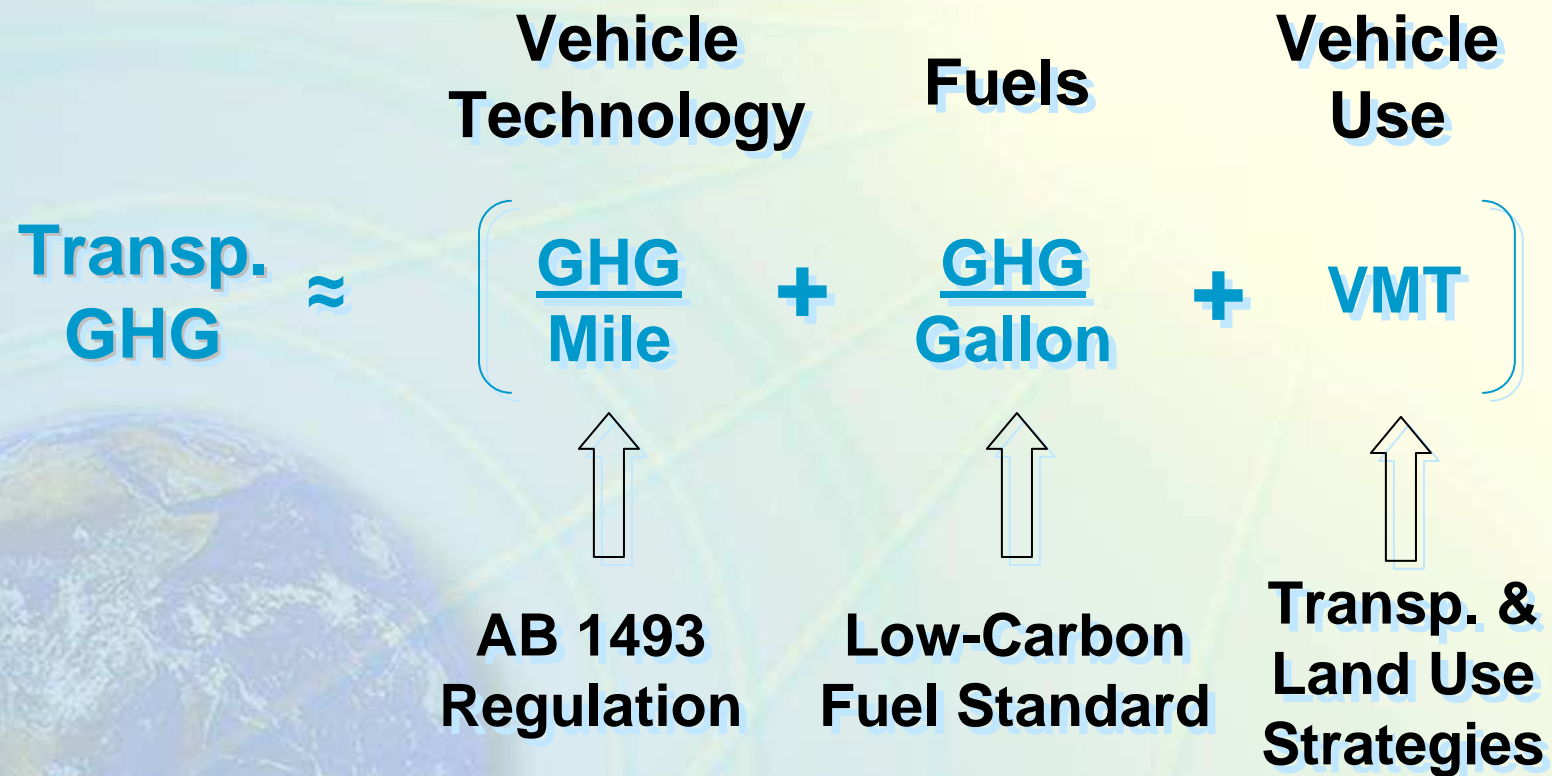
# Transportation Sector Emissions (MMTCO<sub>2</sub>E)



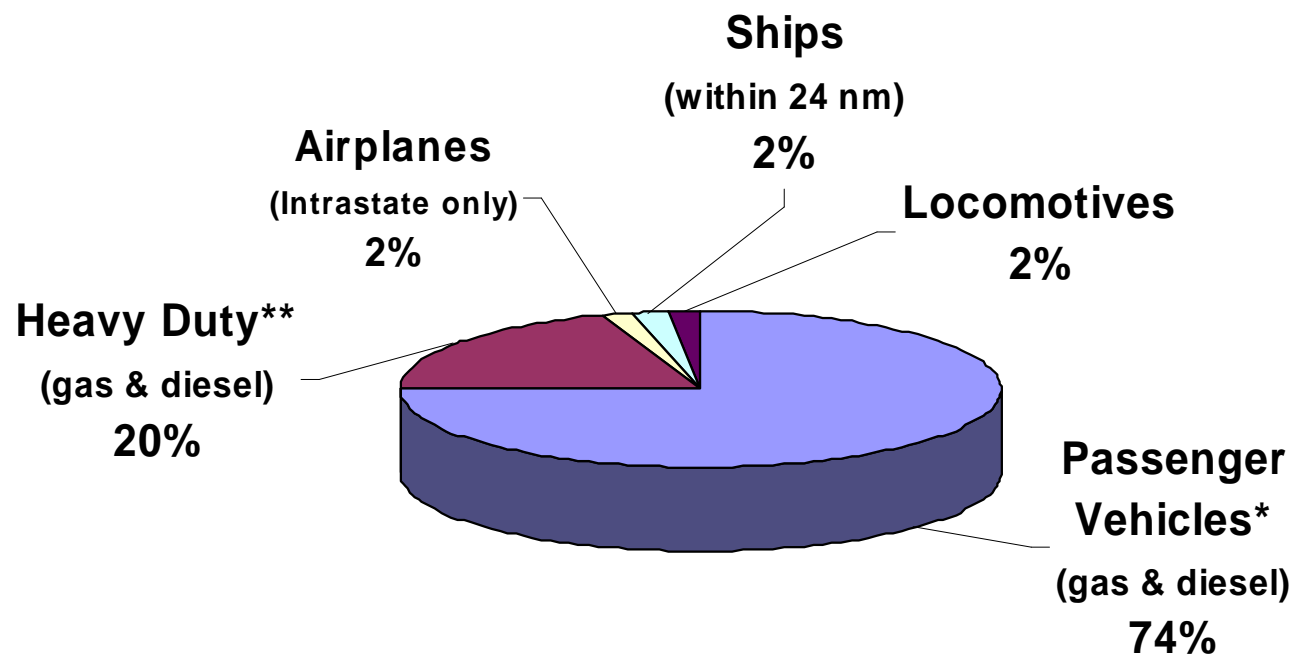
# Increase in Vehicle Use

- Growth in Statewide Vehicle Miles Traveled (VMT )
  - Increased 35% between 1990 and 2007
  - Expect 20% increase between now and 2020
  - Expect 50% increase between now and 2040
- VMT increase due to population growth and more per capita driving
- VMT trend must be slowed, ultimately reversed

# Overarching Strategies



# Cars and Trucks—Biggest Source



182 MMTCO<sub>2</sub>E (2004)



# Scoping Plan Vehicle Measures

- Adopted measures
  - AB 1493 (Pavley)
- Early Actions
  - Strengthening the Pavley regulation
  - Cool Paints
  - Truck Efficiency
  - Additional Early Actions:  
Tire Inflation, Enforcement, Hybridization  
of Urban Trucks, TRUs (electric standby)

## AB 1493 Status

- GHG standards adopted in 2004
  - Applicable to light duty vehicles beginning model year 2009; phased-in through 2016
- Adopted by 12 other states
- U.S. EPA denied waiver
  - U.S. EPA decision challenged in court by California and other states



# Vehicle Technology Symposium

- April symposium to explore additional ways to reduce GHG emissions from passenger vehicles
  - Current technologies
  - Advanced technologies
  - Pricing mechanisms
  - Fuels
  - Driving behavior
- Focus on 2020 and 2050

# Low Carbon Fuel Standard (LCFS)

- Achieve 10 percent reduction in carbon intensity by 2020
- Estimated reduction of 10–20 MMTCO<sub>2</sub>E by 2020
- Reduce dependency on petroleum-based fuels
- Diversify CA's options for transportation fuels

# Reducing VMT

- Land Use Sub-Group of the Climate Action Team (LUSCAT)
  - Multi-agency planning effort
- Local leadership
- Topic of 2008 Haagen-Smit Symposium
- Topic of Board update in May

# Summary

- Transportation Sector has opportunity for significant GHG reductions
  - Cleaner engines
  - Lower carbon fuels
  - Reduction in VMT
- Reductions from this sector are essential to meeting the GHG emission reduction targets



# **Comparison of GHG Reductions Achievable Under New Federal Fuel Economy Standards Versus Under CA's GHG Standards**



# Recent Events

- CA GHG regulations
  - Adopted - 2004
  - Waiver request to EPA - 2005
  - Two auto industry lawsuits uphold CA's regulation - 2007
  - EPA denies waiver – Dec.19, 2007
- Federal energy bill signed – Dec 19, 2007
  - Sets 35 mpg fuel economy (CAFÉ) std. for 2020 models
  - NHTSA to decide interim standards, beginning with 2011 models

# EPA Waiver Denial

- EPA Administrator Johnson stated:
  - CA does not have a “need to meet compelling and extraordinary conditions” (*condition to receive waiver*)
  - Climate change is a national problem
    - National solution (i.e. CAFÉ) more effective
  - New federal legislation more stringent than CA regulation
- No written support for his position

# ARB Analysis

- Evaluated impact of federal fuel economy standards (CAFÉ) on GHG emissions
  - Compared to CA GHG standards
    - In California
    - In other States and Provinces
  - Compared by calendar year, and cumulatively from now to 2016 and 2020

# Conclusion of ARB Analysis

- ARB GHG standards reduce more GHG emissions than new federal fuel economy standards
  - In CA, and other states
  - In short term, and in long term
- Results at:  
[http://www.arb.ca.gov/cc/ccms/reports/pavleycafe\\_reportfeb25\\_08.pdf](http://www.arb.ca.gov/cc/ccms/reports/pavleycafe_reportfeb25_08.pdf)

# Comparison for California

Calendar Year	GHG Emissions Reduced*	
	CA GHG standard	Fed. Fuel Economy Std.
2016	16.4	7.5

\* MMT CO<sub>2</sub>E/year

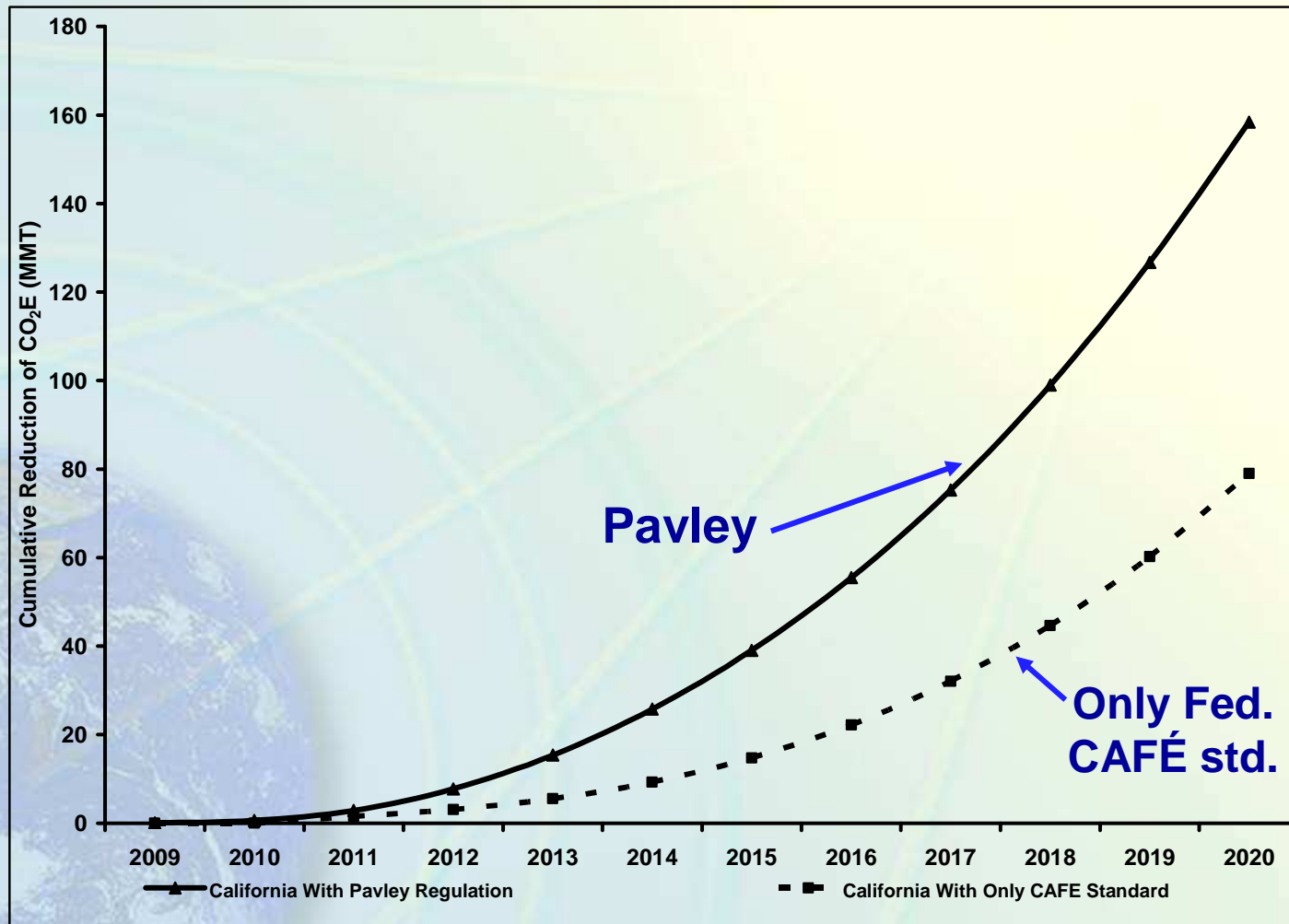


# Comparison for California

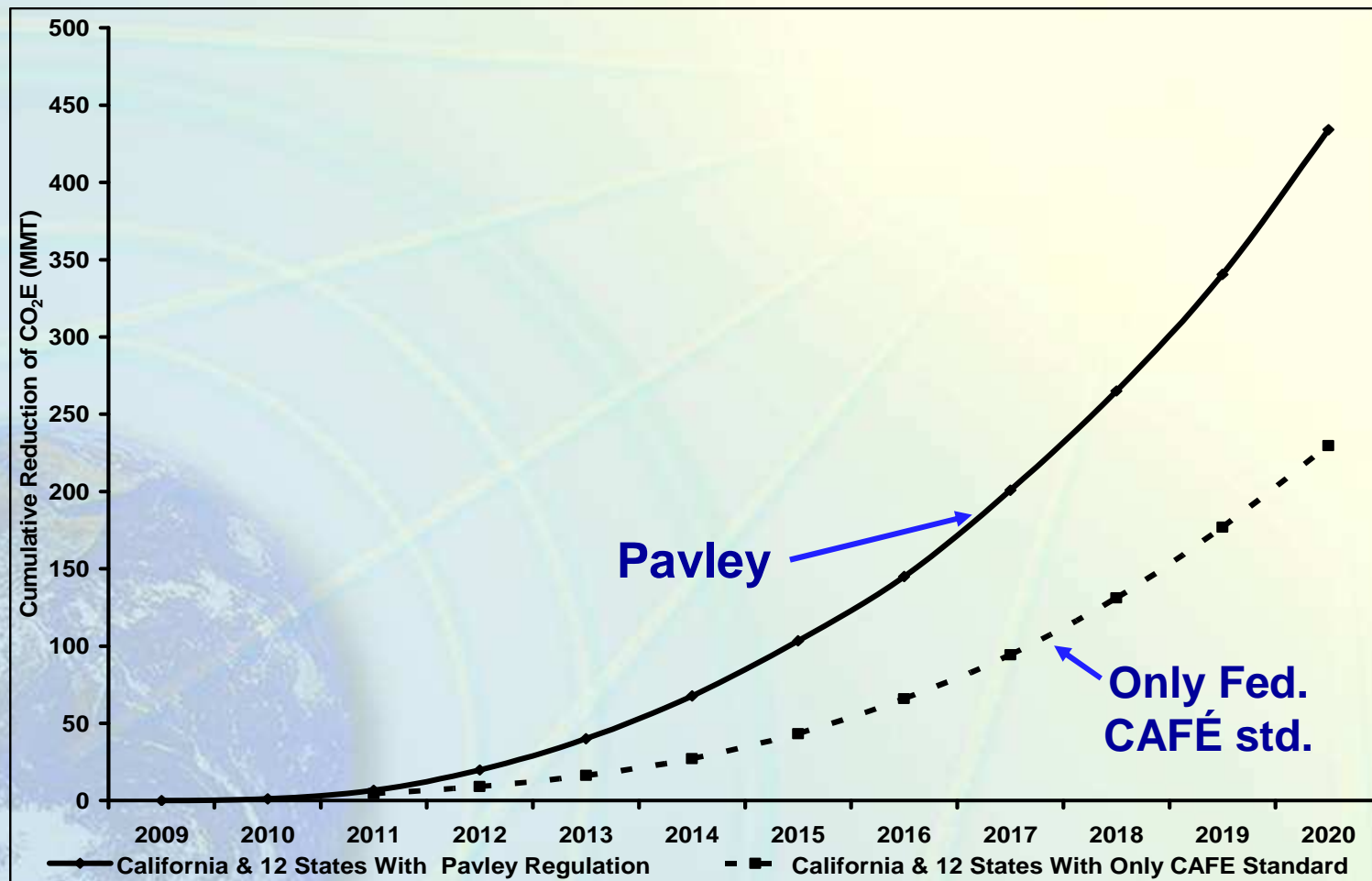
Calendar Year	GHG Emissions Reduced*	
	CA GHG standard	Fed. Fuel Economy Std.
2016	16.4	7.5
2020	31.7	18.8

\* MMT CO<sub>2</sub>E/year

# Cumulative GHG Reductions In California



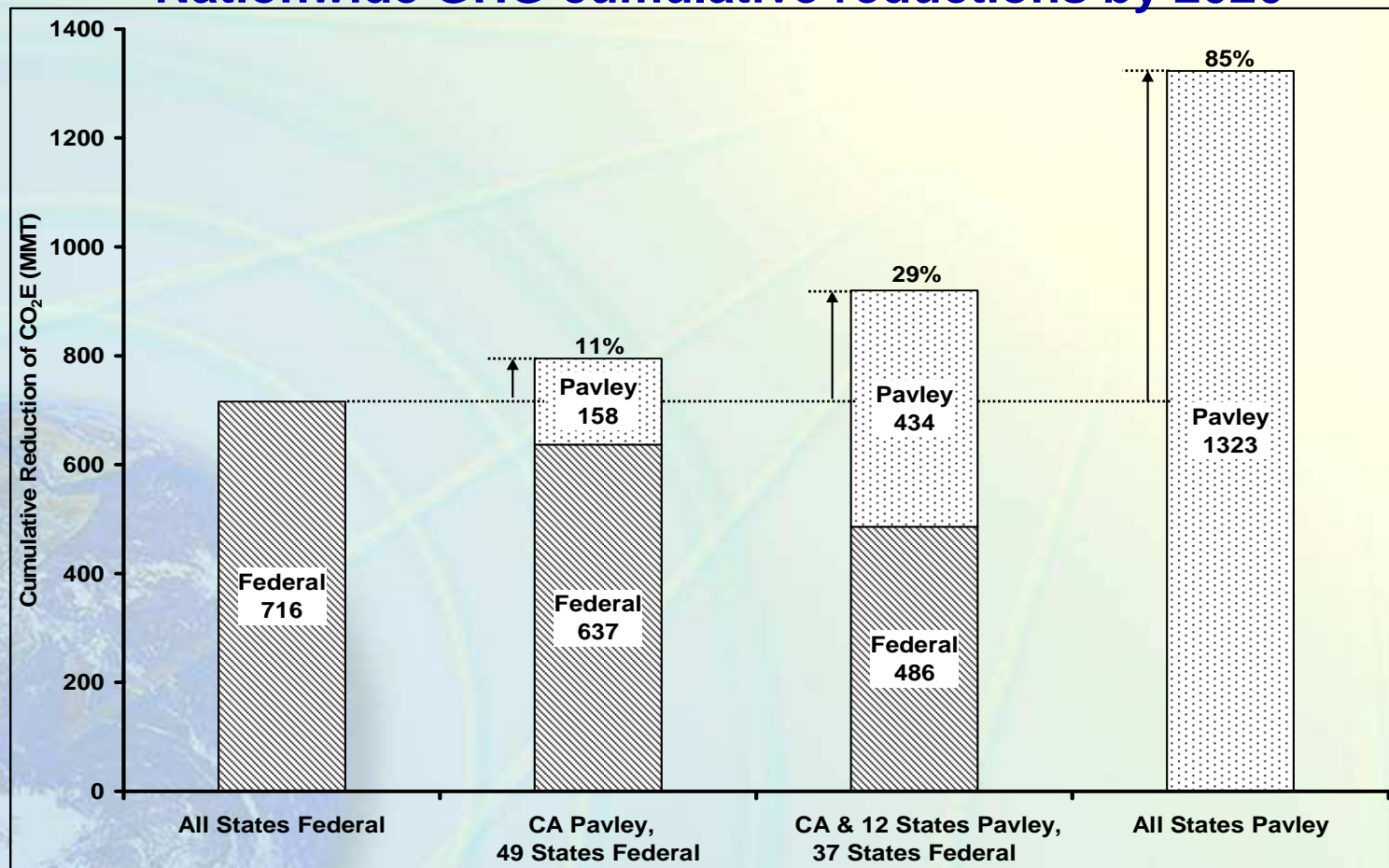
# Cumulative GHG Reductions in Other States\*



\* CA + 12 states that adopted Pavley stds.

# CA GHG Standards More Effective Nationally

Nationwide GHG cumulative reductions by 2020



# Comparison Based on Fuel Savings in Other States\*

Ave. Fuel Economy, mpg New Vehicles		
Model Year	CA GHG Standards**	Fed. CAFÉ Standards
2016	32.3	29.7

\* Assumes PC/LDT1 and LDT2 sales split 50%/50%

\*\* Based on CO2 portion of GHG emissions reduced



# Comparison Based on Fuel Savings in Other States\*

Model Year	Ave. Fuel Economy, mpg New Vehicles	
	CA GHG Standards**	Fed. CAFÉ Standards
2016	32.3	29.7
2020	39.2	35.0

\* Assumes PC/LDT1 and LDT2 sales split 50%/50%

\*\* Based on CO2 portion of GHG emissions reduced

# Why Are CA GHG Standards More Effective?

- Start earlier
- Ramp up quicker
- Address the problem – GHG – directly
- No loopholes (e.g. FFV credit)
- Will become more stringent post-2016
  - “Pavley 2”

# Pavley 2 Standards

- Planned for adoption in 2010
  - Effective with 2017 models
- Based on technologies now becoming mainstream
  - HEVs, PHEVs, Diesel
- GHG reduction increase to 40+%  
(from 30% of Pavley 1)
  - 4 MMT CO<sub>2</sub>E additional benefit in 2020
  - Much more by 2030

# Summary

- CA GHG standards are more effective\*
  - In reducing GHG emissions
    - In any individual year
    - Cumulatively
  - In saving fuel
  - In CA alone
  - In other 12 “Pavley” states
  - Nationwide
- Pavley 2 will put us on path to 2050 goal
  - 80% reduction in GHG

\* Compared to federal CAFE