

SMUD

The Sacramento Municipal Utility District

California Environmental Legislation 2006

& Beyond

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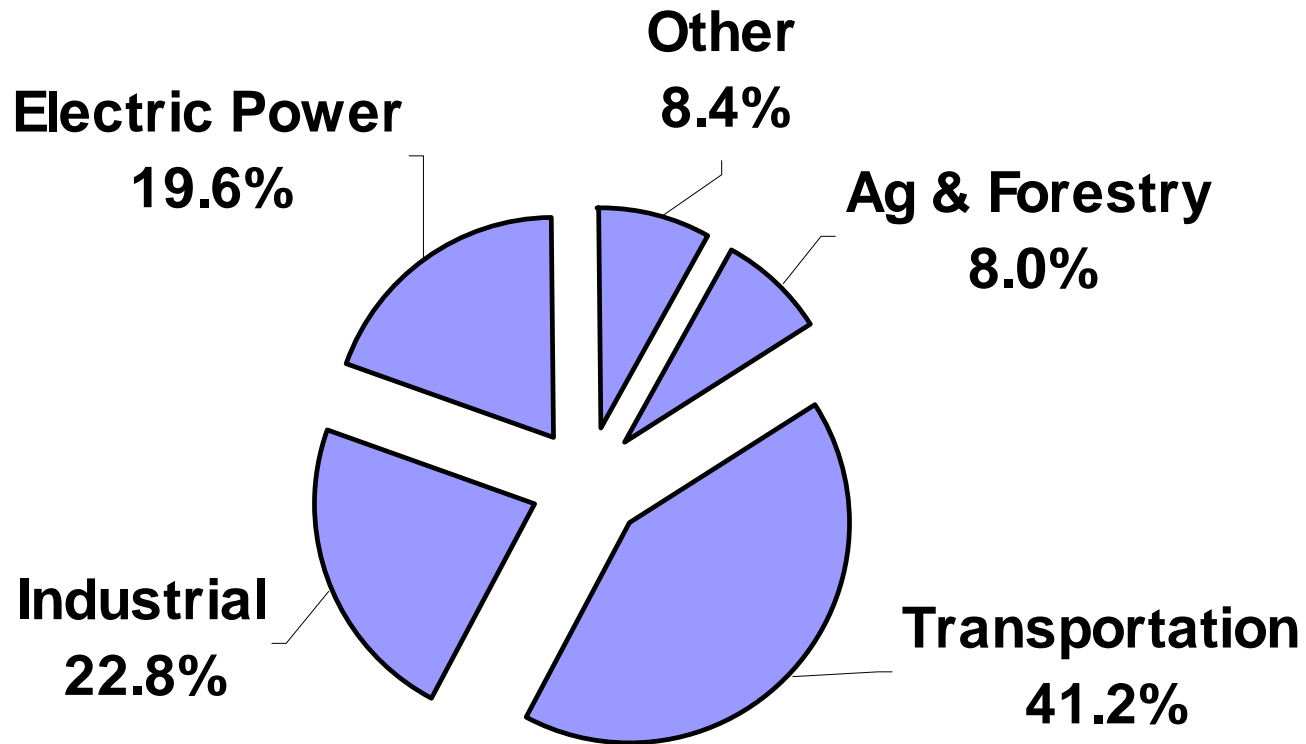
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California Environmental Legislation

- ❑ **It's about Global Warming**
- ❑ **It's about consolidation of State Energy Policies**
- ❑ **It's about a remarkably unified voice for change**
- ❑ **It's about energy infrastructure**

California Ghg Emissions (2002)



California Environmental Legislation

- ❑ **Since mid-'90's, California has studied regional climate change together with infrastructure issues**
- ❑ **There is widespread technical understanding of the science and economic issues**



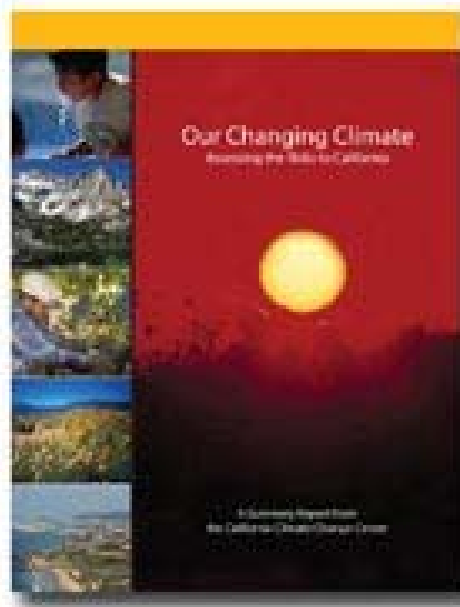
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California Environmental Legislation

- **Want to learn about Regional Global Warming Impacts??**

<http://www.climatechange.ca.gov>



California Climate Scenarios

Emissions Scenarios (End of century Atmospheric CO ₂ Concentration)		Statewide Temperature Rise (°C) 2070-2099
Higher Emissions A1fi (970 ppm)	<ul style="list-style-type: none"> 90% loss in Sierra snow pack 55-75 cm (22-30 inches) of Sea level rise 3-4 times as many heatwave days in major urban centers² 2.5 times the number critically dry years³ 20 % increase in electricity demand 4-10 times as many heat-related deaths projected for some urban centers⁴ Increase in Forest yields not evaluated for this scenario⁵ Increase in Fire risk not evaluated for this scenario⁵ Increase in days meteorologically conducive to ozone formation⁵ 	4.4 – 5.8 °C (8-10.4 °F)
Medium-High Emissions A2 (830 ppm)	<ul style="list-style-type: none"> 70- 80 % loss in Sierra snow pack 35-55 cm (14-22 inches) of Sea level rise 1-2 times as many heatwave days in major urban centers 2.5-5.5 times as many heat-related deaths projected for some urban centers⁴ 75-85% increase in days meteorologically conducive to ozone⁶ 2-2.5 times the number critically dry years³ 11% increase in electricity demand 30% decrease in forest yields (Pine) 55% increase in the expected risk of large fires 	3.1 -4.4 °C (5.5-7.9 °F)
Lower Emissions B1 (550 ppm)	<ul style="list-style-type: none"> 30-60 % loss in Sierra snow pack 15-35 cm (6-14 inches) of Sea level rise 2-2.5 times as many heatwave days in major urban centers 2-4 times as many heat-related deaths projected for some urban centers⁴ 25-35% increase in days meteorologically conducive to ozone formation⁶ Upto 1-1.5 times the number critically dry years³ 3- 6 % increase in electricity demand 7-14% decrease in forest yields (Pine) 10-35% increase in the risk of large fires 	1.7 -3.0 °C (3.0-5.4 °F)



California's Emission Reduction Goals

Governor's Executive Order S-3-05; June 2005

- **By 2010, Reduce Ghg emissions below year 2000 levels**
- **By 2020, Reduce Ghg emissions below year 1990 levels**
- **By 2050, Reduce Ghg emissions 80% below year 1990 levels**

California's Emission Reduction Goals

California Legislation concentrates on this goal

Governor's Executive Order S-3-05; June 2005

- By 2010, Reduce Ghg emissions below year 2000 levels
- By 2020, Reduce Ghg emissions below year 1990 levels
- By 2050, Reduce Ghg emissions 80% below year 1990

¹ AB32 Legislation



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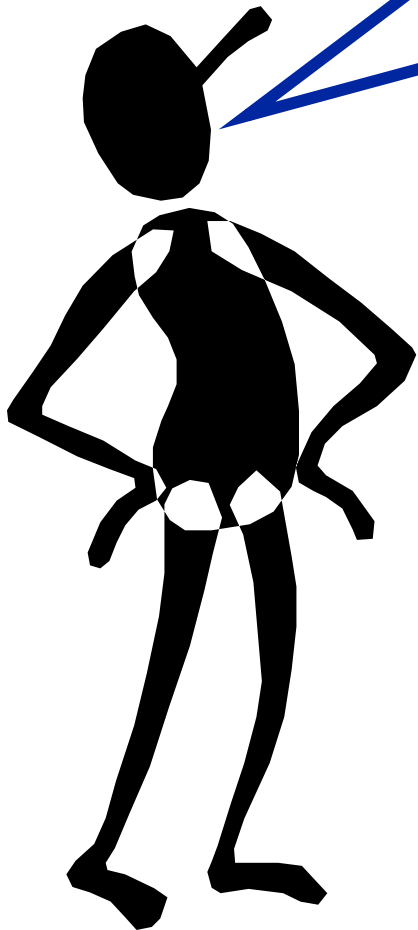
California's Emission Reduction Goals

However... California Policy is also working on this goal **05**

- By 2010, Reduce Ghg emissions below year 2000 levels
- By 2020, Reduce Ghg emissions below year 1990 levels
- By 2050, Reduce Ghg emissions 80% below year 1990 levels



So what??



California Environmental Legislation

□ **A Suite of 2006 Legislation**

- **AB32 Ghg Reduction Goal for 2020**
- **AB2021 10% Electricity Reduction through Energy Efficiency**
- **SB1368 No future generation with ghg emissions > NatGasCombinedCycle**
- **SB107 20% Non-Hydro Renewables by 2010**

California Environmental Legislation

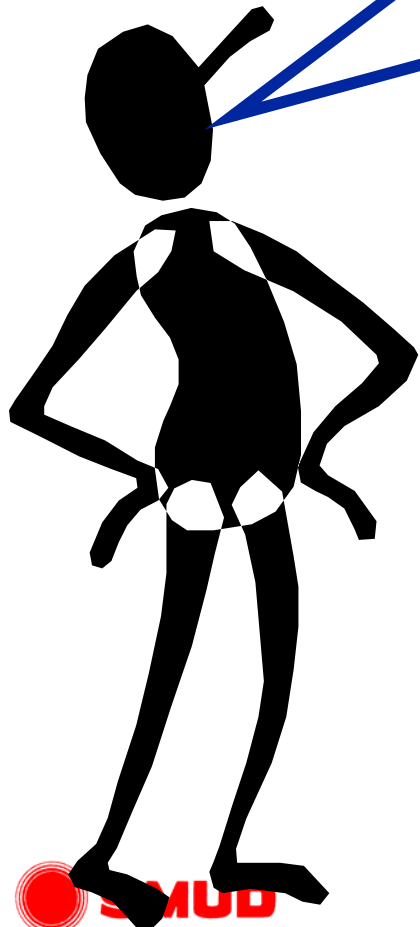
- **SB 1368 Ghg emission limit**
 - **Limits Ghg emissions to ~ 1100 Lbs/MWh**
 - **Long Term Contracts or Equity**
 - **>5 years**
 - **Base Load Plants**
 - **60% Capacity Factor**
 - **Plant Characteristic of “base load”**

California Environmental Legislation

- **AB 32 – Ghg Emissions Goal 2020**
 - **Statewide California Ghg Emissions**
 - **Sets in motion Regulation Process for Limiting Ghg Emissions**
 - **Calif Air Resources Board, CARB, has Sceptre**
 - **BUT, CPUC/CEC will do Utilities (R.06-04-009)**
 - **Identify early action programs and “Significant Emitters” and 1990 emissions by June ‘07**
 - **Develop Overall Plan in 2 years (Feb ‘08)**
 - **Adopt Specific Regulations in 4 years**
 - **Ghg caps in place in 6 years**



Cap & Trade !



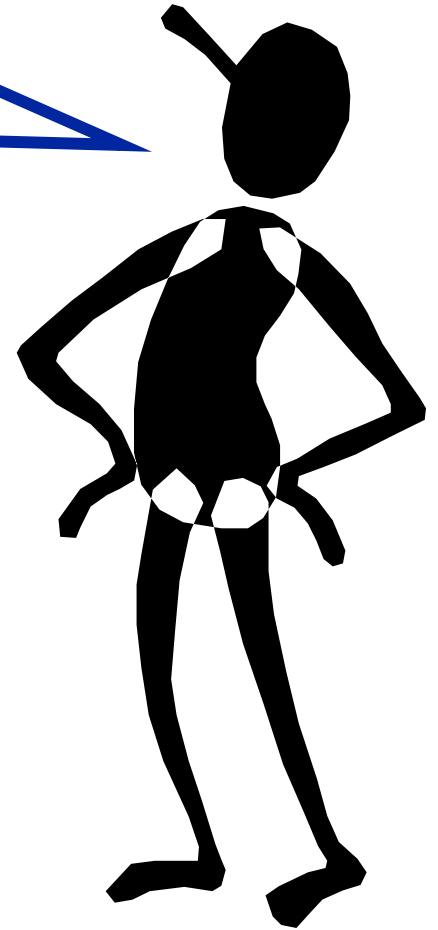
Say the Free Market Voices



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Regulation !

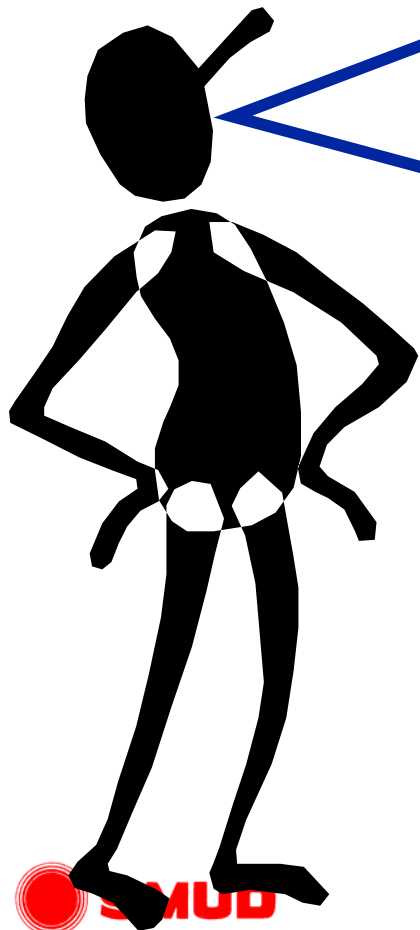
Say the NGO's



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**Cap & Trade
AND
Regulation !**



Say the Regulators



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Thank You



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