

Enron and the Energy Market Revolution

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What was Enron: cheater or innovator? Schemer or revolutionizing force? Was the company's impact overrated, or did it make a fundamental contribution? And is the energy market revolution, of which Enron was a part, alive or dead? For some time to come, the role of Enron and its executives in U.S. and global energy markets will be hotly debated and analyzed. More obviously, Enron will remain in the news for some time to come, since Enron's chapter 11 filing is one of the largest and most complex bankruptcy proceedings in U.S. history.

Given the assumptions about the role and function of energy merchants² in more competitive natural gas and electric power industries, and conditions in the aftermath of the spectacular collapse in this segment, a key question in the post-Enron era is whether energy policy experimentation will or can continue. Speculation is that the "Enron effect," coupled with electric power market dysfunctions in California and broader repercussions from the bursting stock market-dotcom-technology bubbles, has so tarnished important actors (energy companies, regulators, accountants, attorneys, financial analysts and houses and, yes, even university-based researchers) and so destroyed credibility that a new paradigm may be needed.

The passage of time and ultimate resolution of investigations, inquiries, and litigation as the Enron bankruptcy continues to unfold will begin to inform the post-Enron legacy, for better or worse. The Enron story can be distilled into four bold ideas that took root and were implemented in practice.

- A belief that "stranded value" inherent in the natural gas and electric power value chains could be captured and redistributed to shareholders and customers by breaking down regulated barriers to entry and by introducing competition and innovation.
- A gamble to create competitive advantage via sophisticated price risk management practices and businesses such as natural gas supply and utility portfolios and the "Gas Bank" concept. These activities, linked to a new "social compact," could both produce new revenues and profits (as Enron arbitrated across market differentials) *and* alleviate the impact of volatility on customers, as heavily regulated industries transitioned to more light-handed regulatory regimes.
- The new "social compact" that would replace the regulatory covenant and allow the public interest to be served through more efficient, competitive enterprises providing the same levels of reliability and security as regulated entities.

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² Energy merchants are generally regarded as firms that engage in wholesale trading and risk management and development of wholesale (unregulated) assets, mainly electric power plants but also natural gas pipelines, storage, processing and other "midstream" facilities. They are often termed energy services businesses for the integrated solutions of energy supply, delivery, and price risk management that they offer, usually to large commercial and industrial customers.

- A desire to export these strategies to international markets where, Enron managers and staff believed, the introduction of privatization and reduction in state control of energy sectors would yield premium returns to investors and shareholders and numerous benefits to customers in these countries and regions.

All of these ideas flowed out of the historical context for energy in the U.S. and elsewhere. They reflected an emerging mindset, well beyond Enron's own charter, that favored market-based over government-directed approaches to energy development and delivery. This emerging mindset partly mirrored long-term political, social and economic shifts, but the more important drivers were dissatisfaction with the government-centered policies that grew out of the 1970s energy disruptions; the search for new, more profitable business models for the U.S. natural gas pipeline industry; economic need and cost and service quality associated with state-controlled energy enterprises in other countries; and changing technologies that fundamentally altered the cost structure of the natural gas and electric power industries and how business is conducted.

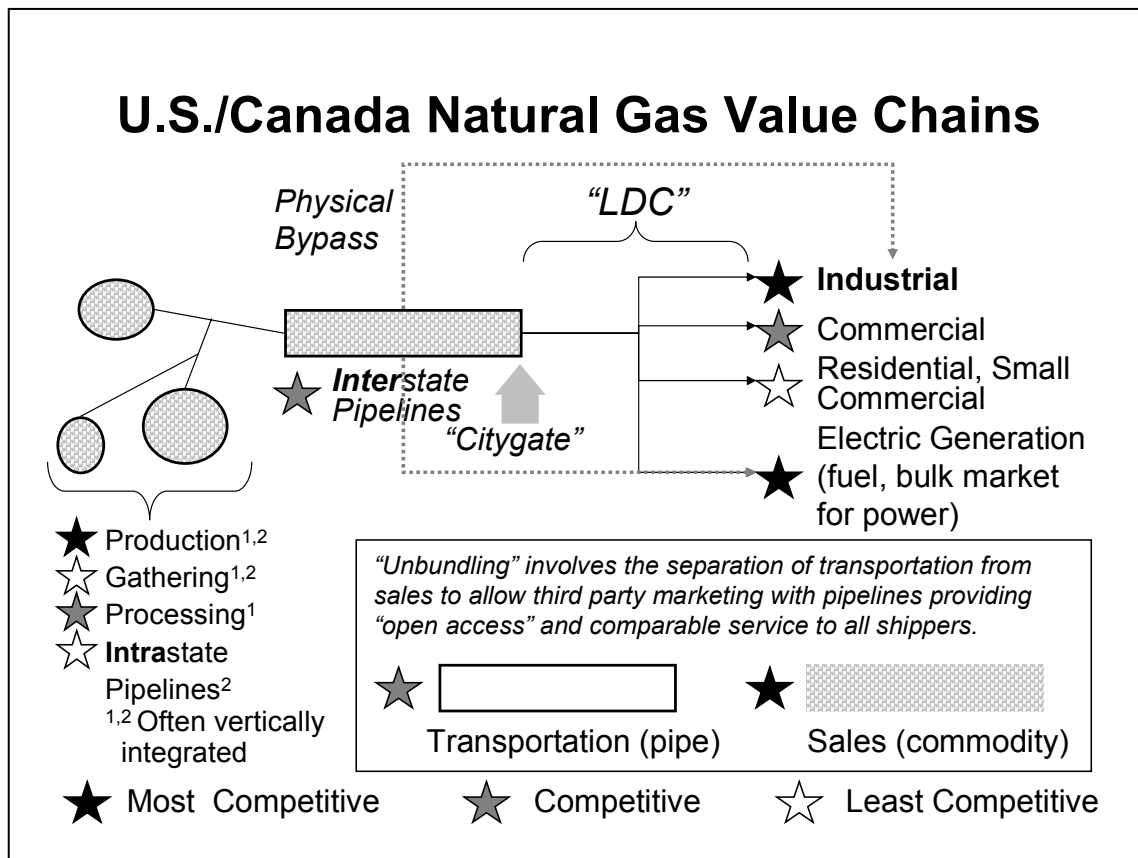
ENRON'S BOLD IDEAS

Enron was partly an artifact of the history of energy policy and politics in the U.S., including fundamental shifts in the market-government balance, as well as a change agent forged out of the battles to create a modern, market driven, natural gas industry. But Enron mostly needed to make money, and it was the drive toward revenues and profitability within the framework of the reconstituted natural gas industry that set Enron's ultimate course toward bankruptcy.

Capturing "Stranded Value" in Natural Gas and Electricity

As Enron managers began to formulate critical strategies, a number of competitive arenas had been defined through the restructuring process (see diagram below).³ Pipeline companies had participated in the upstream businesses in the past. Enron initially expanded its upstream presence, but later spun off the domestic businesses (renamed EOG Resources). Gathering and storage continued to play important roles in the midstream mix. Most aggressively in its midstream businesses, Enron acquired additional pipeline systems (Transwestern and Northern Border, to name two of the more critical acquisitions). The company never acquired gas utility assets. While the acquisition of Portland General, an electric utility in Oregon, was one of the higher profile moves, Enron became adept as a non-utility developer of electric power generation, and began to dip into other businesses that had fallen in or out of vogue, liquefied natural gas ("LNG") as one specific example.

³ It is important to emphasize that during the process of natural gas restructuring, and as it morphed into electric power, the affected organizations included roughly 10,000 natural gas producers (among them the largest, publicly traded companies); about 100 interstate and intrastate pipelines; about 100 investor owned gas utilities (and probably 1,000 small and municipal systems); about 100 investor owned electric power utilities; seven federal power authorities; approximately 10,000 public electric utilities and member cooperatives; 48 state legislatures (the U.S. natural gas and electric power transmission systems are, thus far, confined to the contiguous 48 states); 48 public utility commissions (slightly more for those states, like Texas, which split responsibilities between two agencies); the Federal Energy Regulatory Commission ("FERC"); and the U.S. Congress.



Note: provided by the author.

More significant to the emerging corporate strategy, however, were two key concepts. The first was the idea of *natural gas as a premium product*. Enhancing the value of natural gas was, of course, a driver for and outcome of restructuring, and a target for the industry as a whole — witness the Natural Gas Council activities.⁴ Perhaps more than its peers, Enron understood how to position around this fresh take on the value of gas relative to other fossil fuels. The

⁴ During the critical time frame for natural gas industry restructuring, 1978-1992, image was everything. The curtailments in the 1970s, wretched financial performance following the pipeline "take or pay" ("TOP") settlements stemming from the initial open access orders in the mid 1980s, and sharp political conflict both between the industry and government and within the industry raised serious questions about reliability, market power, and price manipulation (was open access just a means to this end?). Within the industry, blame was shifted around as businesses in each segment struggled to contain the financial fall out from the restructuring process. The Natural Gas Council was formed in 1992 to unite the industry and provide quick response to customer concerns, establish industry-wide coordination to address reliability (a Natural Gas Reliability Council, like the North American Electric Reliability Council, was envisioned), position natural gas as the environmental fuel of choice, and encourage growth in demand (a stated target at the time the Natural Gas Council was formed was a 2.5 tcf increase nationwide by 1996). The focus on reliability quickly centered on information, use of electronic bulletin boards ("EBBs") and related issues, and fostered creation of the Gas Industry Standards Board ("GISB") to help build consensus on standards and protocols. The GISB has since become the North American Energy Standards Board, or NAESB, to reflect the growing consensus on standards across the continent, and the increased focus on electric power and gas/power convergence. The Natural Gas Council remains in place with a rotating chairmanship among the member trade associations.

second key idea, both compatible with and in contrast to the first, was the notion of *creating private markets to extract business from regulated services*, part of which hinged on Enron's ability to manage risk. If natural gas was a premium fuel, in high demand by a large, lucrative industrial and commercial customer base, then Enron could compete with utilities to provide this service. But natural gas had also been commoditized, and everyone was now a price taker. Risk management, of great concern to both natural gas producers as well as customers, was a key component of Enron's new gas services approach. And while utilities often viewed Enron as a predator, stealing their large customers, they also used Enron as a gas supplier and risk manager either through bilateral contracts or through their own trading and marketing activities with Enron as their counterparty. Upstream of the large customers and utilities were producers who needed financing and risk management as well. Enron could integrate across the segments, re-bundling diverse services that were outside of regulatory jurisdiction and capturing value from price risk that had otherwise been stranded, in a sense, in the pre-restructuring, regulated environment.

As these businesses developed, Enron needed to press into action a workable formula for its risk management functions. The Gas Bank was the first step.⁵ Until this innovation, producers typically financed production out of cash flow, if they were large enough businesses, or secured financing from a variety of sources, such as commercial banks. Imbedded in producer finance were returns that Enron could capture both from production cash flows and, more important, from the risk management function that producers had not faced during wellhead price control. Following the Gas Bank innovation, Enron needed an "angle" to successfully pitch risk management to utilities, at a time when state regulators were quite leery of approving risk management schemes for their client industry. Rethinking the social compact for public utilities became the mantra. As the company acquired skills in its new business activities, the logical extension was to include electric power. By the mid 1990s, Enron Gas Services became Enron Energy Services, which combined natural gas, power, and other fuels with incentive pricing, trading and risk management, and related infrastructure services (like transportation arrangements) into total, value-added packages.⁶

Dealing in Risk

Enron became so competent at dealing in risk that, by 2001, most estimates were that the company controlled roughly 40 percent of the wholesale market for both natural gas and electric power.⁷ Within Enron, the instinct on long-term portfolios for gas, and the Gas Bank, represented the earliest glimmer of the "asset-light" strategy for which Enron was credited, and blamed, later on. The prevailing sense was that broad and liquid financial markets and risk portfolios could be created for gas and, eventually, power and other commodities. These

⁵ While still at McKinsey, Jeff Skilling launched the "Gas Bank" concept during 1989-1990, which grew into Enron Capital and Trade (which Skilling later led), and then into a host of energy service businesses that optimized assets through financial market positions, took speculative positions (Enron traded for its own accounts), and bundled energy supplies and services into packages with risk management strategies that provided benefits to major customers (from hospitals and schools to major industrial customers) and lucrative incentives back to Enron.

⁶ The author's interpretation of Enron's strategies is based on information accumulated in the years since 1991 from Enron staff and managers (including Rob Bradley, Margaret Carson, Cathy Abbott, Bruce Stram, Mike Muckelroy, Steve Kean, Jeff Skilling, and Ken Lay) in both written and verbal communications (on file with author).

⁷ *Power Marketer Sales Statistics*, POWER MKT. WK., Mar. 19, 2001, at 15.

instincts arrived early in the game, at least by 1991, although the “asset-light” phrasing and explicit strategy did not come into play until 1999.⁸ Enron was transforming itself and the marketplace in a very distinctive way. The company was rapidly becoming a financial business, and pushing its peer group that direction.

The initial concept for the Gas Bank was directed to the specific problem of producer finance in the more volatile natural gas marketplace. Underlying the bank and the products that extended from it was the right to market existing “proved and developed production” (PDP). PDP assets are less risky than “proved and undeveloped” production (PUD) or “proved, developed, but non-producing” (“PDNP”) assets. PDNP assets still, however, represent a critical phase for producers, who must assemble financing to move from the initial exploration well to development of a field. The essence of Enron’s suite of offerings for producers is shown in the table below, with exploration and production (“E&P”) risk increasing to the right. In 1991, the first year of operation, Enron completed roughly \$100 million in producer finance transactions through the production payment/prepay mechanism. By 1993, Enron had almost \$500 million in producer finance, with more than one-third provided through other mechanisms, and by 1994 transactions exceeded \$1.5 billion, including equity, joint ventures, limited partnerships, loans, and production payment/prepay. Volumetric Production Payments (“VPPs”) were designed to compete with senior debt provided by commercial banks but with more favorable terms (more flexibility with regard to risk-weighted reserves, slightly cheaper interest rates). (See table below for terminology.)

Mezzanine financing for producers offered through an entity like Enron was another innovation. The cost to producers was higher, but Enron was willing to accept a higher level of risk as well, critical for the exploration part of the industry. Equity financing through development partnerships helped to launch the riskiest ventures targeting probable production based on geologic information—no preliminary well data, or only data inferred from production near the prospective area. Enron did establish some constraints, declining to finance activities like ultra-deep onshore plays (below 16,000 feet) or offshore prospects in water deeper than 275 feet.

Enron Gas Services Producer Finance

Increasing Reserve Risk →					
	Gas Purchase Contracts	Gas Bank	Volumetric Production Payments (VPPs)	Net Profits Interests (NPIs), Junior VPPs	Development Partnerships
Purpose:	Right to market existing PDP	Purchase gas at fixed price under prepaid contract	Acquire reserves at fixed price	Provide capital to facilitate acquisitions	Provide capital to exploit reserves
Reserve Categories:		Evaluation primarily based on PDP (some acreage dedicated, PUD)	Evaluation based primarily on PDP (some PDNP and PUD)	Based on PDP residual cash flow, PDNP & PUD	Based on PUD and probable

⁸ Current and former Enron managers have speculated that the asset-light strategy did not pre-date 1999 (various communications, late 2002) (on file with author). However, it is clear that the fundamentals were in place well before then.

Increasing Reserve Risk →					
	Gas Purchase Contracts	Gas Bank	Volumetric Production Payments (VPPs)	Net Profits Interests (NPIs), Junior VPPs	Development Partnerships
Market View of Financing:		Viewed as fixed price contract with partial prepayment	Viewed as non-recourse senior financing	Viewed as non-recourse mezzanine financing	Viewed as equity financing

Source: Based on information provided to the author by Enron in 1994.

Enron's success with its producer finance programs quickly attracted additional entrants. Other energy merchants moved in. Industry majors like Shell set up producer finance groups. Outside of Enron, most competitors focused on mezzanine products, creating something of a boom. Like energy derivatives, producer finance transactions were reportedly using mark-to-market models as current revenue.⁹

With the collapse of the fleet of producer finance programs associated with energy merchants, these contracts had to be unwound, fortunately with little impact for the producers but with substantial implications for both the merchants and producers. The consequences of shuttering the energy merchant producer finance businesses are more serious going forward. Both VPP and mezzanine products have largely exited the capital markets. In addition to producers, developers of midstream and power assets are also likely to be heavily affected, adding to the potential for market disruptions and price pressure as the U.S. economy recovers.

Changing the Regulatory Covenant

As natural gas restructuring progressed, natural gas supply procurement altered dramatically. Before 1983, both producers and local distribution companies ("LDCs") were locked into rigid arrangements that, while they provided guaranteed markets for producers and supply security for LDCs, also posed a host of problems. What if market conditions changed? Producers had no other options for marketing their production. What if LDCs needed less capacity than contracted for? Take or pay clauses and minimum bills would apply. No flexibility existed for short term or seasonal variations. It was as if demand elasticity was a forgotten principle, the trade off being certainty.

By the mid 1980s, with special marketing programs ("SMPs") and the first stage of open access through FERC's Order 436 on deregulation underway, innovations were dropping into place. The short term spot market developed; producers could market their available supplies elsewhere, and opportunities existed for value capture at points other than the wellhead. In the lead-up to FERC's proposed "Mega-NOPR" (notice of proposed rulemaking), which was implemented as Order 636, seasonal pricing had emerged and variations in contract length were under experimentation. Post-636, the variety of offerings continued to increase, to reflect peak and off-peak demand requirements, firm and interruptible service with various conditions, and,

⁹ Based on market trends documented by OIL & GAS INVESTOR (various issues) and industry sources (on file with author).

of course, the abundance of available, unregulated products that marketers and brokers could package, such as balancing, peak-shaving storage, emergency assistance, and so on.

For LDCs, there were two considerations. The first, another form of cultural adaptation in the industry, was the acceptance of marketers as reliable providers of supply. LDCs were suspicious that, among other things, marketers were unreliable and would unfairly price contracts, that their access to supply was not firm, that they were not creditworthy and did not have the financial strength to back their commitments, and that they would drop the ball on critical balancing and administration requirements. The second problem was exposure to risk.¹⁰ With greater flexibility also came greater volatility. The spot and short-term markets could be quite variable, especially around seasonal peaks, and market conditions could change drastically over the term of a contract. LDCs needed to be able to manage these issues, but had little encouragement from public utility commissions (“PUCs”) to do so or, if the encouragement was there, then the skill sets and internal leadership to create them were missing.

Enter Enron’s utility portfolio concept. Enron managers deduced that risk essentially was being shifted from the federal jurisdiction to states. PUCs were bottlenecks, mandating least-cost purchases and preferring that LDCs procure supplies on the spot market, based on a presumption that spot markets were where the most competitive bargains could be found. Consumer advocates liked these approaches and lobbied hard to encourage PUCs to maintain them, but at Enron the opinions were that consumer advocates were not fully recognizing the element of risk. Buying spot gas introduced a greater chance of price volatility and reduced supply security. The gas market had essentially flipped—from the rigid tradition of long-term contracts pre-1983, to the post-636 world where upwards of 70 percent of gas was trading in the 30 day spot market. In addition, Enron managers felt that too much risk was shifting to consumers, who were already saddled with Order 636 transition costs. The idea was that LDCs could have better demand-side management with fixed-term pricing, more flexible conditions, and price risk management supplanting the long-term contracts in the pre-636 world. Accordingly, Enron launched a campaign to convince PUCs and LDCs that the portfolio management approach (a mix of supply contracts that reflected variations in pricing, term, and risk) would be more effective. In 1991, 45 percent of the customer product mix at Enron Gas Services was long-term sales, with LDCs accounting for 56 percent of those sales. Spot sales accounted for 55 percent, with LDCs constituting 46 percent. Enron’s goal was to shift some portion of LDC spot sales into the more lucrative long-term arrangements. Long-term sales did not include only gas, but all of the other services Enron wanted to provide, including risk management, to LDCs.¹¹

The choices for LDCs were many, with firm contracts that enabled fixed, truncated, dampened, or floating prices as well as short term fixed (indexed/negotiated) and floating/negotiated options. Beyond LDCs, Enron pushed the portfolio concept for gas-fired electric power generation, and expanded its offerings of products. These included 15-year fixed

¹⁰ Based on comments and information provided to the author by John Herbert, then of Natural Gas Clearinghouse, 1993 (on file with author).

¹¹ All details in this section are based on information provided by Enron. This information includes meetings and follow-up conversations with Ken Lay and Jeff Skilling in September 1991 and with Bruce Stram in October 1991 (on file with author).

price commitments, 25-year market-based commitments, and flexible delivery. For both LDCs and electric power generators, the suite of risk management programs unbundled physical delivery from price and included swaps (forward hedges), participating swaps (participating hedges), maximum price hedges (caps), and maximum/minimum hedges (collars).¹² Of course, as time passed, the products became even more sophisticated but the basic point remained—gas and electric power utilities could, with judicious use of portfolios and risk management, vastly improve their gas supply options and provide benefits to consumers in return.

Enron's arguments were compelling, but gas utilities were bound by the “regulatory covenant” that granted franchise protection in return for assurances of “just and reasonable” rate regulation. Instead, Enron managers argued that LDCs needed to be free to set flexible contract provisions that not only would better serve their consumers (the utility portfolio concept) but also would reflect conditions in the vital upstream businesses, thus linking Enron's innovations for utilities with their innovations in producer finance. LDC supply contracts would be arms-length from regulators, but they would reflect negotiated understandings about the role of private contracts in LDC obligations to serve. The utility portfolio scheme also would include light-handed, more cost-effective regulation that allowed LDCs to experiment and, importantly, to extend open access principles into the gas utility segment.¹³

As with most of Enron's initiatives, other motives were present for the company's strategic moves. A high profile case had dominated the natural gas supply scene, one that pitted Canadian producers against the California regulators. At stake were long-term export supply contracts that had been negotiated by the producers and approved by Canada's National Energy Board or NEB, Canada's equivalent to FERC, with Pacific Gas Transmission Company (PGT). Hard into its philosophy that spot market purchases were best for utilities, the California Public Utility Commission (“CPUC”) was sympathetic to consumer advocate arguments that the contracts presented excess rents to the producers, and that regulators disallow some \$200-500 million in alleged overcharges. The heated Alberta-California “gas war” spilled over into sharp jurisdictional disputes between the state and the FERC over pipeline capacity releases by Pacific Gas & Electric (PG&E) on the PGT system.¹⁴ The disputes were eventually settled, with considerable effort by the Canadians, but they left a decidedly sour note on the issues of spot or long-term gas purchases, state or federal authority, and interests of marketers and producers as opposed to regulators and consumer advocates. Ironically, these disputes reflected the host of issues that surfaced in California energy markets by 2000.¹⁵

¹² For a good glossary of energy trading terminology, go to <http://www.nymex.com/media/glossary.pdf>.

¹³ See Bruce Stram & Terry Thorn, *Beyond Regulation: A 'Social Compact' for Gas and Electricity*, PUB. UTIL. FORT., Mar. 1, 1993, at 19.

¹⁴ Based on Arlon Tussing, *An Overview of FERC's Mega-NOPR*, Address at the Conference of the Independent Petroleum Association of Mountain States and the International Association for Energy Economics (Feb. 13, 1992); also based on interactions between the author and officials at NEB-Canada at the time of the disputes; see also UH IELE, PROPRIETARY REPORT ON U.S. NATURAL GAS MARKETS (2001) (prepared for SRIC Corp.) (on file with author and available by request at <http://www.energy.uh.edu/publications.asp>).

¹⁵ A fundamental debate leading up to California's electric power disruptions in 2000 was whether the CPUC was correct in forcing electric utilities into short term purchases of bulk or wholesale power as opposed to allowing longer term commitments. See UH IELE ELECTRICITY RESTRUCTURING IN CALIFORNIA (2001-2003), available upon request.

From the time the notion of a social compact was articulated until Enron's collapse, Enron pushed hard for state regulators to adopt, and adapt to, this way of thinking. And, again, Enron was not the only company making these arguments. What differed was the intellectual ground from which Enron argued and the vast research and supporting opinions that it marshaled in its effort. Also, Enron had a vast army of willing supporters, given the philosophical shift toward markets and the willingness to rethink regulation.

“Going International”

After Enron's dominance in the U.S. became evident, and before its adventures in broadband and other businesses, Enron looked to the international arena. Restructuring in the U.S. had rapidly depleted profit margins as firms "competed away" gains that had been locked up in regulated businesses, and new sources of growth were needed. Emerging markets and many developing countries offered fertile ground for new infrastructure investments. Consequently, Enron stepped out of America with a first gas-fired electric generation asset as an independent power producer or IPP at Teeside in the U.K. From there, the company quickly took strategic positions in locales such as Argentina (with gas pipelines and power), and it pursued and won the high visibility Bolivia-Brazil gas pipeline and engaged in its high-profile Dabhol power project in India. Apart from infrastructure, Enron also led the way to help establish nascent wholesale markets and constantly searched for risk management opportunities and vehicles around its international asset base.

Enron's investments were supported, as usual, by creative analysis and persuasive arguments. There was no objection to the case for international development. Institutions like the World Bank and U.S. Agency for International Development were pushing international energy companies to move into new terrain, especially where capital constraints were greatest. Support for international risk taking was ample, through export import banks, credit agencies, risk insurance providers and guarantors, and so on. But international markets were quite unstable. Regulatory frameworks were nascent and immature. Demand was artificially boosted by rampant tendencies for governments to subsidize energy prices, presenting the danger that returns could be thin. Economies were fragile. Politics were stubborn and privatization programs uneven. Enron, a quick first mover for international natural gas and electric power investments, also became the “go to” firm for risk assessment that financial analysts could use to evaluate projects undertaken by Enron and its competitors. Unlike oil, which has long been an international business, natural gas and electric power were typically domestic industries, dominated by public utility or public service constraints and, outside of the U.S. and Canada, always sovereign-owned or controlled. Assessing the risks undertaken by publicly traded firms that had, up to that point, often been protected by utility regulation in the U.S. was not easy. Enron staff and managers made the job easier with ample access (on the company's own terms) to information, data, and opinion.¹⁶

¹⁶ For example, see Margaret Carson, *Global Power Privatization and Deregulation Trends*, in THE 1997 NATURAL GAS YEARBOOK (Robert E. Willet ed., 1997). For information and analysis on international energy investment trends, including trends, role of institutions, and issues, see Michelle Michot Foss, *Latin American Gas: Progress, Potholes and Pitfalls* in NATURAL GAS YEARBOOK (Financial Communications Company, Houston, 2001); Michelle Michot Foss, *Perspectives on the International Exploration Business*, in INTERNATIONAL OIL AND GAS EXPLORATION: A BUSINESS PERSPECTIVE (American Association of Petroleum Geologists, Tulsa, Oklahoma, 2000);

There were many underlying problems in Enron's international strategies, but one in particular was the tendency to value international transactions using the same accounting techniques as in its U.S. contracts.¹⁷ Given the level of risk Enron was assuming, that exposure easily could deplete financial reserves. The investment requirements on large projects could rapidly exceed what the company could sustain. (Enron often used a strategy of taking large equity positions to launch new projects and then selling down to reduce exposure, so that delays in these transactions contributed to risk.) Enron's aggressive accounting on extremely high-risk, opaque international transactions created undue pressure on the company's balance sheet and income statement. More than other factors, Enron's international projects most likely caused the company's eventual downfall.¹⁸

CONCLUSIONS: FORESTS AND TREES

The personal losses and traumas associated with Enron's downfall have made it difficult, at best, to draw objective conclusions about this company and its role in, and contribution to, the energy market revolution that was launched in the 1970s. It has been easy to dismiss Enron as yet another example of capitalist excess and simple to attribute both Enron's collapse and the collateral damage caused by that collapse on "deregulation," the incursion of markets, and the inability to manage and govern risks and behaviors. However, private companies can achieve astounding levels of creativity and innovation when presented with market incentives and given a willingness to take chances. Out of the chaos of energy disruptions in the 1970s, and the high political conflict of natural gas restructuring and gas/power convergence, Enron employees mobilized and deployed strategies for new products and businesses that were stunning. Enron's collapse was stupid—there is no other way to put it. The loss to society and the energy marketplace of Enron's creativity and innovation must be added to the total burden in diminished wealth, jobs, trust and credibility, and momentum to continue the energy market revolution.

We can draw a number of lessons.

- With respect to the excesses of capitalism, Enron's collapse triggered many inferences to Samuel Insull and Joseph P. Kennedy, two of the more colorful figures in American business history who provide strong analogies to the Enron story. With Thomas Edison, Insull helped to launch the modern electric power industry by seeking public utility regulation by the states as a means of ordering a chaotic new marketplace and providing reasonable returns for the early investors. His intention was that the need for regulation would be short-lived, only until the propensity toward "destructive competition" declined and the industry was established. (He was not fond of government intervention.) The historic record indicates that Insull also was guilty of financial engineering practices that stretched the truth about his enterprise, Middle West, which had grown into a vast holding company that exerted market

Michelle Michot Foss, *Worldwide Transitions: Energy Sector Reform and Market Development*, in NATURAL RESOURCES AND ENVIRONMENT (ABA Section, Natural Resources, Energy and Environmental Law, Spring 1998).

¹⁷ Information on accounting for international transactions provided by a colleague then at Enron in 1997 who prefers to remain anonymous.

¹⁸ An opinion on the contribution of Enron's international investments to its collapse was provided anonymously by a former international project developer at Enron, December 2002. His comments supported the author's own analysis and conclusions.

power and abused privilege. Middle West also collapsed, of course, and Insull died a poor man. Kennedy, on the other hand, managed to recover from his indiscretions (wash-trading techniques that artificially pumped up the value of stocks and seem suspiciously similar to what energy traders are thought to have practiced). Kennedy's misadventures led to creation of the Securities and Exchange Commission ("SEC") and regulatory oversight of trading and financial markets.¹⁹ Apart from corporate abuse, what the combined stories of Insull, Kennedy, and Enron really demonstrate is the tension between creating new markets, and the desire for all of the economic benefits that this entails, and the need for government oversight. Building new markets is hard, and the dance between business and government is not easily consummated. We prefer not to think that history will repeat itself, because this implies that we never learn any lessons. Yet, history still repeats itself because each new innovation and stage of industrial and economic development brings new challenges.

- To that point, the rise of Enron and the energy market revolution are best captured in the concept of the "evolving bargain" between business and government, as put forth by Willis Emmons.²⁰ Market structures are moving targets. Firms that pursue first-mover strategies risk getting burned as new and emerging markets and the regulatory frameworks that underpin them evolve. Firms both respond to, and push for, favorable market structures. The dynamics of the process are complex and troublesome to anticipate. Was Enron too much of a first-mover, faced with having to cover mistakes from the drive to be a market leader?
- Another useful line of query comes from Peter Senge, who pioneered the idea that companies are learning organizations. His case study on People's Express²¹ also is a commentary on first-movers and new markets that are moving targets as a matter of evolving bargains, but he shows how easy it is to miss the obvious. In the case of People's Express, the lesson was that airline travelers want more than just discount prices and will choose providers who also offer other benefits like on-time service.²² In the case of Enron, creativity and innovation were not enough. Trust and credibility have turned out to be desirable traits as well.
- With the downfall of the company, the Enron "asset-light" strategy of emphasizing revenues and profits from financial operations rather than from a hard asset base has been sufficiently disparaged. Monday-morning quarterbacking has dictated a return to hard-asset businesses for the energy sector. These observations miss the point. What Enron demonstrated, if anything, is that there truly is value associated with information and knowledge. It may seem that Enron was a perverse practitioner of its own corporate philosophy, attaching the greatest value to information and knowledge that could obfuscate the company's true financial health. But, in fact, information and knowledge provide comparative advantages to a company's core business, just as good information and knowledge about what companies do and how

¹⁹ For recent treatments of Insull and Kennedy, see Rebecca Smith, *Enron's Rise and Fall Gives Some Scholars A Sense of Déjà vu*, WALL ST. J. Feb. 4, 2002, at A1; Eric Rau, *Making the Street Safe*, FIN. TIMES, June 27, 2001, at 13.

²⁰ WILLIS EMMONS, *THE EVOLVING BARGAIN: STRATEGIC IMPLICATIONS OF DEREGULATION AND PRIVATIZATION* (2000).

²¹ PETER M. SENGE ET. AL., *THE FIFTH DISCIPLINE: THE ART AND PRACTICE OF THE LEARNING ORGANIZATION* 127-35 (1990).

²² *Id.* at 132.

they do it is invaluable for the marketplace to function well. These would seem to be lessons that everyone could take to heart.

- Time and again during the saga of Enron's collapse, and as other energy merchants were imploding, the question was raised of what was proper and what was not in the fast-moving energy markets that were being created. What were the rules of the game that Enron and other companies were playing? One thought is that the advent of online exchanges removed the possibility of formal rules imposed on the New York Mercantile Exchange ("NYMEX") by the U.S. regulators at the SEC and Commodity Futures Trading Commission ("CFTC"), providing some market ordering and governance.²³ This lesson is under active debate, as industry and government engage in their evolving bargain dance to determine the proper extent of oversight for online exchanges.
- Finally, as always, what is the role of government when it comes to new markets? How is government accountability assessed? The "bums" can be thrown out, but can a case be made for regulatory malfeasance and, if so, what would that imply?²⁴ The search for the proper role of government has been long underway in U.S. business history. Those of us who are in the business of thinking this out can be assured of employment for some time to come.

²³ This idea was voiced by a former NYMEX director in private conversation with the author on Mar. 11, 2003. Aberrant trading behavior is monitored and penalized at NYMEX, which is subject to the formal rules of the SEC and CFTC. For an overview of NYMEX's regulations, *see* NYMEX, Safeguards and Standards, *at* http://www.nymex.com/jsp/about/ss_main.jsp (last visited Aug. 18, 2003).

²⁴ It is very clear that at least federal regulators were well aware of how Enron was re-engineering its businesses. Indeed, the issue for the FERC was how to get other companies to "do the same thing" with regard to the energy trading, risk management, and services strategies that Enron was building (per remarks by a member of FERC's staff to the author on March 5, 1993; on file with author). The FERC was concerned that Enron was so far ahead of its competitors as to comprise a monopoly in these new activities, and also that new players were moving too slowly, limiting the depth and liquidity of the new markets that FERC hoped would be created.