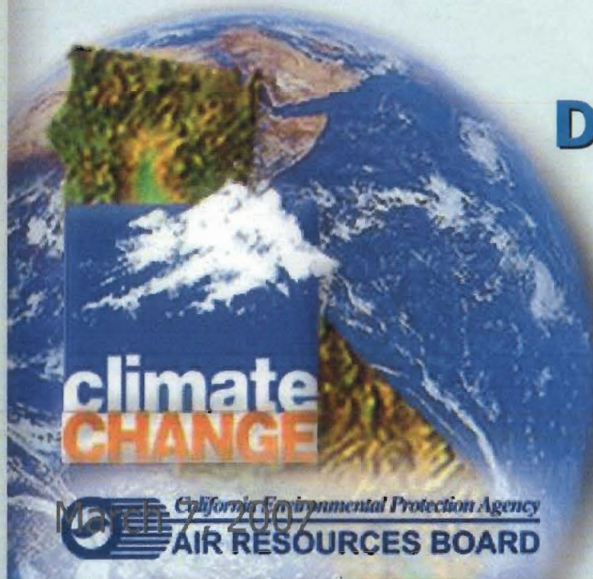


# AB 1007 -- 2050 Vision

**Mike Scheible**  
**Air Resources Board**  
**Deputy Executive Officer**

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DATE	MAY 31 2007
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*CEC/ARB Workshop May 31, 2007*





## **AB 1007: Need to Look Beyond 2022**

- **AB 1007 requires forecasts to 2022,**
- **But - many reasons to look farther ahead**
  - **Help identify ultimate goals for new fuels**
  - **Allow time to reflect fleet turnover and technology innovation**
  - **Help guide longer term investments**
  - **Determine how transportation sector might meet 80% GHG reduction goal in 2050**
  - **Determine if the alternative fuel paths to 2022 support the longer term transportation goals**



# **2050 Vision**

## **Policy Goals Included in Effort**

- **Reduce GHG emissions by 80+ percent**
- **Create sustainable long term transportation fuels**
- **Protect economy from dependence on single fuel**
- **Minimize costs through efficiency and diversity**
- **Maximize potential for in-state production**



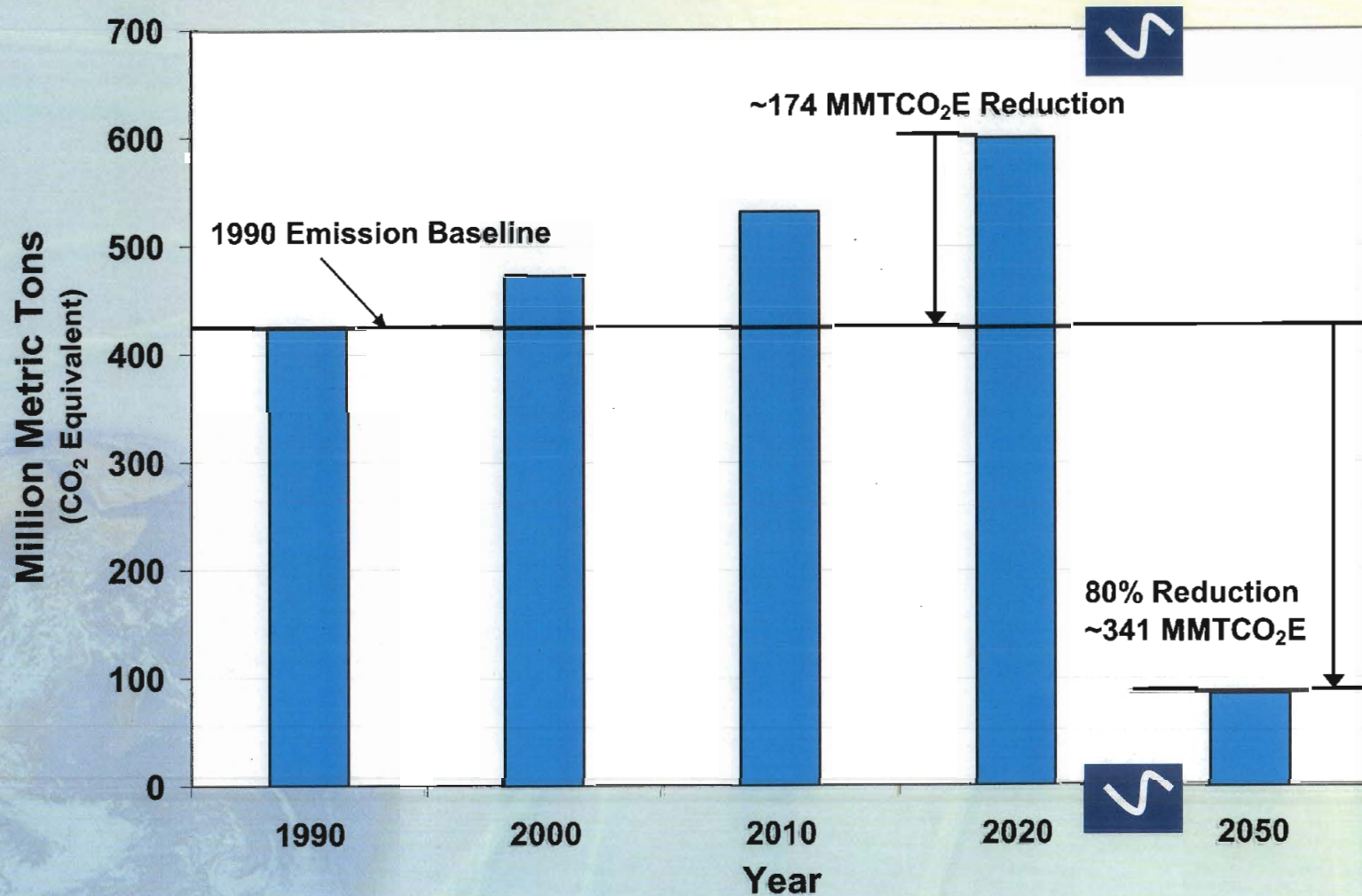
# **California's GHG Reduction Efforts Need to Be Considered in AB 1007**

- **AB 32 – Return to 1990 levels by 2020**
  - Requires a 15% GHG reductions from today's levels
- **Governor's EO S-3-05**
  - Reduce 2050 GHG emissions to 20% of 1990 levels
  - Requires a ~85% GHG reductions from today's levels
- **The Low Carbon Fuel Standard**
  - Reduce fuel GHG intensity by 10% by 2020
  - Further improve fuels beyond 2020
- **Ensure Needed Long Term GHG Reductions are obtained From the Transportation Sector**



# The Long Term GHG Goal Is Very Challenging

CAT Report Emissions





# **Creation of a 2050 Vision for the AB 1007 Report**

- **ARB and CEC staff have added two forecast years**
  - A mid term year of 2030
  - A long term year of 2050
- **Not detailed forecasts -- use aggressive, yet plausible, assumptions on technology and fuels**
- **The mid and long term forecasts reflect three broad strategy approaches for transportation**
  - Maximize energy efficiency of both vehicles and fuels
  - Reduce travel demand through technology and land use
  - Deploy lower and lower GHG transportation fuels
- **The target for 2050 – 80% GHG reduction**



# **2050 Vision**

## **Measures Included to Reach Goals**

- **Tripling of average vehicle fuel efficiency**
  - Conventional vehicles on gasoline > 40mpg
  - Hybrid vehicles achieve almost 60 mph
  - Electric drives exceed 100 mpg
  - Fuel cell vehicles exceed 80 mph
- **Highly diverse supply of transportation fuels**
  - 70 % very low GHG biofuels, electricity and hydrogen
  - 30% from Gasoline, diesel, natural gas and LPG
- **Population increases to 55 million, but per capita driving is decreased by 5% (1990 level)**



# **2050 Vision – Changes from Business as Usual Forecast**

- **Miles traveled – reduced from 570 to 450 billion/yr**
- **Per capita VMT - reduced from 10,000 to 8,000 miles/yr**
- **Average fuel efficiency – increased from 26 to about 70 miles per gasoline gallon equivalent**
- **Transportation energy demand – decreased from 23 to 6.4 billion gallons/yr**
- **GHG emissions from personal travel – decreased by almost 85% (~160MMTs/yr)**
- **Mix of transportation fuels used for personal travel**
  - 30 % from gasoline, diesel, natural gas or LPG
  - 30 % from biofuels or other renewable liquid fuels
  - 40 % from electricity or hydrogen