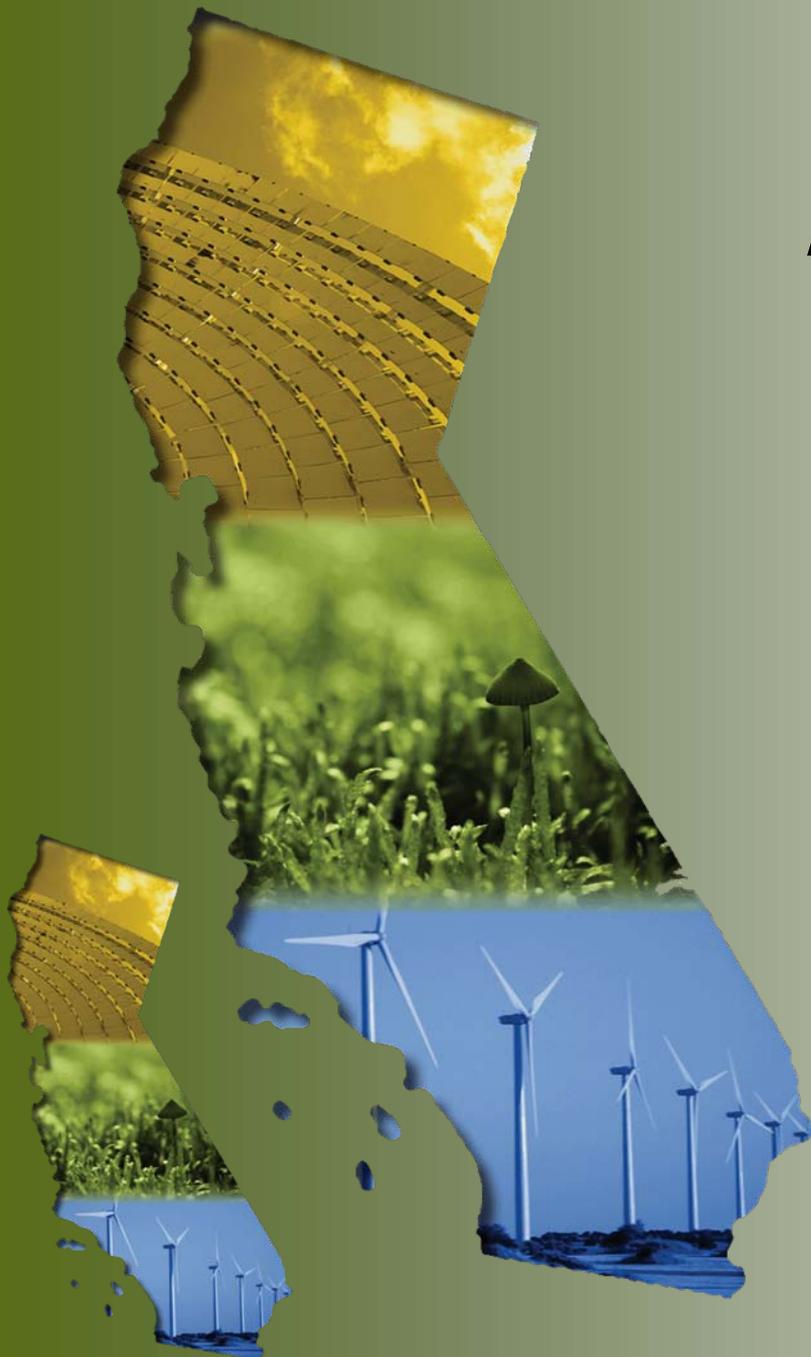


Renewable Power: Achieving Air Quality, Climate Change and Renewable Energy Goals

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California Energy Commission



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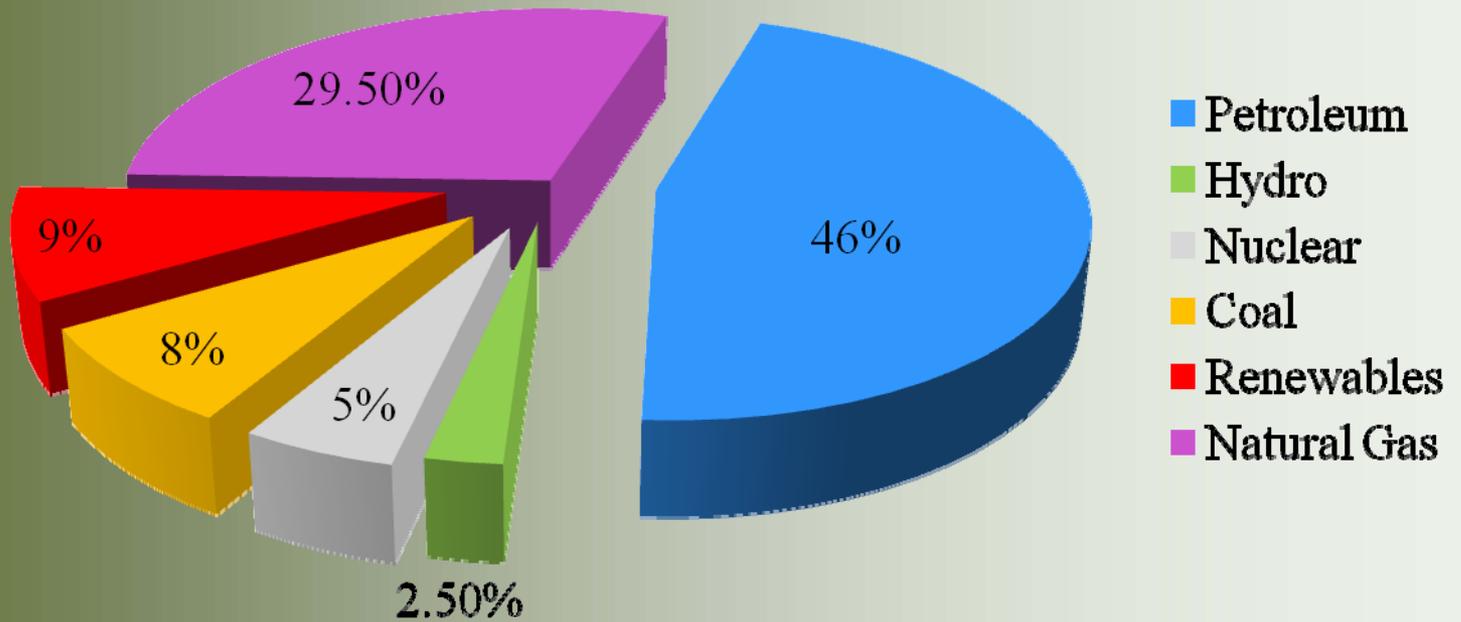


California is a Nation State

- The eighth largest economy in the world; Gross State Product of \$1.6 trillion
- Population of 37 million Californians, 27 million motor vehicles
- Second largest emitter of greenhouse gases in the U. S. and twelfth largest in the world, releasing 500 million metric tons per year
- When compared to other U. S. states, California has a diverse electricity resource mix.



California's Primary Energy Sources



Balancing State Policy Goals

- California economy is heavily dependent on energy for its people, goods movement, and industry.
- High policy priority is placed on improved air quality, climate change, fuel diversity and energy security
- Existence of surplus biomass resources from agriculture, forestry and urban waste streams is an untapped resource.
- With passage of AB 32, global climate change has become the primary policy driver for renewable energy development.
- State commitment to develop renewable energy sources, particularly, solar, wind, geothermal and biomass (in the form of biogas) is prominent in the ARB's Draft Scoping Plan.



Global Warming Solutions Act of 2006

- On September 27, 2006, Governor Schwarzenegger signed legislation, Assembly Bill 32, the Global Warming Solutions Act of 2006.
- California's initiative is intended to limit greenhouse gas emissions from the state's largest emitting sources.
- The Air Resources Board's Draft Scoping Plan relies on achieving a 33 % RPS.



State Bioenergy Goals

- Governor's Executive Order S-06-06 (April 2006) sets instate production and use targets.
- Governor released the Bioenergy Action Plan in July 2006, committing state agencies to take a series of specific actions.
- The Bioenergy Interagency Working Group, which I chair, meets regularly to address and seek to remove barriers to sustainable bioenergy development.
- Major barriers remain unresolved: regulatory uncertainty and the pricing of public benefits.

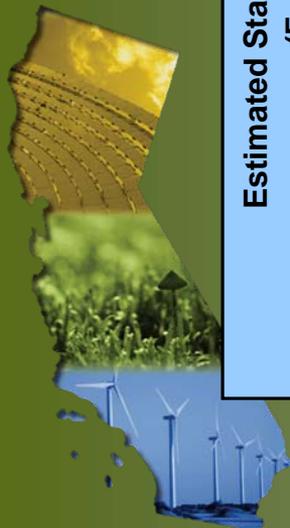
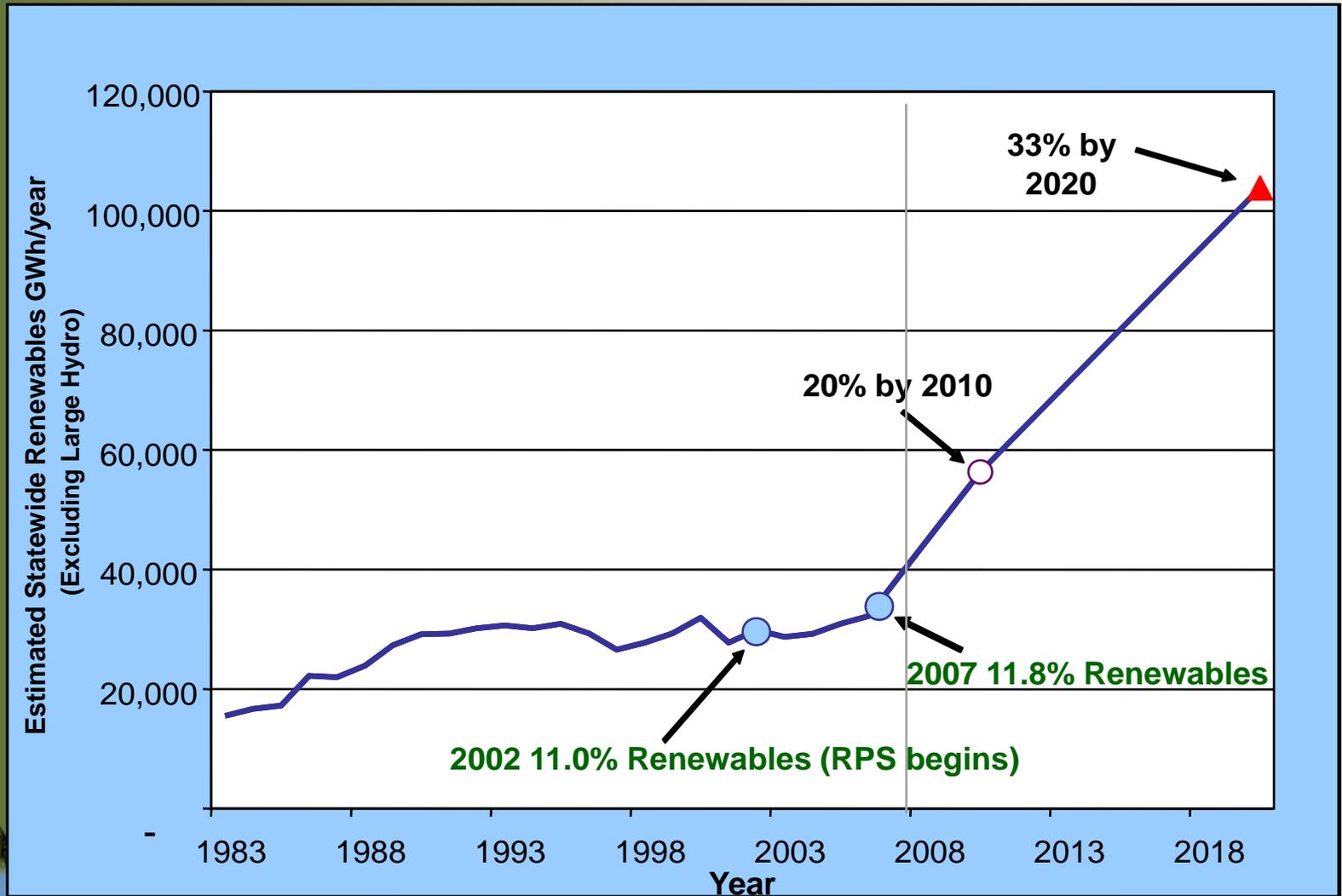


Renewable Portfolio Standard

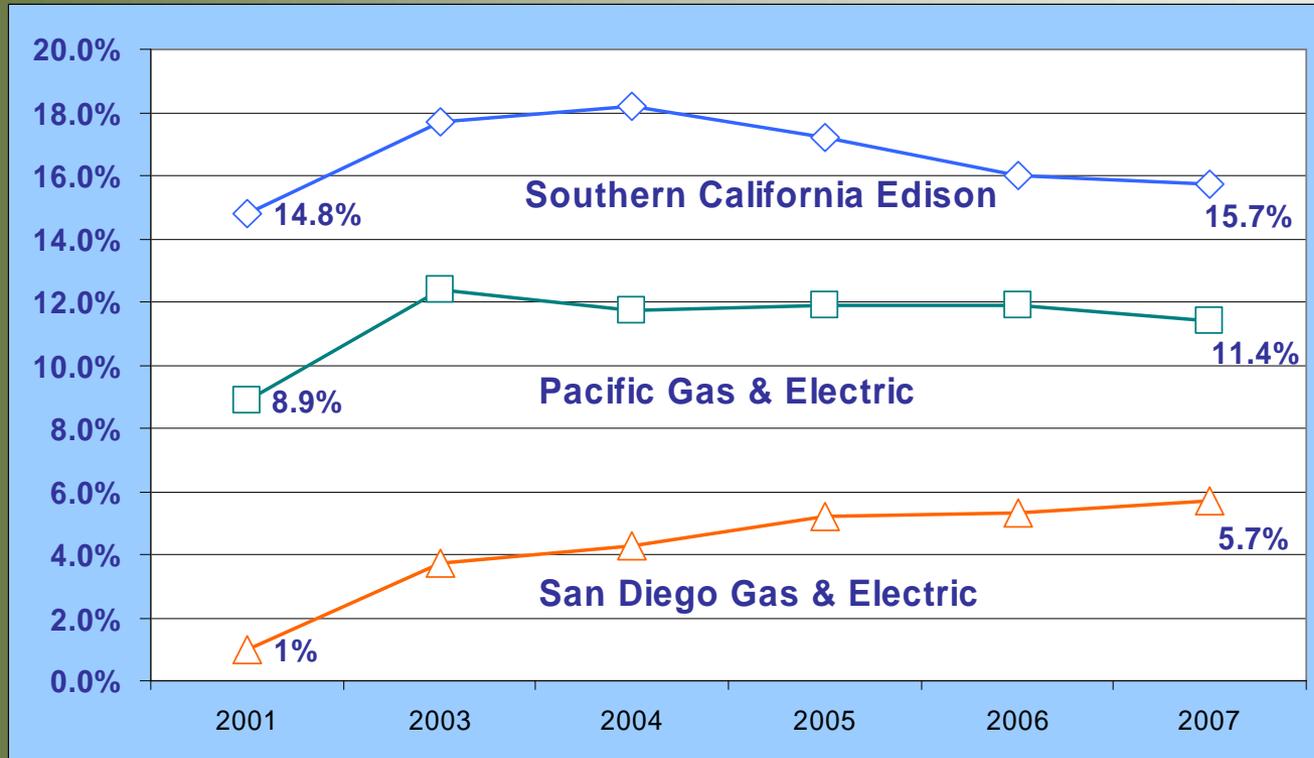
- Goal is to increase diversity, system reliability, air quality and public health, and other environmental benefits of California's electricity mix.
- California's RPS law was signed in 2002, assigning roles to the Energy Commission, CPUC, and utilities.
- Current legislative goal of 20% of retail sales from renewable electricity by 2010, with increase by at least 1% per year.
- The Governor, Energy Commission, and CPUC have endorsed a goal of 33 % renewable power by 2020.



California's Renewable Energy Goals: Utility progress falls short of the 20 % RPS Goal



Progress toward the 20 % RPS Goal



Current Challenges to Renewable Energy Development

- Inadequate transmission infrastructure to connect remotely-located renewable resources
- Lack of progress in repowering aging wind facilities and a shortage of new wind turbines
- Statewide targets are unlikely to be met without proportional contributions from all load serving entities
- Insufficient attention to possibility for contract failure and delay
- Will facilities under contract come online in time for investor owned utilities to meet 20% by 2010 target?



Source: www.energy.ca.gov/pier/notices/2007-02-013_workshop/presentation/04_2007-02-13_DAVIS+DAHMAN+PATTEN.PDF>p.85.