

# How to Use Savvy Energy Procurement to Reduce Operating Costs Significantly

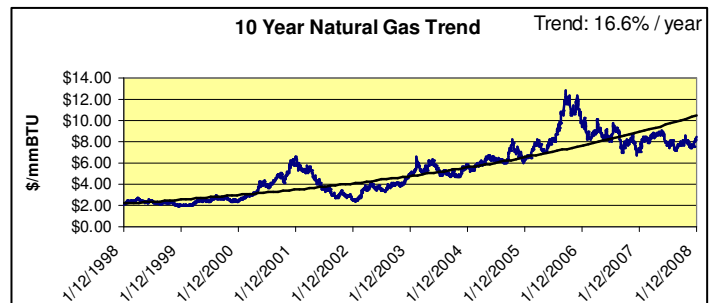
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**Abstract.** Virtually every business is concerned about keeping a tight rein on operating costs, but many do not realize the potential savings associated with a savvy energy procurement strategy and process. Historical trends and analysis of future energy supply and price behavior suggest that rising prices and volatility will continue. Businesses that adopt a strategic energy management and sourcing plan aligned with their overall supply chain strategy can expect to reap significant benefits. Shopping competitive natural gas and electricity markets, using tools including risk management, energy portfolio balancing, standard contracts, and e-procurement can drive down current costs and control costs into the future. The resulting budgetary certainty and reduced risk exposure make development of a smart energy management approach a must for procurement and energy managers, as well as for C-level executives.

**Setting The Stage.** To understand why savvy energy procurement is so important, one need only look to price trends over the past decade. Energy prices have exhibited 15-17% or higher average annual increases for the last decade, as the graph illustrates (the average of the first 12 months of the New York Mercantile Exchange, NYMEX, future contracts for natural gas for delivery at Henry Hub in Louisiana). In North America, natural gas and electricity, and wholesale and retail prices, are highly correlated. The correlation has been 97% over the last four years, so we can generally track gas prices alone for insights regarding both gas and electricity.



Wholesale prices have been extremely volatile. Short-term behavior is driven by real and perceived factors, such as weather, storage, transportation congestion, and economic activity. Long-term behavior is driven more by the real or perceived future supply-and-demand balance and risks.

Prices have ranged as widely as \$3.31 to \$12.79 per million British Thermal Units (mmBtu) for natural gas and \$28.78 to \$103.59 per megawatt-hour (MWh) for electricity over periods of a few months. The majority of experts suggest that the pressure between supply and demand will not abate for the next decade or longer. Add to this backdrop, repercussions of high-impact/low-probability events, such as hurricanes Katrina and Rita hitting the Gulf Coast within a month in 2005, which doubled prices over a few months. The potential impact during this very short period on a typical \$50 million energy spend portfolio was more than \$1 million.

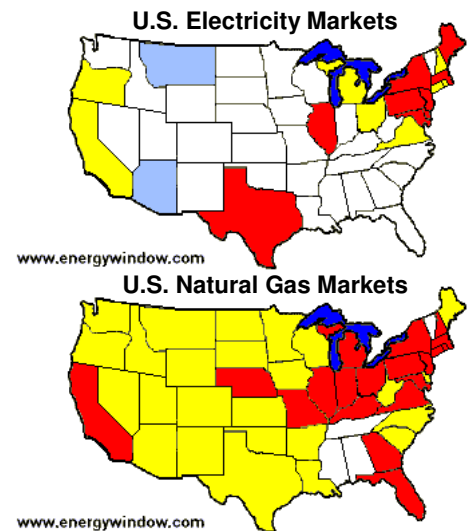
Rising energy costs affect everything from lighting, heating and cooling facilities to direct manufacturing costs, to the transportation of goods. The resulting implications for margin, profitability, and stock valuation for all companies are sobering. No wonder, according to ISM,

executives in the manufacturing sector report their top economic concern as “energy cost and supply”; their counterparts in non-manufacturing industries similarly cite “high energy, fuel and transportation costs” as their number one economic concern.<sup>1</sup>

Companies that are proactive can enjoy positive financial impact, especially in highly competitive, low margin industries. For example, a Fortune 1000 auto service company obtained competitive bids for 41 facilities in Texas. By addressing this geographic market alone, the company avoided \$2.3 million in energy supply costs, increasing their earnings per share by 2 cents. Another example is a large, national retailer operating facilities in several different states that elected to enlist an energy e-procurement specialist to identify active markets and available suppliers, gather necessary historical data, post requests for quotation (RFQs), and solicit bids. As a result of their efforts, the retailer saved \$9.5 million (or 26%) off the tariff supply price, representing a corporate bottom line reduction of 1 cent per share, per year, over the three-year energy contract period.

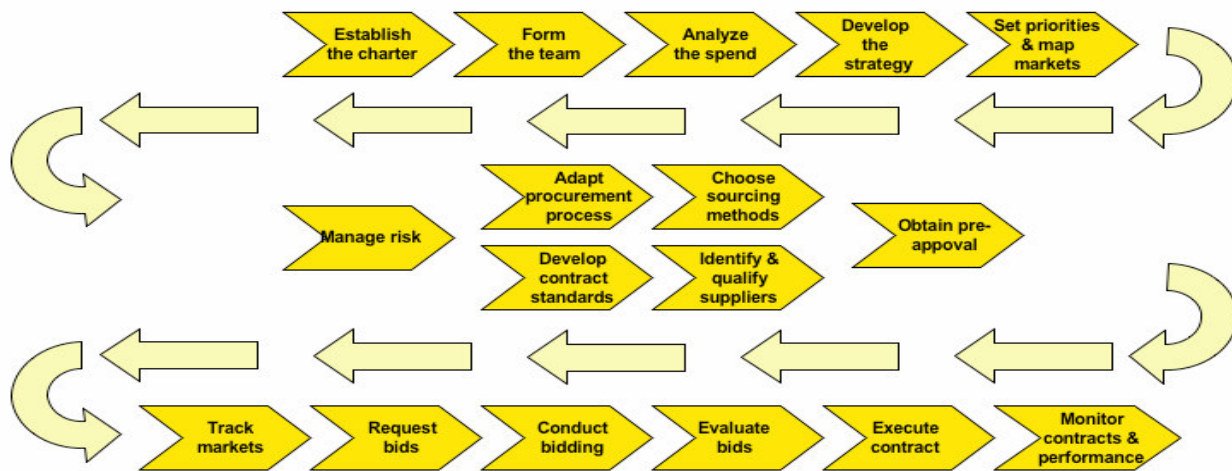
**Competitive Markets for Natural Gas and Electricity.** In North America, competitive electricity and natural gas markets present opportunities to hedge against rising prices without recourse to financial derivatives or other complicated or risky products or practices. While energy costs are rightfully a serious concern, the means to counter energy price increases and volatility is competitive sourcing and contracting. The maps at right show the currently active (red) or potentially active (yellow) state markets in which opportunities exist.

Some challenges do exist. Competitive markets are very heterogeneous, varying from state to state or even within states in terms of default tariff offerings, supplier participation, supplier offerings, and cost avoidance potential, as well as rules and regulations. It is important to remember that only *supply costs* (65-85% of total energy spend) are eligible for competitive sourcing – *delivery costs* remain regulated. Buyers must understand default costs well in order to assess whether and which competitive markets offer better deals than the default price.



**Strategic Sourcing.** Strategic sourcing is a systematic and collaborative approach that brings the appropriate resources from across the enterprise to bear on targeted spends in order to create value. It is the standard against which most procurement professionals measure supply organizations.

While the entire process is too detailed to address here, the flow chart below, based on the April 2004 ISM presentation by Robert Engel,<sup>ii</sup> depicts the principal steps of the strategic sourcing process applied to the energy spend. (For those interested in a detailed description of strategic sourcing strategy development, a white paper on the subject is available for download at <http://www.energywindow.com/pdfs/PowerStrategy-StrategicSourcingOfEnergyWhitePaper.pdf>)



Many of the considerations and principles of strategic sourcing apply equally well to energy sourcing: consideration of the total cost of energy procurement – transaction, procurement, and administrative costs – as well as the actual commodity costs, systematic approaches, prioritizing, and focusing resources, collaboration with a cross-functional team, engagement of key stakeholders, supplier qualification and selection, and process similarities.

Some characteristics of energy markets, however, require quite different approaches. Since energy markets are so diverse, a global, or even national, procurement approach is not possible. Significantly greater details about the energy spend and consumption are required to source energy. The volatility of energy markets means that opportunities can appear and disappear in a matter of one or two weeks, and prices can vary dramatically from hour to hour, so it is essential to be poised to act very quickly (sometimes in a matter of hours) when they appear. This very often means obtaining executive pre-approval for sourcing decisions within certain parameters, facilitating quick action, without waiting for sign-off.

Developing an energy sourcing strategy parallels what is needed for developing a business strategy: establish the overall program goal (maximum savings, greater budget predictability, etc.) within the context of the overall business strategy and management approach. A disciplined and detailed review of spending helps the energy supply management team identify and prioritize opportunities and threats presented by various markets. Risk management is a particularly important component of the strategy. Types of risk include operational risk, market price trends, volatility, contract timing, regulatory changes, supplier reliability, volume risk (energy supply that may go unused), and the risk of high-impact/low-probability events such as hurricanes, market failures, or force majeure events.

The benefits of developing an energy sourcing strategy are many, but ultimately can be boiled down to a readiness for rapid action when energy windows of opportunity open and, as a result of prior understanding and approval, avoidance of delays between bid and contract signature. When prices are relatively low, the prudent energy buyer has a plan, prior knowledge of markets, the ability to search and sort existing contracts, and clear criteria to “trigger” sourcing actions.

**Energy E-procurement.** Energy e-procurement provides considerable benefits, many of them immediate. It also addresses the top pressures driving e-procurement, as cited in a recent study published by Aberdeen Group:<sup>iii</sup> process efficiency, improved spend visibility, lower transaction costs, increased spend under management, and improved contract compliance. A good online

energy procurement system can greatly increase the speed, efficiency, and accuracy of the energy purchasing process, lower energy procurement and contract administration costs, improve compliance through process and contract standardization, and through automation, minimize the most time-consuming aspects of shopping competitive markets.

Energy e-procurement platforms, electronic energy data acquisition (EDI), energy cost trending and statistical analysis, online standard contracts, and value-at-risk analysis all work to reduce supply costs and aggregate risk while increasing bottom line benefits. These methods can reduce by more than a factor of 100 the effort and cost of pursuing competitive energy bids; therefore the return on investment can be extremely favorable. For example, a typical contract for 2-25 facilities with a term of 18 months can yield savings of more than half a million dollars, translating to a staggering 33,567% ROI, based on loaded staff costs of \$150/hour and 15% cost of capital.

**Contracting.** Regardless of how the supply is sourced, energy contracts and the way in which they are executed can have significant impact on how much a business can save, as well as on how much it spends in terms of staff resources and time. Historically, energy contracts have been very complex. Multi-facility companies were forced to deal with a plethora of contracts, requiring significant investment of time and causing inefficiency, delay, and missed savings.

Recent developments offer the possibility for greater efficiency, speed, and compliance in energy contracts. Acting upon a formal request from EnergyWindow, the North American Energy Standards Board (NAESB), an energy industry standards development organization, in 2007 developed a standard contract for retail purchase and sale of electricity and natural gas.<sup>iv</sup> Recognizing the obvious need for standardization in retail purchasing activities, NAESB built on the success of its standard contract for the wholesale gas purchases, which became widely accepted early in the current decade.

The standard contract incorporates boilerplate language and a number of key choices to cover contract terms that are typically legal in nature and non-controversial. It then accommodates any special provisions that suppliers or buyers may wish to include, and provides a transaction confirmation that captures salient business aspects (price, billing, delivery point, volume, etc.). By standardizing the common language, buyers and suppliers can retain control, but focus review and negotiation on a smaller set of key terms and business aspects, unique to their situation. In addition, the semi-automated nature of the standard contract lends itself to rapid completion and integration with e-procurement. Use of the new, standard energy contract can lower transaction costs by speeding up the process, and also enables energy buyers to execute deals more quickly and take advantage of fast-breaking cost savings, which can disappear in hours or days.

Product	Features	Advantages	Risks/Disadvantages
Fixed Price	Fixed price for contract term	Budgetary confidence. Hedge against price increases, volatility, and high impact events	Price may be set high. Volume risk of unused energy.
Variable/Index Price	Monthly price = index + basis	Risk of paying too much minimized. Benefit of decreasing prices	Low price predictability. Risk of rising prices volatility, and low probability high impact events
“Trigger” Option	Option to fix all or portion of contract term based on futures	Flexibility of variable price contract with certainty of fixed price	May be charged a premium for conversion
Local utility Default Supply Service	Price set based on historical or future prices and approved by the PUC	May delay effect of market price changes	Additional risk associated with regulatory changes and market price changes eventually
Discount or Guaranteed Savings	Discounted relative to local utility default price	Can reduce costs relative to default rate; better than “doing nothing”	Carries risks of variable pricing and default service
Financial Hedge	Hedges gas prices across multiple jurisdictions, in competitive markets	Enables groups of smaller facilities to limit impact of rising prices	Buyer pays a significant a premium for ability to limit risk. Requires FAS 133 accounting.

Contracts with diverse price structures, suppliers and expiration dates make for a balanced energy portfolio that saves money and reduces risk. The table above illustrates some of the key attributes and risks of various price products. Options available include indexed, fixed rate, blocks, and discounts relative to local utility default prices. Renewable (green) energy products, renewable energy certificates (RECs), and combinations of renewable and non-renewable products and RECs can be included to support corporate sustainability goals.

**Case Studies.** Smart energy procurement choices reap big benefits and lower operating costs for the companies that adopt them. What follows are just two very typical examples of what is possible when the right strategy and approach are in place.

The United States Postal Service (USPS) needed to solicit bids for electricity quickly, covering more than 3000 facilities in six states and 20+ utility territories. The difficult task of obtaining or validating consumption data, building requests for quotation, calculating comparison prices, qualifying and soliciting bids from a large number of bidders, evaluating bids, and negotiating contracts seemed nearly insurmountable. Using e-procurement, the USPS was able to complete the solicitation process and negotiate contracts in less than three weeks. Conventional approaches would almost certainly have resulted in a costly missed opportunity, since energy prices increased substantially in the two months following successful completion of the solicitation. Solicitations for both electricity and gas achieved total savings in excess of \$6 million on approximately \$108 million in supply costs.

A large retailer was spending \$250 million annually on energy supply for 1,600 facilities nationwide. Recognizing that energy supply management was critical for driving down costs but not a core capability of its staff, the retailer sought cost-effective, outsourced alternatives. It retained a consultant to advise it, while retaining complete control of sourcing strategy and decision-making within their corporate procurement process. After careful analysis of its spend, a multi-level energy supply management strategy was created. The detailed plan included priorities, an implementation schedule, and supply cost savings opportunities organized by state and type of savings available. An energy procurement process consistent with the company’s overall supply chain strategy was developed, and most of the supply under the plan was sourced via e-procurement. Elements of the company’s enterprise-level, online supply chain solution were leveraged for selected procurements. A scorecard facilitated easy management of energy supply costs in targeted facilities, and enabled executives to track of

contracts with minimal time and effort. Over a period of two years, the retailer was able to avoid approximately \$38 million on energy supply contracts valued at \$171 million.

## Summary

Energy supply costs can have a significant impact on corporations' bottom lines, due to their magnitude, 16% average annual increases, volatility, and potential for huge swings due to unanticipated, high-impact events. The complex, dynamic nature of energy markets can present extraordinary challenges to businesses, but procurement executives and managers have the means – savvy energy procurement in competitive markets – to take positive control and avoid significant energy costs. Savvy energy procurement includes:

- Application of appropriate strategic sourcing principles, adapted for energy sourcing
- A strategy developed with executive sponsorship, organization-wide input and buy-in
- Sourcing priorities and a detailed plan by market, based on a detailed spend analysis
- An integral risk management plan
- An energy spend portfolio balanced across a number of dimensions
- Criteria, based on timing and price, for when to take sourcing action or to fix prices
- Pre-approval for specific procurement and contract actions within key parameters
- An energy procurement process consistent with the corporate procurement process
- Energy e-procurement, including Web-based electronic data acquisition, cost analysis, and contract negotiation

## REFERENCES

### Web site references:

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<sup>i</sup> ISM, December 2007 Semiannual Economic Forecast, <http://www.ism.ws/about/MediaRoom/newsreleasedetail.cfm?ItemNumber=17369>, December 11, 2007.

<sup>ii</sup> Robert J. Engel, "Strategic Sourcing: A Step-by-Step Practical Model," April 2004, <http://www.ism.ws/ConfPastandOnlineDaily/Files/Apr04/FB-Engel.pdf>

<sup>iii</sup> *names*, *E-Procurement: Trials and Triumphs*, October, 2007, [http://www.enporion.com/happenings/aberdeen\\_report\\_request.html](http://www.enporion.com/happenings/aberdeen_report_request.html)

<sup>iv</sup> NAESB standard contract, [www.naesb.org](http://www.naesb.org)