

Six Energy Trends to Watch in 2005

January 24, 2005

Unless your head has been buried in sand (or paperwork) for the past four years, you probably know that the energy business in the new millennium has been anything but calm. While fears of a Y2K disaster were misplaced, numerous unseen threats took center stage – huge bankruptcies, questionable market behavior, an electric market meltdown in California, a huge outage in the Midwest and Northeast, and natural gas prices increasing by a factor of three. These volatile times have led many energy companies to try to go "back to basics" in the nostalgic hope of recreating the golden days of regulated ratebase and steady earnings. The reality, however, is the structure of the energy industry is forever changed; and rather than looking backward, successful companies must create new business strategies that both recognize and capitalize on the new market realities.

With this in mind, following are six trends that we believe will drive the energy business in 2005:

Trend #1: Ongoing Price Volatility

In the past year, supply area natural gas prices have fluctuated from lows near \$5.00 to highs near \$8.00/MMBtu, with weekly price fluctuations as high as 30%. This sort of price volatility is extremely unwelcome for most market players. It creates risk for energy suppliers (who may not be able to pass cost increases on to customers), creates hardship for natural gas customers (as they are unable to budget accurately for energy expenses), and in areas of the country such as the Northeast, California and Texas (where natural gas generation is the marginal source) it also increases volatility in electricity prices. Even regions served primarily by coal generation have seen increasing electric price volatility as coal prices have risen in response to natural gas prices and other market factors.

Many pundits now say that we must get used to higher energy prices and develop strategies that assume they are here to stay. We believe the real trend is toward volatile energy prices, and not ongoing high energy prices. Over time, high prices will encourage new investment that will either increase supply or reduce

demand. And successful market players will focus on strategies that allow them to succeed in a market where prices commonly rise and fall based on rapidly changing market conditions.

Trend #2: New Paradigms for Investment

The industry is poised for a new wave of major investment in infrastructure. The need for new investment in electric transmission infrastructure has been well documented. But market conditions may also support huge investments in new gas storage fields, LNG terminals, major gas pipelines from Alaska and Canada's MacKenzie Delta, generation in some areas such as California and New York, and environmental mitigation for existing generation units.

A key issue is where this money will come from and how investors will make a sufficient return to carry the many risks that appear prevalent in today's energy marketplace. Few of the needed investments appear well suited to the old paradigm of ratebase construction or long-term agreements supported by regulatory guarantees and utility stockholders. New capital appears much more likely to come from private equity markets, which Economist magazine calls "capitalism's new kings." Private equity has already become active in utility markets with the largest acquisition being the purchase of Texas Genco. However, regulators are nervous as reflected in Arizona's denial of the sale of Unisource and concerns in Oregon over the proposed sale of Portland General Electric. Regulators and market participants will need to work together to develop new paradigms that allow this important source of capital to flow into energy markets.

Trend #3: Carbon Emissions Trading

Although many observers may not realize – given the lack of attention paid to environmental issues these days – the electricity industry is on the brink of an evolution focused on environmental priorities. Short-term focus will certainly be on the EPA adding mercury to the list of regulated pollutants under the existing Clean Air Act. But more important will be a longer-term concern with controlling greenhouse gases in response to

global warming. Despite the current U.S. administration's "voluntary approach" to mitigation of greenhouse gases (GHG), energy companies and large consumers will soon be actively managing these emissions.

With the exception of the United States and Australia, the industrial countries of the world are moving forward with implementation of the Kyoto Protocol. This treaty places limits on each country's emission of GHG and puts in place an international emissions trading program that allows individual companies to manage their cost of compliance through capital investment or trading for excess credits. In the U.S. a number of states are filling the void left by the federal government by creating their own form of GHG emissions regulation. This will result in the development of state-based carbon trading marketplaces. Whether or not energy companies and consumers see regulation imminent, now is the time to begin preparing for a world of carbon restrictions and trading.

Trend #4: Slow But Steady Progress Toward Competitive Markets

Following the Enron meltdown, the California crisis and the failure of FERC to push through Standard Market Design, many energy observers concluded that the movement toward competitive markets in the U.S. had reversed. Although these factors certainly slowed things down, the reality is that we are in fact still moving slowly toward competitive markets – albeit with certain regional pockets of strong resistance. The PJM ISO continues to expand with the addition of Exelon and AEP, and later this year the Midwest ISO will begin operating a day-ahead market. Recent announcements suggest that Grid West may soon create an RTO across western markets and that the Southwest Power Pool (SPP) is also moving toward a more competitive wholesale marketplace. Energy companies that may have hesitated to join an ISO are now being motivated by FERC's market power policy that will deny companies the opportunity to charge market-based prices for excess power if their market share is too dominant. Joining an ISO is a near-certain way to mitigate FERC's concerns, resulting in the potential to increase profits for shareholders and/or lower rates for ratepayers.

Competitive retail markets also continue to grow as a

number of states remove artificial regulatory price caps or otherwise modify regulated utility services to encourage movement to competitive market offerings. Even California appears ready to take another shot at competition, with the likelihood that customer choice will once again be opened to large commercial and industrial customers. So as we slowly creep down the road to competitive markets, it will become crucial for all energy companies and large consumers to develop strategies for success in a world of competitive generation and retail services.

Trend #5: Growing Value for Demand-Side Technologies

A number of innovative technologies developed over recent years are finally ready for prime time. Included are technologies such as smart-metering, real-time internet-based monitoring, demand controllers, and small scale Combined Heat and Power (CHP). Concerns over volatile energy costs and the realization that energy is a controllable cost that can be monitored in real time will undoubtedly lead increasing numbers of consumers to invest in such technologies. In some regions such as New York, New England and PJM participation of controllable loads in the marketplace as a substitute for peak generation is becoming a reality, and this trend will continue to expand.

Broadband over Powerline (BPL) is another technology moving into the marketplace. BPL allows electric distribution lines to carry high-speed internet access into consumers' homes. Now being rolled out to test markets by utilities such as Cinergy, BPL creates the possibility of a third broadband "pipe" to compete with cable and DSL. It also creates the possibility of new types of energy-related services such as remote monitoring and automatic load control. Thus as energy markets evolve into a world of more customer choices, both consumers and energy suppliers will need to continually evaluate the value of adopting new technological solutions.

Trend #6: New Strategies for Human Resource Development

A wave of employees reaching retirement age will soon hit the energy industry. In some companies as many as 50% of employees will reach retirement age within five

years. At the same time, significant new skill sets are required as the industry evolves. All energy companies need to clearly define strategies to ensure that a skilled and flexible workforce will be ready to meet the challenges of the 21st century. These will include outsourcing of non-core functions, cataloging of key knowledge before employees leave, employee training to develop a new wave of supervisors and managers, and programs designed to attract new workers into the energy field.

So What Does it All Mean?

In short, 2005 will continue to be a year of evolution for the energy industry. The current inclination to focus on traditional regulatory models will be short-lived; the marketplace has simply changed too much to go back. Thus the outlook is not positive for energy companies clinging to old models as they will neither be able to attract adequate investment nor satisfy customer demands for flexible solutions in a global marketplace. Successful energy companies and consumers, on the other hand, will use 2005 as a year to consider new and innovative strategies for an evolving energy marketplace.

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