On-line exchanges *evolve*

Since GLOBAL ENERGY BUSINESS surveyed the field of on-line power trading last fall, much has changed. Consolidation continues, new energy brokering and auction sites keep appearing, and levels of price discovery and transparency are on the rise. The Internet is both the cause of, and solution to, many of the challenges that energy companies face today

BY MARY JACKSON

Entering the new millennium, energy companies are being forced to do business in new ways. Tough environmental legislation, product price sensitivity, mergers and acquisitions, downsizing, supply shortages, and profitability pressures all pose significant challenges to the energy industry as a whole. However, nothing poses more of a challenge than the Internet revolution.

On-line or out

Andy Grove, chairman of chip-making giant Intel, is now famous for having said a few years ago, "In five years' time, all companies will be Internet companies, or they won't be companies at all." At that time, many predicted that traditional energy companies would have to learn to do e-commerce or they would fall behind. It was also predicted that many "pure play" e-business firms would enter the energy market to take advantage of the new opportunities that the Internet has ushered in. So today, how much has really changed?

It is clear that energy still lags other industries in e-commerce. Although many companies have invested in new technology, they have also been frustrated by the lack of changes in prevailing industry business practices. Many new entrants have arrived—but some of them have disappeared as quickly. As was widely predicted, many energy dot.coms have folded or been swallowed up by rivals, and continued consolidation is likely. One of the most prominent casualties was Petrocosm, a Chevron/Texaco/Ariba joint venture for upstream oil and gas e-procurement, which folded in April. This leaves that e-procurement field dominated by Trade-Ranger.

Many flavors of e-commerce

However, despite the failures, it is clear that energy e-commerce is here to stay.

The vast majority of energy companies now conduct some business over the Internet—ranging from companies with just basic marketing Web sites, to others whose full-featured sites allow many different types of on-line transactions.

The first use that most energy companies made of the Internet was to set up corporate Web sites to publicize their services. Remarkably, some energy companies still see the Internet as just another marketing vehicle—a place to post a virtual version of their corporate brochure. However, companies increasingly recognize that Web sites can serve more than merely promotional purposes. They can also attract new customers if they contain useful content and/or can support sophisticated e-business transactions. Because such sites keep users coming back, they are said to be "sticky."

One company that realized the value of stickiness is Finland's Fortum Energy House, which markets and sells electricity and oil products. Fortum realized that most domestic customers were not interested in visiting their utility's Web site, so it teamed up with suppliers of other services to create a family of sites which—on the sur-

face—don't appear intended to sell energy products at all. Rather, they aim to attract users by providing useful content. One of these sites is www.remontoija.com, which provides help with home improvements. It contains advice on all aspects of "do-it-yourselfing," and in the process invites people to shop on-line for home improvements—including calling for on-site help from Fortum's electricians and engineers.

The different worlds of B2C and B2B

There are two areas where the Internet is improving price discovery and—in the process—radically changing traditional business transaction models:

- The business-to-consumer (B2C) markets for energy sales to retail and commercial and industrial customers, and customer support for residential users.
- The business-to-business (B2B) market for wholesale trading of energy commodities.

In the B2C markets, the big debate today is about the value of e-commerce for utility customers. Experience from other industries indicates that customers like being able to do things like pay their bills and check their account balances on-line. Most leading energy companies now allow residential customers to sign up for service, enter meter readings, pay bills, and even comparison shop for the best rate on-line. Although consumers have been slow to make use of these services, many believe that adoption rates will grow in coming years.

However, on-line services for business customers are still limited in the energy arena, mainly because energy suppliers have been slow to post competitive rate information on their Web sites. A recent survey by the publication *European Utility Retail (EUR)* found that less than one-fourth of British energy suppliers offer even basic on-line rate information for business customers.

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On-line brokering, auctions

While traditional utilities are still coming to grips with e-commerce, new entrants in the on-line B2C energy market are offering auctions and purchasing-pool services to small- and medium-sized business users of gas and electricity. Most use a generic model that works as follows: Firms submit their estimated energy needs to the site, and then energy companies bid on-line either for individual contracts or for a contract to serve a pool of customers. This service is free to customers; the brokers charge the energy suppliers fees. Companies offering on-line auctions in Europe include Utilyx, buyENERGYonline, BuyEnergyHere, buyingpower, and Energy Shark (box, below). Similar sites elsewhere include American Direct Access Exchange (Amdax), which runs an auction site for gas and electricity in the U.S.

Some European B2C auction sites

BuyEnergyHere	www.buyenergyhere.com
buyENERGYonline	www.buyenergyonline.com
buyingpower	www.buyingpower.co.uk
Energy Shark	www.energyshark.com
Utilyx	www.utilyx.com

Auction models are the newest wrinkle in the changing fabric of B2C energy commerce, and the model used by buyENERGYonline provides a good example. Similar to brokering, this site invites business customers to submit their estimated energy consumption needs, and then suppliers bid for the business. The buyENERGYonline site was launched in May 2000 and by February this year had contracted for more than 1.5 TWh of energy through 430 separate contracts.

A similar model is used by buyingpower, but this site pools all submitted customer energy demand requirements and puts the aggregated amount up for auction. Power suppliers then bid on-line for the contract, and the lowest bidder wins. Individual customers can then choose whether or not to sign up. Auctions are held every month; this January, there were 253 participants.

Brokering and auctions provide a useful service that didn't exist before in the B2C energy market. Their practitioners can genuinely claim to improve price discovery, which in turn helps to drive down prices. For example, buyingpower says that every month its auction has succeeded in getting better deals for its customers than they could have gotten on their own.

B2B energy trading

Another area where price discovery is changing traditional utility business models is on-line wholesale energy trading. In the last few years, dozens of on-line trading sites have appeared. These exchanges have helped increase the volume collectively traded in over-the-counter (OTC) markets—especially further out on forward price curves—and improved price transparency and discovery to boot.

How successful have these on-line exchanges been? Forrester Research estimates that on-line wholesale energy trading accounted for $400 billion in transactions last year and that that figure will grow to a whopping $3.6 trillion by 2005. Although publicized individual exchange volume figures cannot be confirmed, it's a good sign that more exchanges are beginning to post them (table, next page).

The table may not show it explicitly, but EnronOnline is the leading

B2B trading sites, by volume

Site	URL	Volume information
Altra Market Place (formerly Altrade)	www.altra.com	Reported an increase of 11% in 1Q01 vs. 4Q00 on eLiquids platform, and a 90% increase in overall trading in crude oil. The e-Gas platform set a new high of 43 bcf in transactions in May
EnronOnline (EOL)	www.enrononline.com	In April, reported that the amount of electricity traded in 1Q01 was up 109%, and natural gas volumes were up 55% over 4Q00. In June, Enron announced that EOL was averaging 4,700 transactions daily, with a notional value of $2.8 billion
HoustonStreet.com	www.houstonstreet.com	In October 2000, announced that it had completed $1 billion in trades in crude and refined products over the past four months
Intercontinental Exchange	www.intcx.com	In April, crossed the $100 billion notional value transacted since its launch in August last year. Recently reported a weekly volume record for natural gas of 370 bcf, and a daily record of 97 bcf
RedMeteor	www.redmeteor.com	In 1Q01 brokered 185 million barrels of crude oil and refined products with a notional underlying value of $5.3 billion
TradeSpark	www.tradespark.com	In 1Q01 transacted notional value of $18 billion—$11.6 billion in natural gas and $6.4 billion in electricity—compared to volume of $12 billion in 1Q00

on-line exchange, transacting in over 1,500 commodity products. Electricity and gas are but two of them; others include commodities as diverse as bandwidth, metals, and weather derivatives. In May, Enron transacted its millionth on-line deal and now does 60% of its business through EnronOnline. Although EnronOnline continues to dominate the e-trading arena, others have struggled for volume.

Going forward

What's next in the cards for on-line wholesale energy exchanges? Industry experts say that the success of an e-trading site will largely depend on its liquidity. Liquidity has always been critical to the success of "pit" exchanges, and on-line exchanges are no different in this regard, because traders still need to feel confident that they can get into and out of trades easily and quickly.

At the moment, the liquidity in energy e-trading is spread among several sites—primarily EnronOnline, the Intercontinental Exchange (ICE), TradeSpark, RedMeteor, Altra, and HoustonStreet.com. Of these, the last two were the early adopters in terms of e-trading, but seem to be lagging now. Altra continues to transact respectable volumes, but seems to be concentrating more on its on-line front-, mid-, and back-office software solutions rather than trading. HoustonStreet.com, which was launched in 1999, has become very quiet. Its Web site hasn't posted any new press releases since October 2000—a sure sign that HoustonStreet doesn't have much positive news.

Turning to the bigger picture, Forrester Research's latest report on Web-based energy trading, "Net Energy Hits Hypergrowth," forecasts that on-line trading "will flow through three venues: solution sites, merchant platforms, and a single liquidity hub." Forrester appears confident that the single liquidity hub will be enymex. However, enymex has yet to be launched—it is now scheduled for this summer.

Meanwhile, the merger of the ICE and the International Petroleum Exchange (IPE) in April this year will pose a significant competitive threat to enymex. Because ICE trades on-line OTC energy derivatives, and IPE trades off-line energy futures and options, the merger seems to be a good fit. The two companies plan to transition IPE's existing business onto the ICE platform within the next year. Because ICE has already built a good reputation for liquidity in the market, enymex will have to play catch-up. It is difficult to imagine that there isn't room for at least two energy exchange hubs, considering that the off-line market has sustained both the IPE and Nymex exchanges successfully for more than a decade.

The times they are a changin'

Like all true revolutions, the Internet revolution will cause big changes in all areas of commerce it affects. In energy trading, some of these changes are already appearing and being worked

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out. For example, today there seem to be too few transactions shared among too many exchanges. But consolidation of exchanges will take care of this over time.

Another problem is lack of standardization of products. Here, the on-line exchanges face the same problem that has dogged off-line exchanges for years—finding standardized instruments to trade that are fungible and have enough volume to become benchmark quotes. Few of the on-line exchanges have attempted to standardize products or markets, with the result that liquidity is spread across hundreds of different quotes. In time, however, it seems certain that on-line exchanges will need to find generic product specifications and locations to concentrate their liquidity.

The proliferation of on-line exchanges will also alter the setup of the middle and back offices in energy companies' trading rooms. To lure customers, most energy company Web sites are adding new functionality. E-trading sites are no exception, and many have added functionality ranging from "technicals" to sports stories in an attempt to create stickiness.

Another trend in energy e-commerce is hosting. New York-based Kiodex recently did a deal with EnronOnline to provide hosted, fee-paying risk services on the EnronOnline site. It seems increasingly likely that mid- and back-office services, including systems and personnel, could become hosted in the future. Not only is there a compelling cost argument for doing this—most mid- and back-office systems are expensive to install and maintain—but real-time, on-line trading also requires sophisticated position keeping and risk systems to keep up. Companies are increasingly looking to integrate e-business transactions directly into their internal systems so that there is a smooth automated flow of information. For example, transactions executed at an on-line exchange site will flow with one mouse click through deal capture and risk management to scheduling—a capability called straight-through processing (Global Energy Business, May/June 2001, p. 27).

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The biggest change of all

Perhaps the biggest change that on-line exchanges will make is in the availability of information about energy markets. In the old world of telephone-based bilateral trading and brokering, bids and offers were made verbally, and deals were private. Here, price discovery relied on the investigative journalism of the price-reporting services and on the disclosure by brokers of indicative bid and ask prices. Off-line exchanges, although they continuously disseminated electronic information from their open outcry trading pits, could only capture and distribute a tiny share of all bid and offer information.

When EnronOnline was launched, its live bid and offer prices changed forever the way that OTC energy is traded. The anonymity of brokered transactions and the search for information was done away with, and Enron's prices were displayed for the whole market to see. As on-line trading grows, the prices posted on on-line sites will start to represent a substantial portion of the market as a whole. The bid and ask prices that appear on screens will represent a valuable real-time insight into the state of the market. In turn, the dynamics of energy trading will change as, in the past, many companies profited enormously from the lack of transparency in the market.

Price transparency will move from the hands of market makers and brokers into the wider community of traders and energy users. There is little doubt that the development of e-trading will fundamentally change existing trading practices. The traditional models of trading and brokering will change just as substantially, and companies will have to be flexible to succeed in these new markets.

Coming to grips with change

In coming years, the Internet will play an increasingly larger role in wholesale and retail energy markets. As liquidity increases in on-line exchanges and auctions, these sites will become important for price discovery and will be repositories of valuable information for participants in both on- and off-line markets.

The energy business finally seems to be embracing Web initiatives, and these are likely to change business processes in many areas—procurement, information searching, data storage, contracting processes, customer relations, and the buying and selling of products and services. Many traditional areas of the upstream and downstream energy business have already been "e-enabled," and one reason is that the Internet has proved its ability to create tangible cost and market-share benefits. It has, and will continue to have, a fundamental impact on the way energy companies do business. ■

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