

Product Focus: E-energy

Internet Eases Energy Management Tasks

The Internet is neither the latest, greatest technology to hit the facilities world nor is it on the bleeding edge of technology. To be sure, however, the Internet will live at least as long as any cliché.

In short, the Internet is here to stay.

Despite the proliferation of Web sites related to facility energy use, there is still a lot to be learned about how the Internet can be integrated with existing energy management functions.

Using the Internet to manage energy use isn't as difficult as finding a needle in a haystack. On the other hand, it's no walk in the park. Using the Internet effectively to reduce energy use first requires facility executives to understand how to apply the technology to different management and operational functions.

Anything short of knowing exactly how to effectively use the technology could wind up in wasted time, money and effort.

If there's any question about the danger of getting lost in the network of fiber, cable and phone lines that comprise the Internet, consider that there were fewer than 100 Web sites when President Bill Clinton took office in 1992. Now, estimates indicate there are more than 1 million.

Using the Internet to manage energy use and costs can be broken into three distinct energy management functions: procurement, monitoring and operations.

Selling energy over the Internet, at least initially, was thought to be the best and least expensive way for dot.com companies to capture money from commercial and industrial energy end-users.

A number of start-up companies quickly discovered that not all end-users were interested in purchasing retail energy through the 'Net. As a result, different business models evolved, giving facility executives a host of options when it comes to buying — and selling — energy through the Internet.

One of the most direct ways of purchasing energy through the Internet is through utility-

marketer or energy-seller Web sites. These sites, operated by third-party entities instead of utilities themselves, purchase wholesale power and then sell it to end-use customers.

To take advantage of this type of transaction, the facility must be located in a deregulated state that allows customers to purchase energy from a power provider of its choice. Facilities benefit because the Internet company is able to buy power in enough quantity and at a rate that is more favorable than an individual organization could get on its own.

End-users in deregulated states can also take advantage of prices on the spot market by purchasing through an energy-seller's Web site. The Web-based company will often buy energy for a particular time of day when it is cheap through an online Internet trading platform. The energy seller then passes some of those savings onto its customer, the end-user.

For those facilities located in states that have not deregulated, one of the best options to take advantage of fluctuating power prices is through an energy exchange platform. Operated by third-party companies on behalf of utilities, exchange platforms allow end-users to commit to giving up a certain amount of energy. During peak-use periods, utilities will often pay those customers who forego energy use two-to-three times more than what the facility normally pays for energy.

Before facilities can commit to curtailing energy use, however, they need to be aware of much energy they can afford to give up. The financial penalties for not following through on a commitment to curtail use can devastate an energy budget.

Online metering and monitoring is perhaps one of the fastest-growing sectors of energy management through the Internet. Whether it's done by in-house facility staff members or by a third-party company, monitoring and analyzing energy use can pay dividends.

Martin Flusberg, president and chief executive officer of Nexus Energyguide, says online energy analysis is helping end-users lower their energy bills and giving energy company's ways to build relationships with their customers.

His company markets its energy analysis tools to utilities, which then offer them to end-use customers. The product allows facility executives to complete an online survey about energy use at a specific facility. Using the energy data submitted through the survey, or by the utility on behalf of the customer, Nexus compares the facility's energy performance to similar facilities contained in a national database of 30,000 buildings.

At the end of the analysis the customer is given a benchmark report of its facility's energy use. That report is followed up with advice as to how the facility might be able to reduce energy use.

Other online metering and monitoring services allow customers to receive daily reports of the previous day's energy use. By collecting energy-use data through the facility's meter, third-party companies are able to provide information about energy-use patterns and make suggestions for improving performance.

John Kalanik, co-founder of **InStep Software LLC**, a provider of engineering-based software products for power generation and processing industries, says scrutinizing energy use can uncover some easy-to-eliminate waste. He says one of his clients, a steel mill, was able to eradicate an unexplained spike in energy use during overnight hours when the plant was idle.

By comparing the plant's energy-usage pattern to plant functions, Kalanik says, the mill eventually discovered that the night watchman's shower was creating a demand for hot water that set in motion a whole series of energy activities that were driving up costs.

Manufacturers are quickly developing and launching new energy monitoring devices that are taking advantage of wireless communications. One system, developed by GE Zenith Controls, allows facility staff members to collect power, voltage and other energy data on specific pieces of machinery through a hand-held, wireless device. The information collected by that product can then be downloaded to a local area network or Internet server and then accessed from PCs.

The device gives facility executives the ability to monitor and analyze energy data without being concerned about whether the data was recorded correctly by a staff member and without having to look at a trend logger.

"The facility manager doesn't have to worry about finding somebody to go track down the information," says Robert Laufenberg of GE Zenith Controls.

Many of the Internet tools available to facility executives to manage energy use aren't the traditional e-commerce platforms that some thought would revolutionize how energy is bought and sold. Instead, many of the tools work by speeding communications between facility executives, their energy providers and their building systems.

No longer do facility executives need to wait for a monthly, weekly or even daily report regarding their facility's energy use. If needed, they could have access to that data every 15 minutes.

Despite the speed at which information can be delivered, however, facility executives should still be cautious about rushing headlong into purchasing software or hardware that will allow them to manage or purchase energy through the Internet. Knowing what's needed for each individual facility is still the best advice for any organization considering purchasing or upgrade energy management software.

Remember, slow and steady wins the race.

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