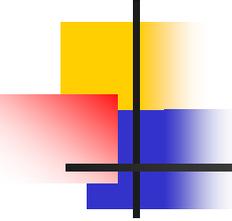


Key Policy Priorities for the California Public Utilities Commission



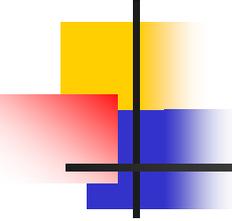
Law Seminars International
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*Commissioner Timothy Alan Simon
California Public Utilities Commission*



California Public Utilities Commission: An Overview of Policy Priorities

- **The California Energy Action Plan** and a Loading Order for Preferred Resources – **Energy Efficiency** is the top priority
- **Assembly Bill 32** implementation is our primary procurement policy driver
- **Renewable Portfolio Standard** – 20% by 2010, 33% by 2020
- **Transmission** planning and permitting
- **SmartGrid** and distribution infrastructure improvement
- **The New Green Energy Economy** and transitioning to the clean tech world.



My Top Policy Priorities

- ***Making Energy Security and Independence a Top Priority***
 - Long term domestic development will help reduce dependence on foreign oil.

- ***Eliminating Barriers to Infrastructure Deployment***
 - Supporting policies that promote infrastructure growth and innovation after an era of declining infrastructure investment (i.e. streamlining transmission and renewable integration processes)

- ***Promoting Natural Gas A Core Part of the Solution to Climate Change***
 - A relatively low-carbon fuel that is critical to the transition to a green economy

- ***Increased Investment in Electric and Gas Efficiency Technologies***
 - i.e. Natural Gas powered Air Conditioning systems (estimated to be 80% more efficient)

- ***Expanding Our Renewables Portfolio***
 - Increasing investment in biogas and biomass opportunities

- ***Promoting Opportunities for Emerging and WMDVBE Firms***
 - Procurement of WMDVBEs for financial, legal, construction, and other services

- ***Investing in Human Infrastructure***
 - Leveraging ARRA Stimulus Funds to create a sustainable energy future
 - Incorporating green jobs potential as a core policy goal (Green Collar Jobs Council)

The Mechanics of the California Renewable Portfolio Standard (RPS)

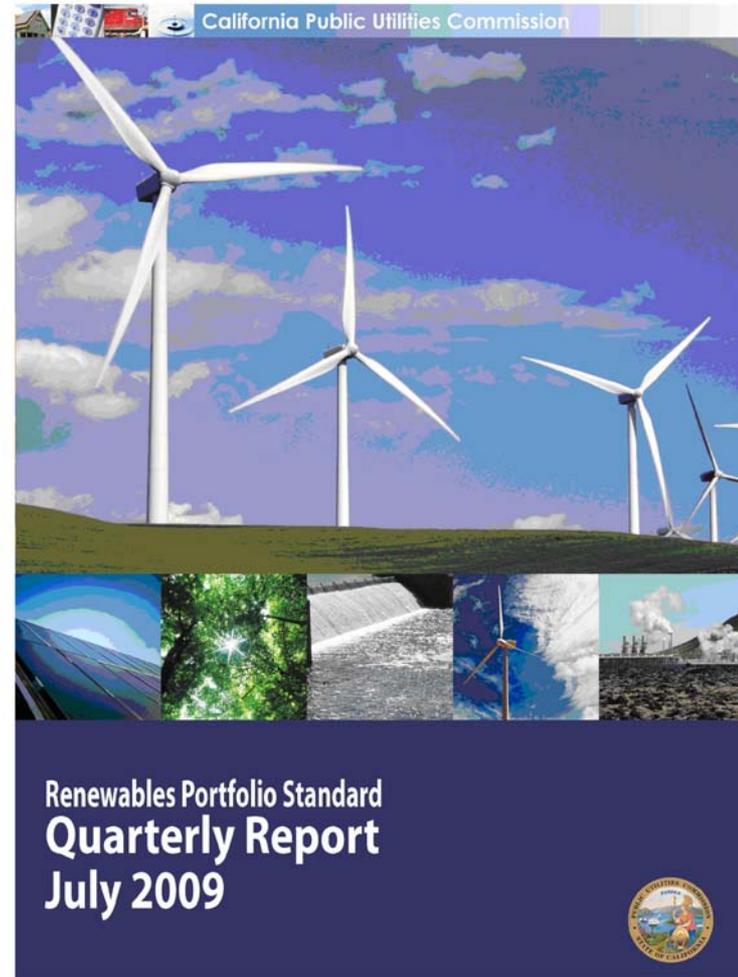
- ▶ **Senate Bill 1078** (Sher) established the RPS Program in 2002.
 - Directed the CPUC to calculate a **Market Price Referent (MPR)** to represent the non-renewable costs avoided by purchasing renewable power.
 - Contracts that are the result of a competitive solicitation that are above the MPR are eligible for **Above Market Funds (AMFs)**, in accordance with **Senate Bill 1036** (Perata).
 - Two of California's three Investor Owned Utilities have depleted their **Above Market Funds** for 2009. More and more contracts are in excess of the MPR.

The Costs of Meeting a 33% RPS Are Significant

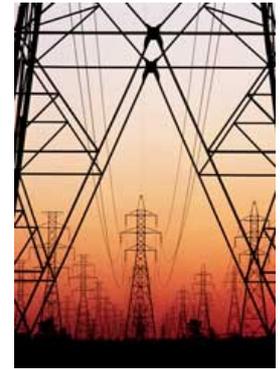
- ▶ **75 Terawatt hours (TWh) of renewable electricity and 7 additional major transmission lines.**
 - **The projected price tag for this additional transmission is \$12 billion.**
- ▶ **The magnitude total infrastructure investment required for renewable generation, transmission, and system integration is estimated at approximately \$115 billion between now and 2020.**

Renewable Energy and Transmission Permitting: The CPUC RPS July 2009 Quarterly Report

- What's wrong with this picture?
- Transmission planning and permitting are among the biggest barriers to renewable development
- We need to improve our marketing message by highlighting transmission constraints



Priority Transmission Projects and Regulatory Initiatives



○ *Tehachapi Renewable Transmission Project (TRTP)*

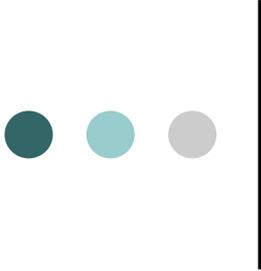
- The CPUC has issued a decision for TRTP Segments 1-3, and is now considering Segments 4-11.
- TRTP will facilitate interconnection of 4500 Megawatts of new renewables.

○ *Devers Palo Verde 2 (DPV2)*

- From Harquahala Substation in AZ to Devers Substation in Palm Springs
- AZ Corporation Commission denied Edison's Application.
- The California portion of DPV2 is pending at the CPUC.

○ *Renewable Energy Transmission Initiative (RETI)*

- Statewide initiative to identify Competitive Renewable Energy Zones (CREZs)
- Phase 2 Report has been issued and identifies conceptual transmission plan
- Phase 3 will have the CPUC coordinating the plan with the CAISO



Forecasting California RPS Capacity

- **Wind, geothermal, and biomass contribute 75%** of the Investor Owned Utilities renewable generation.
- **90% of IOUs' new capacity is from wind**, but solar bids have increased dramatically and are expected to surpass wind in the near future.
- **Geothermal** capacity will increase as the Sunrise Powerlink and other transmission lines are built.
- **Biomass** capacity has picked up a bit in 2008-2009, but still quite marginal compared to wind and solar.

Biogas: Areas Needing Exploration

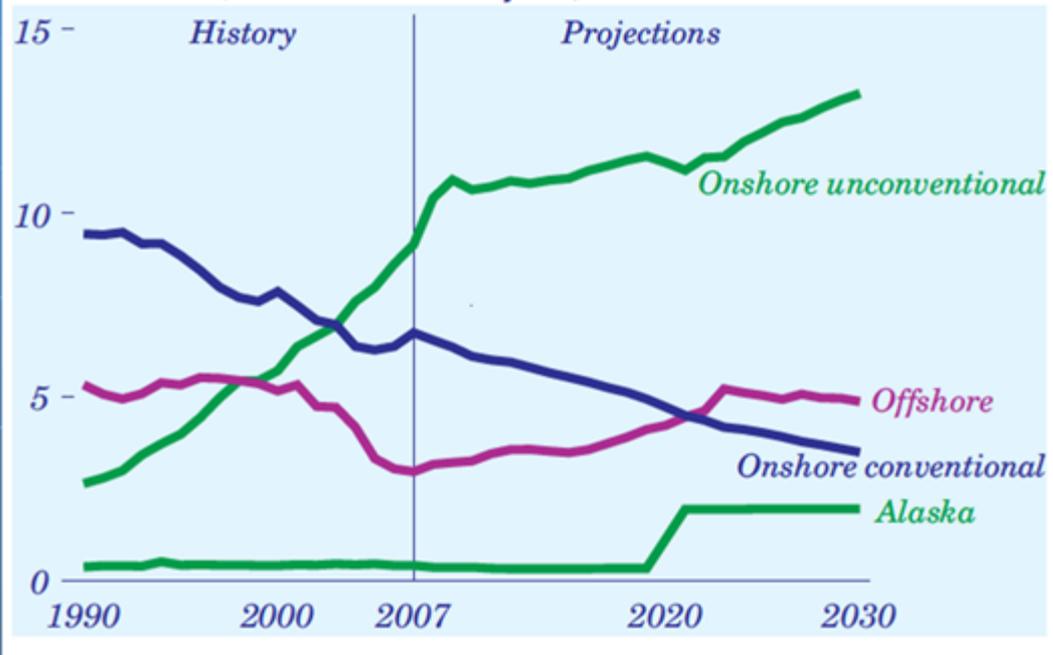


Biogas Conditioning Skid

- Digesters, gas conditioning, and blending for pipelines
- Tariff options
- Use of existing distribution and generation infrastructure
- Air Permitting
- Interconnection Incentives?
- Ensuring sufficient incentives to dairy and wastewater facilities
- Economics and a Market Price Referent for renewable gas
- Gas Quality Guidance/Issues

Projected U.S. Natural Gas Production by Source, 1990–2030 (Source: EIA)

Figure 66. Natural gas production by source, 1990-2030 (trillion cubic feet)



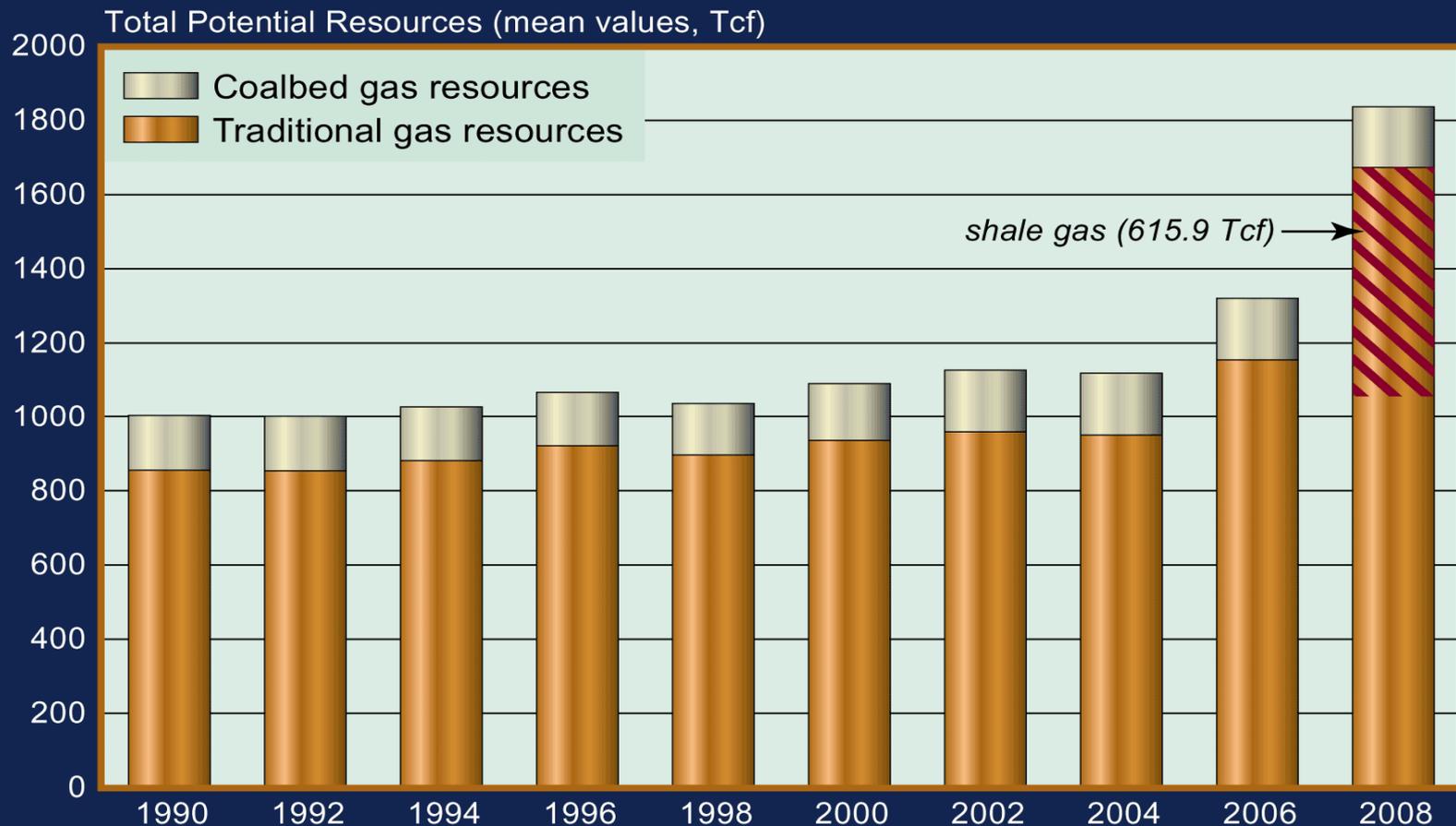
- The Energy Information Administration projects that unconventional gas production will increase from 47% (2007) to 56% by 2030.
- Large supplies of gas from shale will continue to be exploited through improved drilling technologies.
- Sustained oversupply has led to increased storage, and declining production and rig counts over the past 9 months.

Natural Gas: A Cornerstone of the New Green Economy

Natural Gas and the Emissions Performance Standard:

- Natural Gas falls under the **CA Senate Bill 1368** (Perata) Emissions Performance Standard (EPS) for new long term contracts, producing under the benchmark 1100 pounds of CO₂ per MWh.
 - Integrated Gasification Combined Cycle (IGCC) plants average approximately 1000 lbs of CO₂ per MWh (approximately half of the carbon intensity of coal plants)
 - Current low natural gas prices have led to **fuel switching** from coal to gas in some southeastern states.
- The intermittency of renewable generation necessitates natural gas as a backup fuel for firming and shaping power.

Dramatic Increase in Gas Supplies - Domestic Shale Gas Increase Shown by Potential Gas Committee Assessments –



The Ruby Pipeline

PG&E Application (A.07-12-021)

- Significant regional pipeline infrastructure project for the West.
 - \$3.5 billion pipeline project by Ruby, LLC (El Paso Natural Gas) from Opal, Wyoming to Malin, Oregon.
 - Firm delivery capacity of **1.3 billion cubic feet (Bcf) and 1.5 Bcf per day**
- Decision D.08-11-032 was voted out 5-0 at the CPUC, approving natural gas transportation arrangements for PG&E.
- Because of its terminus at Malin, Ruby will be a substantial source of gas not only California, but also potentially the Pacific Northwest.
- ❖ Current Status: This Decision is pending on rehearing at the CPUC. El Paso recently filed for FERC approval.

Benefits of the Ruby Precedent Agreement to California and the West

- The Ruby Precedent Agreement is an excellent deal for California ratepayers and provides much needed access to prolific gas supplies in the Rocky Mountain Basin.
 - Diversifies California's interstate gas portfolio for enhanced reliability
 - Creates additional gas-on-gas competition in California
 - Marks the first movement of dedicated Rockies gas to Northern California, and is available to serve the Pacific Northwest.

Key State and Federal Initiatives to Follow

➤ California Initiatives

- **Alternative Fuel Vehicles Rulemaking:** seeking competitive neutrality
- The Potential for Biomethane – producing renewable natural gas from waste water, agriculture waste, etc. – what incentives may be needed to encourage projects?
- Low Carbon Fuel Standard (California Energy Commission)

➤ Federal Legislation

- **American Clean Energy and Security Act of 2009** (Waxman-Markey bill)
 - Federal preemption on cap-and-trade, clean energy investments
- **New Alternative Transportation to Give Americans Solutions** (H.R. 1835 -- NATGAS, or “Pickens Plan”)
 - would extend and modify existing alternative fuel vehicle tax credits and provide other incentives for building fueling infrastructure

**For Additional Information:
Commissioner Timothy Alan Simon
California Public Utilities Commission
505 Van Ness Ave. Office 5213
San Francisco, CA 94102
www.cpuc.ca.gov**

