



# power play

**Managers need never take energy bills at face value with online utility billing services and software** by William & Patti Feldman

**W**hen it comes to utility billing, monitoring and management, there are options aplenty to analyze and capitalize on data. Many utility companies offer customers access to a third-party solution that is essentially an online service that replicates information appearing on a monthly printed bill, along with the ability to view historical data. Utility companies offer this as a value-added service, typically to commercial and industrial customers, to evaluate and control energy consumption and costs. There are also multiple ways managers can obtain additional energy usage and management resources from the Internet to take a proactive stance on managing energy costs, regardless of the utility provider.

## TRACK IT DOWN

One option is online monitoring and bill analysis software provided by local utility companies to industrial and commercial property owners. This kind of energy-tracking software takes readings only at the service entrance and shows total building consumption patterns of all the commodities a utility supplies to a company's properties, without breakdown of how the energy is consumed within the facility.

Some of these solutions collect and report monthly data; others collect data at pre-set frequent intervals throughout each day (sometimes as often as every two minutes). Regardless of the interval of data collection, the solutions are largely similar—they provide either an estimate of or the actual bill, show comparisons to the previous month or the same month in the previous year and present a profile over time. Some also include options for demand response.

"Monthly programs will not help manage peak usage but will allow the users to compare consumption and cost between time periods, and enable portfolio owners to compare two facilities or groups of facilities," said Jay Oschrin, president, Diversified Intelligence, an engineering firm and software developer of a Web-based utility tracking tool for electricity and water consumption. Diversified Intelligence's products include EnergyTrack, a Web-based utility tracking software database program that monitors consumption based on monthly data.

"The interval data solutions are more sophisticated and are used to manage peak usage, which can dramatically increase utility bills for the

entire billing cycle," Oschrin said. Viewing information on load profiles can help pinpoint variations from the building norm.

The third-party software programs utility companies contract to supply to interested customers can provide access to usage data for multiple commodities—electricity, gas, water, compressed air and steam. These are either offered free as a value-added service or provided at a small monthly charge. The customer does not install any software locally but uses a password to access the software online through an Internet browser.

"With prices for water, gas and electricity continuing upward spirals, a company of any size can benefit from even basic usage monitoring online," Oschrin said. "Despite the rising costs, many don't pay attention to the bills at all as long as they don't deviate much from the previous month or year. They just write the checks without doing any bill verification or referencing. Yet, there is tremendous potential cost saving for companies to know where they stand by using the online software to compare usage one month or year against another or one facility against another."

Typically, the solutions offer easy-to-interpret online reports and charts that delineate a host of energy usage patterns over time along with other information that can proactively help owners and managers achieve a higher level of informed energy control. These types of software programs work best if a portfolio is served by one utility.

When a portfolio is served by multiple utilities, managers can use third-party software to download, accumulate and evaluate the raw data from multiple services, formulating it to

make it meaningful, said John Studebaker, president, Studebaker Energy Consulting. "The data can be used to verify the bills and spot abnormalities and errors, which would then be tracked down. The potential benefits are more meaningful if the data [are] downloaded from the meter continuously rather than once a month."

Another way for owners to keep a close eye on energy consumption is to use enterprise energy management software to measure energy use inside a facility (past the utility billing point) at multiple metering points. The software gathers data from energy meters connected directly to electrical circuits as well as from pulse-outputting submeters throughout one or multiple facilities, both in tenant spaces and common areas. Communication between the meters and the software server can be hardwired, wireless or transmitted over a corporate LAN or the Internet. This kind of software enables owners to take proactive stances in managing their own energy use and costs, regardless of the utility.

## INSIDE THE FRONT DOOR

Close attention to metering inside a facility is driven, at least in part, by tenants in buildings where the utility is providing only one meter and the owner allocates the energy costs, asking management for a better guarantee of bill accuracy. It is also driven by management trying to get a better handle on how much energy each tenant space consumes, to better set rental rates and make other informed economic decisions, including installing energy efficient equipment and raising tenant awareness of energy conservation.

For information gathering beyond the service entrance, there are numerous solutions of varying levels of sophistication, ranging from basic submetering and sub-billing to enterprise energy management software that provides almost real-time command of energy use.

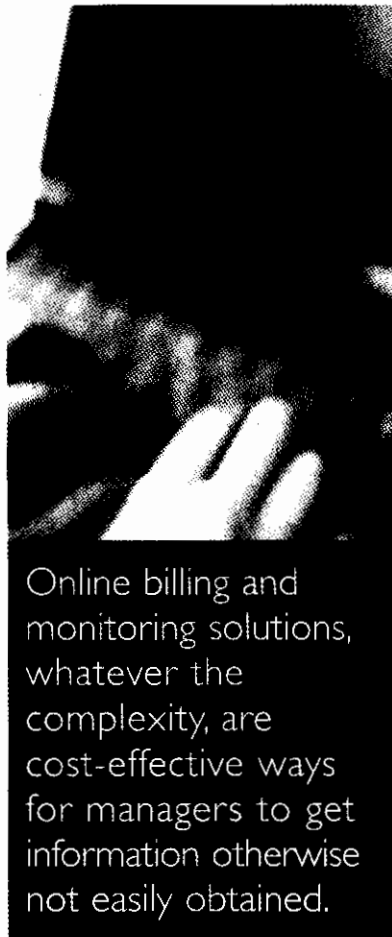
Enterprise energy solutions offer a far broader range of possibilities for direct economic benefits. "Enterprise level software allows a company to analyze their energy use in even more detail and look for ways to find efficiencies and lower their energy costs in general," explained Terrence Tobin, corporate communications manager at Power Measurement, which offers ION EEM, an enterprise energy management solution for large office and retail property applications that provides an integrated approach to managing new billing structures, energy purchasing, tenant metering, cost control, power quality and reliability and operational efficiency.

"A comprehensive enterprise solution can integrate with legacy meters, utility meters and submeters. Reading all the metering points, the software enables very accurate sub-billing of tenant space and provides a sharp picture of energy consumption and reliability across all properties and throughout each building that can contribute to informed business decisions," Tobin said.

Some enterprise energy management solutions can automatically react to various Internet-based signals, enabling owners to take advantage of demand-response programs from utilities that require energy management action within a facility in response to changing rates or dictates. Along the same lines, some systems can modify energy use in various building systems,

for example, in response to sudden or impending changes in the weather.

"The system learns the characteristics of the building—how quickly it cools and heats and the impact the



weather has on it—and tweaks the energy output to optimize energy consumption in quick response. For example, it can sense if it is going to rain on a hot day, realizing the temperature—80 degrees Fahrenheit before the rain—will be lower after the rain, and therefore might reduce the air-conditioning load," said Selly Kruthoffer, director of marketing, WebGen Systems, a provider of software for energy conservation and control in commercial buildings, including the Intelligent Use of Energy system, a modular solution offering the capability to automati-

cally react to price signals from utilities with measurable demand reduction.

Water metering is also addressable online. Metropolitan Utilities, a third-party utility billing company, hosts a Web-based application that uses submeters installed in individual spaces to sub-bill water usage and is suitable for owners of as few as four units as long as each apartment has its own single point of entry. The company reads the meter electronically daily with a wireless transmitter. Skyrocketing water usage, such as would result from a leak, initiates a trigger on the site, alerting the host, who in turn would notify the property manager. "Though the service is tailored for apartment communities, it can also easily be used [for] commercial property management," said Maajed Abahusayn, president, Metropolitan Utilities.

The application can also handle submetering of gas and electricity. Users manage the submetered accounts through the hosted Web site, adding and removing tenants and monitoring tenant payments themselves, with the ability to run various reports online.

Online billing and monitoring solutions, whatever the complexity, are cost-effective ways for managers to get information otherwise not easily obtained. Whatever computer technology is utilized to report on energy consumption before and/or after the service entrance, the software usually provides an excellent return on investment, both in time and in dollars. Indeed, property managers need never take energy bills at face value again. □

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