

Solar Power and Climate Change

January 10, 2007

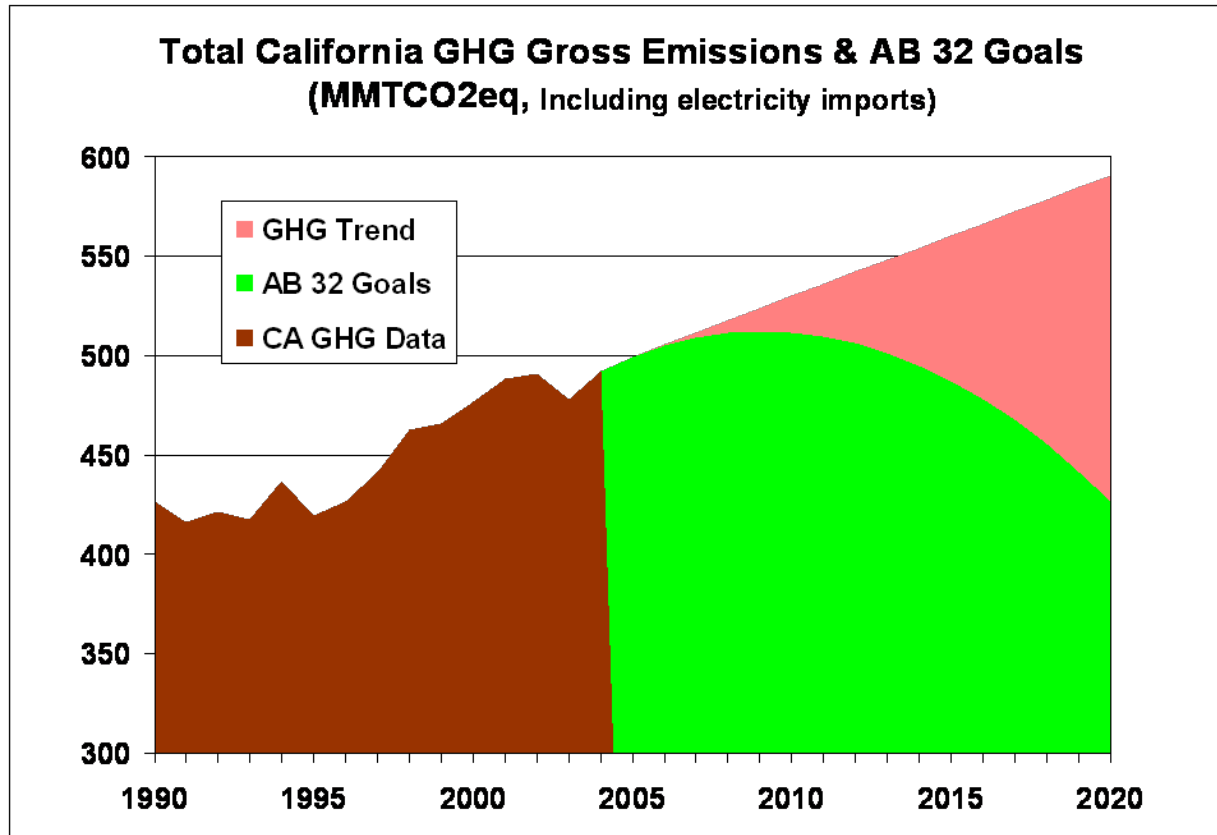
V. John White

Executive Director, CEERT





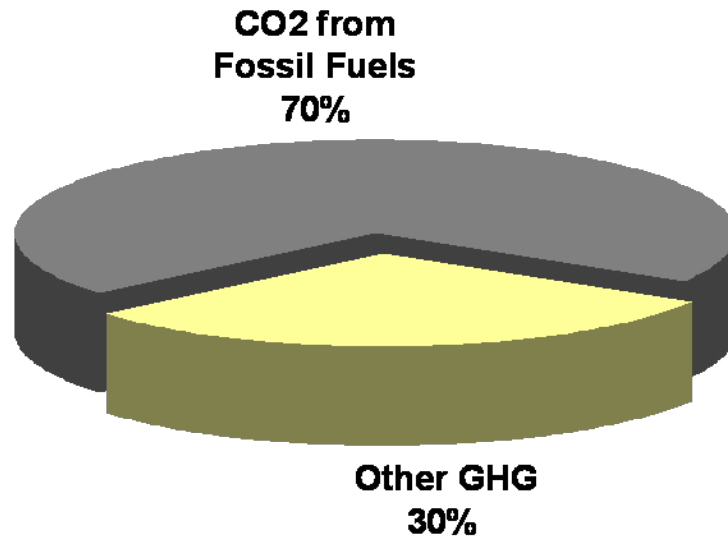
California emissions of greenhouse gases must decrease to limit global warming.





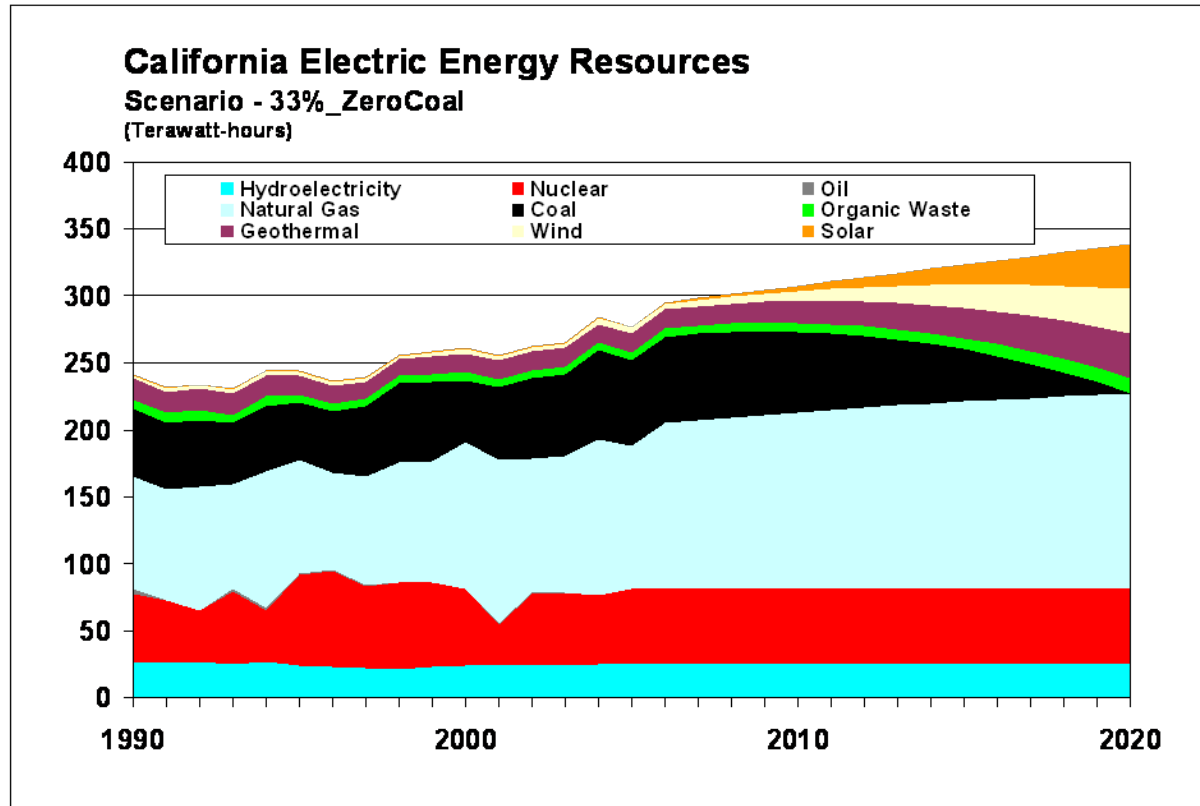
Energy from fossil fuels causes 70% of California's greenhouse gas emissions.

CA 2004 Gross GHG Emissions by Type



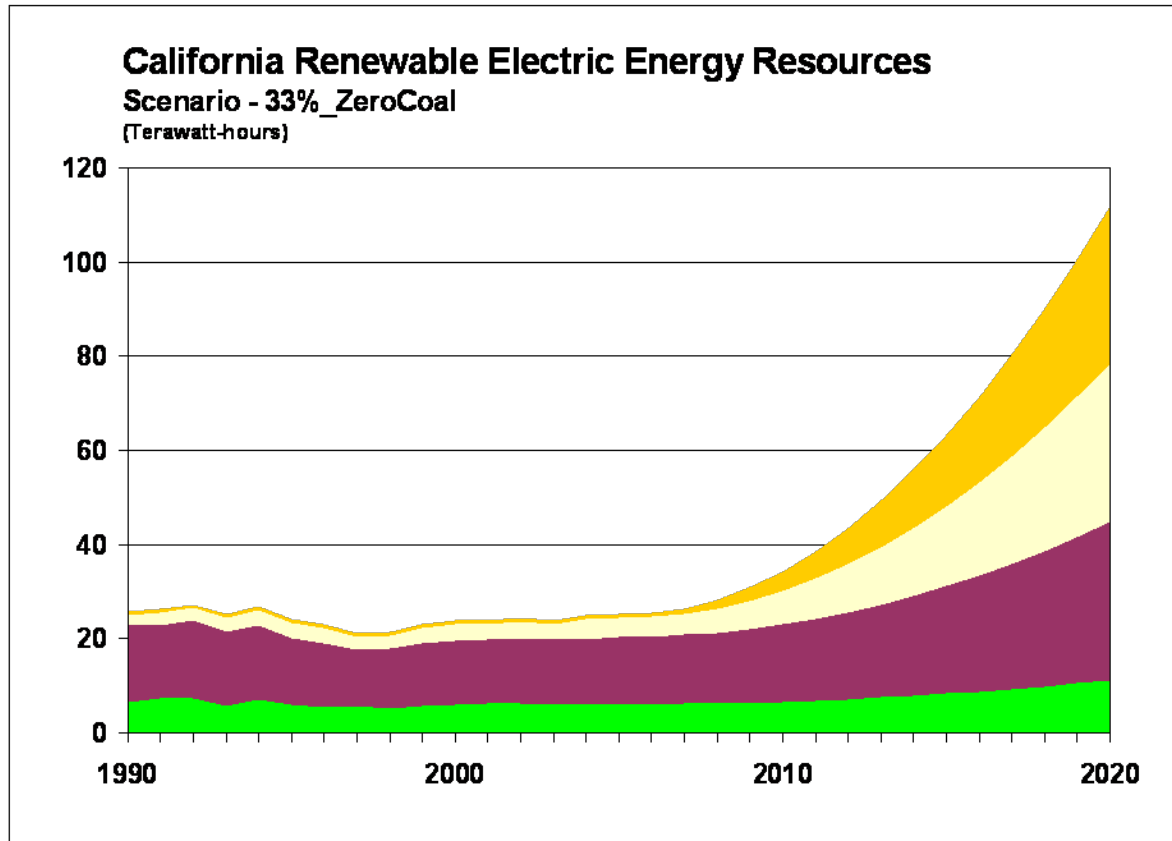


California's electricity increasingly will come from the sun, wind and the Earth.





The challenge facing California is to develop its non-fossil resources quickly enough.





The Challenges of Peak Demand

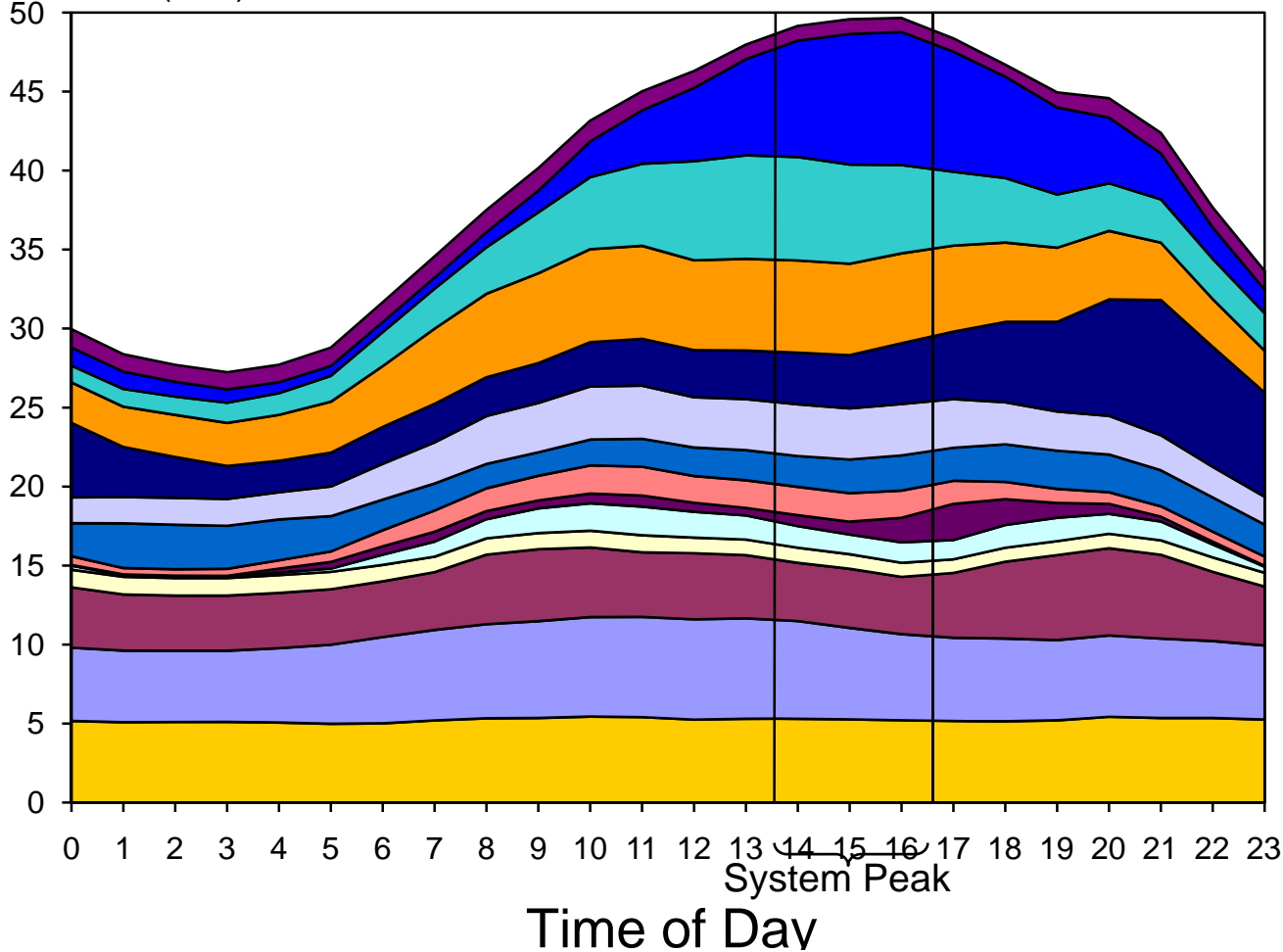
- **Southern California's Peak Electricity load is double the average**
- **This peak is driven primarily by air conditioning**





California 2003 Summer Peak-Day Load

Demand (GW)



- Residual (Other Area)
- Res. - Air Conditioning
- Com. - Air Conditioning
- Com. - Interior Lighting
- Res. - Miscellaneous
- Com. - Other
- Res. - Refrigerator
- Com. - Ventilation
- Res. - Cooking
- Res. - Clothes Dryer
- Com. - Refrigeration
- Remainder of Com & Res
- Industrial Sector
- TCU, Agr & Other Sectors





Challenges Will Only Increase

Global Warming will only increase demand for cooling

The Peak is getting “peakier”

Peak demand is met with dirty, inefficient peaker power plants

The hottest days also have the poorest air quality

This leads to increases in GHG and toxic pollution





CSP Systems

Hold unique attributes that allow solar power to follow the peak of electricity demand. This is critical for Southern California.



The Solar Two Power Tower experiment at Barstow, CA



California's Incentives

- **Renewable Portfolio Standard**
- **AB 32 Climate Program**
- **Solar Property Tax Incentives**
- **Million Solar Roofs**
- **Solar Thermal Program**





Transmission Planning

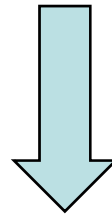
- **Renewable Energy Transmission Initiative (RETI)**
 - Proactive multi-agency planning
 - Stakeholder driven process
 - Aims to expand beyond California to neighboring states





We Can Meet our Climate and Our Energy Goals

**Single Project Assessment
Short-Term Planning**



**Integrated Resource Planning, Coordinated
Transmission and Procurement
Multi State Cooperation**



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