

CALIFORNIA ELECTRICITY MARKET: POLICY MELTDOWN

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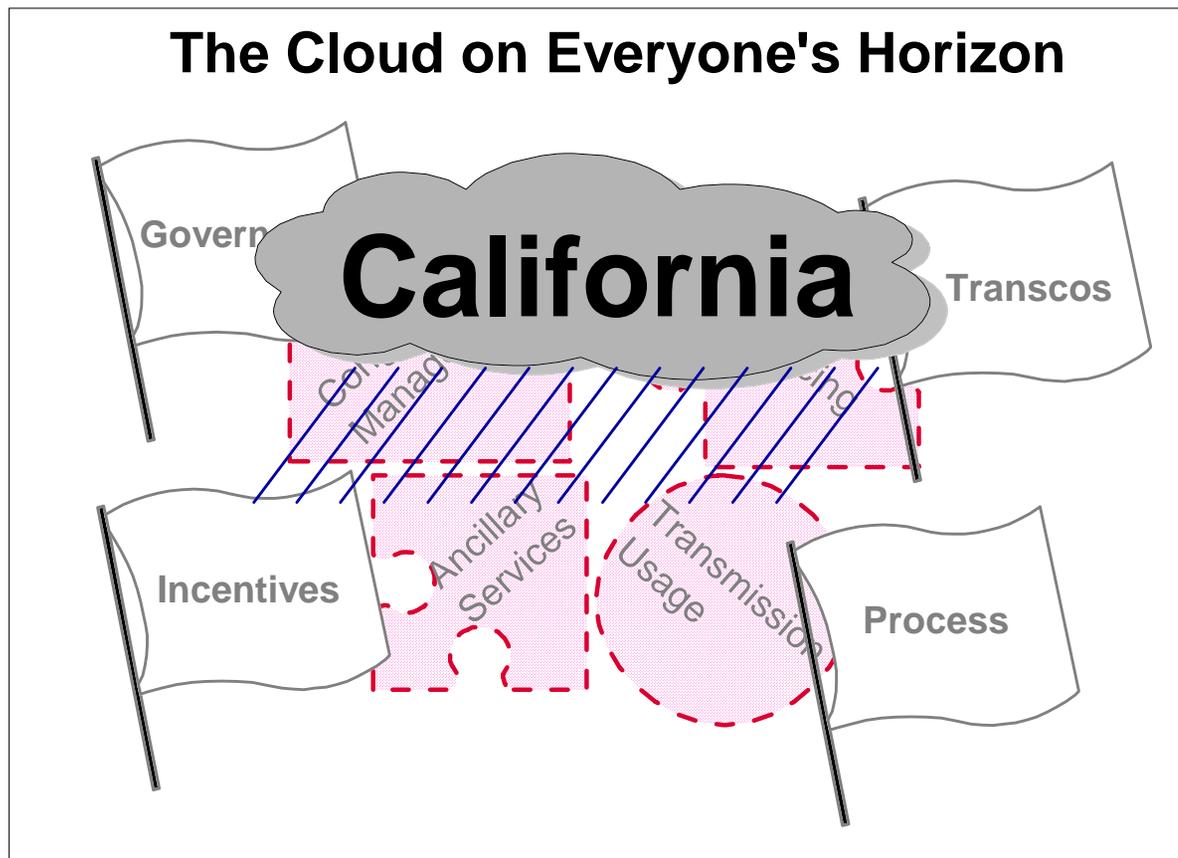
KSG Faculty Seminar

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ELECTRICITY MARKET

California Developments

The crisis in California has become the cloud on everyone's horizon. The problems are serious and surprising. The precedents will affect the speed and content of electricity restructuring developments everywhere.

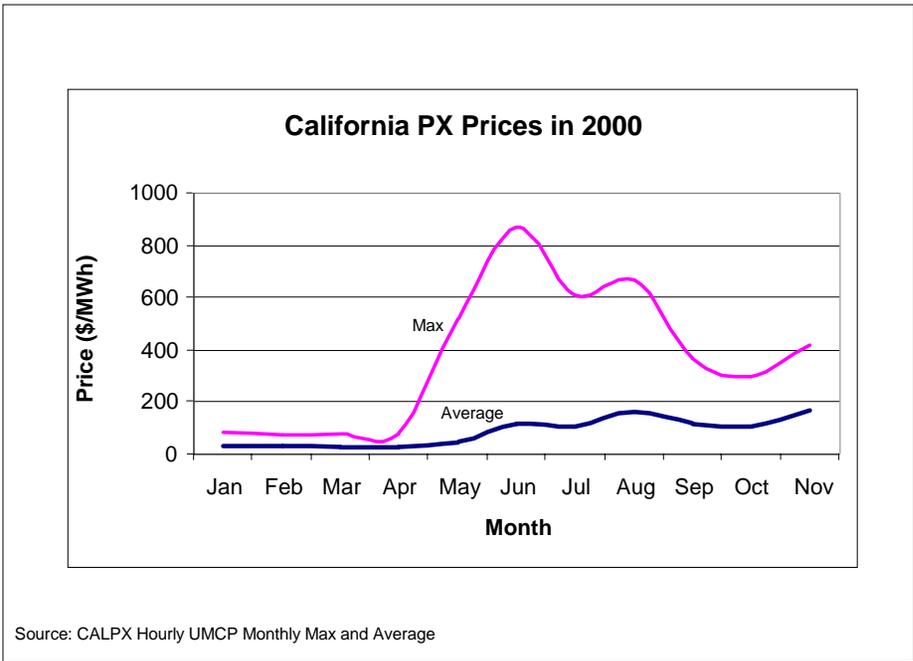


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California Developments

The California crisis erupted in the Summer of 2000. Bad policy combined with bad luck to create an unexpected and unprecedented price explosion.

- **Bad Policy:** Divestiture of thermal generation without vesting contracts left utilities on spot market.
- Rate caps for load at \$65 per MWh eliminated demand response.
- Separation of ISO and PX and the myriad associated market design flaws that followed.
- **Bad Luck:** Low water year and unexpected growth in demand throughout the western system.
- Binding environmental constraints and eventually a shortage of gas.
- **Bad News:** In the Spring of 2000, forward prices were under \$80, and viewed as too high.
- From June through November of 2000 prices in the Western Hubs were \$100-\$800 .
- Panic ensued. Villains were sought. Bankruptcy loomed.
- Restructuring will slow, or stop, or maybe even reverse.



That the California crisis is man made makes it no less serious.

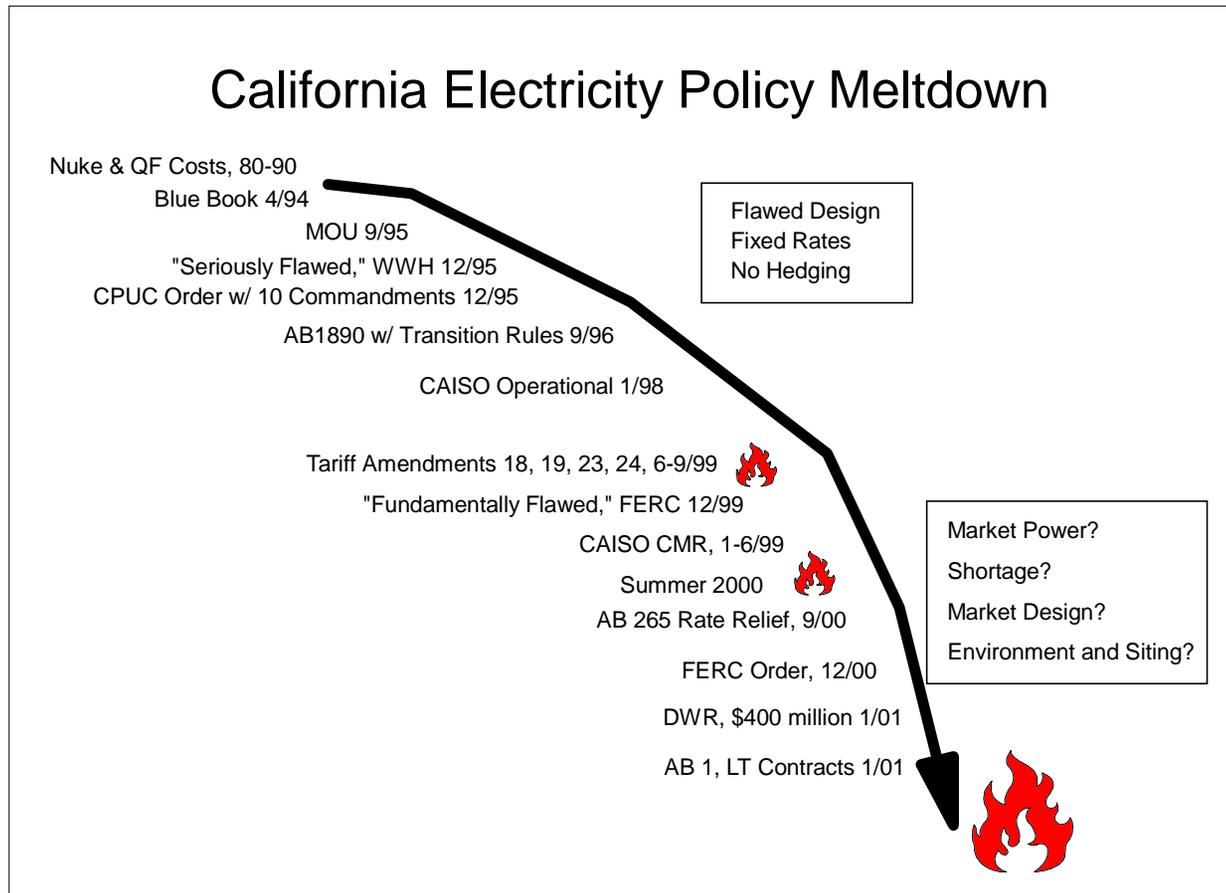
- California electric power bills: 1999 \$7.5 B; 2000 \$28 B; 2001 \$80(?) B.
- Two major utilities, PG&E and SCE, accumulate \$12 B in losses and stop paying their bills.
- Federal Government points to Sacramento as the responsible party.
- U.S. Department of Energy issues emergency orders to sell to California.
- Governor and others condemn criminal profiteers from outside the state.
- Governor draws line in sand, promising not to raise retail prices.
- Wholesale prices increase further from fear of default under bankruptcy.
- Company credit ratings drop to junk bond status.
- Intel announces intent to stop building in California.
- California DWR burns through \$400 million in state general funds in two weeks.
- State experiences stage 3 emergencies and rolling blackouts.
- Problem spreads to danger of curtailment of natural gas supplies.
- Wholesale price increases and shortages a problem throughout the western system.
- Water reserves drawn down and retail prices up in many western states.
- California Power Exchange goes out of business.
- California legislates panic takeover of electricity industry.
- ...

"...California seems to be living in some surreal version of 'The Wizard of Oz,' trapped among the brainless, the heartless and the gutless." (Peter Schrag, editorial, Sacramento Bee, Feb. 7, 2001)

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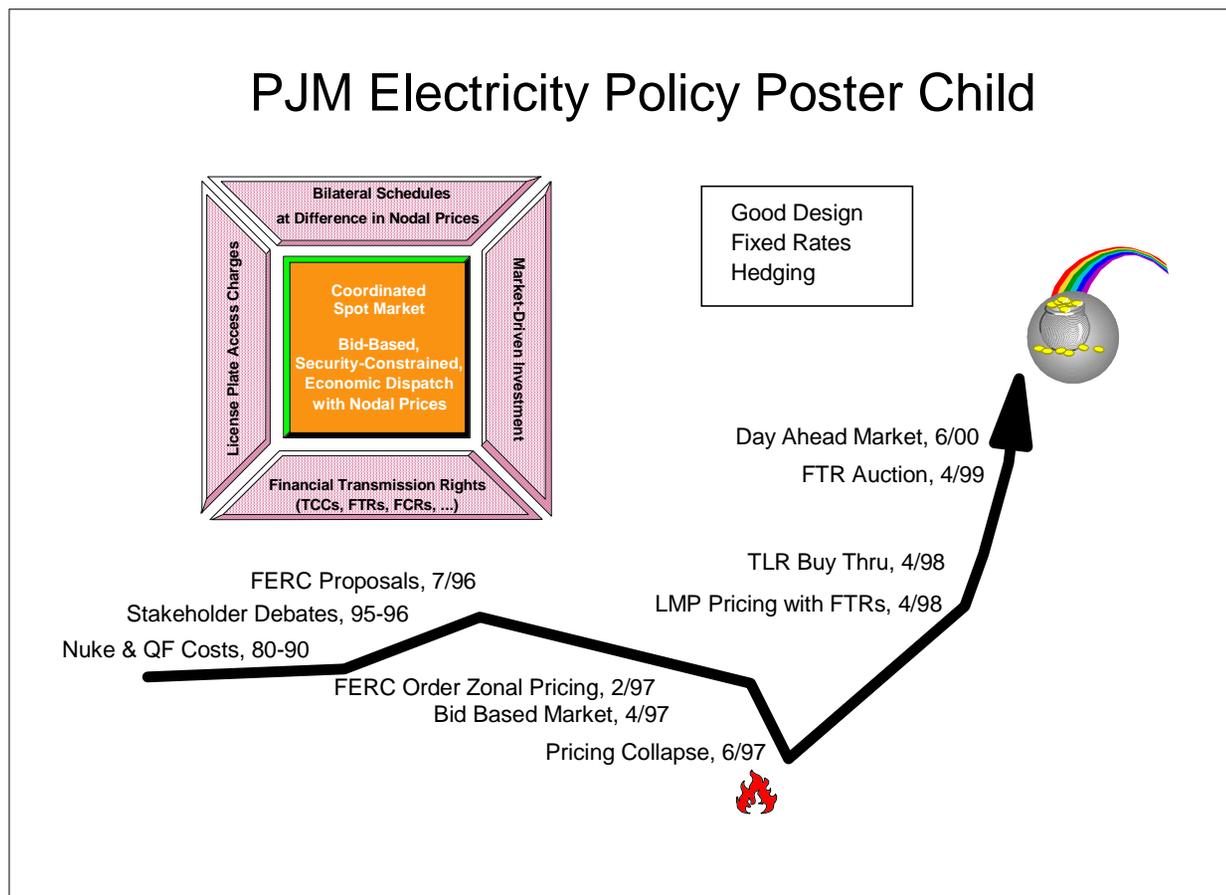
The California meltdown has been expected, but not expected to be as bad as it has been.



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PJM Poster Child

The PJM (and NY, soon NE) success stands in sharp contrast to the California meltdown.



The immediate California emergency needs to be addressed, and then we can turn attention to the fundamental problems in the development of electricity restructuring.

Ad Hoc "Manifesto," from Solow , McFadden, et al. , January 26, 2001:

- **Pay your bills.**

This is fundamental. Electricity is not yet a cash-and-carry market.

- **Raise retail prices.**

Without raising retail prices, there is not enough money to pay the bills. And the incentives to reduce demand are crucial in resolving the short run problem.

- **Look to the long run.**

The summer of 2001 is not far away. The fundamentals of electricity restructuring need urgent attention in California and elsewhere.

"Didn't make a dent."(anonymous California legislator)

The FERC proposals are too little and it is too late for such spare direction.¹

The initial actions include:

- the elimination of the requirement that the three investor-owned utilities (IOUs) ... must sell into and buy from the PX;
- the addition of a penalty charge for deviations in scheduling in excess of five percent of an entity's hourly load requirements and the disbursement of penalty revenues to the loads that scheduled accurately;
- the establishment of independent, non-stakeholder Governing Boards for the PX and the ISO;
- the establishment of generation interconnection procedures; and
- a new form of "soft" price cap at \$150.

Further, the Commission identified a number of structural reforms that must be addressed, including:

- the submission of a congestion management redesign proposal;
- possible changes to the auction mechanisms;
- improved market monitoring and market mitigation strategies;
- demand response programs by the ISO and Scheduling Coordinators;
- elimination of the requirement for balanced schedules; and
- new approach to reserve requirements.

¹ Federal Energy Regulatory Commission, "Order Proposing Remedies for California Wholesale Electric Markets," Docket No. EL00-95-000, Washington, DC, November 1, 2000, p. 5.

The FERC needs to take a proactive role if anything is going to be accomplished in electricity restructuring. Consider the comments from the Federal Trade Commission staff:

"In our view, the ISO/RTO reformation process in California and elsewhere is sufficiently advanced to benefit from more positive guidance from FERC in the form of benchmark examples of successful RTO design elements. For instance, in our August 1999 comment in FERC's RTO rulemaking proceeding, we identified locational marginal pricing (LMP) as a potential benchmark for how to price transmission congestion effectively. ...

Providing positive benchmark examples also may avoid diversion of public attention to proposals that are highly unlikely to facilitate effective competition. By putting forward benchmark examples, FERC would encourage proposals in California that start from an acceptable base, not from the lowest common denominator among stakeholders."²

[understate, v.t. and v.i.; understated, pt., pp.; understating, ppr. to make a weaker statement (of) than is warranted by truth, accuracy, or importance; to state (something) too weakly or moderately.]

² Federal Trade Commission, "Comment of the Staff of the Bureau of Economics and of Policy Planning of the Federal Trade Commission," FERC, Docket nos. EL00-95-000, Washington DC, November 22, 2000, pp. 7-8.

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The list of necessary reforms for the California market is long, and the difficulty of identifying and fixing all of the problems has been exacerbated by repeated ad hoc reforms that have dismissed theoretically sound and proven design principles. These principles include:³

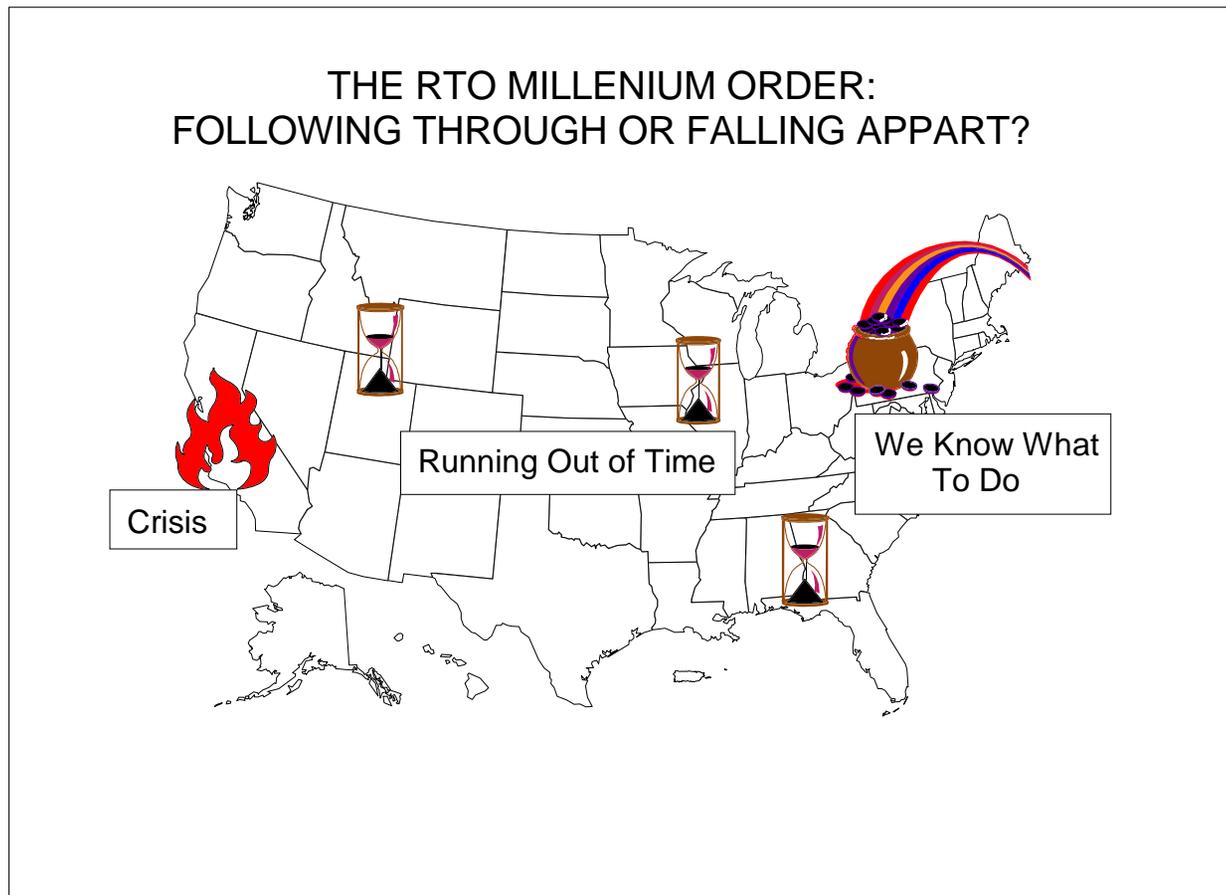
- The ISO must operate, and provide open access to, short-run markets to maintain short-run reliability and to provide a foundation for a workable market.
- An ISO should be allowed to operate integrated short-run forward markets for energy and transmission.
- An ISO should use locational marginal pricing to price and settle all purchases and sales of energy in its forward and real-time markets and to define comparable congestion (transmission usage) charges for bilateral transactions between locations.
- An ISO should offer tradable point-to-point financial transmission rights that allow market participants to hedge the locational differences in energy prices.
- An ISO should simultaneously optimize its ancillary service markets and energy markets.
- The ISO should collaborate in rapidly expanding the capability to include demand side response for energy and ancillary services.

³ John D. Chandley, Scott M. Harvey, William W. Hogan, "Electricity Market Reform in California," Comments in FERC Docket EL00-95-000, Center for Business and Government, Harvard University, November 22, 2000. pp. 15-25.

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National progress in implementing the advance of regional transmission organizations under the Millennium Order (Order 2000) hangs in the balance. Time is running out.



Supporting papers and additional detail can be obtained from the author. William W. Hogan is the Lucius N. Littauer Professor of Public Policy and Administration, John F. Kennedy School of Government, Harvard University and a Director of LECG, LLC. This paper draws on work for the Harvard Electricity Policy Group and the Harvard-Japan Project on Energy and the Environment. The author is or has been a consultant on electric market reform and transmission issues for American National Power, Brazil Power Exchange Administrator (ASMAE), British National Grid Company, Calpine Corporation, Commonwealth Edison Company, Detroit Edison Company, Duquesne Light Company, Electricity Corporation of New Zealand, GPU Inc. (and the Supporting Companies of PJM), GPU PowerNet Pty Ltd., National Independent Energy Producers, New England Independent System Operator, New England Power Company, New York Independent System Operator, New York Power Pool, New York Utilities Collaborative, Niagara Mohawk Corporation, PJM Office of Interconnection, San Diego Gas & Electric Corporation, Sempra Energy, TransÉnergie, Transpower of New Zealand, Westbrook Power, Williams Energy Group, and Wisconsin Electric Power Company. The views presented here are not necessarily attributable to any of those mentioned, and any remaining errors are solely the responsibility of the author. (Related papers can be found on the web at <http://ksgwww.harvard.edu/people/whogan>)