



California Energy Commission

California Leadership on Land Use and Climate Change

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California Energy Commission*

**New Partners for Smart Growth
Washington, DC
February 8, 2008**



Where We Are Going Today

- Context
- Transportation
- Importance of Land Use
- What is CA Going to Do
- The Real Climate Challenge?





Executive Order S-3-05

June 1, 2005

CA will reduce
Greenhouse Gases to:

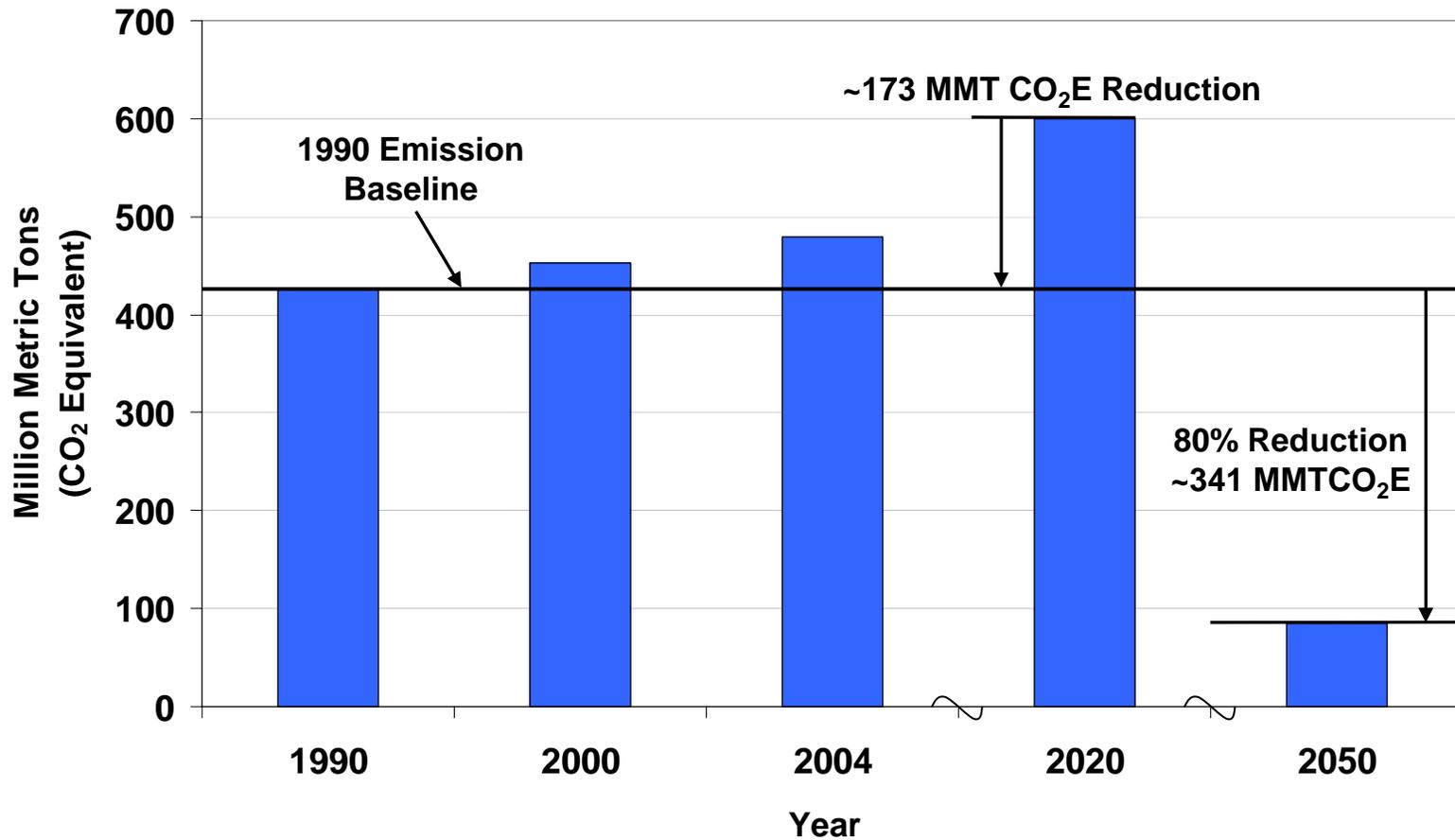
- 2000 levels by 2010
- 1990 levels by 2020
- **80% below 1990
levels by 2050**





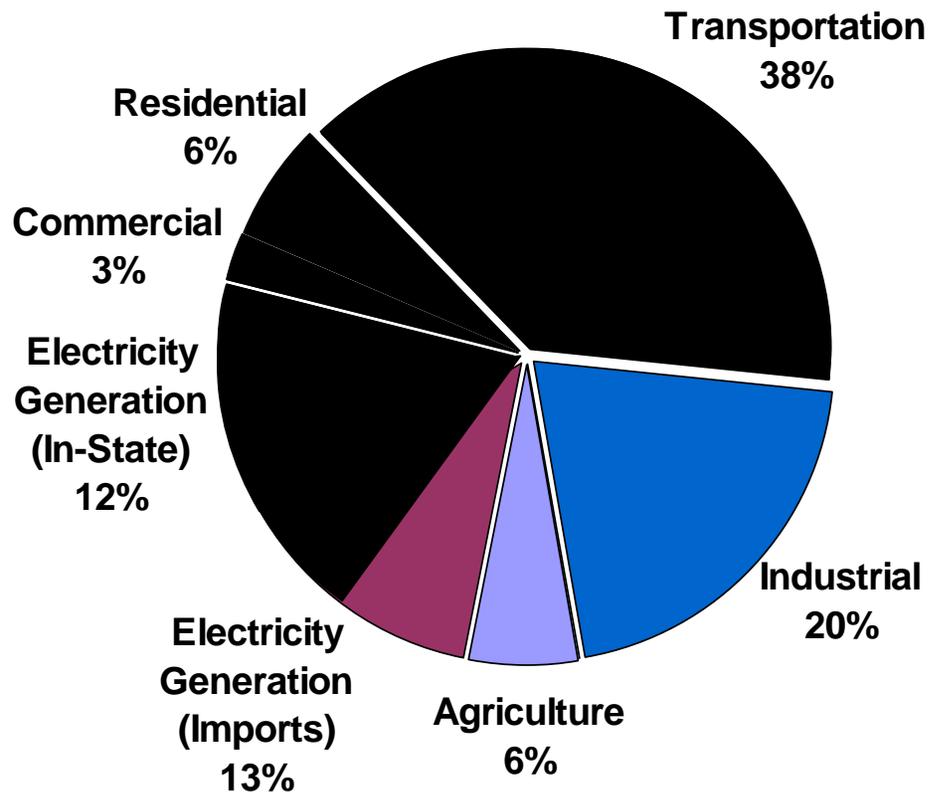
Magnitude of the Challenge

ARB Emissions Inventory





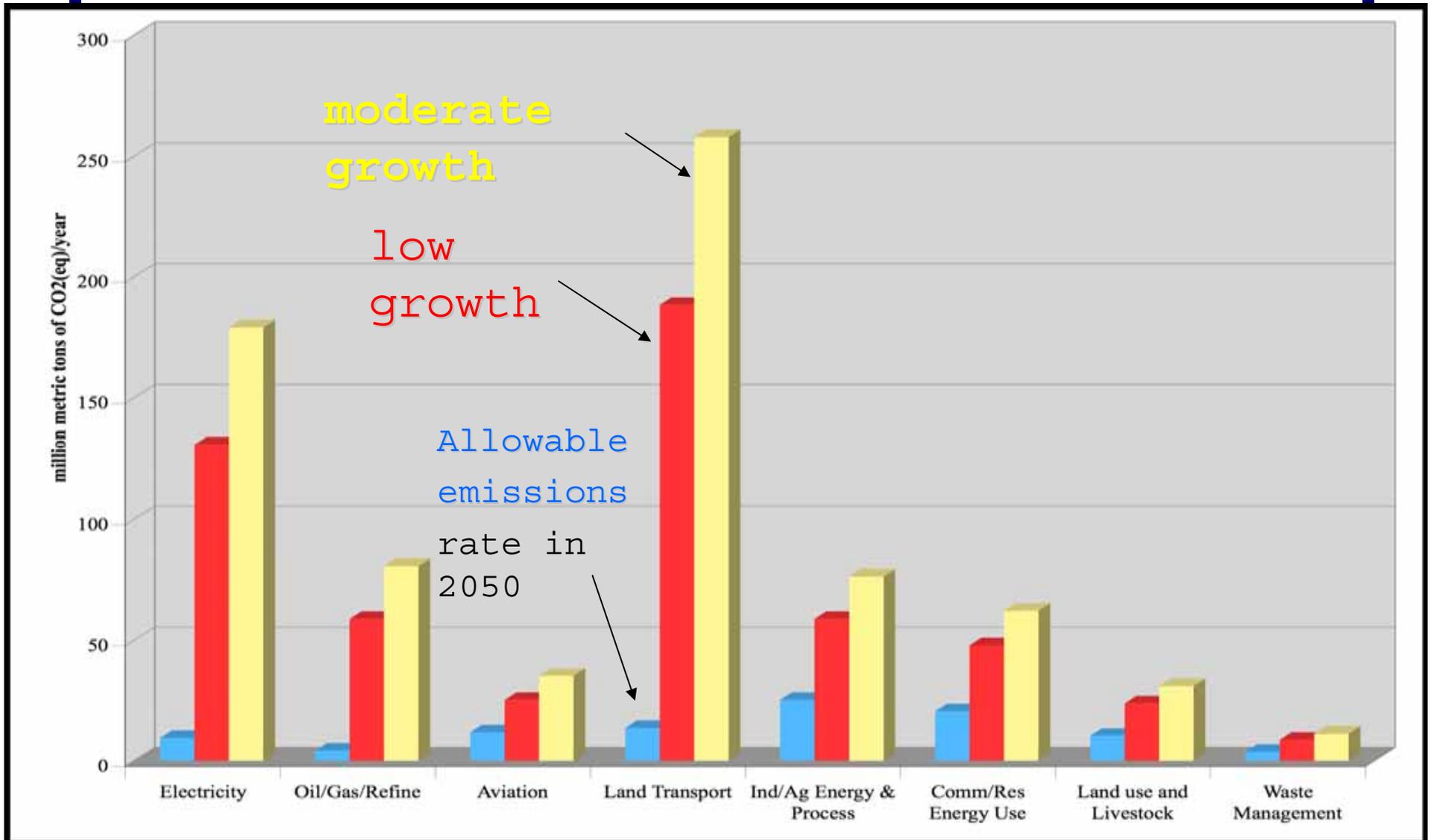
CA Greenhouse Gas Emissions 2004





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Reductions Needed to Reach 2050 Targets





Focus on the transportation sector

- Improve vehicle fuel efficiency
- Reduce carbon content of the fuel
- Reduce the miles of travel





Energy Efficiency

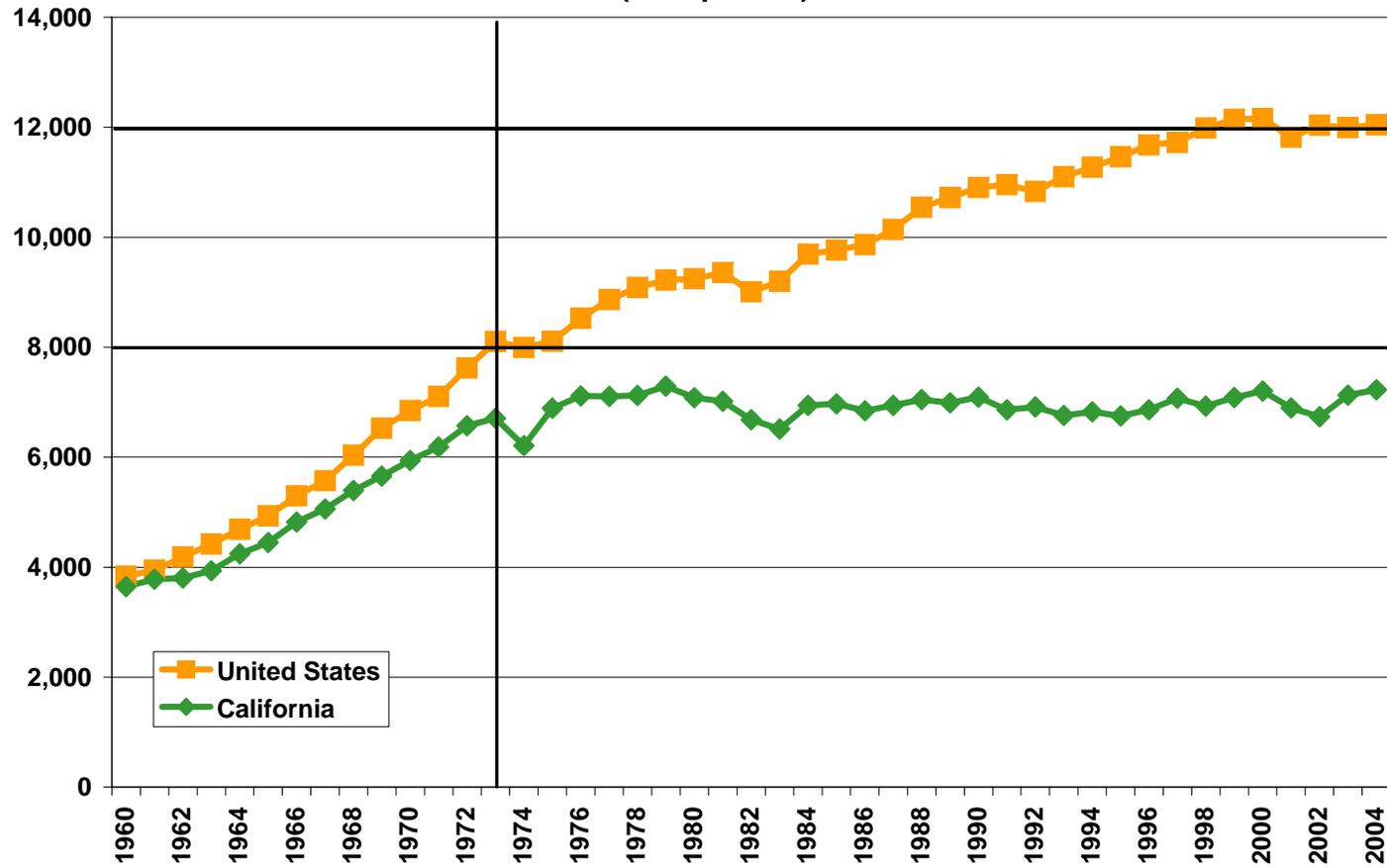
- *2007 Integrated Energy Policy Report*
 - Require **net zero energy by 2020** for residences and **2030 for commercial** buildings.
- CPUC and CEC Big, Bold Initiatives
 - Will invest over \$15 Billion in efficiency by 2030



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Energy Efficiency

Per Capita Electricity Sales (not including self-generation)
(kWh/person)





Renewable Energy

– Renewable Portfolio Standard (RPS)

- Investor Owned Utilities must procure 20% of their electricity from renewable resources no later than 2010.
- Municipal utilities are directed to develop a program that achieves the same goals
- CEC and CPUC adopted goal of 33% by 2020





Transportation to Buildings vs. Buildings

- Transportation Energy Usage for Average Office Building in CA:

127 KBTU/ft²-yr

- Operating Energy Usage for Average Office Building in CA:

72 KBTU/ft²-yr

- How much more energy does the commute to the average office building in CA use than the building itself:

57%



Tail Pipe and Fuel Standards

AB 1493, Statutes 2002

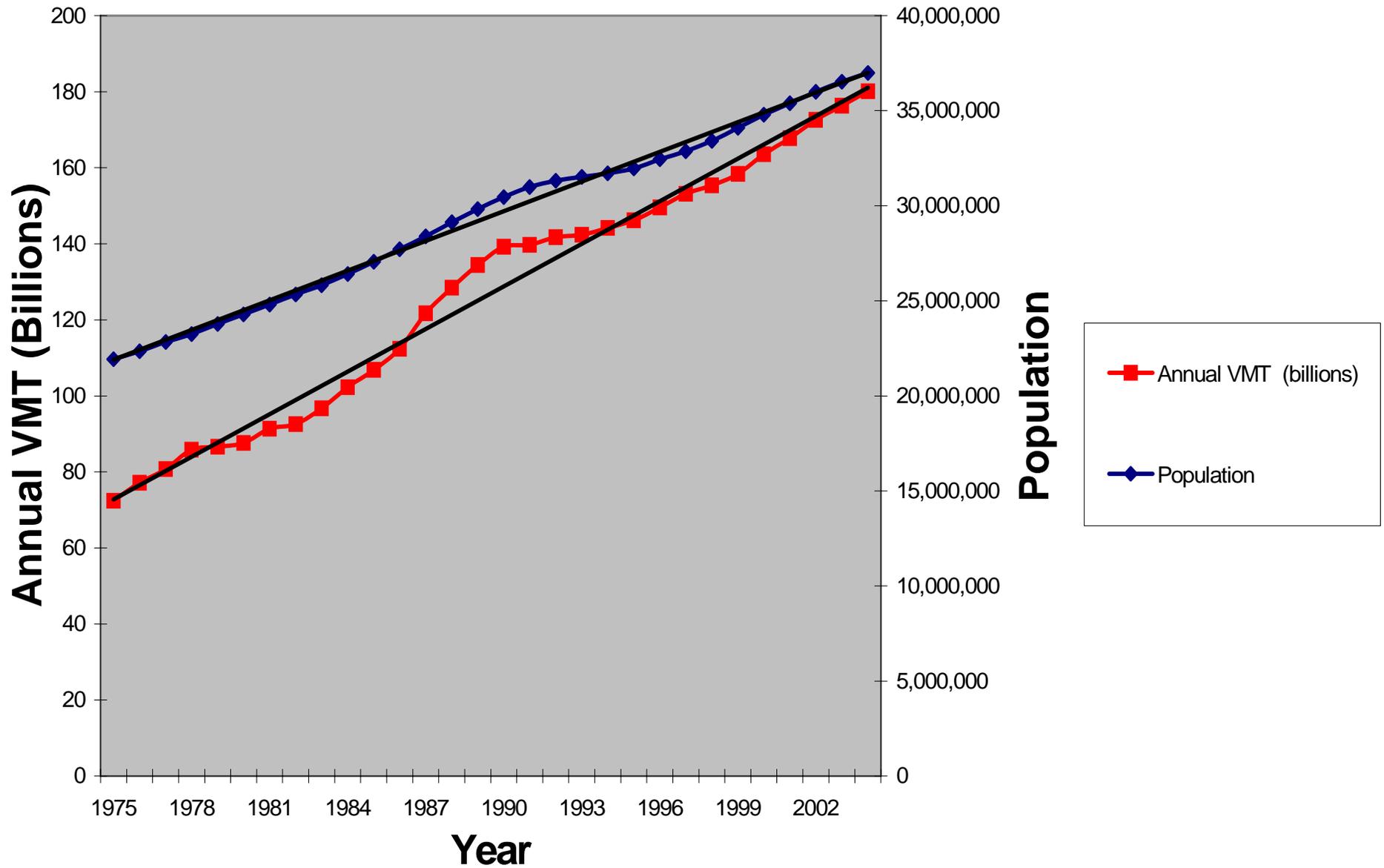
- By 2016 vehicles in CA must be 30% more GHG efficient than those sold in 2002

Low Carbon Fuel Standard

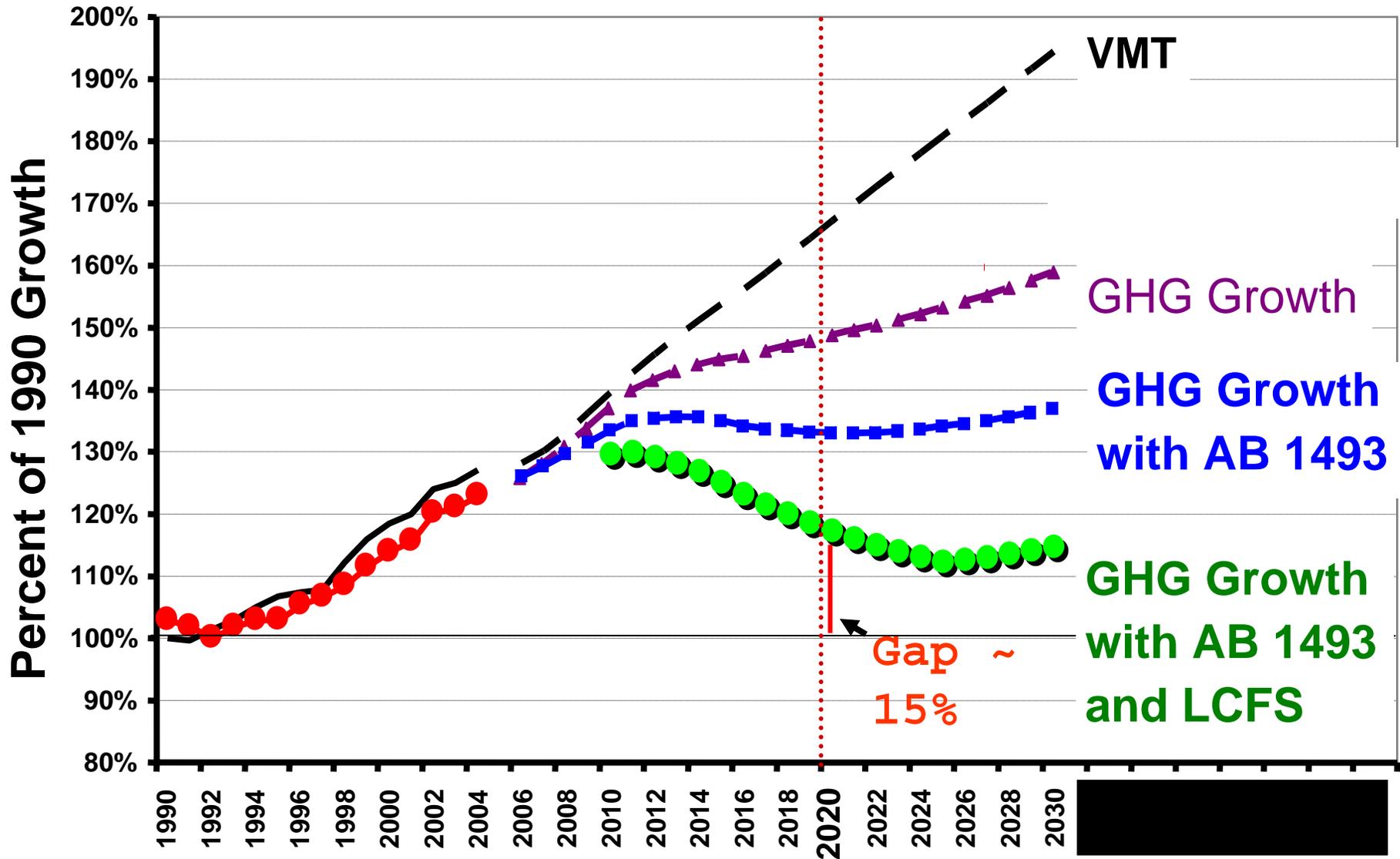
- Reduce GHG impacts in CA's transportation fuels 10% below 2007 levels by 2020.



VMT and Population in CA 1975-2004



Historical and Projected Vehicle Miles Traveled (VMT) and GHG Growth



OH, OKAY, I SEE YOUR POINT.
BUT YOU HAVE TO BALANCE THAT
AGAINST THE CONVENIENCES
OF MY LIFESTYLE.



GLOBAL WARMING

ONE OF WHICH
IS NOT THINKING
ABOUT THIS.

TOLSON

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California's State Flower





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Land Use Patterns and VMT

Ewing and Cervero, 2001:

- **Density may have the most significant relationship to travel and transportation outcomes: doubling density led to 5% reduction in VMT .**
- **Difference between low and high density U.S. metropolitan areas is more than 40 percent daily per capita VMT**
- **Trip frequencies depend mostly on socioeconomic and demographic factors**
- **Overall, VMT and VT declined as accessibility, density, and/or land-use mixing increased.**



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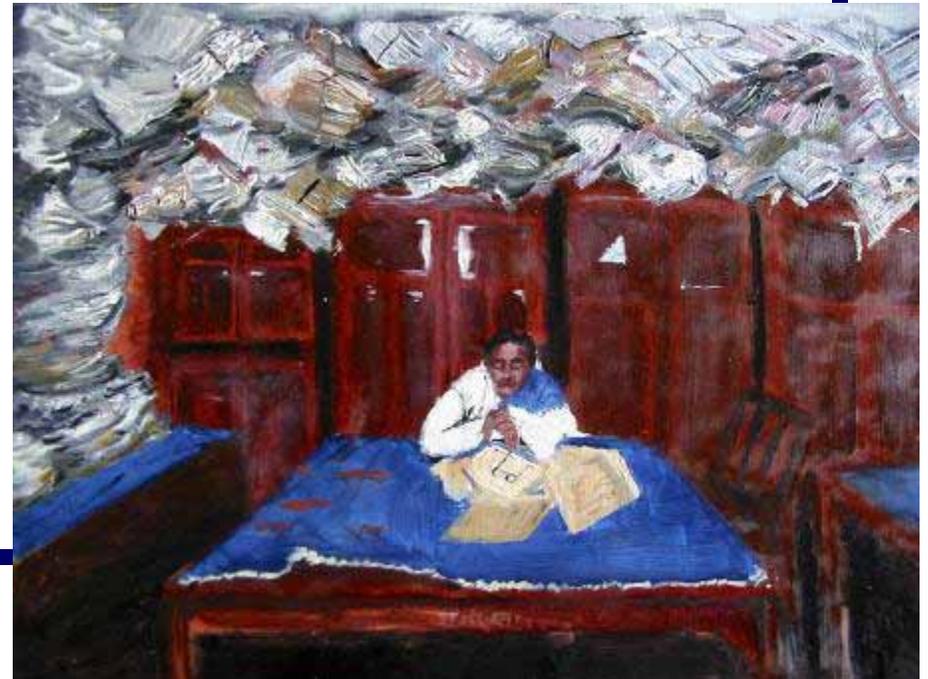
CA's Approach





1. State Preparation

- State agencies add GHG considerations to internal programs related to State-owned facilities and infrastructure.
- State agencies add GHG considerations to programs related to state-assisted infrastructure and land use planning, design and development.





2. Providing the Structure



- The State provides regional and local governments clear guidance on how to inventory GHG emissions within their jurisdiction.
- The State provides guidance to regional and local governments on best practices for reducing GHG emissions.
 - Land Use GHG quantification
 - Model Climate Action Plans
 - CEQA (Environmental Impact Reporting)



3. Setting the Targets

- The State shall define a land use-related GHG emissions target for the State and separate targets for each region of the State.
 - State
 - Regional





4. Measuring Progress

- The State collects inventories of GHG emissions from local governments to track progress towards targets.





The Real Climate Challenge?

**In 2010, three people will
leave the workforce for
every one that joins**

In 2012, it will be four

In 2016, it will be six





Stern Report



HM TREASURY

- ... the overall costs and risks of climate change...at least 5% of global GDP
...could rise to 20% of GDP or more.
- ... the costs of action.....can be limited to around 1% of global GDP each year.
- ... global emissions will need to be reduced to less than 5 GtCO₂e, **over 80% below current annual emissions**, to maintain stabilization.
- ... **next 10-20 years will have a profound effect on the climate.**





How about you spend LESS time studying how MY generation destroyed the environment and MORE time figuring out a magical solution?





Thank You!

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