

Managing Facility Energy Needs in a Competitive World.

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Nine steps allow energy managers to leverage historical billing data into a competitive tool

The energy industry has undergone a fundamental change. Despite the fact that only a few states presently allow it, some marketers are selling retail electricity and offering new options to take advantage of natural gas deregulation and demand-side management (DSM).

Although many building owners and energy managers might be happy with their present energy prices and supply, such opportunities have many wondering if they can do better-and if they feel comfortable doing so.

PROFITING FROM DEREGULATION

Before looking for that new power deal, energy managers must think carefully about their own internal energy capabilities and what they really mean to the bottom line. Who makes decisions about energy? Should the energy manager or facilities manager act alone or with support from other divisions of their company? Is the organization ready to talk with vendors and suppliers about current and future energy needs? Or does the organization find itself educating potential new suppliers unfamiliar with local tariffs and its industry?

Also, does the organization or firm have sites in many states? Do new suppliers understand that the impacts of deregulation vary from state to state, regardless of where the company is headquartered?

The answers are different for every type of end-user and could change the way an energy manager looks at an offering. The energy business is not likely to simplify itself any time soon--particularly for a corporation operating in multiple states. Sometimes having an experienced eye on such matters can add the clarity needed to make a decision. The best energy consulting firms focus on creating a specific business strategy that addresses a client's internal energy-management capabilities and provides a blueprint for action.

Assessing organizational needs and capabilities helps energy managers determine which capabilities are desired in a consultant and which functions should be kept in-house. Now, however, is an opportune time to make sure any organization or business is prepared for the current and future changes.

PLANNING FOR MANAGEMENT NEEDS

Most facilities have three immediate concerns with any energy-supply contract:

- * Supply reliability
- * Price control
- * Supplier financial stability

All these components need to be addressed, either in-house or by an outside consultant, before an energy deal is finalized. There are real--but manageable--risks to building operations, to energy budgets, and ultimately to the bottom line. Well-run facilities take close care to avoid undue risk in any major financial transaction.

Suppose a facility has resolved the major questions about risks and benefits with a vendor and has developed a contract that the owner confidently believes will work in the facility's best interest. Yet there may still be unresolved questions about the work required from the customer during the contract term. For example:

- * How much time is needed to devote to monitoring the contract every month?

- * Will fuel-switching require adding staff to the plant?
- * How will savings be measured over time?
- * Will billing questions be resolved easily or will the owner need to spend hours on the phone finding a sales representative to solve every problem?
- * Does the data-management capacity meet accounting or reporting requirements?
- * Will facility staff need retraining or will new personnel be needed to meet these management needs?

Time spent on energy issues usually depends on each company's level of energy dependence. Still, even small companies entering the arena of competitive supply options often find themselves overwhelmed with the volume of work involved, even with organizing a fact-finding effort. Some costs, such as hiring an attorney to draw up the final contract, are quantifiable. There are also "soft" transaction costs, such as staff time drawn away from more cost-effective projects while an acceptable request for proposal (REP) is developed and issued. Both types of management and transaction costs need to be determined--before incurring them.

IN-HOUSE OR CONTRACT?

Energy managers should begin by asking this question: How much in-house time did my company devote to managing energy last year? Time spent on energy management is a significant, but usually hidden, cost with any major energy project. Energy managers can try ranking energy-management costs as a separate item alongside other operating costs, e.g., the water bill or building security. If the management cost can't be easily quantified, the building owner or facility manager needs to find a way to do so.

A useful record of management needs may be extracted from a company's most recent energy contract or project. Think about effectiveness: Was the company able to move as quickly as needed on the necessary tasks? Were other departments responsive to questions and did they respond in a timely fashion? This is where the value of the facility manager's time comes in: Did they experience a rapidly ascending learning curve in the last project? Could the facility benefit in the future from new skills learned in that venture?

If, on the other hand, the energy learning curve is still on a slow ascent, time delays or a "lack of corporate agility" could compromise the next project. If, for instance, a competitive natural-gas purchase agreement is in use, lack of effective communication could cause the customer to miss favorable price signals. What would it cost to upgrade internal communications ability (such as by subscribing to an on-line gas pricing service)? Such productivity gains can be considered a bargaining point within a company's own upper management or with their next energy-services company (ESCO) supplier.

When evaluating these items, it is important to rank energy in the total operating picture for each facility. When staff costs for energy management are out of proportion to the overall bill for energy, the cause of the imbalance should be identifiable. Even with knowledge of in-house costs, continuous updates on direct energy billings are needed to determine an accurate cost-benefit ratio for those expenses.

Most energy-management issues are similar across state and national borders, so once needs are clearly defined and documented through a management plan, a corporate-wide facility planning division can also benefit from this information.

THE IMPORTANCE OF LOAD PROFILES

A load profile indicates how energy is used over a period of time. Such an understanding is the most critical component of effective energy planning and outside contracting. It is either graphical, paper, or raw data showing minimum, average, and peak energy needs over time. This data is sometimes available from local electric utilities and should be correlated with operations (e.g., production) and weather data to discern their impacts.

Developing a load profile will allow a building owner or manager to model usage and costs going forward and also to evaluate energy-management needs over time. For those organizations that are not equipped to gather this information quickly and effectively, outsourcing this function to a consultant or energy services firm should be seriously considered.

NINE STEPS TO LOAD PROFILES

The steps outlined here will allow most facilities to develop load profiles for both electric and fossil fuel usage. If a history of energy use has been maintained with one of the major accounting software programs, such as

FASER or Metrix, the facility will have a good benchmark for comparison with the information gained from this process. If not, the building ownership or management should consider investing in such a program to help evaluate results and options. It is strongly recommended that staff time be tracked closely throughout the following procedures.

- 1) Collect all energy bills for at least three years. Include bills from DSM projects and all the invoices between the facility and ESCO for those projects. If the company manages multiple properties for which tenants pay bills, those bills should be obtained as well.
- 2) Organize billing by energy type, by source, by project, by vendor, by account number, by month, and by shorter time intervals (e.g., sample time-of-use data where available). Group the bills by fiscal (not calendar) years if that is how the firm develops its energy budget.
- 3) Break down bill components by charge: demand, transmission and distribution, interstate and local transportation, energy (commodity), fuel adjustment, taxes, customer charges, ancillary services, and 'competitive-transition' (known in some regions as "stranded-cost") charges. Enter data on both cost and usage for each component. If the utility was the sole supplier, note any tariff changes during each year. Ask the utility to explain any charges not clearly shown on individual bills (e.g., hidden taxes).
- 4) Obtain daily weather data for at least one year (the National Climatic Data Center, part of the National Oceanic and Atmospheric Administration in Asheville, N.C., can supply this data).
- 5) Data gathered in steps three and four should be organized by using standard computer spreadsheets, database options, or energy accounting software programs.
- 6) Document typical usage patterns by end-use. Production will follow dominant operating schedules, while HVAC will be impacted by weather-related operating changes and seasonal variations. Use printouts from building-management systems where available to chart changes in operations.
- 7) Find peak-usage conditions for all energy sources. Profile one peak day for each season using interval data obtained from the local utility, in-house data management/controls hardware, or balancing data compiled by a non-utility supplier.
- 8) Compare data by month for each year to determine base-load usage. Explain deviations from the norm either by using peak-usage data from step 7 or find alternative explanations.
- 9) Quantify staff and management costs as precisely as possible. Interview plant management, maintenance, engineering firms on retainer to your corporation, facility accounting, and capital planning personnel about time and resources they have spent during a typical year on energy issues (such as billing and engineering analysis), as described in steps 1-8. Request copies of time sheets whenever possible to affirm such recollections.

THE TOTAL ENERGY PROFILE

After following these nine steps, building owners and managers are able to employ the energy-use data. Peak- and base-load energy data can then be internally reviewed or turned over to a service firm for review. Either way, a standard reporting format should be adopted that both the owner and outside firms can use consistently. An effective review can identify new opportunities for DSM, fuel-switching, and competitive suppliers.

The next step is to examine the management involved with developing the load profile. Did billing information come from the accounting office or was it available directly from the operations or facilities office? If both offices manage cost data via a software program, do the facilities and accounting functions share a database format, or do the two divisions duplicate work unnecessarily?

It is useful to consider ways that such costs could be reduced, while realizing that doing so may require capital investment to upgrade data-handling capabilities. If there is already a competitive supply program in place, the facility managers may have received energy-usage information on request from your supplier. That supplier might also offer data-management capacity, such as new software, to enhance the monitoring and controls input into the billing and information systems. If, however, most of the information was received from the utility on paper--and not computerized in-house--resources will be needed to develop such capability to handle future bills and usage data.

The data collection process associated with the load profile provides valuable information in itself. Those building owners that have good data capability--but have not been maintaining it accurately and at regular intervals--will find the cost to reconstruct it can be prohibitive. Before implementing a comprehensive data-management plan, in-house options should be examined before requesting pricing for the same functions from ESCOs or energy

consultants. If new metering is involved, managers should specify compliance with local metering rules and assurances against obsolescence due to regulatory changes.

Some facilities may be sophisticated enough to embark on real-time power scheduling for future energy contracts. If this function is outsourced, backup information from building-management systems is very beneficial for verifying the progress of the contract. Experience from the load-profiling exercise can be used to decide whether the time spent on this process was cost-effective. Perhaps a database expert from another corporate division helped to develop a customized data format, and that data turned out to be useful in comparing competitive price offers. Whatever the outcome, managers should never discard this information just because the service firm offers a new and unproven data-management service.

For those who are unable to obtain all the load-profile information needed in-house, but can confirm the data with the local utility or supplier, their organizations are on the road to full in-house energy management capability.

ENERGY PROFILES As A BARGAINING CHIP

The final task after evaluating an energy profile is to use the information effectively over time. All costs of managing critical data points in the profile development should be identified and built into the next year's budget. They should be compared with the overall energy budget and compared in proportion to the firm costs of energy discovered in making the load profile. At this point, the company is prepared to add these requirements to the next contract, RFP, or solicitation, and compare their cost to the service charges proposed by suppliers to handle them. To ensure confidentiality throughout this process, potential suppliers must be informed that sharing the company's load profile with any competitors is prohibited.

Finally, it is vital that building owners and managers maintain a reasonable expectation of what selected supply or service firms can do over the term of a deal. The supplier should be allowed to prove its capability by providing value-added services which help the end-user cost-effectively make the best use of time. Time is valuable, and the customer and the supplier will benefit together as they learn how best to serve the firm's energy-management needs.