

## Energy Rises to C-Level

By Dr. Jack Mason, President, EnergyWindow, Inc.

Most companies do not realize that energy supply costs can be controlled. Some companies recognize that energy supply cost can be controlled, and as such, engage in competitive sourcing practices, addressing the expense as part of a systematic supply chain management program. What's less common, however, are companies that consider energy supply management a strategic, C-level concern with powerful bottom line implications that can – and should – be addressed as part of a comprehensive approach to financial risk management.

The primary role of any good senior manager is to focus on the big picture and set a strategic course by which a business can thrive over the long term. So why would a CFO concern him or herself with a seemingly nuts-and-bolts procurement issue like energy supply?

More than a decade since the genesis of energy deregulation, many senior managers and financial executives still view energy costs as regulated and, therefore, uncontrollable. Others still cling to the same energy supply sourcing approaches they used in the early days of deregulation. Back then, default energy tariffs were set for two to four years at a time, making the cost of energy predictable. Ironically, energy managers and buyers rarely needed to seek Chief Financial Officer (CFO) or Chief Procurement Officer (CPO) approval to revert to the default supplier, while approval often was required to switch to a lower cost competitive supplier. Today, however, default utility rates change much more rapidly, in concert with wholesale markets. This fundamental change in the energy pricing model means that what was once considered “playing it safe” by remaining on default service *is actually one of the riskiest and costliest approaches.*

Energy supply represents one of the top five largest expenses for many major businesses. Executives must accept the likelihood that energy costs will continue to rise and to exhibit high volatility, just as they have for more than the past decade. With this in mind, energy management strategies must balance the desire for short-term savings with the need to manage risk, stabilize cash flow, and protect budgets and financial performance over the long term.

### The Bottom Line Implications of Energy Costs

During the past decade, energy prices have increased at an annual average rate of 15% per year, albeit with considerable volatility and wildly varying rates over shorter periods. Over the last five years, natural gas and electricity prices have both risen 17-18% annually, on average – far outpacing the rate of inflation. Extreme volatility has only exacerbated the headaches associated with managing energy costs. The collective view of most experts suggests that energy supply and demand will remain tight for at least the next decade, and historical trends are unlikely to change much.

These rising energy costs will affect everything from lighting, heating and cooling facilities to direct manufacturing costs, to the transportation of goods. The resulting implications for margin, profitability and stock valuation, for both for manufacturing and non-manufacturing companies, are sobering. That's why energy, frequently ranked among the largest three operating costs for industrial and commercial customers alike, has been ranked the top concern of supply executives in both

manufacturing and non-manufacturing firms for the last two years. Ignoring the impact of energy costs on the bottom line is a grievous financial mistake that no CFO should make.

CFOs who mistakenly believe that energy costs are uncontrollable miss an important opportunity for savings and unnecessarily expose their companies to risk. Those who apply the same analysis, risk management strategies, and rigor common to other financial evaluations almost always are rewarded with lower energy costs and enhanced predictability over the longer term. The key is to review energy costs and develop a comprehensive strategy that is consistent with overall corporate financial strategy and reflects your company's risk tolerance *before* procurement, energy, or facility staff moves forward with contracting for energy supply.

## **Getting the Ball Rolling: A CFO's Strategic Energy To-Do List**

### **Give Energy Supply Visibility at C-Level**

CFOs can sponsor and motivate development of a strategic energy-sourcing plan in the context of corporate goals and business strategy. Specific activities include devising the risk profile for energy costs, balancing short-term cost reduction and long-term performance, analyzing energy costs along different dimensions, setting clear priorities, building a map of market opportunities, developing criteria for when to pursue fast-breaking energy opportunities, and building a pre-approval process that facilitates seizing those opportunities. The procurement department should be given a set of guidelines that articulates corporate financial goals, calls for establishment of a standard energy contract, and requires the development of forecasting and value-at-risk models for energy supply.

### **Communicate the Strategy Up and Down the Ranks**

The strategy is only valid with the approvals of executive committees, board members (for really large spends or contracting needs), and other stakeholders who have sign-off privileges. An important goal of strategy buy-in is to obtain pre-approval for procurement staff to move forward with energy contracts that are consistent with the articulated strategy and fall within a range of acceptable key parameters, including:

- Contract term length
- Contract value
- Percent of annual spend represented by the contract
- Number of facilities
- Range of expected allowable usage bands to accommodate changes in consumption or facility closures
- Any *anticipated* contract terms inconsistent with the standard energy contract terms and risk policies

### **Rank the Opportunities**

To assist the Chief Procurement Officer in weighing competitive energy initiatives against each other, as well as against other corporate initiatives, the CFO can evaluate and prioritize them, based on projected return on investment or other relevant ratios. Generally, the ROI for pursuing competitive

energy contracts (based on the minimal effort required to pursue these deals via energy e-procurement) is impressively high, and the payback period is quite brief. For example, the average contract closed via the EnergyWindow<sup>®</sup> PowerQuote<sup>®</sup> online sourcing tool saves \$302,000 over 18 months on energy supply valued at \$1,340,000. The only required investment is several hours of mid-level staff and management time. The payback period is just one monthly billing cycle; the internal rate of return is 16,000%, and the simple ROI is a staggering 25,000% – compelling evidence in favor of pursuing the deal.

### **Use Technology to Your Advantage**

A good online procurement system can greatly increase the efficiency and accuracy of energy purchasing by automating the most time-consuming aspects of shopping competitive markets and making more energy procurement initiatives economically feasible. Energy e-procurement platforms (or enterprise platforms adapted to handle energy procurement), electronic energy data acquisition (EDI), energy cost trending and statistical analysis, online implementation of standard contracts, and value-at-risk analysis all work to reduce energy supply costs, reduce aggregate risk, increase bottom line benefits and lower the threshold for pursuing competitive opportunities.

Many of the arcane details, regional and regulatory peculiarities are handled by the system. From senior management's point of view, the greatest benefit may be the rigor and transparency built into the best of the available online energy sourcing tools. With a transparent system, a level playing field is ensured and suppliers are highly motivated to provide the best possible bid. The electronic process and records can also be more rigorous, transparent, and auditable – not unimportant vis-à-vis Sarbanes-Oxley requirements.

### **Develop and Apply Energy Budget Forecasting and Value-at-risk Models**

Accurate forecasting and value-at-risk measures require detailed state-by-state and utility-by-utility analyses of rate history and anticipated rate increases, both for supply and delivery costs. Yet the uncertainties in both regulated and deregulated markets defy simple cost projections, use of historical data, or expert opinion alone. Financial simulation (Monte Carlo) methods can be used to predict expected values, ranges of costs at various confidence levels, and value at risk. Value-at-risk can provide the estimated range of potential impact that variations in energy cost can have on financial performance. In addition, the model can be used to evaluate the potential impact of individual contract or energy supply source decisions on overall costs and risks.

These models illustrate the value of managing energy supply in a manner similar to managing an investment portfolio. Investment rules apply: buy for the long term against a steady trend, but keep an eye out for windows of opportunity when you can buy below the average (trend line). Take extra measures to lock in savings or to hedge costs in deregulated markets to counteract the rising prices in uncontrollable, regulated markets where you also have facilities. Strive for portfolio diversification and variance reduction as means for managing risk.

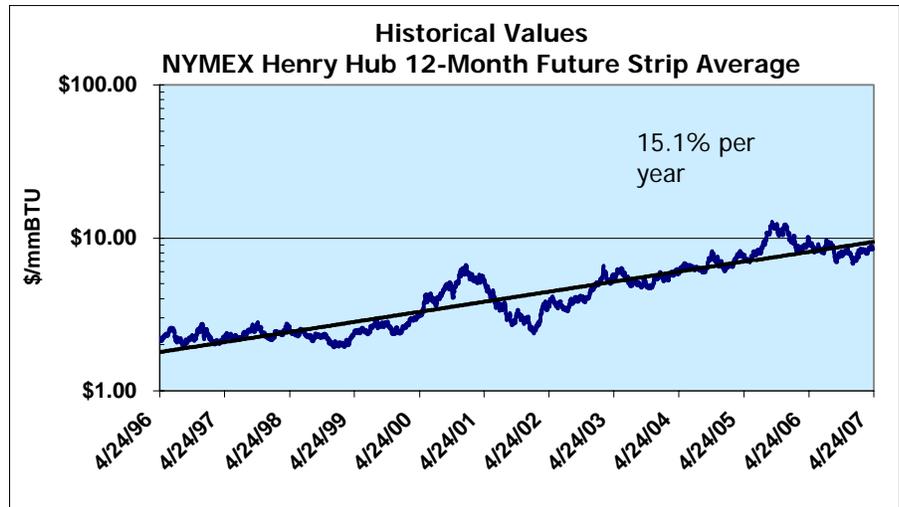
### **Tactics for Better Energy Cost Management**

Given the range of energy prices over the last five years – \$3.31 to \$12.79 per million British Thermal Units (mmBtu) and \$28.78 to \$103.59 per megawatt-hour (MWh) for the average of the 12-month strip for Henry Hub natural gas and PJM electricity, as traded on the New York Mercantile Exchange

(NYMEX) – every retail energy buyer grapples with issues such as purchase timing, facility cost estimating, and budget forecasting. So once you have set the strategy for better energy management, there are a number of tactics you and your team can use to help achieve greater avoided cost and lower risk.

### **Energy Price Behavior and Supply Correlation**

Today, the portion of electricity generated by natural gas has increased such that the wholesale price of gas is almost perfectly correlated with the price of electricity. The figure at the right shows a constant rate of increase trend line fit to values over the last decade. The rate of increase is 15% per year. The correlation coefficient is greater than 93%. So, the natural gas curve provides an indication of which way electricity prices are likely to go, assuming history is a good indicator of future behavior. And, in most markets retail electricity and gas price are nearly as highly correlated to wholesale prices. As you can see from the figure, energy prices have exhibited over the long term many of the same characteristics as prices for other commodities, supplies, and securities: an overall upward trend over longer periods marked by significant volatility. Thus, many of the tactics used for other financial risk and treasury management apply, though with some differences peculiar to energy risk management.



### **Go For a Long-Term Fix**

The availability of energy futures markets provides tools for energy price and risk management. But the existence of retail markets and long-term contracts simplifies the process. Fixed-price retail contracts remove the volatility and seasonal uncertainty associated with variable pricing or staying on tariff or other default prices. Additional benefits are budgetary confidence and cash flow predictability. Most retail suppliers will negotiate a contract term as long as five years (sometimes longer) for electricity and gas. Given the historical trend combined with experts' view of future prospects, fixing a price today on a three- or five-year – perhaps even longer –contract for a significant portion of your energy supply portfolio can be an attractive tactic.

Much as the interest rate yield curve normally rises with increasing security maturity and for much the same reason – (great risk in the future) energy futures prices normally decrease for contracts further into the future. Therefore, organizations possessing the insight and ability to consider negotiating longer term contracts for their energy supply can realize an additional benefit: lower prices for longer-term contracts.

With a long-term fixed price contract, the price in Year 1 and sometimes in Year 2 won't yield much savings vs. the default, but by the end of the contract, the total savings for the duration of the period can be significant. For example, one Fortune 100 retailer signed a 36-month fixed price contract,

projecting savings of \$9 million on \$33 million over the duration, based on current default prices at the time of signing. Because of the overall upward price trends, by the end of the contract period, the retailer had actually saved more than \$12 million.

### **Significant Price Variance vs. Trend**

As the figure illustrates, energy prices, again like stock prices, are very volatile. So a simple analog for buying energy is, "To buy low..." When prices are notably higher or lower than the trend line, it may be time to act. Fixing a price that dips significantly below trend is often a relatively obvious action to take. Conversely, if prices rise above the trend line, it may be more appropriate to negotiate a variable price contract with the option to fix at a later date, when prices fall more in line with expectations. Here again, the existence of energy futures markets means that you don't have to limit your action only to contracts nearing expiration; you can solicit bids and sign agreements that may not start until a point one year or more in the future.

### **Standard Energy Service Agreements**

Energy service agreements and contracts can be complex and time-consuming, particularly for the manager or attorney who does not specialize in this area of law and who may only be negotiating contracts occasionally. Each supplier has its own agreement, legal and regulatory requirements vary from state to state, and energy carries with it many peculiarities and unique risks. Negotiating agreements can take a great deal of time and effort – an undesirable situation in and of itself. More critical, however, is the issue of taking too long to negotiate and close contracts. Falling into this scenario means that savings are deferred or lost altogether if market prices move.

Adopting standardized contract language is a logical way to help reviewers zero in on the most important aspects of the contract, as well as to streamline the review process so that the delay between auction closure and contract closure is as brief as possible. In February, the North American Energy Standards Board (NAESB) introduced the Base Contract for Retail Sale and Purchase of Natural Gas or Electricity. This standard contract is structured in distinct sections, including basic terms for the contract, a section for special provisions that allows the buyer and seller to negotiate terms specific to their situations and company requirements, and a section that serves as a transaction confirmation, covering actual price, billing, delivery point, and the volume. Assuming that the master terms have been set up front, this standard contract can reduce the transaction time to a matter of an hour or less – saving both time and costs associated with legal review.

### **The Undeniable Value of Senior Executive Oversight**

Most CFOs and other C-level executives probably don't know a lot about the inner workings of competitive energy markets, nor should they be expected to. One thing, though, is certain: making energy supply management a strategic imperative has proven valuable for almost anyone who has tried it. There have been few retrenchments in energy prices over the last decade, and those that have occurred have been very short-lived.

Without the benefit of guidance from senior executives, middle managers will tend to choose the safest, easiest to explain choices when purchasing energy. These choices, however, are unlikely to be the most advantageous for the business. Thus, the executive who makes it his or her business to understand and strategically address the long-term cost implications at the most fundamental level and

to act on it can bring a significant competitive advantage to the firm. Having a strategy in place and understood by the board and key stakeholders can mean spending less time and energy seeking approval and answering questions in an area of increasing concern and impact. It can also make forecasting, communicating, and meeting financial performance objectives considerably easier.

### **About EnergyWindow**

EnergyWindow is a Boulder, Colorado-based company that offers a comprehensive suite of information technology-based tools and energy industry expertise to help businesses manage every aspect of their energy supply cycle (natural gas and electricity). EnergyWindow offers four key areas of products and services: 1) PowerQuote<sup>®</sup> online sourcing tool for energy procurement; 2) PowerScape real-time, online energy market knowledgebase; 3) PowerMonitor<sup>®</sup> and PowerTrac<sup>®</sup> energy management information systems that track and analyze a company's energy management performance and contracts; and 4) PowerStrategy<sup>®</sup> proprietary consulting-based planning process for energy supply strategy and management. The company was founded in 1999 by Dr. Jack Mason, a long-time energy industry veteran, and Dr. Mike Usrey, a veteran Internet and information technology expert. To date, the company has successfully closed approximately 9,000 transactions for energy purchases, resulting in savings of more than \$115 million on \$620 million in energy supply costs. The company can be reached at: [www.energywindow.com](http://www.energywindow.com), or (303) 444-2366.