

EQUITY

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The Peril of Price Caps; Bet on Free Markets

- **Recent events in California highlight the nationwide debate over the future of the wholesale power market.**
- **In our view, price caps prevent market forces from allocating electricity and new power resources to where they are most urgently needed, actually increasing the risk of blackouts in constrained regions such as California. Price caps tend to mask the fundamental supply shortage problems.**
- **Even at \$250/MWh, the current level in California, price caps have a small effect on profitability. Elsewhere, price caps are set at \$1,000/MWh and above.**
- **Reports of price spikes are misleading, as they occur infrequently and do not reflect much lower average prices.**
- **For investors, a key question is: Will price caps be instituted on a widespread basis and at a low level? Our view is that they will not, and we recommend purchase of the Energy Merchants.**

United States

Price Caps: Effects on Plant Economics and the Supply of Electricity

Price caps will remain a hot political issue.

Over the past several months, the plight of the California power market has made the front pages of national business journals and newspapers. When an issue hits the editorial pages of *The Wall Street Journal*, you know it has become a volatile national concern. Now politicians at the Republican and Democratic national conventions have raised the issue. The situation in California could prove an impetus for meaningful national deregulation legislation after the elections in November. While this will remain a “hot button” issue in the coming months, politics should play a modest role in shaping the energy debate as economics prove much more compelling in setting energy policy.

Recent events in California highlight the nationwide debate on the future of the wholesale power market. After seeing wholesale power prices soar as much as tenfold in various regions of the country and retail customer bills double in parts of California (coupled with rolling blackouts and brownouts), a national debate is emerging about the future of a competitive power market. One response, which occurred in California, was to impose price caps on the wholesale power market. In June, the California Independent System Operator (CAISO) imposed a cap of \$750/megawatt-hour (MWh) on power. In July, CAISO lowered it to \$500/MWh and then lowered it again to \$250/MWh.

Price caps are likely to exacerbate power shortages.

These events prompt certain questions: Do price caps solve the “problems” of tight power markets and volatile wholesale power prices? What is the risk of re-regulation of the wholesale power market? When should investors worry? Our view is that price caps prevent market forces from allocating electricity and new power resources to where they are most urgently needed, actually increasing the risk of brownouts and blackouts in constrained regions such as California.

Once deregulated to this extent, the wholesale power market cannot be re-regulated. In fact, in the long term, we expect deregulation to proceed and even to include currently regulated elements of the power industry such as transmission. (New investment in our inefficient and bottlenecked transmission grid would do much to reduce volatility and increase power availability in constrained regions.)

The “genie is out of the bottle;” we do not think large-scale re-regulation is likely.

We think investors should be long the Energy Merchants and long deregulation, although over the next 12–24 months a measure of meddling by regulators in the power markets is likely. We recommend buying on any weakness in these stocks caused by that market interference. In the rest of this report, we discuss aspects of the California market and express our views about the likelihood and advisability of re-regulation.

Conference Call

In August, we hosted a conference call with Steve Bergstrom, president and chief operating officer of Dynegy Inc. Mr. Bergstrom brings impressive credentials to discuss the dynamics of the wholesale energy markets, having established Dynegy's natural gas trading desk in the mid-1980s and its power desk in the mid-1990s. Although Dynegy supports an unregulated wholesale power market, all views expressed in this brief report are our own and have not been reviewed by Dynegy or Mr. Bergstrom, who may not agree with all of our opinions.

The focus of the call was the state of the wholesale power markets, with particular emphasis on the situation in California. While a number of topics were addressed in the call, we were particularly interested in the discussions regarding price caps in California and other regions, as outlined in Figure 1.

Figure 1. Price Caps in California and Other Regions

Region	Cap	Markets Covered	Temp/Permm	Start	Expires
New York ISO	\$1000/MWh	Energy & ancillary	Temporary	7/26/00	10/28/00
ISO New England	\$1000/MWh	Energy & ancillary	Temporary	7/26/00	10/31/00
PJM	\$1000/MWh	Energy	Permanent	4/1/98	NA
California ISO	\$250/MWh	Energy & ancillary	Temporary	7/1/00	10/15/00

Source: Salomon Smith Barney.

Wholesale power prices rarely reach cap levels.

There are a number of important points that we would like to highlight from the call. For one, wholesale power prices rarely reach levels that exceed caps. For example, the average price for power in California in June was \$83/MWh, a far cry from the \$250/MWh cap. Power marketers and operators of intermediate and peaking power plants typically make their money at prices in the \$100/MWh to \$200/MWh range — not during the often referenced (yet extremely infrequent) times when prices spike toward cap levels. A cap set at \$1000/MWh is of virtually no economic consequence.

The larger risk is a nationwide cap set at a much lower level.

The larger risk is that there will be a widespread, or nationwide, cap at a much lower level. Our sense is that this will not happen, although a continuation of caps at current levels will likely occur over the near-to-intermediate term. Our belief that price caps will eventually be removed stems from the fact that price caps actually worsen, rather than reduce, supply shortages. They do this by disincentivizing new plant construction and encouraging power sales outside of the restricted market. For example, there are no caps in the regions immediately surrounding California. Given the choice, power marketers will sell into these regions rather than in California, where their profitability is restricted.

Conclusion

Price caps set at \$1,000/MWh or \$250/MWh do not materially affect plant economics. Typical power prices and profit models are set at lower price levels. Nevertheless, the chilling effects of price regulation and the threat of nationwide caps set at a lower level will thwart new plant development, in our view.

Politics Follows Economics, Eventually

California needs a fully deregulated or bilateral market.

We think that California's tight power situation — rolling blackouts in San Francisco and Silicon Valley and a doubling of retail power bills in San Diego — will force a reexamination not only of price caps, but also of California's market structure. California's pool structure, unique in the country, results in higher electricity costs by forcing all market players to sell into a centralized, nonprofit exchange. A bilateral or free market allows all participants to deal directly with each other and to avoid having to sell at a single pool price. It also allows utilities to more effectively hedge prices and to meet their supply obligations to their customers at a predictable price. At the same time, such a structure, which exists throughout most of the country, allows Energy Merchants to effectively leverage their risk management skills and to extract the greatest value from their plant portfolio.

California — The Referendum on Deregulation

California: A lesson in supply and demand.

California produces only about 75% of the electricity it needs locally. The remainder of the state's load is imported from the large western hydroelectric dams, the Pacific Northwest, and other external suppliers. There are currently 132 new or repowering units in development in the WSCC NERC region (covering California, Nevada, Arizona, and the Pacific Northwest), totaling just under 30,000 MW. We estimate that less than 25,000 MW of this capacity is likely to be constructed in the current decade (we deduct double counting for repowering/expansions, coal, hydroelectric, geothermal, and any plants so uncertain that an in-service date is not yet determined). Much of this reduced figure is not fully permitted and will never be built.

Demand is higher than expected, due to economic growth and new technology.

Electricity demand in the WSCC region is growing in the 5% range due to population growth, the growth in the high-technology industries in the region, and the general wealth effect of economic prosperity. With approximately 137,000 MW of generating capacity in the region, a 5% growth rate suggests a need for almost 7,000 MW of new capacity each year. Only 5,160 MW is even contemplated for 2001, and many of those projects have not even completed siting yet. Another 13,800 MW is planned for 2002, but, again, the belief that these projects will be fulfilled requires a great deal of faith. If all planned construction occurs in 2001–02, the reserve margin in WSCC might improve to “uncertain” from the current “emergency” levels.

Tight supply caused by continued regulation.

In our view, the current problems in California stem from a lack of foresight by regulators, legislators, utilities, and consultants during the debate over deregulation of the electric utility industry in the later half of the 1990s. They all forgot the Latin phrase *ceteris paribus* (meaning “all other things equal”) when they projected lower power prices as a result of industry deregulation. They did not anticipate the massive load growth developing in the state, the WSCC region in general, and the effect this would have in draining reserves from California. They also implemented an imperfect power market structure (a pool as opposed to bilateral structure), instituted power price caps, and retained a burdensome process for permitting new

plants that delayed and disincentivized the construction of new electric generation resources in the state. The problem in California is a shortage of generating resources, not price gouging or collusion. The market, while not yet completely free, has acted efficiently and sent the appropriate signal that more capacity is needed. California should not ignore this message.

Figure 2. Planned WSCC Generation May Not Answer the Wake-Up Call, 2001–10

Year	Planned MW	5% Demand Growth	Shortage/Surplus
2001	4,512	6,850	(2,338)
2002	9,891	7,193	2,698
2003	6,370	7,552	(1,182)
2004	2,052	7,930	(5,878)
2005	150	8,326	(8,176)
2006	1,284	8,742	(7,458)
2007	930	9,180	(8,250)
2008	0	9,639	(9,639)
2009	0	10,121	(10,121)
2010	31	10,627	(10,596)
Total	25,220	86,160	(60,940)

Source: RDI data and Salomon Smith Barney.

Recent Actions by CAISO

Since June 28, 2000, CAISO has reduced power price caps twice, to \$250/MWh, from \$750/MWh. One ISO board member resigned in disgust over the political influence wielded over the ISO. This board member advocated free markets and recognized the negative implications of price caps as disincentives for new generation. Conjecture has spread that board members were threatened with termination if they did not back cuts to the price caps.

Price caps disincentivize new construction.

Utilities have had to explain to customers why their power bills have doubled or tripled. The market response has been quick and harsh. Merchant power plant developers have emphatically said they will not develop new resources in the state and have sold existing capacity to neighboring states with higher power prices. Now merchant generators await a political response from emotional legislators that could further reduce the economic incentives to generate electricity in the state.

Potential Outcomes

We see four possible scenarios developing in the California market:

- 1 Continued or lower price caps;
- 2 Re-regulation;
- 3 Retention of the status quo; or
- 4 Radical liberalization of the market and plant permitting procedures.

Maintenance of the status quo appears highly unlikely. Numerous powerful political constituencies are clamoring for action, as California utility bills have doubled or

tripled since last year. Numerous state legislators are at risk and will endeavor to effect change to save face with voters. A radical liberalization of the market to allow bilateral contracts, restructure the California power markets, and significantly ease the plant permitting burden is the right long-term solution, in our view, but we believe it is unlikely to be fully enacted in the highly politicized current environment.

***Complete re-regulation is
the least likely, in our
view.***

The two other possible outcomes are less than favorable but also the most unlikely to be implemented “as is.” The least likely and effective choice would be to re-regulate electric generation in the state. This political response to price spikes and shortages would cause havoc in the power market and is not a solution.

Additionally, the complexities and uncertain legal ramifications of this course of action make this an unlikely action. Still, we believe California politicians feel they must respond meaningfully to address constituents’ rising utility bills (and the headaches of its powerful utility lobby) during an election year. We think they will do this through a combination of providing incentives to encourage new generation (and ultimately lower prices) in the state and capping prices, thereby yielding a “mixed bag” solution.

Live Free or Dark

No merchant generator will construct new plants costing a half billion dollars or more under the specter of a planned economy for electricity or re-regulation that provides for fixed, cost-based returns. Uncertain regulation or legislation of prices is the greatest risk to providing new generation capacity. The governor and legislators have hurt their chances to correct fundamental problems. High utility bills are merely a visible symptom of the problem.

Figure 3. The Brownout Equation

Low Reserve Margins + Growth + Price Caps \Rightarrow Brownouts

Source: Salomon Smith Barney.

Price caps should be eliminated to reduce the prospect of brownouts.

We believe one of the elements in Figure 3 must be eliminated in order to reduce the risk of brownouts. California can only afford to maintain price caps at the expense of economic growth.

The outcome in California is a de facto national referendum on deregulation. California presents an example of the issues that currently or prospectively face most of the regions of the nation. Current supply growth is not matching growth in demand. Power prices are rising in many regions of the country in response to supply and demand (i.e., tight supply, often restrained by regulation, and demand that has grown faster than expected). If California re-regulates or attempts to restrain the market by placing arbitrary price caps on electricity, it risks economic stagnation, and, eventually, the lights will go out.

Investment Implications

The same wholesale power merchants and generators that produced strong second quarter 2000 earnings results in California are likely to continue to produce strong earnings for the foreseeable future. Nationwide, most power markets are tight and getting tighter. California is merely the most notable example of a more widespread problem (in that the issues facing California are the earliest and, thus far, the most extreme). Electricity usage is growing faster than the addition of new supply, and the prospects for a sustained trend remain in place. Fuel supplies and power plant equipment and construction resources also remain tight. This environment suggests strong fundamental prospects for commodity prices in the near-to-intermediate term. The Energy Merchants that already maintain a long position in the power markets and are adding to their capacity are likely to continue to prosper. Therefore, given the unlikelihood of a fundamental or long-term return to regulation, we recommend purchase of the Energy Merchants. In the current debate, we recommend that investors be long free markets.

Figure 4. Planned Capacity Additions of Leading Energy Merchants, 2001–10

Energy Merchants	Inv. Rating	Current Portfolio		Planned Portfolio	
		WSCC	# Plants	WSCC	# Plants
The AES Corp (AES)	NR	5,498	5	1,715	3
Calpine Corp. (CPN)	1H	1,410	27	4,000	9
Dynegy Inc. (DYN)	1H	1,606	18	275	1
Duke Energy (DUK)	2M	3,326	4	2,120	4
Enron Corp. (ENE)	1H	0	0	1,691	3
El Paso Energy (EPG)	NR	896	14	0	0
NRG Energy, Inc. (NRG)	1H	1,569	16	500	2
Reliant Energy (REI)	3M	4,013	6	2,590	2-4
Williams (WMB)	NR	0*	0	0	0
Total		21,383	93	20,656	25-27

Source: Company reports and Salomon Smith Barney.

Notes: NR = not rated. *Williams has a tolling arrangement for much of AES's California capacity. Dynegy and NRG are partners in ten plants, with 2,768 MW of capacity.

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**Companies mentioned in
this report:**

Calpine Corporation# (CPN-\$92.19; 1H)
DUKE ENERGY# (DUK-\$71.81; 2M)
DYNEGY Inc.# (DYN-\$43.06; 1H)
El Paso Energy Corporation (EPG-\$59.00; NR)
Enron Corporation# (ENE-\$86.25; 1H)
NRG Energy, Inc.# (NRG-\$25.38; 1H)
Reliant Energy Inc.# (REI-\$36.75; 3M)
The AES Corporation (AES-\$58.50; NR)
Williams Companies (WMB-\$46.81; NR)

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