

# Strategies to Reduce Global Warming Pollution from Transportation *The California Approach*

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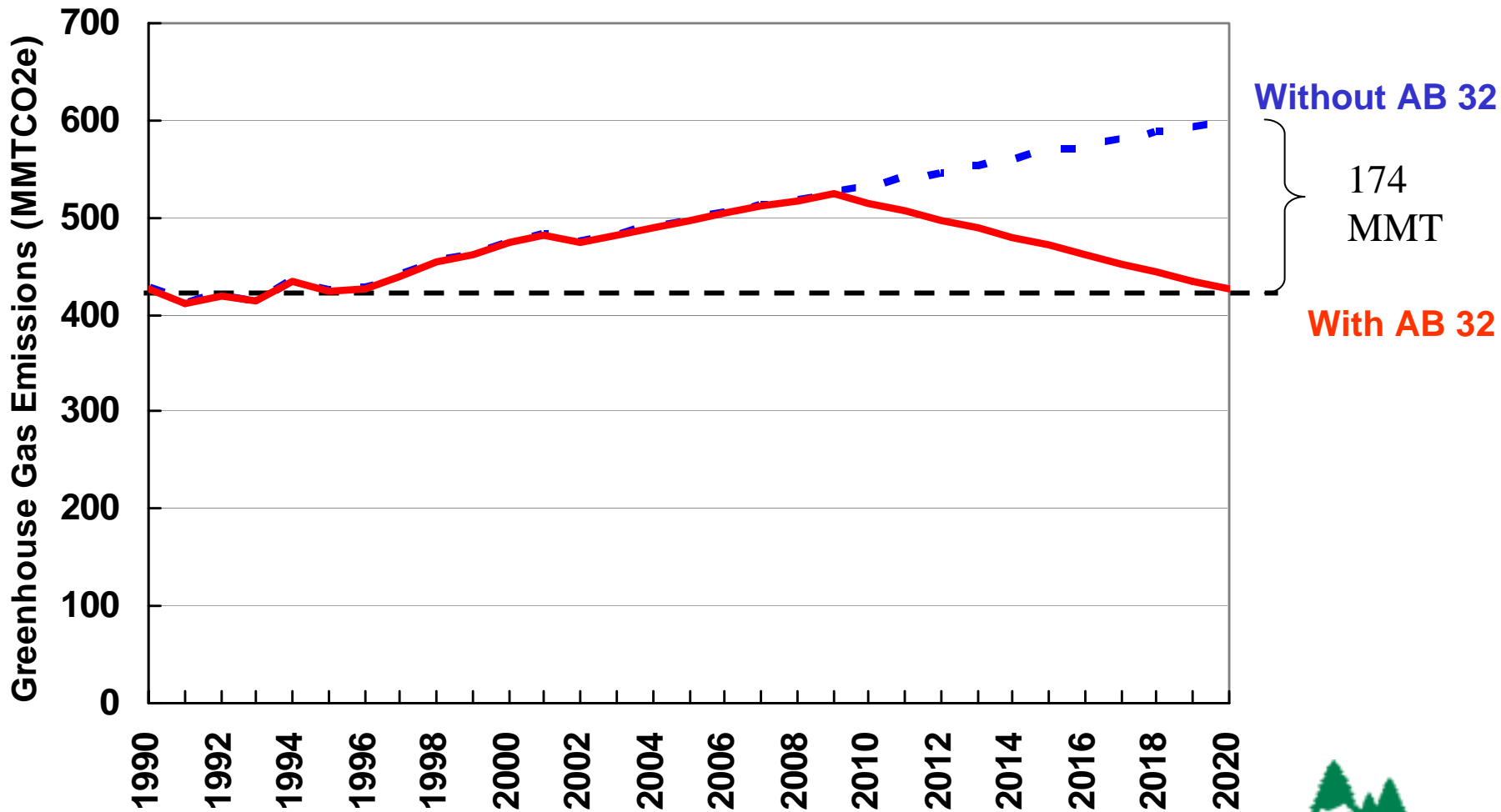


# California's Global Warming Targets

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- California's new law, the Global Warming Solutions Act (AB 32), sets an ambitious, but achievable cap that will return GHG emissions to 1990 levels by 2020 (25% cut)
- Governor's Climate Action Plan also has a longer-term target of 80% reduction by 2050 consistent with USCAP and Safe Climate Act (Waxman)
- California also has goal of displacing 20% of on-road transportation petroleum fuels with alternative fuels by 2020 ("Integrated Energy Policy Report")

# AB 32 Requires 1990 Levels by 2020



Sources: Climate Action Team, *Report to Governor Schwarzenegger and the Legislature*, March 2006; Assembly Bill 32 (Nunez-Pavley, 2006)



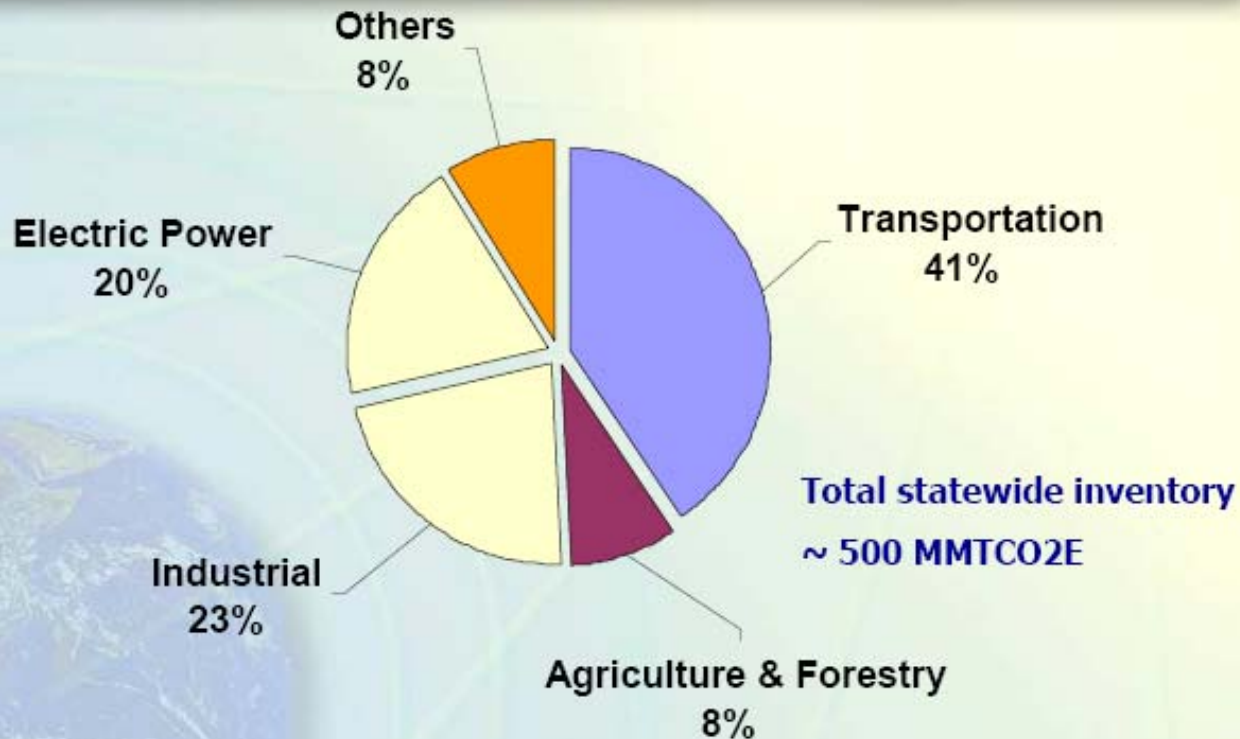
# Comprehensive Approach Using Market Programs and Performance Standards

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- Approach under AB 32 will combine market-based programs, such as a cap-and-trade systems, with performance-based standards
- In scope and policy design, most similar to Safe Climate Act (HR 5642 Waxman) and Global Warming Pollution Reduction Act (S. 3698 Sanders-Boxer)

# Transportation is 41% of GHG Emissions

## California's Anthropogenic GHG Emissions 2002 (CO<sub>2</sub>-equivalent)



Source: March 2006 CAT Report, adapted from CEC, 2005

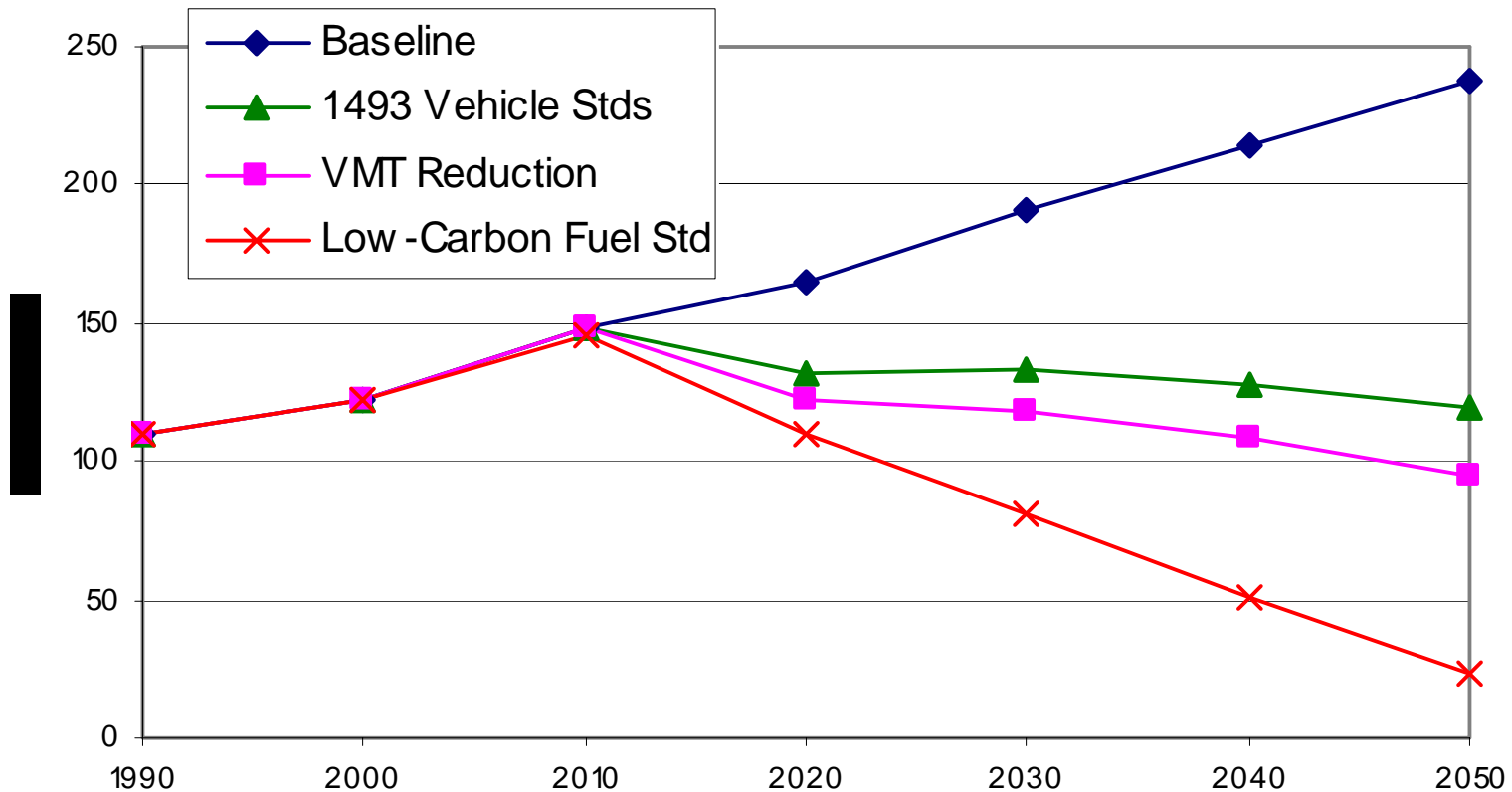
# Three Key Strategies to Meet Targets

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- Cleaner Cars and Trucks
  - Current CO<sub>2</sub> emission standards for passenger vehicles (AB 1493)
  - New program to improve Heavy Duty Trucks
- Low-Carbon Fuels
  - Recently announced Low-Carbon Fuel Standard to ensure supply of low-carbon fuels
- Reduction in Travel Demand
  - \$42.3B in bond money for highway and other infrastructure, a portion of it can be spent on projects that help reduce travel demand

# 3 Key Strategies: Cleaner Cars, Reduce Driving, and Low-Carbon Fuels

## Passenger Vehicles CO<sub>2</sub> Emissions, End-Use Only



# California's Low-Carbon Fuel Standard



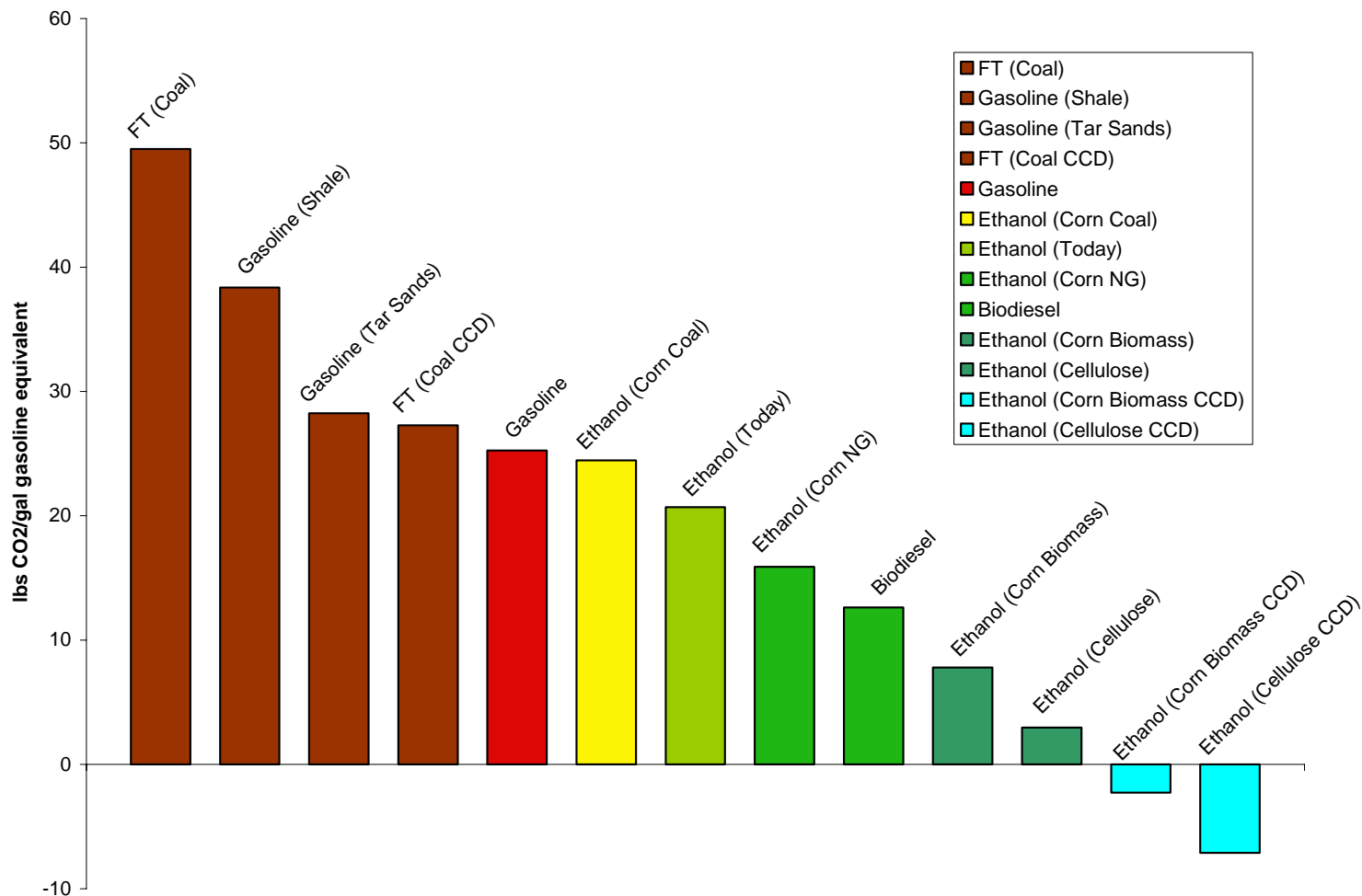
- Governor Executive Order establishes a goal of 10% reduction in transportation fuel carbon intensity by 2020
- CARB to consider as Early Action Measure with possible adoption by end of 2008
- Measured on full fuel cycle, CO<sub>2</sub>-eq/btu
- Performance-based, inclusive of all fuels
- Requirement on refiners, producers, blenders and importers of transportation fuels

# Rationale for Low-Carbon Fuel Standard

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- Low-Carbon Fuel Standard Ensures Can Reduce Both Petroleum and GHGs
- A cap-and-trade system is unlikely to create a large enough price signal to induce sufficient, timely investments in new fuel and vehicle technologies
- Benefits versus Renewable Fuel Standard
  - More flexible since it includes electricity, hydrogen, natural gas, etc, rather than just biofuels
  - Ensures GHG reductions
  - Penalizes the use of high carbon, fossil fuels

# An Alternative Fuel is Not Necessarily a Low-Carbon Fuel



# Conclusions

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- California approach is comprehensive, and will use a combination of market-based programs and performance-based standards
- Transportation must contribute its fair share and the three key strategies are: cleaner cars, low-carbon fuels, and reduce travel demand
- Low-Carbon Fuel Standard ensures we can meet twin goals of reducing petroleum dependency and GHG emissions