

EXCHANGE OVERLOAD

Dominating North America's \$400 billion gas and electricity market isn't enough for Enron. Now it wants to be the king of B2B trading. Can it work?

FORGET ABOUT MICROSOFT. America's most successful, revered, feared—and even hated—company is no longer a band of millionaire geeks from Redmond, Washington, but a cabal of cowboy/traders from Houston: Enron. ¶ During the last two decades, while Microsoft was plotting its path from a no-name startup to king of software, Enron was also transforming itself—from a lowly gas supplier to the world's largest energy trader (see “Power Plays,” page 49). Along the way, it shed some fixed assets, including some power plants, and began concentrating instead on EnronOnline, an Internet trading exchange that has irrevocably changed the way suppliers trade electricity, natural gas, and oil in the fractured energy market. ¶ Today, Enron says it controls 90 percent of on-line energy trading, and that EnronOnline has completed a total of \$685 billion in trades since it

started operations in November 1999 (see “Trade Mission,” page 52). But what's startling is that in every trade on the exchange, Enron is always either a buyer or a seller. In other words, its highly touted exchange is really just a Web site for trading with Enron. It is as if Nasdaq itself had a hand in every equity exchanged within that stock market. And now, Enron is extending its exchange way beyond power, into commodities including pulp and

steel. If it succeeds, it would change how commodities are traded—but if it fails, it could signal Enron's decline.

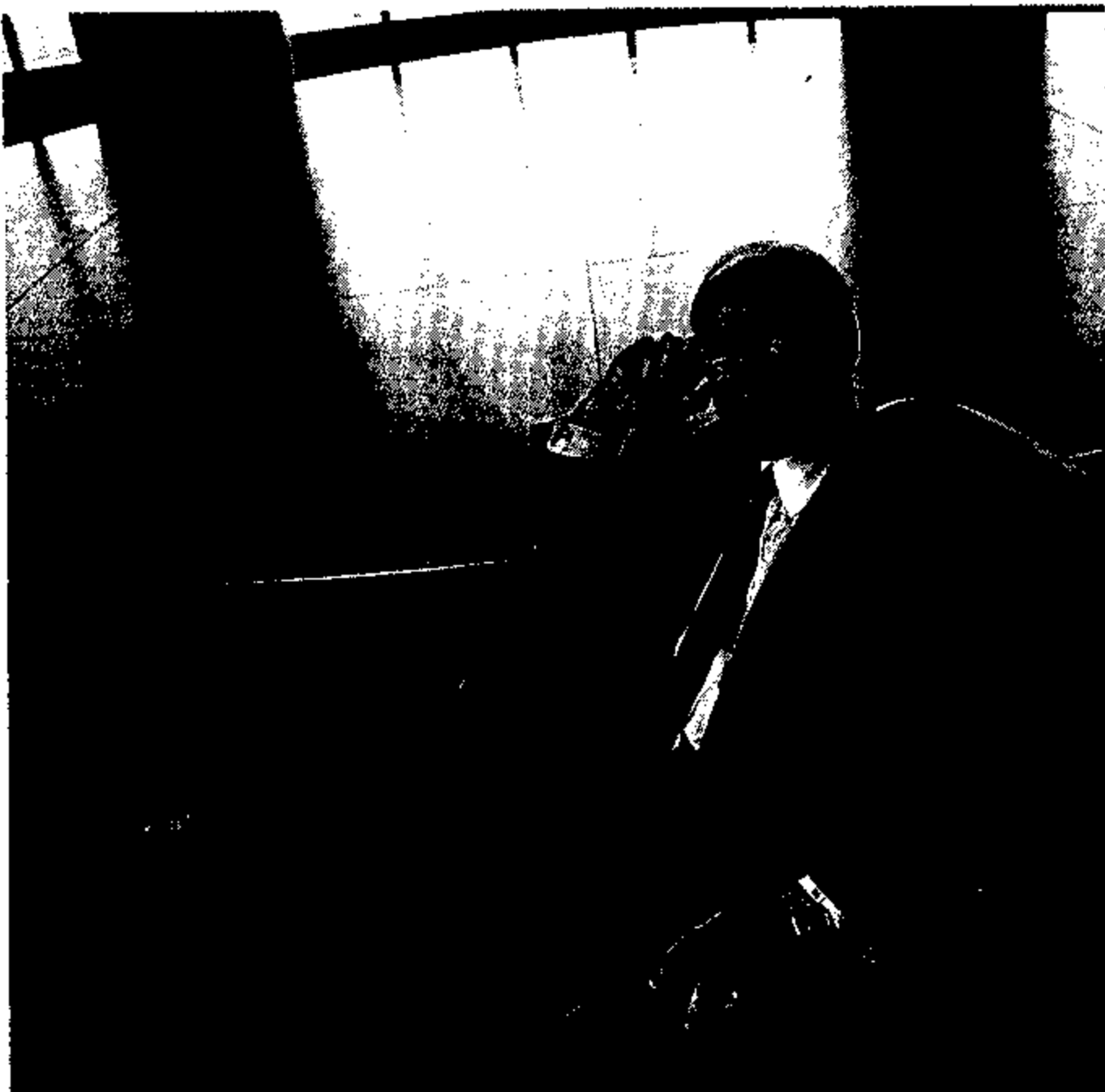
Since Enron doesn't break out revenue for EnronOnline, it's unclear how much the exchange contributes to the company's top line. Last year Enron's annual revenue tipped \$100 billion, more than double its revenue of \$40 billion a year earlier. And during an otherwise dreary second-

quarter earnings season, Enron reported that its net income surged 40 percent from the same quarter a year earlier (despite a significant loss in its bandwidth-trading business).

Of course, that success comes at a price: Enron has made plenty of enemies. Like many of its utility brethren, Enron is under investigation for alleged price gouging during the California energy crisis. The California senate recently cited

**BY CHRISTOPHER LOCKE
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Illustrations by Joe Zeff



Electric chair: Enron's chairman, Kenneth Lay, has become a prime suspect in California's price-gouging investigation.

the company with contempt for failing to produce documents related to the price-gouging investigation, but later lifted the citation when Enron agreed to cooperate. California Attorney General Bill Lockyer went so far as to tell the *Wall Street Journal* that he aims to put Enron's chairman, Kenneth Lay, behind bars—adding, extraordinarily, that such incarceration would preferably be in the company of an overly friendly, tattooed inmate named “Spike,” who addresses Mr. Lay as “honey.”

Meanwhile, Enron is under fire for its close ties to Bush administration officials, including senior White House adviser Karl Rove, who still held Enron stock when he met with the company earlier this year to discuss energy policy.



‘Enron must approach this with humility—otherwise, their hubris could be their undoing.’

Enron has also had the odd privilege of private discussions with prospective appointees to its biggest regulator, the Federal Energy Regulatory Commission. The company disputes that its political donations have bought it undue influence: “We give money, just like any other business, to lawmakers so they can know who we are,” says Steve Kean, Enron's chief of staff and an executive vice president. (Enron refused, over the course of five weeks, to produce for interviews either Mr. Lay or Jeffrey Skilling, its president and CEO. We were glad to speak with Mr. Kean, even though he berated us for our recent decision to dump Enron from the *Red Herring* portfolio [see July 15, www.redherring.com/mag/100/portfolio.html]).

PAPER TIGER

If Enron's legal woes and unpopularity make its chances for continued success uncertain, (a successful exchange depends upon the goodwill of everyone involved), its future is even more so. En-

ergy prices have slumped, which bodes ill for the whole industry. Moreover, competitors, including Dynegy and Duke Energy, as well as independent trading exchanges like Intercontinental-Exchange (ICE) and TradeSpark, are closing in on Enron's core markets in North America, and competing technologies are almost as good as Enron's (see “Buypartisans,” page 51).

But instead of obsessing over legal battles and competition in its core energy markets, the company is waging a risky plan to dominate the world of online commodities exchanges—and not just in energy.

Enron's theory is brashly simple: it figures trading is trading, whether it's trading electricity or, say, pulp. As several analysts put it, Enron is in the business of “trading electrons.”

With that philosophy in mind, the company has set out to establish trading exchanges in many commodities, including ones it knows, or at least once knew, little about, like paper, steel, and microchips. To help it make markets in these commodities, Enron has taken the costly step of buying physical assets—three pulp mills to provide Enron with its own commodities to trade on a paper exchange, for instance. The idea of an energy company buying assets in pulp is odd, to say the least. Even so, Enron swears it isn't expanding into the paper business. “Our business is making markets in paper, not the paper business itself,” Mr. Kean says.

Enron's most intriguing new business is weather derivatives—contracts that hedge against weather. A snowmobile maker that knows it only makes money when snowfall reaches at least 50 inches, for instance, can buy an Enron weather derivative that may pay a few thousand dollars for every inch of snow below that amount. Enron tries to offset these bets by selling similar derivatives to people who want to hedge against too much heat.

B2BREAKDOWN

Though Enron is the undisputed champion of energy, its grandiose plan to achieve the same success in other commodities is extraordinarily ambitious. By proposing to become the king of B2B in commodities, Enron is setting itself up alongside the likes of Vento (formerly Chemdex) and VerticalNet. Those startups set out, with great amounts of fanfare and venture capital, to run exchanges for multiple markets—and failed dramatically. Both have since repositioned themselves—unsuccessfully so far—as suppliers of software to other exchanges. Vento's stock, which kissed \$239 a share in February 2000, now trades at less than \$1; VerticalNet, which crossed its closing peak of \$172 a share in January 2000, now trades at less than \$2.

In retrospect, of course, most of the pioneering B2B exchanges were inherently flawed because they lacked the power to bring liquidity to their markets. Historically, there have been two ways to bring liquidity to an electronic exchange (or any market for that matter). In industries characterized by a few large buyers, if the players form a consortium in which they do much of their buying, liquidity is created by forcing suppli-

ers to come to the exchange. The auto-industry exchange, Covisint, has used this strategy quite successfully.

Or, in a fragmented industry, an independent player with sufficient capital can bring liquidity to the market by setting up an exchange that creates real efficiencies that never before existed between buyers and sellers.

Many of the independent exchanges that rose and fell over the last few years had neither history nor capital and, thus, had trouble signing up suppliers. Without suppliers, there were no buyers and, hence, no liquidity: a fatal example of the chicken-and-egg paradox. Others spent too much time offering "efficiencies" that turned out to be less efficient than the old ways of buying supplies. As for the industry consortia, many are still around but have been hampered by the competing players' inability to collaborate fully.

EXCHANGE OPERATION

Enron's tack is different. Instead of forming an exchange targeted at an industry, it forms exchanges that are targeted at fragmented commodities markets. And instead of consortia with other major players in the market, it has chosen to go the independent route. But unlike other independent exchanges, Enron's exchanges are not "neutral," or open to trades between third parties.

Instead, Enron's exchanges are of the hub-and-spoke variety, with Enron as the hub. Since Enron is always either a buyer or a seller, depending on the transaction, its exchanges have liquidity because all trades are backed by the full power reserves and creditworthiness of the company.

So far, Enron's strategy has worked extremely well. In the energy market, Enron has been able to use not only its brand name, but also its first-out-of-the-box trading technol-

ogy and services to catapult itself to the No. 1 spot in the energy industry.

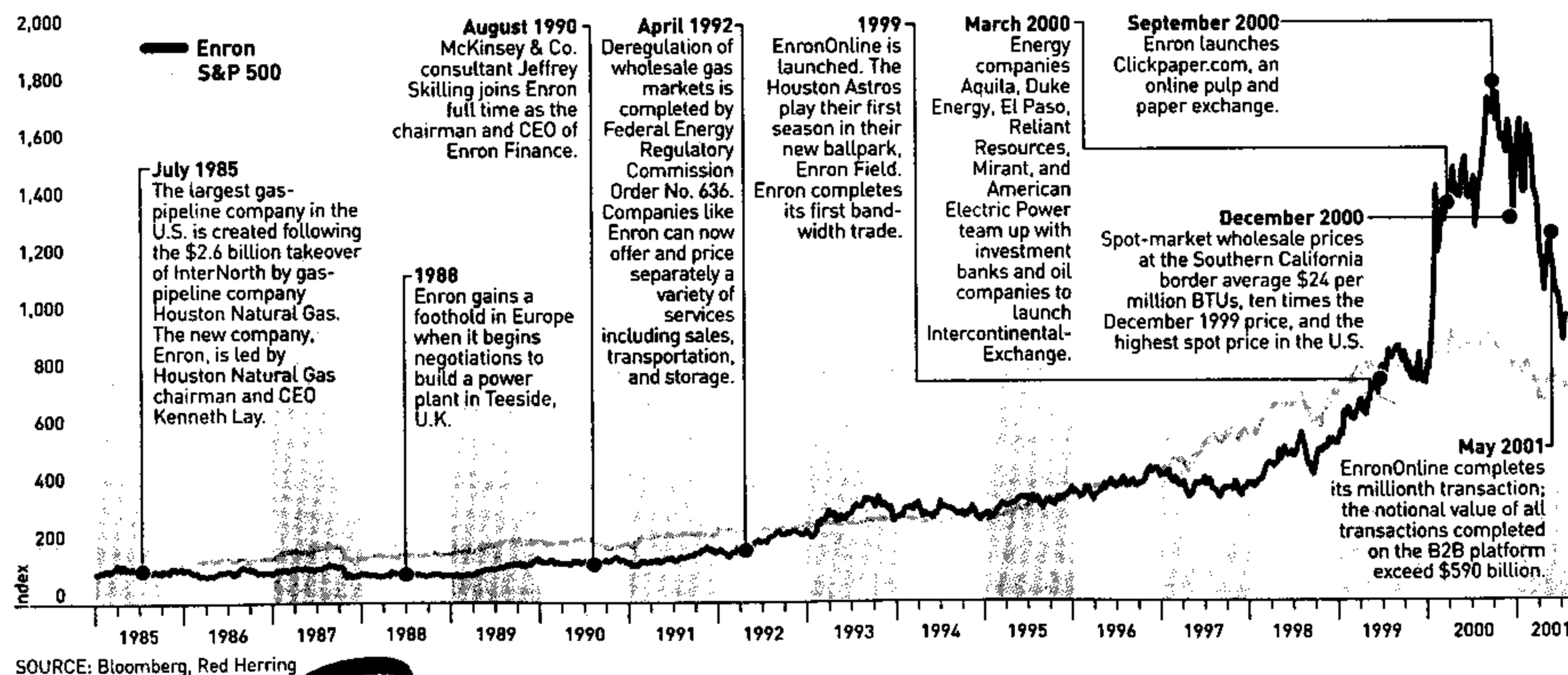
But it's not clear that this success can translate to Enron's newer markets, like paper and steel, which after all, were traded long before the company existed. "When they entered the energy field, it was still a virgin market, and they had little competition," says Andrew Bartels, the vice president and research leader for business-to-business e-commerce at the Giga Information Group. "But products like paper and steel are already well established. The New York [Mercantile] Exchange has been doing stuff like this for a couple of centuries."

Another problem: paper and steel may be made of electrons, but that does not mean that they are the same as energy. "Energy is easily deliverable. It can be sent down a wire or dumped down a pipe," Mr. Bartels says, whereas paper and steel must be checked for quality and are more difficult to deliver. "There is a different set of expertise in trading different commodities," he says. "Failure in this arena has happened time and again. Enron must approach this with a type of humility—otherwise, their hubris could be their undoing."

Indeed, it looks like hubris was behind Enron's recent train wreck in bandwidth trading. The idea was interesting: Enron Broadband Services allows customers either to sell excess capacity at the last minute or to purchase bandwidth on demand for a brief time to gain added flexibility. It also allows companies that are locked in to long-term bandwidth contracts to sell forward those contracts to Enron in return for cash. But because of the bandwidth glut, Broadband Services never quite caught on. Enron frankly admitted this in its second-quarter earnings call, saying that revenue streams for Broadband Services had "dried up." Once expected to become Enron's

POWER PLAYS

Since its formation in the mid-'80s, Enron has steadily risen. In 2000, it skyrocketed, to become an energy behemoth.





Highly skilled: Jeffrey Skilling, Enron's CEO, left McKinsey & Co. in 1990 to join the energy giant in its Enron Finance division.

biggest profit center, Broadband Services chalked up a second-quarter loss of \$102 million; Enron has laid off more than 20 percent of its Broadband Services staff this year.

CEREBRAL VORTEX

Although any effort to become the king of B2B exchanges promises to be difficult, at best, Enron is uniquely equipped to try.

First, Enron is a big believer in brain trust. Mr. Skilling is fond of saying that he would rather spend money on people, whom he can move, than on concrete, which he can't. Enron may have the deepest reservoir of talent in its industry; its trad-

 **'We give money, just like any other business, to lawmakers so they can know who we are.'**

ing floors are not only packed with MBAs, but also include nuclear scientists and meteorologists, who help Enron predict energy demand and the weather, so that the company can build better weather derivatives and generally time its trades to be more profitable.

Of course, Enron's traders have a major advantage: EnronOnline, which gives them access to multiple data factors, including price-movement predictions. This favors Enron traders when they trade on the futures markets.

For example, by tallying data for all households in a city, Enron researchers create electricity-demand models for that market. Then, by factoring in weather patterns, they can predict possible demand. Armed with this information, traders go to the open market, buy energy at lower prices, and then sell it to a utility for a profit when

the demand arises. In this way, Enron can underbid its rivals by several percentage points and, by selling energy at cheaper prices, capture more customers. And once again, Enron garners more data with which to outwit the competition.

Enron operates a virtuous cycle: it has the largest wholesale energy-trading volume of any company, which helps it gather more data than the competition. This data enables Enron to make better predictions about fluctuations in supply and demand, arguably making its traders the savviest in the business.

But the energy posse is catching up. Dynegy, Duke Energy, Williams, El Paso, Aquila, and Mirant each arm their own traders with continuous flows of data and have their own programmed-trading and risk-management-modeling technology. And other exchanges, like ICE and TradeSpark, are neutral, and therefore potentially more efficient. These two can pair many buyers with many sellers, thus giving both sides a chance to review various bids and offers, not just those of Enron. Asked if it would ever abandon its hub-and-spoke model to form a neutral exchange, Enron said it would if neutral exchanges prove more profitable. "Nothing's a sacred cow," Mr. Kean says.

What will be hard to beat, however, is the Enron brand. When you buy gas or power from Enron, it's the same as gas or power from any of the competition, but it is backed by Enron's credit and reputation, and it comes with the opportunity to buy into the company's latest financial contracts or risk hedges.

"It's incredible," says one energy industry analyst who asked that his name not be used for fear of incurring the wrath of Enron. "In energy at least, they have branded a commodity, and that goes against everything that a commodity is supposed to be."

Theoretically, Enron brings the same advantages to other commodities. But it is hard to imagine that the name Enron can ever mean as much to, say, steel as it does to energy.

END RUN

Although Enron is making its footprint in many markets, more than 90 percent of its revenue and four-fifths of its earnings still come from wholesale energy trading and operations. And though it has plenty of room to grow there (Enron controls less than 25 percent of the North

American gas and power market, which is about \$400 billion a year), the overall market is growing at only 2 to 3 percent a year. To keep producing the growth expected by Wall Street to support its current price/earnings ratio (at 38, it is more than double most of the energy industry, though lower than El Paso's 52), Enron needs to look outside North America for revenue.

Europe is an obvious target, since it is the second-largest energy market after North America. Enron made its initial foray into Europe in 1988, with the construction of a gas-fueled power plant in the United Kingdom. Today, the United Kingdom remains the largest source of Enron's European revenue, which contributes about one-half of Enron's overseas earnings.

As it did in the United States, Enron anticipated deregulation in Europe, trained local hires as traders, and waited for the fireworks. But because Europe's markets

have really opened up over the last year, other U.S.-based companies, including Aquila, Reliant Resources, and Southern Company, also have had time to open offices in Europe, establish partnerships with European energy companies, and acquire assets to help them become market makers like Enron.

So Enron's beachhead hasn't given it an insurmountable advantage. "They haven't run off and hid to a point where nobody can catch them," says Dennis Higgins, an analyst with Morgan Stanley.

In the United States, Dynegy is shaping up to be Enron's chief competitor. So far, it has followed a piggyback strategy: after Enron invests money and resources to open a new energy market and capture roughly 20 percent of it, Dynegy quickly follows and snares about 12 percent, says Mark Easterbrook, an analyst with investment bank Dain Rauscher Wessels.

"In the power arena, these two companies are going after market share, and they are both going out and really trying to grab what they can," Mr. Easterbrook says, "but are they going head to head? It doesn't seem at the moment that they are. What they are both trying to do is break open these regulated industries."

BUYPARTISANS

New energy exchanges are trading on neutrality.

When Enron launched EnronOnline, its Web-based energy and commodity trading exchange in November 1999, other would-be competitors stood on the sidelines. Some now admit they had talked about launching similar marketplaces, but ruled it out because it seemed too risky. At the time, the notion of revealing trading prices was foreign to what was very much an old-boy network.

But now that EnronOnline is the envy of the industry, these same competitors have formed a half-dozen competing marketplaces. Some, like EnronOnline, are proprietary, in which the facilitator is always either a buyer or seller. Others are neutral exchanges, where third parties can trade with each other—transparently.

Two of these neutral exchanges may soon give Enron a run for its money: TradeSpark and IntercontinentalExchange (ICE).

Based in Atlanta, ICE is backed by big names in power, online trading, and banking, including American Electric Power, Duke Energy, British Petroleum, the energy trading companies Aquila and Mirant, and Morgan Stanley and the Goldman Sachs Group. The backers of New York-based

TradeSpark include Williams, Dynegy, Coral Energy, Dominion Resources, Koch Industries, TXU, and Entergy.

Though the members of these exchanges are also competitors, they have agreed to open their trading books to the electronic marketplaces, thus creating price transparency. They also pool their energy portfolios to provide the liquidity needed to draw buyers and sellers. It is in this way that neutrality is ensured.

Like EnronOnline, ICE and TradeSpark mostly trade energy and some financial instruments, like weather derivatives. But ICE and TradeSpark also have niche markets, like jet-fuel hedging at ICE, and coal and emission allowance trading at TradeSpark.

The backers of ICE and TradeSpark formed the exchanges because they were afraid that by trading on EnronOnline, they would only add to the data that Enron collects with each trade on EnronOnline, thus helping Enron's exchange refine its analytical models for predicting demand. "Why

Blake Young, Dynegy's president of global technology, admits his company has mostly followed Enron into markets and into technology. Dynegy developed its own trading platform, Dynegy Direct (launched in November 2000), in response to the success of EnronOnline. Like Enron, Dynegy is looking at trading all sorts of energy commodities: gas, electricity, and coal derivatives. And like Enron, Dynegy also has various financial offerings with which it can make more money on top of the actual trading of energy.

But what you won't see Dynegy doing, Mr. Young says, is trying to trade many different commodities like Enron. "I think Dynegy is asset smart, asset light," Mr. Young says. "I don't think you are going to see us do bizarre things that would divert resources and capital away from our core business. You won't see Dynegy overly diverted on a thousand rabbit trails."

Another potentially troublesome competitor is Aquila, the UtiliCorp United spin-off that raised \$420 million in one of this year's few successful IPOs. Back in 1995, when UtiliCorp acquired it, Aquila was a small trading company with annual

would you feed Enron when you can feed yourself?" says one competitor, who declined to be named.

Jeffrey Sprecher, the CEO of ICE, credits Enron for bringing online exchanges to the energy industry. Mr. Sprecher says he had been trying to convince companies of such an opportunity since early 1998. "It was met

with an overwhelming lack of interest," he says. But when EnronOnline opened its doors, "a lot of people didn't want Enron to be the sole proprietor," Mr. Sprecher says.

Both ICE and TradeSpark launched in October 2000. As of June, ICE says it had completed \$228 billion in trades; TradeSpark totaled \$71 billion. In comparison, EnronOnline says its total trades since November 1999 were nearly

triple ICE's, totaling \$685 billion.

Ironically, some of ICE's and TradeSpark's trades come from Enron. Far from being fazed by the competition, Enron sees more markets as good for business.

"We feel the more the merrier," says Steve Kean, chief of staff and an executive vice president at Enron. "We're better off with them because they can bring attention to us." ■

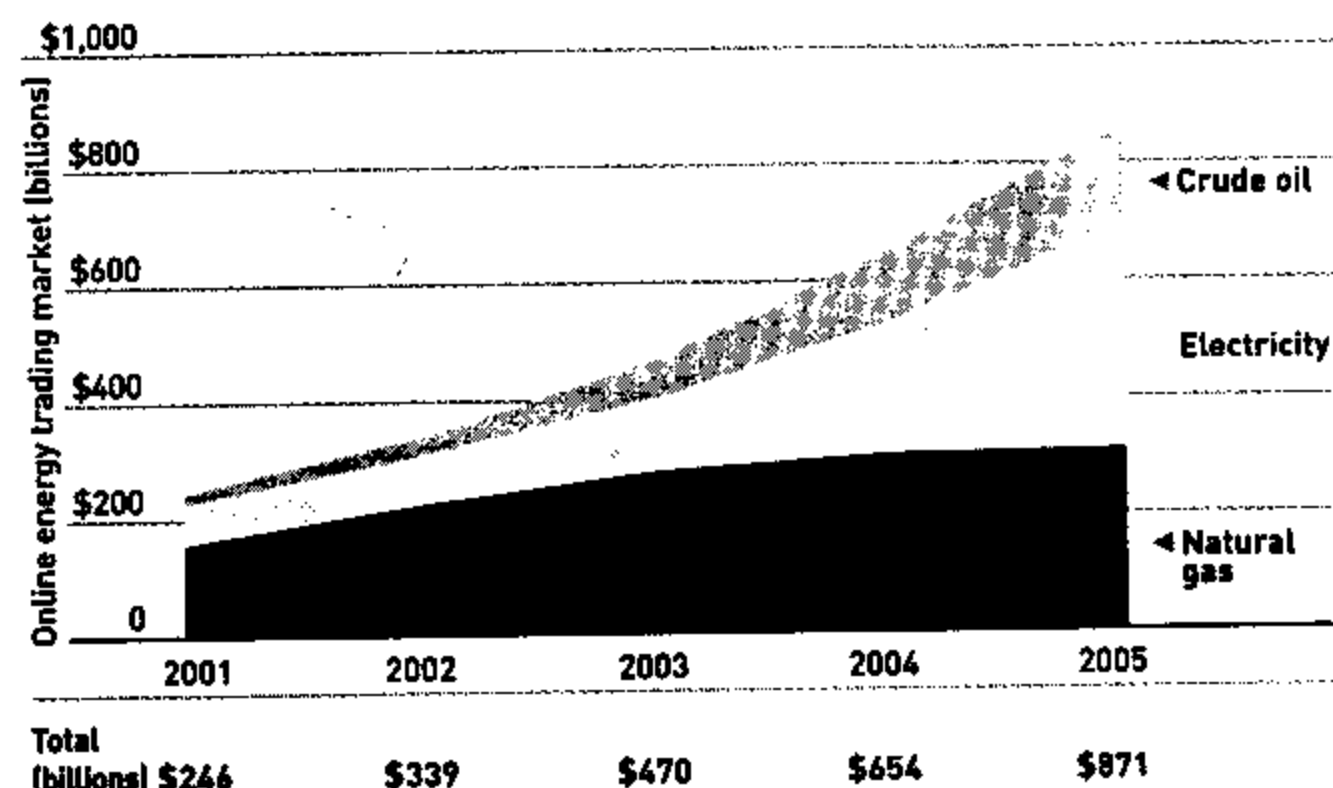
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The ICEman: Jeffrey Sprecher, CEO of IntercontinentalExchange.

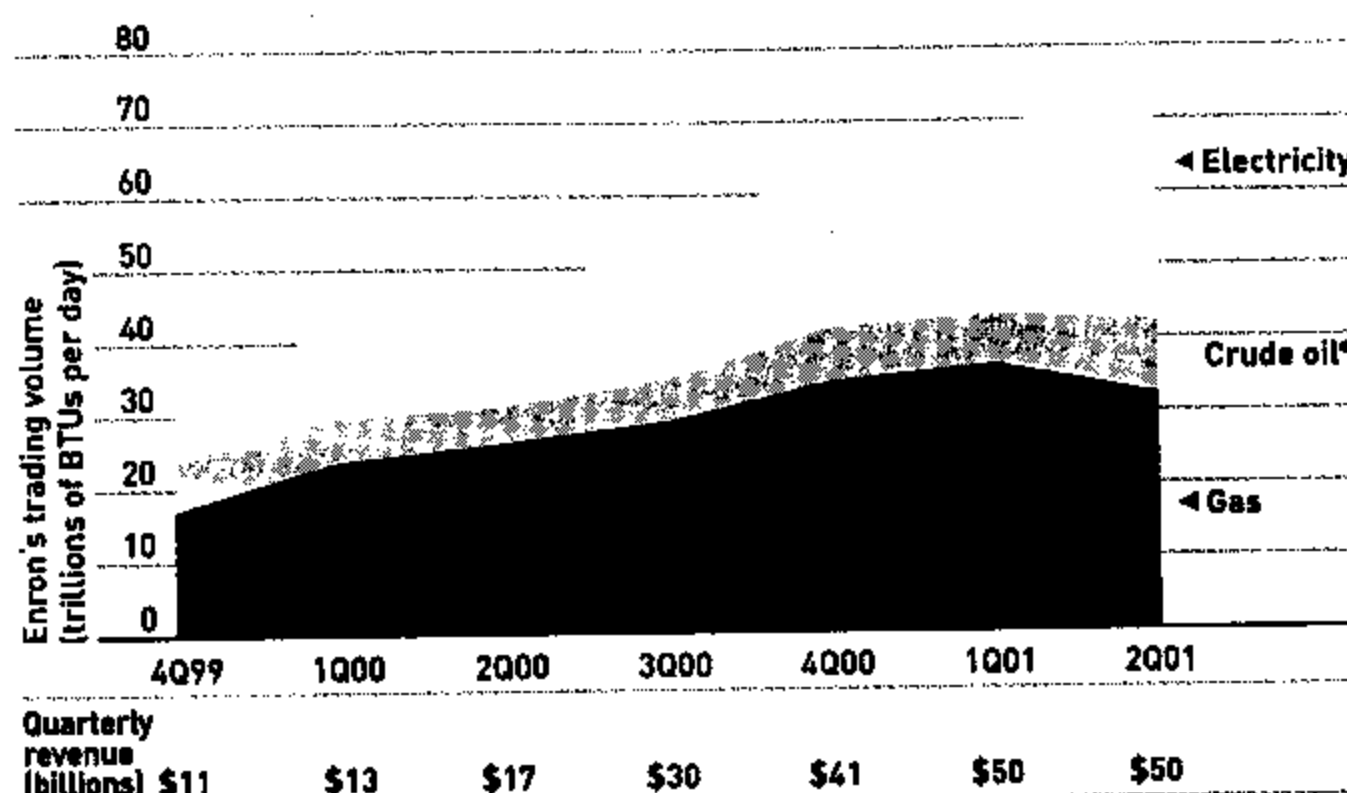
TRADE MISSION

Already ahead of the curve, Enron's traders conduct 74 percent of their energy trades through EnronOnline, while the rest of the market isn't expected to trade online until 2005.



Does not include financial trading of energy futures; only physical trade is counted. *And other liquids. SOURCE: Forrester Research, Red Herring, company data

During the second quarter, electricity accounted for 43 percent of the total volume of wholesale energy that Enron sold, up sharply from 32 percent just one year earlier.



revenue of \$1.5 billion, mostly from trading natural gas and electricity. Last year, Aquila (which means *eagle* in Italian) posted revenue of \$26 billion, accounting for about 90 percent of its parent company's revenue.

Aquila specializes in risk-management tools, providing customers with products that hedge the risk of volatile energy markets. It was the first company to offer weather derivatives.

Is Aquila the next Enron? Perhaps, says Gordon Howald, a director at investment bank Credit Lyonnais, but it has a way to go. "From a point of how savvy they are, with knowing their customers and trading, they are up there with Enron and Dynegy," he says. "But do they have the assets, capital, human resources, and market presence of Enron? No one has that yet, and it doesn't happen overnight."

MAY THE FORCE BE AGAINST YOU

Enron's most uncompromising challenger may prove to be ordinary market forces. Right now, the company's exchanges are doing well, partly because there is more demand for energy than supply and because the suppliers are fragmented.

But as more supply becomes available, Enron and other private exchanges may find it too competitive and costly to keep suppliers captive in their exchanges. "As the electricity industry steps into the wholesale space and as volumes grow, it will be less cost-effective for Enron and Dynegy to operate their own exchanges," says Bill Mahoney, the president and CEO of Excelergy, a Lexington, Massachusetts,

company that develops software for utilities and retail energy companies.

In the meantime, analysts are beginning to fret over Enron's stock, which has not been immune to the recent swoons of the market. Enron's shares, which traded in the low-\$80 range as recently as December (thanks to a brief but ill-informed excitement over Enron's bandwidth-trading business), now hover below \$50. It's unclear if diversification beyond its core competencies is the best way to help the stock recover.

"The fear is not that the company will fail and blow up," says one analyst, who declined to be named, "but that it won't find another multibillion-dollar market like energy." Wall Street would savagely punish such a failure, and Enron needs a solid stock, if only to command effective capital in its new-found competition with other energy exchanges.

This is an interesting scenario—and one that is not at all unlikely. At this rate, Enron may wake up a few years from now to find that it has thrown a lot of money into little niches that don't return much in the way of revenue and earnings. If that happens, Enron will lose the market's once-unshakable confidence in its growth and the talent that got it there; it will be yet another energy trader in a crowded market. Then the old days of "just" running the energy market will seem like a splendid idea. ■

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AT A GLANCE

ENRON

» CEO and president Jeffrey Skilling

Location Houston TX

Phone 713/853-6161

URL www.enron.com

Ownership Nasdaq: ENE

Founded 1985

Employees 20,000

» Product Wholesale, broadband, energy, and transportation services
Competitors Aquila, Duke Energy, Dynegy, El Paso, IntercontinentalExchange, Mirant, Reliant Resources, TradeSpark, Williams

» Fiscal year 2000 revenue \$101 billion
Profitable? Yes

» The Herring Take

Enron successfully redefined the market for trading electricity and gas. However, applying the same strategy to other markets and other commodities will not be simple or easy. We doubt that the company's cookie-cutter approach can work.