

# Managing Your Facility's Energy Needs in Competitive Energy Markets

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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 you might be happy with your present energy prices and supply, such opportunities may have you wondering if you can do better—and if you feel comfortable doing so.

## PREPARING TO PROFIT FROM DEREGULATION

Before you start looking for that new power deal, think carefully about your internal energy capabilities and what they really mean to your bottom line. Who makes decisions about energy? Do you act alone or will you need support from other divisions in your company? Are you ready to talk with vendors and suppliers about your energy needs? Or do you find yourself educating potential new suppliers unfamiliar with local tariffs and your industry? Does your firm have sites in many states? Do new suppliers understand that the impacts of deregulation vary from state to state, regardless of where your company is headquartered?

The answers are different for every type of end-user and could change the way you look 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 your own needs and capabilities will help you determine which capabilities you desire in a consultant, and which you want to keep in-house. Now is a good time to make sure you are prepared for the current and future changes.

## PLANNING FOR YOUR FACILITY'S 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 care to avoid undue risk in any major financial transaction.

Suppose your facility has resolved the major questions about risks and benefits with the vendor, and has developed a contract you are confident works in your interest. You may still have unresolved questions about the work required from you (the customer) during the contract term. How much time do you need 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 you need to spend hours on the phone finding your sales representative to solve every problem? Does your data management capacity meet your accounting or reporting requirements? Will your staff need re-training or will new personnel be needed to meet these management needs?

Time spent on energy issues usually depends on how energy-dependent you are as a business. But 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 RFP is developed and issued. Both types of man-

agement and transaction costs need to be determined—before incurring them.

## ENERGY CAPABILITIES IN-HOUSE OR CONTRACT OUT?

Begin by asking this question: how much in-house time did your company devote to managing energy last year? Time spent on energy management is a significant, but usually hidden, cost with any major energy project. Try ranking energy management costs as a separate item alongside other operating costs, e.g., the water bill or building security. If you can't easily quantify your management cost, you need to find a way to do so.

You may find a useful record of your management needs from your last energy contract or project. Think about effectiveness—were you able to move as quickly as you like on the necessary tasks? Were other departments responsive to your questions and did they respond in a timely fashion? This is where the value of your time comes in—did you experience a rapidly ascending learning curve in your last project? Could your facility benefit in the future from new skills learned in that venture?

If, on the other hand, that energy learning curve is still on a slow ascent, time delays (or “lack of corporate agility”) could compromise your next project. If, for instance, a competitive natural gas purchase agreement is in use, lack of effective communications could cause you to miss favorable price signals. What would it cost to upgrade your communications ability (e.g., by subscribing to an on-line gas pricing service)? Consider such productivity gains as a bargaining point with either your own upper management or with your next ESCO supplier.

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

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

## THE IMPORTANCE OF LOAD PROFILES

A “load profile” shows you 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 your minimum, average, and peak energy needs over time. This data is sometimes available from your electric utility, and should be correlated with operations (e.g., production) and weather data to discern their impacts.

Developing your load profile will allow you to model usage and costs going forward, and also to evaluate your energy management needs over time. If you find that you are not equipped to gather this information quickly and effectively, seriously consider outsourcing this function to a consultant or energy services firm.

## NINE STEPS TO DEVELOPING YOUR LOAD PROFILE

The steps outlined below will allow most facilities to develop load profiles for both electric and fossil fuel usage. If your firm has maintained a history of its energy use with one of the major accounting software programs (e.g., FASER, Metrix), you have a good benchmark for comparison with the information gained from this process. If not, consider investing in such a program to help you evaluate your results. It is strongly recommended that you track staff time very closely throughout the following procedures.

1. Collect all your 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 you manage multiple properties for which tenants pay bills, obtain those bills 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, “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 [NOAA] in Asheville, NC, can supply this data economically for a site near you).
  5. Model data gathered through step three and four, using standard PC spreadsheet or database options, or energy accounting software programs such as FASER or Metrix.
  6. Document your 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 (BMS) 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 your utility, your own data management/controls hardware, or balancing data compiled by a non-utility supplier.
  8. Compare data by month for each year to determine baseload 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.

## MANAGING YOUR TOTAL ENERGY PROFILE: LOAD PROFILE PLUS MANAGEMENT INFORMATION

Now you are able to employ the energy use data you collected. You will either be able to internally review your peak and base load energy data, or turn it over to a service firm for review. Decide on a standard reporting format that both you and the outside firm can use consistently. An effective review can identify new opportunities for DSM, fuel-switching, and competitive suppliers.

Next, examine the management involved with developing the load profile. Did billing information come from your 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 your data handling capabilities. If you already have a competitive supply program in place, you may have received energy usage information on request from your supplier. That supplier might also offer data management capacity, e.g., new software, to enhance the monitoring and controls input into your billing and information systems. If, however, you obtained most of the information from the utility on paper, and did not also have it 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. If you have good data capability, but it has not been maintained accurately and at regular intervals, the cost to reconstruct it can be prohibitive. Before implementing a comprehensive data management plan, examine your options in-house, and then request pricing for the same functions from ESCOs or energy consultants. If new metering is involved, specify compliance with local metering rules and assurances against obsolescence due to regulatory changes.

Your facility may be sophisticated enough to embark on real-time power scheduling for your next energy contract. If you choose to outsource this function, you will benefit from having backup information (e.g., from the BMS) to verify the progress of the contract. Use the

experience from your load profiling exercise to decide whether the time spent on this process was cost-effective. Maybe you used a database expert from another corporate division to develop your customized data format, and that data turned out to be useful in comparing competitive price offers. Don't discard this information just because the service firm offers a new and unproven data management service.

If you were able to obtain all the load profile information you needed in-house, and can confirm the data with your utility or supplier, you are well along on the road to full in-house energy management capability.

## USING YOUR ENERGY PROFILE AS A BARGAINING CHIP

The final task, after evaluating your energy profile, is to use the information effectively over time. Identify all costs of managing critical data points in the profile development. Build these costs into next year's budget. Compare them with your overall energy budget, and keep comparing them in proportion to the firm costs of energy you discovered in making your load profile. You are then prepared to add these requirements to your next contract, RFP, or solicitation and compare their cost to the service charges proposed by suppliers to handle them. Ensure confidentiality throughout this process. Your potential supplier must be informed that sharing your load profile with any of your competitors is prohibited.

Finally, maintain a reasonable expectation of what your selected supply or service firms can do for you over the term of your deal. Let the supplier prove its capability by providing value-added services which help you use your company's time cost-effectively. That time is valuable, and both you and your supplier will benefit as together you learn how best to serve your firm's energy management needs.

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### ABOUT THE AUTHORS

**Catherine Luthin** serves as principal of Luthin Associates, an energy management consulting firm specializing in deregulated energy markets and consumer education. She serves also as executive director of the New York Energy Buyers Forum, an end-user and supplier coalition representing pro-deregulation interests in the New York area.

Since 1992 she has worked with major end-users in the New York area from among municipal government, hospital, university, real estate and banking sectors to develop cost-saving fuel purchase programs.

She has been published in *Energy User News*, in the *Cogeneration and Competitive Power Journal*, and has been featured in *Craigslist New York Business* and *Fortune* magazine in articles concerning New York area deregulation issues. She was a featured presenter at the World Energy Congress (hosted by the Association of Energy Engineers) and at an American Management Association Executive Forum. She was also on the panel of the summer 1998 electric contracting series managed by Infocast, Inc.

Catherine holds a master of business administration degree and a bachelor of science degree in marketing from Fairleigh Dickinson University.

**Sheila Sweeney** joined Luthin Associates in 1995. She is an energy management consultant specializing in energy procurement, database design and program development for competitive energy markets. Prior to joining the firm, she was director of the Energy Conservation Loan Program of the Department of Business Services, City of New York; a lending program designed to finance high-efficiency process equipment for small businesses. As an independent contractor for the Commonwealth of Massachusetts from 1990 to 1993, she was responsible for leveraging and managing over \$18 million in third-party and ESCO efficiency investments in Commonwealth properties.

She has worked with the Commonwealth of Massachusetts, the Natural Resources Defense Council and the New York City Board of Education to improve energy efficiency in public construction and institutional capital investment projects.

Ms. Sweeney holds a BA from Tufts University, and is enrolled in the Certified Energy Manager training course through the Association of Energy Engineers.

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