

# **USC Schwarzenegger Institute & Stanford Energy Modeling Forum Transportation Symposium**

**Senator Fran Pavley  
Environmental Policy Director, USC Schwarzenegger Institute**

# 1970 Clean Air Act



**President Nixon signing 1970 Clean Air Act**

# UCS Report on California Climate Impacts (2000)

## Climate Changes



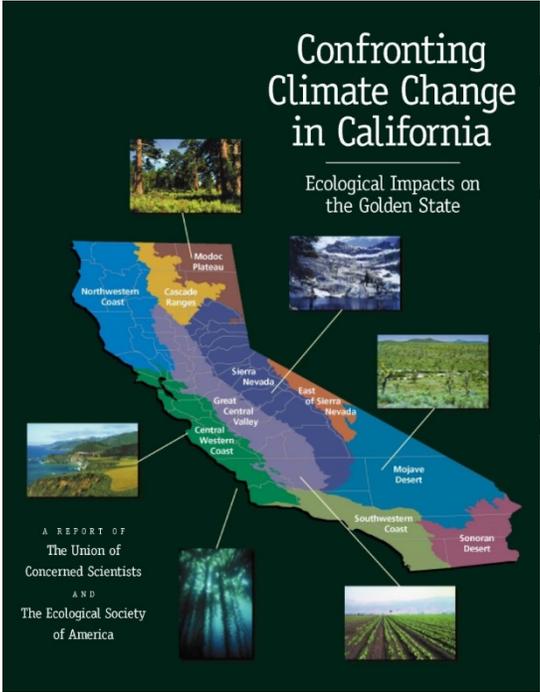
**Temperature Increase**



**Precipitation Patterns and Extremes**

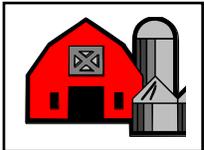


**Sea Level Rise**



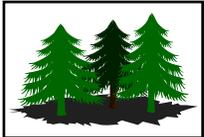
### Health

Air Quality - Respiratory Illness  
Weather-related Mortality  
Infectious and Tropical Diseases



### Agriculture

Crop Yields  
Irrigation Demands



### Forests

Forest Composition  
Geographic Range of Forests  
Forest Health and Productivity



### Water Resources

Water Supply  
Water Quality  
Competition for Water



### Coastal Areas

Erosion of Beaches  
Inundation of Coastal Wetlands  
Additional Costs to Protect Coastal Communities



### Species and Natural Areas

Loss of Habitat and Species

# Global Warming Solutions Act (2006)

## California's Landmark Policy

- Climate pollution reduction targets by 2020
- Multi-sector approach:
  - ✓ Vehicles
  - ✓ Fuels
  - ✓ Renewable energy standards
  - ✓ Appliances
  - ✓ Buildings
  - ✓ Land use planning
  - ✓ Cap-and-trade



**Putting a cap on emissions and rolling back to 1990 levels by 2020 created a market for investment and innovation**

# California has a 40% GHG Reduction Target by 2030

## Executive Order B-30-15:

Brown Administration's 2030 greenhouse gas reduction goals.

**SB 32** codifies this 2030 economy-wide greenhouse gas reduction target.

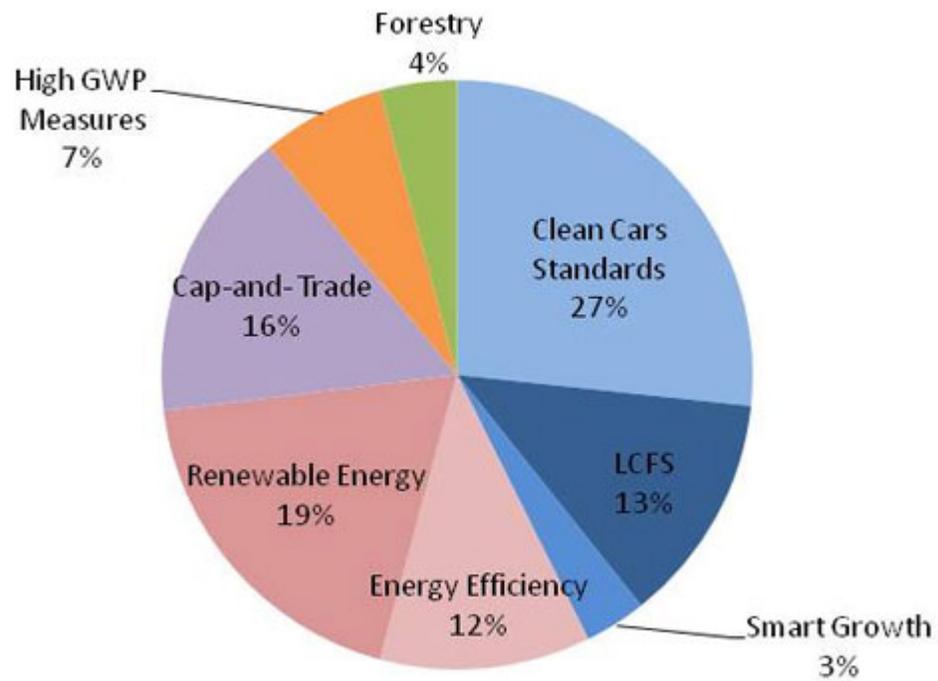
**AB 197** institutionalizes a policy of equity, transparency, and accountability in future programs.



Los Angeles, September 2016

## Businesses and Markets Need Certainty

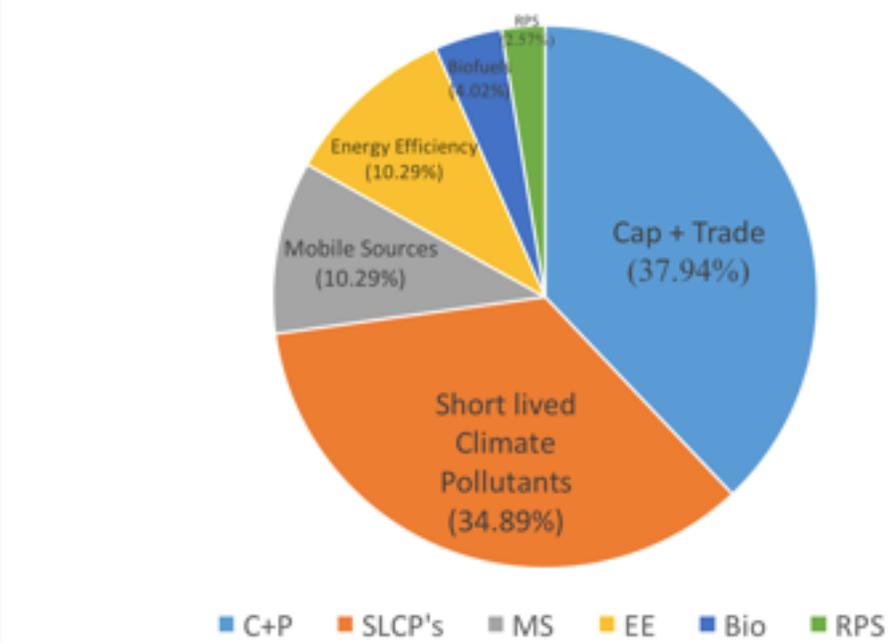
## AB 32 Emission Reduction Strategies (Measure, Percent of Total)



Sources: CARB, Scoping Plan: Emissions Reductions from Scoping Plan Measures (last updated Oct. 28, 2010); 2020 GHG Emissions Forecast (last updated Oct. 28, 2010).

AB 32 Scoping Plan

## Estimated Cumulative GHG Emissions Reductions by Measure (2021-2030)



2017 California Air Resources Board Scoping Plan

SB 32 Scoping Plan

# Governor Newsom's Executive Order on 100% Zero Emission Vehicles (September 2020)

- 2035: All new passenger vehicle sales
- 2035: Drayage & off-road vehicles
- 2045: All medium and heavy duty vehicles
- Accelerate charging/fueling infrastructure & focus on disadvantaged communities

# Challenges and Opportunities of the Gov.'s ZEV EO

## **1. Opportunity for CA to reestablish itself as a world leader on electrification.**

- Must focus on equitable pathways to electrification.
- Prioritize investments in regions with poor air quality.

## **2. Opportunity to transition completely off fossil fuels.**

## **3. Will require an unseen degree of collaboration amongst all sectors: public, private, government.**

- Coordinate with local, state and federal governments on ZEV infrastructure for drayage vehicles, medium and heavy duty trucks.
- Tie state or federal subsidies to workforce related policies and standards.
- Implement with CEC, CCA's and local governments to implement ZEV targets in all communities.
- Partner with workforce training programs to build and maintain ZEV infrastructure.

# Adaptation and Mitigation Strategies



Example of a home with solar and storage



LADOT purchases electric buses



Water Reuse



Hydrogen charging stations