The California Electricity Crisis: 
Editors’ Introduction

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Abstract. This short piece introduces the papers in the special issue on the California Energy Crisis of 2000/2001. The papers illustrate aspects of the crisis, such as the role of the gas market, future trends for investment, and the crisis’ impact on consumers. Three papers analyze policy-makers’ responses to the crisis, with case studies of over-lapping regulation, the trade-off between prices, reliability and the environment, and policies that helped achieve demand reductions in the summer of 2001. Two papers consider lessons for other countries, in Latin America and Europe.

Keywords: electricity markets, electricity restructuring, California’s electricity crisis

On April 1, 1998, with great fanfares, California “deregulated” its electricity markets. Three years later, the system was in crisis, with high prices, physical shortages, and the near-bankruptcy of the main investor-owned utilities. This collection of papers analyzes the crisis.

The first paper, by Lee Friedman and the editors, gives a historical account of the industry’s restructuring, to provide background to the other papers, and allow their authors to concentrate on particular aspects of the crisis. We concentrate on relating the facts as accurately as possible (since some have been disputed), rather than on drawing out lessons from the crisis.

The second paper, by James F. Wilson, examines the natural gas market’s role in the crisis. While the price of gas rose throughout the United States during the autumn of 2000, the rise in California, and particularly in southern California where the price-setting power plants were located, was much greater. Wilson shows how these differential rises were related to shortages of capacity on the inter-state and intra-state pipeline systems, coupled with inelastic demand and a number of problems in the way the gas markets operated. The market flaws that he identifies had been hidden by excess capacity, but once the system faced a shortage of capacity, they magnified the ensuing price response. He sets out a number of “measures [that] would help to limit price volatility and the impact on consumers when markets clear under difficult conditions.”

The third paper, by Andrew Ford, studies the incentives for investment in power plants, since “capacity shortages” received much of the blame for the rolling blackouts and high wholesale prices in early 2001. He shows how property markets often experience cycles of “boom and bust”, caused by investors’ reactions to periods of high prices. Investors
are individually keen to build, but they are unaware or unwilling to pay full attention to
the large number of other projects being prepared in response to the same stimulus. The
result is excessive investment, over-capacity, and a period of “bust” with low prices and
little investment. A simulation model shows that the same forces may be at work in the
power markets of the western U.S. The recent boom in power plant construction has
helped reduce prices from the high levels of 2000/1. Ford presents a simulation scenario
with low investment between 2003 and 2005 and the possibility of a repeat of the difficult
conditions experienced in 2000/1. He warns that if 2007 is a dry year, the western
markets could experience an annual average price that approaches $150/MWh. He
suggests that a (fixed) capacity payment be implemented to encourage more timely
private investment. Otherwise, we may turn to investments by the California Power
Authority, provided we are prepared to fund the Authority for a large and permanent
commitment. On the demand-side, Ford calls for the implementation of real-time retail
pricing to reduce the problems caused by the boom and bust pattern of power plant
construction.

Michal Moore’s paper is the first of three looking at the role of policy-makers in the
crisis. He describes the overlapping roles and responsibilities of State and Federal
regulators, and the potential for conflict that this created. “Political oversight and
intervention [were] not compatible with predictable and efficient market behavior.” He
illustrates this with case studies of the California Legislature’s decision to include a rate
freeze in the restructuring Bill, and the Federal Energy Regulatory Commission’s
responses to high prices in California.

David Gomson studies the three-way dilemma faced by policy-makers once the crisis
had erupted—their main objectives of reliability, low prices, and minimizing the
environmental impact of the electric industry could no longer be met simultaneously.
Gomson concludes that “policy-makers prioritized improved reliability over low rates
and environmental improvement, and prioritized low rates over environmental
improvement.” He believes that this is because they expected reliability to be degraded
by more than their other objectives, and prioritized it accordingly, although at a cost of
billions of dollars to taxpayers and ratepayers.

Charles Goldman, Joseph Eto, and Galen Barbose discuss the causes of the 6–8%
reduction in electricity demand between the summer of 2000 and that of 2001. Without
these reductions, the state might have faced between 50 and 160 hours of rolling
blackouts in summer 2001. Year-on-year changes in the weather and the state’s economy
had little impact on the level of summer electricity demand, and so the authors ascribe
most of the reductions to responses to the crisis. They discuss a range of policies designed
to encourage lower energy consumption, including the 20/20 program that offered a
20% reduction in the electricity commodity portion of their bill to every consumer who
took 20% less power in any month than in the corresponding month of the previous
summer. They estimate that the cost per MWh saved through this program may have been
as little as one-third of the price that the state was paying for power at this time, although
this estimate is sensitive to the extent of reductions, paid for by the program, that would
have been achieved in any case. Goldman et al. consider a number of other programs, and
conclude that “compared to the estimated economic losses from several hundred hours of