Feature

At the Flip of a Switch

ENERGY INTELLIGENCE SHEDS LIGHT ON COST-SAVING OPPORTUNITIES.

BY KAREN D. SCHWARTZ

In a business climate where it's imperative to maximize efficiencies and reduce costs, light bulbs are going off— figuratively and literally—for many savvy executives. Energy conservation initiatives offer a prime opportunity to improve the bottom line.

From a marketing and competitive advantage standpoint, corporate leadership cannot afford to ignore current trends. The cost and demand for energy continue to expand. On a global level, the US Energy Information Administration, a division of the Department of Energy, predicts that world net electricity generation will increase from 18.8 trillion kilowatt-hours (kwh) in 2007 to 25 trillion kwh in 2020 and 35.2 trillion kwh in 2035. Moreover, the cost of that electricity—not to mention fossil fuels—will continue to rise.

That's why organizations are earnestly starting to measure and analyze their energy usage in new ways to uncover and exploit cost-saving opportunities. Critical to this process is energy intelligence—a business intelligence (BI) approach to power consumption.

THE BOTTOM LINE AND BEYOND

While compelling in and of itself, reining in expenses is not the only reason to consider an energy intelligence strategy. By gauging how much electricity and fuel each part of a company's infrastructure is expending, the organization can:

- Better plan enhancements
- Squeeze additional functionality out of existing equipment
- More easily comply with regulations
- Reduce its carbon footprint
- Become a truly green company
- Join the leading edge of innovation

To identify and reap such benefits requires the right methodology and technology. That is, leveraging a data warehouse to integrate and analyze data about energy usage and relevant operations.

"This approach gives organizations a repository of information to do all sorts of great things," says Rakesh Kumar, a research vice president with Gartner. "They can discover which applications and systems are using more energy than others, which allows them to take measures to significantly reduce costs, apportion costs better and plan for the future."

Cutting operational and capital expenditures is often the first reason enterprises consider energy intelligence. By combining energy data with relevant corporate data, they have the information necessary to distribute costs, apply charge-backs and make more informed financial decisions.

Additionally, organizations can better predict and respond to escalating energy costs by tracking their trajectory and taking pre-emptive steps to temper these expenses. Energy intelligence initiatives also raise the consciousness of efficiency throughout the work force, creating a culture that strives to save energy and, therefore, money.

An energy intelligence framework provides the information necessary to increase operational efficiency. For example, knowing how much power each part of a data center is using at each hour of the day can help IT managers schedule appropriate workloads and more efficiently use equipment, thus prolonging its life.

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>
> *Rakesh Kumar, Gartner*

PLUG INTO THE EDW

Establishing an energy intelligence initiative isn't as complicated as it might sound. For companies that already have an enterprise data warehouse (EDW), it's a matter of combining the right information from the existing platform with energy data and creating the metrics to analyze it. Such analysis will determine where energy is being wasted and where efficiency can be improved.

Leading the Way

The first step is to identify relevant information from the existing EDW. Although the specific information will vary by company and industry, frequently it includes data from the supply chain, asset management and financial systems.

The next step is gathering and incorporating relevant energy information. The best way is to implement energy-monitoring software for each area of expenditure —desktop PCs, printers, servers, routers, lighting, air conditioning and heating, and building-management systems. The data is readily available from major

vendors, and after-market monitoring tools are also available.

Integration follows. Although different systems use different protocols, one programmer can often convert the data into a standard format, create appropriate links and aggregate it into the system within a day, Kumar says.

The subsequent step is somewhat more challenging—determining which information should be correlated with other data in the EDW. That's the job of the design team, which should rely on equal amounts of analysis and creativity.

Once the system is completed, it's time to develop the specific metrics that will deliver the greatest value and return on investment (ROI). Some are universal, such as measuring power usage from each area being monitored. Others require speculation. "You've got to take some educated guesses that some data types will be more important than others for your situation, and the analysis of historical data will verify that," Kumar says.

REAL RESULTS

With the data and measurements clearly defined, it will become clear where efficiencies can be gained, where waste resides and which actions will provide the greatest ROI. But that's only the beginning. With the proper infrastructure in place, it's possible to slice and dice the data in unforeseen ways to enable truly innovative and industry-leading initiatives.

With such potential, growth in energy intelligence efforts will skyrocket in the next five years, Kumar predicts, because of the sustainability movement and out of sheer necessity.

"Companies doing this today are pioneers, and as such, they must use equal parts of technology and ingenuity," he says. "But it's infinitely doable, and there is no better time to get started."

Karen D. Schwartz is a technology and business writer with more than 20 years' experience.

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